

**Agricultural Education, Communications and 4-H Youth Development
Agricultural Communications Option**

Prepared by Shelly Sitton

Degree Program(s) Assessed	Assessment Methods	Number of Individuals Assessed
Agricultural Communications	1. <i>Senior Capstone Course</i>	1. 28
	2. <i>Student Internships</i>	2. 50
Agricultural Communications/ Animal Science Double Major	3. <i>National Agricultural Communicators of Tomorrow Critique & Contest</i>	3. 34

Analysis and Findings:

1. *Senior Capstone Course*

Of the 28 undergraduate students who completed AGCM 4413, 23 earned As, four earned Bs, and one received an incomplete. With one exception, all students were able to complete the assigned tasks in writing, layout and design, and photography, most of which required the use of specialized computer software. On individual assignments the lowest scores were earned in writing and editing. All students performed well as members of a team. (Outcomes A. and C.) *NOTE: The magazine produced through this class received the first place in the magazine division of the National Agricultural Communicators of Tomorrow Critique and Contest (see item 3).*

2. *Student Internships*

Fifty students completed at least one internship during the period May 2002 through May 2003. Supervisor evaluations indicated “outstanding” or “excellent” average performance by students in all areas that were evaluated: quality of work in writing, layout and design and/or photography, cooperative spirit, contribution to the organization, care and use of equipment, reaction to criticism, punctuality, initiative, creativity, and ability to meet deadlines. Highest marks were in cooperative spirit. Faculty also observed students’ oral communications skills through their formal presentations and determined that students are adequately prepared to handle oral communications tasks as well as use presentation software. (Outcomes A., B., and C.)

3. *National Agricultural Communicators of Tomorrow Critique & Contest*

Thirty-four students submitted their best work in writing, layout and design, photography, broadcasting, Web design, and advertising in the 2003 National ACT Critique & Contest. Of those entries, nine received first place awards (graphic design, page layout, video production, advertising, multimedia presentation, magazine, black & white photography, digitally enhanced photography, and color photography). OSU students also received Award of Excellence recognition (highest ACT honor) for photography, for electronic media, and for design and layout. In addition, 18 other entries received honors (placings from second through fifth). (Outcome D.)

Uses of Assessment Results:

The results from this year’s assessment activities have been shared with all agricultural communications faculty. The faculty members have used the results to make changes in courses, specifically the addition of a new courses in agricultural campaigns based on the feedback from previous senior exit interviews. In addition, plans are underway to implement an agricultural broadcasting course in Spring 2004. The faculty members also used the results to make revisions in the degree requirements for both degrees being assessed, including the restructuring of writing requirements.

**Agricultural Education, Communications and 4-H Youth Development
Agricultural Education Teaching Option**

Prepared by Bill Weeks

Assessment Method	# Assessed
Portfolios	
Submission #1 - Admission to Professional Education	55
Submission #2 - Student Teaching Placement	34
Submission #3 - Recommendation for Licensure	34
Admission to Professional Education Unit Interviews	34
Examinations	
Oklahoma General Education Test - 76% pass rate	38
Oklahoma Subject Area Test (OSAT) - 100% pass rate	47
Oklahoma Professional Teacher Exam (OPTE) – 84 % pass rate	38
Cumulative GPA for program completers – 3.03	34
Student Teacher Site Visits	66
1 st Year Teacher Follow-up - Oklahoma Resident Teacher Program	21

Supervision

Departmental funds were used to pay for the cost of one supervisory visit per student teacher; assessment funds paid for the other visit. Student teachers are placed throughout the state, from Waynoka to Antlers and from Afton to Chattanooga. Five teacher education faculty, one doctoral level graduate teaching assistant, and one master's level graduate student (with teaching experience) supervised student teachers completing an evaluation form on each class taught by the student teachers. A conference with the student teacher, cooperating teacher at the local school, and the teacher educator is held at the conclusion of the school day. Additionally, six faculty and two graduate assistants served on Resident Teacher Committees which serve first-year agricultural education teachers. All 21 first-year teachers were recommended for certification.

Table 1. Data on program completers

Assessment Method	1999-00	2000-01	2001-02	2002-03
Cumulative GPA of Program Completers	2.95	3.14	3.09	3.03
Number of Program Completers	19	23	38	34
Oklahoma Resident Teacher Committees	23	17	21	21

Portfolios

Students complete submission I of their teacher education portfolio as part of the AGED 3101 course. The faculty member responsible for the course, with the help of a graduate assistant, reviewed each of those portfolios. Two faculty members or one faculty member and a graduate assistant conducted a formal interview with each student prior to their admission to the professional education unit. Faculty members review the second submission of the portfolio, which requires students to document their knowledge and understanding of the core concepts of OSU's Professional Education Unit. This submission must be approved before a student is placed in their student teaching site. Finally, at the conclusion of the student teaching experience, all student teachers complete a third submission of their portfolio supplying evidence of their competency on fifteen teacher education criteria as required by the Oklahoma Commission for Teacher Preparation. If a portfolio submission is unacceptable, the candidate is issued a Plan of Improvement, outlining the unacceptable portions of the portfolio. Plan of Improvements were required of five students on submission II and 22 students on submission III. All portfolios were eventually completed to acceptable standards. The use of digital portfolios was suspended in the 2002-03 academic year because of a change in faculty assignments and loss of special assessment funds to support the development of digital portfolios.

Examinations

The OGET measures basic skills in reading, writing, and math. Effective January 1, 2002, students were required to pass the OGET (score of 240) in order to be admitted to the professional education unit. The

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pass rate reflected in Table 2 is for the entire group of Ag Ed students taking the exam during the past academic year. Because students take this exam in their junior or senior year, it reflects the general education background of students who aspire to teach. Table 4 shows scores for program completers. Because passing the test is a condition of admission to the program, the pass rate for program completers is 100%.

The OPTE measures a candidate's knowledge of teaching on a six-scale exam. The 2002 Oklahoma legislature passed legislation requiring teachers to pass the OPTE before being licensed. The legislation took effect 7/1/02, but because most of last year's candidates were already licensed, they had until 6/30/03 to pass the exam. Data in Table 1 reflect scores for program completers as well as some first year teachers, while the data in Table 4 only reflect scores for 2002-03 program completers.

The OSAT measures our pre-service teachers' knowledge of agriculture across the five broad areas of agricultural economics, animal science, plant/soil science, mechanized agriculture, and natural resources. In the academic year 2002-03, all Agricultural Education students who took the OSAT passed.

Table 2. Standardized test scores for all those seeking certification

Test	Ag Ed Test Takers	OSU Test Takers	Statewide Test Takers
OGET – Basic Skills –	N=38	N=493	N=6710
Pass Rate	76%	84%	79%
OPTE – Teaching –	N=38	N=167	N=1258
Pass Rate	84%	93%	94%
OSAT – Agriculture –	N=47		
Pass Rate	100%		

Table 3. Standardized test scores for program completers

Test	Ag Ed Program Completers	OSU Test Takers	Statewide Test Takers
OGET – Basic Skills	N=34	N=493	N=6710
Reading & Communications	268	276	273
Communications Skills	246	254	251
Mathematics	275	277	270
Computation Skills	281	272	268
Liberal Studies	236	241	238
Writing Skills	241	245	241
Combined	256	261	257
OPTE – Teaching	N=34	N=167	N=1258
Learning Environment	244	257	260
Writing: Critical Analysis	252	263	267
Instruction & Assessment	247	274	275
Writing: Student Inquiry	249	264	262
Professional Environment	268	242	242
Writing: Teaching Assignment	245	253	254
Combined	253	259	260
OSAT – Agriculture	N=34		
Agribusiness	272		
Animal Science	272		
Plant & Soil Science	269		
Ag Power & Technology	270		
Natural Resources	273		
Combined	271		

Student Progress

AGED 3103 represents the first course in the professional development sequence of courses for Agricultural Education students. Students in this course are introduced to the Agricultural Education Teaching profession and complete some of their required field experiences in Agricultural Education programs around the state. Generally, students who enroll in AGED 3103 in the fall semester are on schedule to complete the program four semesters later. Table 4 reflects the progress towards teacher licensure for students who enrolled in AGED 3103 in the fall 2000 and fall 2001 semesters.

Table 4. Status of students who began the Ag Ed program in 2000 and 2001

Status	AGED 3103 Fall 2000 N=54	AGED 3103 Fall 2001 N=61
Graduated in Ag Ed with teaching license	35	28
Graduated in Ag Ed Leadership & Service option	5	5
Graduated in Ag Ed without teaching license	7	1
Left OSU without degree	4	4
Graduated with another CASNR degree	2	1
Graduated with another OSU degree	1	1
Enrolled at OSU in teaching option		17
Enrolled at OSU in Leadership & Service option		3
Enrolled at OSU in other CASNR major		1

Use of Assessment Results

Beginning this year, student teachers were required to submit an artifact and reflection for each of the 15 OCTP competencies. Although portfolios increased in volume, faculty members believe they have clear evidence that their students have met each of the required competencies. The Professional Education Unit's portfolio assessment system will undergo a review from the Oklahoma Commission on Teacher Preparation in December, 2003.

Faculty are concerned with the lower than desired pass rate on the Oklahoma General Education Test (OGET). This test reflects skills refined in a student's general education courses. Because ~75% of the teacher education students in Agricultural Education transfer from a junior college, this reflects poorly not on OSU's general education preparation, but that of the junior college. In the next year we will further track students identify trends in the preparation students receive. Additionally, Agricultural Education students scored below the OSU and statewide scores on each of the writing assessments of the Oklahoma Professional Teachers Exam (OPTE). This next year, teacher education coursework in Agricultural Education and coursework taken in the College of Education will be cross walked to identify competencies which are not being met.

Formal feedback from cooperating teachers, student teachers and faculty observations indicate that student teachers performance in agricultural mechanics and safety is not acceptable. This next year we will be working with the Department of Biosystems and Agricultural Engineering to develop a single course to address competencies in agricultural mechanics.

Placement for the 34 fall 2002 and spring 2003 graduates is as follows: One secured a full-time teaching position in December, three others have secured full-time teaching positions, three have entered graduate school full-time, one has taken employment with OSU, and 26 are still seeking employment as of June 1, 2003. Many of these candidates will secure teaching jobs before the start of the 2003-04 school year as jobs are filled later in the summer.

Department of Agricultural Education, Communications and 4-H Youth Development
Agricultural Education Graduate Program

Prepared by Bill Weeks

Executive Summary (full report available upon request)

Background

Beginning with the spring 2003 semester, the GRE was required for admission to the Master of Science graduate program in Agricultural Education. The GRE was added as a requirement in an attempt to assess the writing ability of graduate students entering the program. In October of 2002, the GRE analytic portion of the test was replaced with an analytical writing component. It is hoped that adding GRE scores to the admission criteria will enable faculty to make informed decisions on the ability of prospective Master of Science students. Table 1 reflects data gathered on applicants and those admitted to the three graduate programs.

Table 1. Graduate students accepted into program in 2002-03

Graduate Admissions	MAG	MS	PhD
Number of applicants	17	11	10
Number accepted	15	11	8
Undergraduate GPA of accepted	3.09	3.18	3.78
Verbal GRE – mean		438	460
Verbal GRE – range		360-510	340-580
Quantitative GRE - mean		532	519
Quantitative GRE - range		390-630	360-770
Writing GRE - mean		4.25	5.00
Writing GRE - range		3.5 – 5.0	4.5 – 5.5

Table 2 shows the number of students in each program as well as their enrollment status. At least one graduate course in Agricultural Education is offered via distance each semester. Also, at least one course each semester is offered in late afternoon or early evening to accommodate part-time students. Student numbers in Table 1 are not included in Table 2.

Table 2. Graduate student status for 2002-03

Graduate Student Status	MAG	MS	PhD
Full-time	11	11	5
Part-time	11	7	6

Table 3 shows the number of students completing graduate degrees last year in Agricultural Education.

Table 3. Graduate degrees awarded for 2002-2003

Graduate Degrees	MAG	MS	PhD
Summer 2002	0	4	1
Fall 2003	3	2	0
Spring 2003	4	3	1

Placement

In addition to collecting data on our own graduates, we participated in the 2001 OSU Survey of Alumni of Graduate Programs. Placement data for this academic year's graduates are included in Table 4. Four graduates are still seeking employment.

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Table 4. Placement Data for 2002-03 graduates

Employer	Job Title
Canel-Winchester Public Schools, Canel, OH	Agricultural Education Instructor
Stillwater Public Schools, Stillwater, OK	Agricultural Education Instructor
Woodward Public Schools, Woodward, OK	Agricultural Education Instructor
Leedey Public Schools, Leedey, OK	Superintendent
Belle Public Schools, Belle, MO	Agricultural Education Instructor
Pioneer Technology Center, Ponca City, OK	Career Tech Instructor
OSU Cooperative Extension, Cleveland, Co.	Community Development Educator
University. of Missouri	Doctoral Student in Ag Ed
OSU Cooperative Extension, Canadian Co.	Program Assistant
Virginia Tech University	Instructor
OSU Alumni Officer	Coordinator Information Services
OSU Plant Science	Doctoral Student in Plant Science
Self employed	Realtor

Student Research and Publications

Sixteen papers and four posters were presented by Agricultural Education graduate students last academic year. Students participated in the OSU Graduate College Research Symposium, Southern Association of Agricultural Scientists Meeting, Southern Region Agricultural Education Research Conference, Western Region Agricultural Education Conference, and the National for Agricultural Education Research Conference.

Master of Science students [REDACTED] (summer 2002) and [REDACTED] (spring 2003) were awarded the OSU Graduate College Social Science Research Award.

AGRICULTURAL EDUCATION, COMMUNICATIONS AND 4-H YOUTH DEVELOPMENT

Leadership and Service Option

Prepared by: Penny Pennington

Degree Program	Assessment Method	# Assessed Summer '02	# Assessed Fall '02	# Assessed Spring '03
AGED – Leadership and Service Option	Portfolio Submission #1 (Professional portfolio developed and submitted in AGED 3101)		11 students	8 students
AGED – Leadership and Service Option	Portfolio Submission #2 (Professional portfolio revised and submitted in AGED 4203)		19 students	14 students
AGED – Leadership and Service Option	Portfolio Submission #3 (Professional portfolio enhanced by internship experience and submitted in AGED 4300)	17 students	2 students	2 students
AGED – Leadership and Service Option	Cooperator's/Supervisor's Final Evaluation and University Coordinator's Visitation Record/Report	17 students	2 students	
AGED – Leadership and Service Option	Internship Seminar (40-minute presentation addressing the student's internship experience)	17 students	2 students	
AGED – Leadership and Service Option	Exit Interviews (Student's Final Evaluation of the Internship & LAS Internship Survey)	17 students		

Analysis and Findings:

1) Cooperator's/Supervisor's Final Evaluation (Intern's Performance) – Interns are evaluated by their respective supervisors. The mean rating achieved by the 2002 summer and fall interns (21) was "Excellent" in all areas evaluated (ability to perform without supervision, willingness to accept instruction, relationships with other employees, dependability and reliability, thoroughness in completing tasks assigned, personal appearance, enthusiasm and courtesy). All students received the grade of "A" for their internship performance in AGED 4300. The Cooperator's/ Supervisor's and University Coordinator's observation/input together are used to assess the intern's career and professional readiness.

2) Exit Interviews (Internship Completers) – During the summer 2002 internship seminar 17 participants completed the "Students Final Evaluation of the Internship" and the "Internship Survey" as an exit interview, which provides information about the quality of the internship, interest of their supervisor in the program and the intern, ability to teach, quality of instruction provided, etc. Fourteen interns indicated their internship experience was "very satisfying" while three ranked their internship as "satisfying."

3) Internship Seminar – The 30-minute seminar presentation of the internship experience involved faculty assessment of professional dress, oral presentation skills, PowerPoint/slide presentation, portfolio, and overall evaluation. Student retention of material covered in AGED 4203 (Professional Development in Agriculture) was quite evident in the professionalism, creativity and responses to questions from the audience during the seminar presentation. All of the seminar presentations merited an overall evaluation of

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"excellent." Portfolios were evaluated on the basis of creativity, originality, completeness and neatness. Completeness and writing skills seem to be the most evident deficiencies observed. The value of the portfolio served as documentation for the students' readiness in becoming an agricultural professional.

USES OF ASSESSMENT RESULTS:

- 1) Cooperator's/Supervisor's Final Evaluation (Intern's Performance) – Assessment areas with weak evaluations will receive special emphasis/instruction in the next class (AGED 4203 – Professional Development in Agriculture).
- 2) Exit Interviews (Internship Completers) – Faculty will use exit interview information to update, improve and/or expand course offerings. Pertinent information included: the overall importance of AGED 4203 to professional development, the need to continue offering student presentation opportunities, the overall importance of leadership curriculum, and the importance of additional agricultural coursework in support of future career goals. Additionally, AGED 4203 – Professional Development in Agriculture was moved from the spring semester to the fall semester in 2001-02 and based on feedback gained from the exit interviews will continue to be held in the fall semester.
- 3) Internship Seminar – Student input/feedback from LAS Internship Survey, faculty observation and evaluation of the Seminar Presentation.

Department of Agricultural Economics

Prepared by Dr. Joe Schatzer

The following table shows the assessment methods used and numbers of individuals assessed for the degree programs in the Department of Agricultural Economics.

Degree Program(s) Assessed	Assessment Methods	Number of Individuals Assessed
B.S. AGECE & AGBU	Exit interviews	58
M.S. & Ph.D. AGECE	Survey of Alumni of Graduate Programs	In progress
B.S. AGECE & AGBU	Team Competition at regional & national meetings	22

Analysis and Findings:

- Exit interviews provide the Department Head and curriculum committee a feel for the students' understanding of whether their curriculum prepared them for their next venture in the real world. Which courses are meeting the needs of the students and which are not? What areas do the students see missing in the curriculum? We are in the middle of a reorganization of our courses and this feedback continues to help us analyze the impact of this reorganization.
- The Department participated in the Survey of Alumni of Graduate Programs. We included our own questions to help with our ongoing review of the topics and requirements for our graduate degrees. Our curriculum committee is using the results to consider changes in our M.S. programs.
- The Department sponsored a team from the OSU chapter of the National Agri-Marketing Association club that competed at the Student Marketing Competition at the national organization's annual meetings in San Diego. We also sponsored a team from our Aggie-X Club that participated in the American Agricultural Economics Association quiz bowl and another group to the Southern Agricultural Economics Regional Quiz bowl. The experience of the students provides feedback on how our curriculum and students compare to others around the country.

Uses of Assessment Results:

- As we have discussed the last several years, we began implementation of revised and new courses Spring 2001. We implemented new option sheets Fall 1999 which have been revised to agree with the revised and new courses. Therefore, at the undergraduate level we have moved into a transition period for assessment. Unless major problems with the new curriculum show up in exit interviews or discussions with employers, we expect few changes for the next few years. We had a faculty discussion of the courses by discipline during the summer of 2002 to discuss strengths and weaknesses of the changes we have implemented. Also, the curriculum committee continues to examine the results of the Alumni Surveys of Undergraduates and Graduates along with other information to figure out if additional courses in the finance and accounting areas are needed. We are examining whether to create additional options or minors.

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Department of Animal Science

Prepared by Dr. David S. Buchanan

The following table shows the assessment methods used and numbers of individuals assessed for the degree programs offered by the Department of Animal Science.

Degree Program(s) Assessed	Assessment Methods Used	Numbers of Individuals Assessed (number of students completing degrees)
B.S. Animal Science	Oral and written communication skills <i>Capstone class assignments (papers and oral presentations)</i> Student satisfaction survey in Capstone class concerning the college experience Knowledge in specific field of Animal Science Animal Science Quadrathlon - academic competition Intercollegiate Judging Teams Institute of Food Technology Regional Quiz Bowl	~200 (B.S.)
M. Agr. Animal Science	Oral and written communication skills	1 (M.Agr)
M. S. Animal Science	Thesis or dissertation for M. Agr., M.S. and Ph.D. graduates	8 (M.S.)
Ph.D.	Final Exam Seminar and thesis defense for M. Agr, M.S. and Ph.D. graduates	4 (Ph.D.)
Animal Breeding and Reproduction	Knowledge in specific field of Animal Science	
Animal Nutrition		
Food Science	Comprehensive Exam Ph.D. Candidates	

Analysis and Findings from program outcomes assessment:

Oral and written communication skills

Capstone assignments reveal that B.S. graduates have generally good oral communication skills. Their oral presentations are presented clearly and concisely and they answer questions well. Each student delivered his/her presentation using Microsoft Powerpoint. They do indicate, unfortunately, that a small percentage (small but still important) of the seniors have basic problems with following instructions carefully. The students are now also demonstrating proficiency with development of Web pages. Written communication skills in the capstone class vary somewhat among students but generally the writing is clear.

Students completing upper division Animal Science courses demonstrate good to excellent skills in problem solving. There is ongoing difficulty with students who have difficulty using information from prerequisite classes when taking upper division courses. This is partially due to students who take courses out of sequence such that they have not completed the prerequisite courses. However, not all of the concerns can be traced to that issue.

There is also an ongoing issue with class grade distributions which are spread out more widely than might be normally expected. Several classes, particularly the ones with large basic science components, end with large numbers of students earning high grades but an equal number of students who must drop or receive an F at the end of the semester.

Students earning advanced degrees display excellent oral communication skills through seminars (both departmental and in their discipline area) and in presentations at scientific meetings. These seminars are also delivered using Microsoft Powerpoint. Their written communication skills are also excellent, evidenced by the high satisfaction level for theses and dissertations, their contributions to the Animal science Research Report and papers in scientific journals.

Student satisfaction

B. S. students are surveyed in the capstone class and all graduates have the opportunity to have an exit interview with the department head. These surveys and interviews continue to indicate high satisfaction with the department. The department is especially complimented for its caring attitude toward students and generally high level of teaching. Although it was indicated last year that some of the problems with lack of uniformity among advisors had been alleviated, it is obvious that the problems have not been eliminated.

The 2002 Undergraduate Program Alumni Survey revealed the following from 1996 and 2000 Animal Science graduates:

- > 95% believe their degree program prepared them adequately or very well for employment
- > 93% of those involved in further degree programs believe their undergraduate program prepared them adequately or very well
- >80% were somewhat satisfied or very satisfied with their academic advising
- >99% were satisfied or very satisfied with their overall OSU educational experience
- large majorities (>80%) agreed with statements about their education enhancing problem solving, career flexibility or general quality of life

Knowledge in specific field of Animal Science

All Ph.D. students are administered a comprehensive exam (both written and oral) by their advisory committee. These exams indicate good to excellent performance on the part of the students.

Students in the Senior production classes frequently demonstrate good problem solving skills and ability to synthesize information from the prerequisite classes. Unfortunately, this is not true of all students in these classes. This is partially due to failure to take the appropriate prerequisite classes even after caution from the advisor and the professor in the class.

B.S. students participate in a variety of intercollegiate competitions. Results are reviewed here:
Participation in the Academic Quadrathlon (4 students) - Southern Section American Society of Animal Science (2nd place)
Institute of Food Technology Regional Quiz Bowl six students) – 1st place
Livestock Judging Team (20 team members) - entered 9 national contests and finished 6th, 4th, 5th, 6th, 3rd, 2nd, 3rd, 2nd and 2nd.
Meat Judging Team (7 team members) - entered 7 national contests and finished 3rd, 2nd, 5th, 1st, 4th, 4th and 4th.
Poultry Judging team (4 team members) - entered 1 national contest and finished 6th.

Two Animal Science seniors were recognized as Top 10 Seniors in the College of Agricultural Sciences and Natural Resources and 20 Animal Science students were initiated into Phi Kappa Phi. There were 30 Animal Science students who earned recognition on the Presidents Honor Roll and 93 Animal Science students listed on the Deans Honor Roll.

Instructional changes that have occurred or are planned as a result of outcomes assessment:

It has been several years since the Animal Science curriculum has had substantial changes. We are starting a process in which we can examine our curriculum to determine if changes are warranted. The first concern appears to be the nature of the curriculum for students with an interest in attending the College of Veterinary Medicine. Additional issues include the Biotechnology option and options oriented to students interested in careers in livestock production

Instructional technology use continues to expand in our department. With only once exception, faculty are using the computer technology available in the classrooms in the Animal Science Building.

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The College of Agricultural Sciences and Natural Resources has established a computer laboratory in ANSI 126. This lab has more than 30 computers and is well used. Two Animal Science classes meet in the lab on a regular basis and students use the equipment for assignments in many other classes. Since the Animal Science Building is on the path between many OSU classrooms and the new living facilities on the north edge of the campus, the labs are increasingly being used by students from other parts of the campus.

A program was established last year to start students, at the beginning of their college career, in expanding their understanding of research. Eighteen students took a class taught by [REDACTED] and [REDACTED] as an overview of research and each of these students worked directly with a faculty mentor in his/her research laboratory. The class includes interaction with numerous other scientists in the department as well.

We started a course in Web Design. Fourteen students took this class. In addition, there is now a web page requirement in the Capstone class.

[REDACTED] (in Nutrition) and [REDACTED] (in Food Science) have started teaching courses for graduate students in laboratory methods appropriate for those disciplines. [REDACTED] is in his third year teaching a course in Analysis of Animal and Food Science data.

Biochemistry and Molecular Biology

Prepared by U. Melcher

Degree Programs Assessed ¹	Assessment Methods	Numbers of Individuals Assessed
B.S.	ACS standard examination	135 (cumulative)
	Exit questionnaires	9
	Self reported grades	53 (cumulative)
M.S. and Ph.D.	Program Alumni Survey	11
	Years to degree	50
	Dropout rate and enrollment statistics	62
	Cumulative examinations	6
	Program Alumni Survey	6
		n.a.

¹B. S. degrees in "Biochemistry", offered through the College of Arts and Sciences, and "Biochemistry & Molecular Biology", offered through the College of Agricultural Sciences and Natural Resources, are combined for this assessment report as "B. S. Biochemistry" since the programs differ in only minor respects.

Analysis and Findings:**1. B.S. programs**

Standardized examinations The American Chemical Society (ACS) standard examination is administered to facilitate comparison of the quality of graduates over longer time frames. The mean score of eight students taking the ACS standardized exam this year (23.25) was the lowest of the nine years that this measure has been used for assessment. Over the past three years the average score, 25.2, was lower than at its peak of 27.7 for the 1996-1999 period (though the current average includes the all-time highest score). The trend in the past five years has been noticeably steadily downward. Combining 2001-2002 and 2002-2003 scores for comparison with 1999-2000 and 2000-2001 scores resulted in a mean for the last two years (24.0) that was significantly lower than the mean for the prior two years (26.4) at the $P < 0.1$ level of significance, but not at the $P < 0.05$ level.

This trend in the three-year average score needs addressing. It suggests that either the examination is no longer relevant to modern biochemistry and molecular biology or our current graduates are leaving OSU with less factual knowledge than their predecessors. Another possibility is that the test does not measure what was intended to be measured. The test was last modified in 1992 and was designed to be administered immediately after a 2 semester Biochemistry course sequence, instead of during finals week of the students' last semester. Since students are told not to study for the exam and that it does not affect their graduation, they may not take the exam seriously.

Program Alumni Survey The program participated in a telephone survey of alumni who received baccalaureate degrees in 1996 and 2000 conducted by the University Office of Assessment. Though the survey was conducted in February 2002, the results were not available for the previous assessment report. Since the numbers of respondents were low (3 and 8 from the 1996 and 2000 classes, respectively), their responses are combined in the following narrative analysis. (Response rates were 33.3 and 38.1% for 1996 and 2000 graduates, respectively.)

None of the 11 alumni were looking for employment. The median salary of those employed was in the \$26,000 to \$35,000 range. Two-thirds were associated with large corporations. Forty-four % judged that they were working in biochemistry and molecular biology or a closely related field. Oklahoma continued to be the residence of all but two of the respondents. The non-Oklahoma residents lived in neighboring states. Six of the alumni surveyed had gone on to graduate or professional school: graduate (3), business (2), and medicine (1). One had graduated. Only one thought their OSU education had not at all prepared them well for graduate or professional school.

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Relative to skills that working alumni unanimously judged were important to their jobs (oral and written communication, creative problem solving and critical thinking, and teamwork and team building skills) only one person felt that he/she had been poorly trained. Leadership skills were deemed important by eight of the nine responding alumni, but three felt poorly prepared by OSU in this regard. Alumni were prompted for additional courses or skills the alumni thought they could have used. Only one suggestion appeared in multiple responses (4): more business courses. There seemed, however, to be little enthusiasm for an additional required course in finance and accounting.

In department specific responses, the alumni group ranked the importance to them of skills gained at OSU. In this list, the number in parentheses is the number (out of 11) that ranked the skill as very important: problem solving and experimental design skills (10), oral and written communication skills (9), laboratory skills (8); computer skills (6). The amount of formal laboratory training was judged about right by the majority (7) of respondents. In open-ended questions, the respondents were asked to identify the strengths and weaknesses of their degree program. The one topic mentioned by multiple respondents (6) in strengths was training in problem solving skills. The only discernable common theme in weaknesses was that there weren't any (four respondents).

Finally respondents were asked how important study of selected subjects was to them. Their responses were:

Subject	Very important	Not important
Research laboratory experience	9	1
Microbiology	6	3
Analytical Chemistry	6	4
Biochemistry	5	4
Genetics	5	5
Physical or Biophysical Chemistry	4	2
Statistics	4	2
Biochemistry Laboratory	4	4

Overall, the results of the survey indicate that the degree program is doing well at providing the students the skills that they recognize as important to them as alumni, in particular, creative problem solving skills.

Exit Questionnaires The exit questionnaires were meant to gauge students' satisfaction with their education in the degree program and to identify potential problems in our curriculum and in faculty-student relationships. This year, in accord with the revised assessment plan, new questions were added regarding the amount of exposure students had to oral and written presentations and to the reading of scientific literature. Though there is as yet no basis for comparison, the responses indicate that the curriculum gives the students good experience in these and in critical thinking skills.

Universally, students commented on the size of Stillwater being just right. Relative to the university, opinions ranged from "adequate" to highly enthusiastic. Comments on the college were mixed.

Relative to the department five of eight students were pleased. One singled out the Biochem. club activity as a plus. However, a higher proportion expressed reservations than in the previous year when only three of 13 respondents made any comment critical of the department. Two-thirds of the respondents had some critical comment about the faculty in their response. Three years ago, only less than 20% of the comments had any hint of criticism. This year there were fewer negative comments about advising than in previous years, though some still persist. As in previous years, comments were either highly enthusiastic or critical.

Comments were elicited on other departments and their faculty. They were generally favorable, but specific departments were singled out for comment. Relative to degree requirements, there was general satisfaction with the requirements, though a plea for more Biochemistry courses surfaced as it has in previous years. Asking the students to make any comments they wished about what was good and what was bad drew a variety of comments. Individual student comments have been shared (in summary fashion) with the faculty and without identifying the commenter.

Self-reported grades Grades of B.S. graduates over the past four academic years were examined to identify possible problem courses and trends. In the 19 courses that four or more graduating B.S. students had completed at the time of reporting, the 2003 class exceeded the four-year average in 14 courses. Courses with below average performance were MATH 2145 (down 0.19) and CHEM 1515 (down 0.11). Performances in MATH 2155 and CHEM 2122 and 3112 were within one-tenth of a grade point of average.

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In only one course, BIOC 4224 was the average grade below 3.0 (it was 2.8). An average GPA of 3.8 was achieved in each BIOC 3653 and MICRO 2124 by nine students, the highest GPAs for these 19 courses. The better than average performance in course grades this last year contrasts with the continuing decrease in ACS standardized exam scores over the past few years (see above). The conflict needs further examination.

Overall result Despite the general satisfaction with the undergraduate experience expressed by graduating seniors and their good performance, the assessment noted some indicators that require consideration for possible action by the faculty of the department. The department should decide whether declines in the scores on the ACS standardized exam are due to the examination being out of date or to the acquisition of less factual knowledge by our graduates. Comments on the alumni survey and in exit interviews indicate that students and alumni have the perception that biochemistry education at OSU is targeted at developing academic researchers and is not sufficiently cognizant of the needs of students, after graduation, seeking employment rather than graduate or professional school training. This perception may require faculty investigation and discussion.

2. Graduate programs

Enrollment and graduation statistics For the second year, statistics were assembled and gathered on the performance of graduates of our Ph.D. and M.S. programs. These statistics will serve as a basis for comparison of our performance in future years.

Enrollment in the graduate programs is comparatively high. In the five-year periods 1986-1990 and 1991-1995 there were, respectively, 8 and 11 M.S. graduates. In 1996-2000, that number jumped to 22, which is also the number in the most recent five year period. For Ph.D. graduates, there were 11 and 14 in the first two periods and 22 in the 1996-2000 period. In the 1998-2002 period, the number was slightly lower at 18.

Twelve (12) students enrolled in the graduate program since 1995 but left without completing a degree. Half of those were in 1995, suggesting improvement in our retention rate since 1995. We expect some dropouts due to program unrelated causes and thus do not view these numbers with great concern.

Years to Degree Efficiency of graduate education can be measured in years required to attain the degrees. Graduate students must accomplish certain goals. The better their training, the faster they should reach those goals. For Ph.D. students, last year we noted an insignificant decrease in length of time from initial enrollment to awarding of the degree: 4.85 y for 1990 to 1995 entering students (23 students) as compared with 4.96 y for 1980-1989 (26 entering students). The insignificance of the difference is underscored by this year's analysis which shows an average of 5.08 y for students entering between 1990 and 1996. For M.S. students, The sliding three year averages were:

Years entered	Years to MS degree
1998-2000	2.53
1997-1999	2.98
1996-1998	3.02
1995-1997	3.09

Thus, there was a substantial decrease to a value approaching the 2.35 y for 1980-1989 (16 students) time. Our previous department head had set a goal of reducing the time to degree, particularly for the M.S. degree. Thus progress towards the goal has been made. The goal of reducing years to degree, incidentally, is also shared by President Schmidly.

One of the goals in the PhD program is the passing of cumulative examinations. Students are asked to pass five such examinations before proceeding to the qualifying examination. A few years ago we changed the number of exams that may be attempted and the number that must be passed, keeping the ratio approximately the same. We have now accumulated sufficient numbers of students in the new system to calculate an average which will be a standard for comparison in future years. That standard is nine tries to obtain five passes.

Last year, an attempt was made to identify citations in the scientific literature of articles published by our alumni. Due to the uncertainty of coverage (it was not always possible to uniquely identify each individual), that analysis has been put on hold until better methods are developed.

Alumni Survey The department's graduate program participated in a telephone survey of alumni satisfaction in February 2003. The results of that survey are not yet available and will be presented in next year's report.

Uses of Assessment Results:

The department has been severely hampered in its ability to utilize the results of assessment to improve instruction for two reasons.

First, the number of faculty members and support staff personnel has declined significantly while enrollment has increased. Although we expect two new members of the faculty, they are in effect replacing members who have left, have retired, or are retiring in the very near future. Whenever a support staff position becomes vacant, it remains so for several months, at the behest of higher administration, interrupting the smooth operation of the Department. We educate more students using fewer resources. Quality may suffer. Second, our previous department head left the University in summer 2001. Protracted negotiations with a potential new head ended unsuccessfully in January 2003 and no new steps to acquire a head have been made. We have been under the interim leadership of [REDACTED]. Although she has performed well as a leader, we have postponed decisions and discussions, especially about curriculum, in hopes of involving the new head in them.

Despite the above difficulties, three adjustments have been made in response to assessment results.

First, we have managed to have two excellent individuals accept offers of faculty positions. [REDACTED] and [REDACTED] are likely to be fine teachers and researchers.

Second, in response to the requests for more biochemistry courses, encountered in multiple years, we have instituted a sophomore level course for biochemistry majors on a trial basis. The course is exploratory in nature, concentrating on thinking skills by in depth study of a small number of topics. To date, the course has been well received and steps will be taken to make the offering permanent.

Third, the department had been requested by CASNR to draft a unit action plan. It has recently approved action objectives relevant to undergraduate education. These include: add 3 more Teaching Assistant positions to the teaching program; procure equipment and space to maintain up-to-date teaching labs and to accommodate a greatly increased number of students; teach undergraduate biochemistry majors concepts in critical thinking without sacrificing a grasp of basic biochemistry; implement a 1-2 credit sophomore class that will introduce biochemistry students to primary literature (the new course offering just described); evaluate if BIOC 2344 should continue to be a lecture/laboratory course, if it should be converted to a 3 credit lecture class, or if it should be a 4 hr lecture/discussion class (a service course and thus not one that majors in our programs take); review course content and emphasis as a whole faculty. These action objectives will be acted on as time and funds allow.

Draft copies of this report were given to faculty. The report was discussed at a faculty meeting. This revision is, in part, a result of that meeting.

Biosystems Engineering

Prepared by Dr. Ronald Elliott

The following table shows assessment methods used for the degree programs in Biosystems and Agricultural Engineering.

Degree Program(s) Assessed	Assessment Methods
Bachelor of Science in Biosystems Engineering	Alumni survey FE exam results Exit interviews Senior Design performance Core curriculum grades Student feedback sessions

The following is an excerpt from the self-study report for a Bachelor of Science in Biosystems Engineering Program designed for the Engineering Accreditation Commission, June 2003.

Program Outcomes

In consultation with its advisory committee, the BAE Department has established these educational outcomes:

We expect that students graduating from our program will have:

- a. An ability to apply knowledge of mathematics, science, and engineering. (ABET criterion 3.a.)
- b. An ability to design and conduct experiments, as well as to analyze and interpret data. (ABET criterion 3.b.)
- c. An ability to design a system, component, or process to meet desired needs. (ABET criterion 3.c.)
This includes the ability to synthesize system specifications, make decisions based on partial knowledge, account for uncertainty and risk in design, apply engineering principles to accomplish an outcome, develop recommendations for decision makers based on engineering principles, and promulgate standards, regulations, and engineering practices.
- d. An ability to function on multi-disciplinary teams. (ABET criterion 3.d.)
- e. An ability to identify, formulate, and solve engineering problems. (ABET criterion 3.e.)
- f. An understanding of professional and ethical responsibility. (ABET criterion 3.f.)
This includes an understanding of the issues of safety, law, and reliability.
- g. An ability to communicate effectively. (ABET criterion 3.g.)
Includes oral, written, and graphical communications.
- h. The broad education necessary to understand the impact of engineering solutions in a global and societal context. (ABET criterion 3.h.)
This includes an understanding of the economic impacts, both internal and external, of the implementation of engineering solutions.
- i. A recognition of the need for, and an ability to engage in life-long learning (ABET criterion 3.i.)
- j. A knowledge of contemporary issues. (ABET criterion 3.j.)
Students must have the body of knowledge related to societal issues in order to demonstrate the broad education necessary to understand the impact of engineering solutions in a global and societal context and an understanding of professional and ethical responsibility.
- k. An ability to use the techniques, skills, and modern engineering tools necessary for engineering practice. (ABET criterion 3.k.)
- l. A knowledge of appropriate agricultural and/or biological sciences, and/or natural resource topics. (ABET Program criteria)
This applies to both engineering sciences and contemporary issues.

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The program outcomes directly support the educational objectives. The educational objectives state in general that it is the program's objective to "Provide the comprehensive education necessary to prepare students for successful, productive, and rewarding careers in engineering for agricultural, food, and biological systems." The educational objectives then further identify five expectations of graduates of the program. Program outcomes describe specific skills or attributes that support the five expectations of the educational objectives. The educational outcomes are related to the expectations in the educational objectives as shown in Table 1. In addition, the Biosystems Engineering outcomes fully include and expand upon ABET Criterion 3.

How Program Outcomes relate to the requirements of Criterion 3. Each of the outcomes of Criterion 3 is an element of the outcomes of the Biosystems Engineering Program. Criterion 3 elements are referenced directly in the outcomes of the Biosystems Engineering Program. An additional outcome, without a direct reference to the a. – k. elements of Criterion 3, is included in the Biosystems Engineering outcomes. This outcome relates to the ABET program criteria and is a specific outcome for Biosystems Engineering.

Process used to produce Program Outcomes and evaluate their appropriateness. The Program Outcomes were developed with input from constituents through the BAE Advisory Committee. Other sources of guidance included ABET EC 2000 criteria, the ABET regional faculty workshops, and samples of outcomes developed by other BAE departments and by other schools within the OSU CEAT. The departmental ABET committee drafted an initial set of outcomes, which was adopted by the full faculty in fall 2000. The initial outcomes are still in effect, and refinement of the outcomes was part of the agenda for the May 2003 BAE Advisory Committee meeting. Actions and subsequent faculty follow-up from that meeting are pending as of the compilation of this self-study, and results will be available at the time of the visit. Hereafter, a two-year cycle is planned for assessment of the outcomes themselves, with the objectives being reviewed in the alternate years.

Survey of occurrences of Program Outcomes in BAE courses. After the Program Outcomes were developed, instructors completed a survey aimed at providing an estimate of the significant occurrences of each outcome in each of the BAE courses in the curriculum. The results of this survey were presented in the form of charts; see Figure 4 for the overall summary and Appendix III for the charts for individual courses. The survey was completed prior to the 2002 curriculum changes. A similar survey is being conducted now as an aid in: (a) evaluating the impact of those changes on outcome occurrences in the curriculum; and (b) preparing for future changes in the curriculum.

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Table 1. Relationship between expectations in our educational objectives and our educational outcomes.

Educational Objective Expectation	Educational Outcome
Be able to apply the mathematical, physical, engineering, and biological principles needed to understand, analyze, and solve problems in food, agricultural, environmental, and biological systems.	An ability to apply knowledge of mathematics, science, and engineering. (ABET criterion 3.a.) An ability to design and conduct experiments, as well as to analyze and interpret data. (ABET criterion 3.b.) An ability to design a system, component, or process to meet desired needs. (ABET criterion 3.c.) An ability to use the techniques, skills, and modern engineering tools necessary for engineering practice. (ABET criterion 3.k.) An ability to identify, formulate, and solve engineering problems. (ABET criterion 3.e.) A knowledge of appropriate agricultural and/or biological sciences, and/or natural resource topics. (ABET Program criteria)
Be effective in oral, written, and visual communication.	An ability to communicate effectively. (ABET criterion 3.g.) (Includes oral, written, and graphical communications.)
Be self-motivated in accomplishing tasks, both as an individual, and as a contributor to multi-disciplinary teams.	An ability to function on multi-disciplinary teams. (ABET criterion 3.d.)
Be able to understand the social, environmental, safety, and economic impacts of their work in local and global contexts, and to perform in a professional and ethical manner.	The broad education necessary to understand the impact of engineering solutions in a global and societal context. (ABET criterion 3.h.) A knowledge of contemporary issues. (ABET criterion 3.j.) An understanding of professional and ethical responsibility. (ABET criterion 3.f.)
Be committed to enhancing knowledge and skills through continuing education.	A recognition of the need for, and an ability to engage in life-long learning (ABET criterion 3.i.)

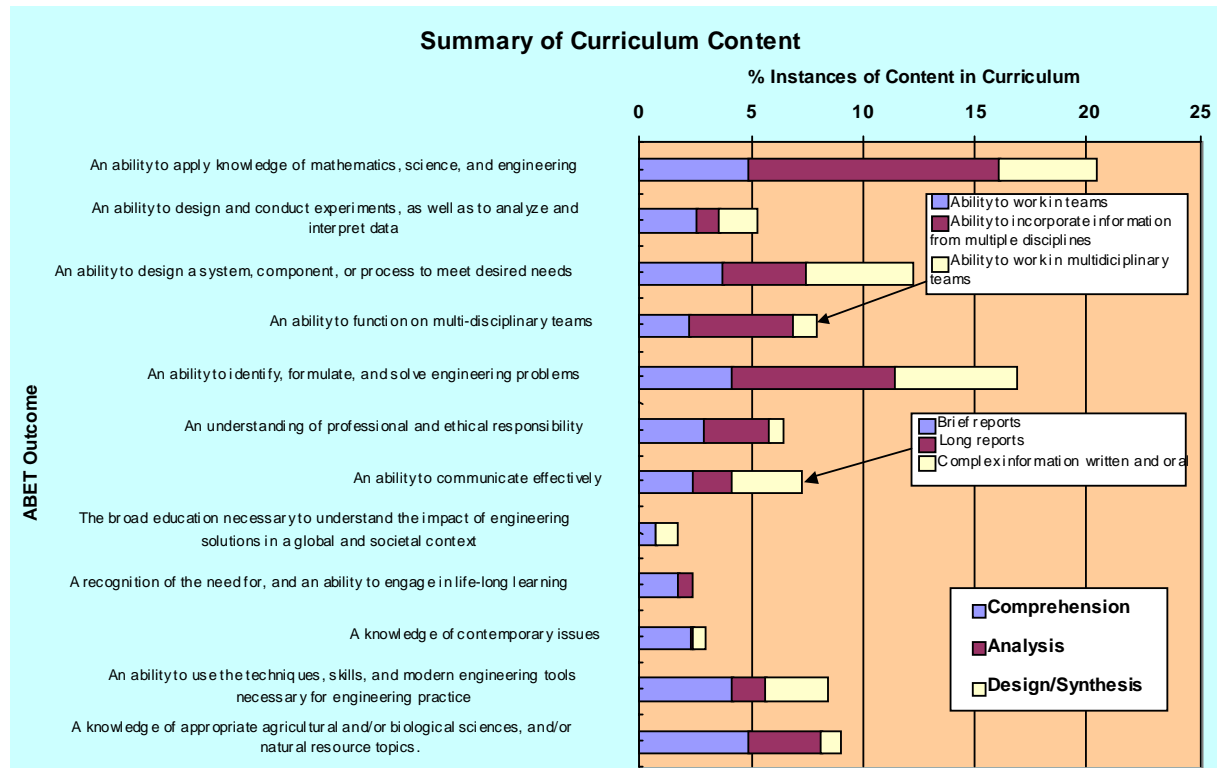


Figure 4. Overall summary of the estimated coverage of Program Outcomes in BAE courses.

Assessment Tools and Processes

Assessment process with documented results to measure outcomes. Two assessment cycles have been conducted with the first completed in February 2001. As a result of the initial assessment, review of the curriculum by the BAE Advisory Committee, formal and informal input from current and graduated BAE students, and observations by the BAE teaching faculty, the BAE ABET and Undergraduate Curriculum Committee formulated a statement of concerns and questions. This statement was reviewed with the BAE Advisory Committee and the BAE faculty, and became the basis for revising the undergraduate engineering curriculum. The revised curriculum was approved in turn by the College of Engineering, Architecture, and Technology Curriculum Committee and the University Instruction Council, and implementation began in Fall 2002. Results of the second assessment cycle were collected in Fall 2002 and analyzed in Spring 2003.

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Table 2. Assessment tools used to assess outcomes for Biosystems Engineering.

Tool	Description	Biosystems Engineering Outcomes Assessed
Alumni survey	A telephone survey conducted by the University Assessment Office of graduates one and three years after graduation.	All outcomes
FE exam results	A nationally normed exam taken by virtually all Biosystems Engineering graduates.	Outcomes a., e., f., and h.
Exit interviews	A one-on-one interview conducted by the department head with each graduating student near the end of the final semester of the student's program.	All outcomes
Senior Design performance	Evaluation of performance in the capstone course series in the program.	Outcomes a. through e., g., h., j., k., and l.
Core curriculum grades	An examination of grades of Biosystems students in the pre-professional core curriculum. This secondary assessment was conducted in 2001 only to gain a better understanding of concerns regarding FE results during that cycle.	Outcomes a. through h., k., and l.
Student feedback sessions	Open-ended sessions, each involving the department head and a group of students (pizza provided). These were initiated in spring 2003, and grew out of less structured mechanisms for student feedback that had proven valuable in the past.	All outcomes are possible but not guaranteed (depends upon the nature of the feedback provided by students).

Educational outcome assessment tools and metric goals. Table 3 provides a summary of the metric goals for each program outcome. These goals are intended to establish the required level of quality of outcome achievement. Graduates who meet these levels are expected to achieve the Educational Objectives following their graduation. These goals are used with each assessment tool in determining if the expected quality for the outcome is being reached for that particular assessment tool. Note: Senior Design is a comprehensive capstone course and covers most of the program outcomes; however, assessment is done on a subset of those outcomes as shown in Table 3. The composite of the results for all assessment tools are examined and changes are made based on the composite result.

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Table 3. Metric goals for each Biosystems Engineering outcome assessment tool.

	Metric Goals			
	Assessment Tool			
Biosystems Engineering Outcome	Alumni Survey	Fundamentals of Engineering Examination	Exit Interviews	Senior Design Performance
a. An ability to apply knowledge of mathematics, science, and engineering. (ABET criterion 3.a.)	Graduates find that they are very well or adequately prepared to apply knowledge of mathematics, science, and engineering.	Performance at or above the national average of peer accredited Biosystems Engineering Programs	Graduating students believe that they are very well or adequately prepared to apply knowledge of mathematics, science, and engineering.	Successful completion of project to client's and instructor's expectations and satisfaction.
b. An ability to design and conduct experiments, as well as to analyze and interpret data. (ABET criterion 3.b.)	Graduates find that they are very well or adequately prepared to design and conduct experiments, as well as to analyze and interpret data.		Graduating students believe that they are very well or adequately prepared to design and conduct experiments, as well as to analyze and interpret data.	Passing grade in course and completion of project.
c. An ability to design a system, component, or process to meet desired needs. (ABET criterion 3.c.) This includes the ability to synthesize system specifications, make decisions based on partial knowledge, ability to account for uncertainty and risk in design, apply engineering principles to accomplish an outcome, develop recommendations for decision makers based on engineering principals, and be able to promulgate standards, regulations, and engineering practices.	Graduates find that they are very well or adequately prepared to design a system, component, or process to meet desired needs.		Graduating students believe that they are very well or adequately prepared to design a system, component, or process to meet desired needs.	Successful completion of project to client's and instructor's expectations and satisfaction.
d. An ability to function on multi-disciplinary teams. (ABET criterion 3.d.)	Graduates find that they are very well or adequately prepared to function on multi-disciplinary teams.		Graduating students believe that they are very well or adequately prepared to function on multi-disciplinary teams.	A score of 5 or better on the TIDEE scale. ¹
e. An ability to identify, formulate, and solve engineering problems. (ABET criterion 3.e.)	Graduates find that they are very well or adequately prepared to identify, formulate, and solve engineering problems.	Performance at or above the national average of peers in Biosystems Engineering	Graduating students believe that they are very well or adequately prepared to identify, formulate, and solve engineering problems.	A score of 5 or better on the TIDEE scale.
f. An understanding of professional and ethical responsibility. (ABET criterion 3.f.) This includes an understanding of the issues of safety, law, reliability.	Graduates find that they adequately understand professional and ethical responsibility.	Performance at or above the national average of peers in Biosystems Engineering	Graduating students feel that they adequately understand of professional and ethical responsibility.	
g. An ability to communicate effectively. (ABET criterion 3.g.) Includes oral, written, and graphical communications.	Graduates find that they are very well or adequately prepared to communicate effectively.		Graduating students believe that they are very well or adequately prepared to communicate effectively.	A score of 5 or better on the TIDEE scale.

¹ The Transferable Integrated Design Engineering Education (TIDEE) was a National Science Foundation project that generated "Seven-Point Scoring Scales for Student Achievement in Engineering Design." TIDEE Final Report, January 1999. [REDACTED], and [REDACTED]. Washington State University.

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	Metric Goals			
	Assessment Tool			
Biosystems Engineering Outcome	Alumni Survey	Fundamentals of Engineering Examination	Exit Interviews	Senior Design Performance
h. The broad education necessary to understand the impact of engineering solutions in a global and societal context. (ABET criterion 3.h.) This includes an understanding of the economic impacts, both internal and external, of the implementation of engineering solutions.	Graduates find that they are very well or adequately prepared to understand the impact of engineering solutions in a global and societal context.	Performance at or above the national average of peers in Biosystems Engineering	Graduating students believe that they are very well or adequately prepared to understand the impact of engineering solutions in a global and societal context.	Not assessed independently, but a lack of proficiency would be reflected in the quality of the design and the final grade.
i. A recognition of the need for, and an ability to engage in life-long learning (ABET criterion 3.i.)	Graduates find that they recognize the need for, and have an ability to engage in life-long learning		Graduating students feel that they recognize the need for, and will have an ability to engage in life-long learning	
j. A knowledge of contemporary issues. (ABET criterion 3.j.) Students must have the body of knowledge related to societal issues in order to demonstrate the broad education necessary to understand the impact of engineering solutions in a global and societal context and an understanding of professional and ethical responsibility.	Graduates find that they are very well or adequately prepared with a knowledge of contemporary issues.		Graduating students feel that they are very well or adequately prepared with a knowledge of contemporary issues.	Not assessed independently, but a lack of proficiency would be reflected in the quality of the design and the final grade.
k. An ability to use the techniques, skills, and modern engineering tools necessary for engineering practice. (ABET criterion 3.k.)	Graduates find that they are very well or adequately prepared to use the techniques, skills, and modern engineering tools necessary for engineering practice.		Graduating students feel that they are very well or adequately prepared to use the techniques, skills, and modern engineering tools necessary for engineering practice.	Not assessed independently, but a lack of proficiency would be reflected in the quality of the design and the final grade.
l. A knowledge of appropriate agricultural and/or biological sciences, and/or natural resource topics. (ABET Program criteria) This applies to both engineering sciences and contemporary issues.	Graduates find that they are very well or adequately prepared with knowledge of appropriate agricultural and/or biological sciences, and/or natural resource topics.		Graduating students feel that they are very well or adequately prepared with knowledge of appropriate agricultural and/or biological sciences, and/or natural resource topics.	Successful completion of project to client's and instructor's expectations and satisfaction.

Assessment Results and Responses

Quantitative and qualitative assessment results and analysis. A two-year cycle of assessment, analysis, and program adjustment is being conducted for the Biosystems Engineering program. Assessment materials are being collected and examined on a continuous basis, but the analysis of the composite results is being done on a two-year interval. The university conducts the alumni survey in alternate years, though it was originally expected to be done yearly. In addition, the time required to get curriculum changes approved and implemented is approximately one year. Some assessment-driven changes in course content are being implemented in a more immediate manner.

2001 assessment cycle. Materials were collected and analyzed as a part of the 2001 assessment cycle. These results drove curriculum changes that were implemented beginning in 2002. The assessment results for each individual tool, as well as an executive summary, were prepared by members of the departmental ABET and Undergraduate Curriculum Committee. These documents are included in Appendix III. In

In addition to the official assessment tools described previously, the committee also received informal input from both faculty and students, which was taken into account.

Our general conclusions were as follows:

Observations

- Students feel very well prepared in the following areas:
 - Applying knowledge of math, science, and engineering
 - Ability to function on teams
 - Understanding of necessary agricultural and biological sciences and natural resources topics
 - Performance in design topics
- Alumni feel very well prepared in most areas, and in general, are very satisfied with the educational experience and instruction they received.
- Nearly all of our students take the FE exam, and most pass it.
- The mean scores of our students averaged over all phases of the FE exam are 99% of the national average for Agricultural and Bioengineering students.

Possible Concerns

- Some of our students do not feel very well prepared in the following areas:
 - Understanding the social, environmental, safety, economic, and business consequences of their work and the importance of risk in engineering analysis.
 - Understanding professional and ethical responsibilities and the pursuit of lifelong continuing education. [Note: Our alumni, however, felt very well prepared in these areas.]
 - The use of modern engineering tools.
- Our students do not perform as well as their peers in mathematics, chemistry, and dynamics, as evidenced by both course grades and subject matter tests on the FE exam.
- Course grades in Fluid Mechanics are significantly lower than other CEAT students.
- Both informal and formal meetings between undergraduate students, faculty, and the department head have revealed a need for more contact with students in the freshman and sophomore years, and the need for exposure to the breadth of subject areas within Biosystems Engineering earlier in the student's career.

2001 Response to Assessment Results

After compiling the composite results of the 2001 assessment, a formal response was generated by the departmental ABET & Undergraduate Curriculum Committee. This response was provided to the faculty for their consideration and action in modifying course content and curriculum.

The curriculum revisions were stimulated by several things: the need to re-evaluate our core curriculum to ensure that it is meeting the needs of our constituents; the need to improve retention of students between the freshman and junior years; the need to enhance students' laboratory experiences; and the need to provide students early exposure to the diversity of career opportunities within Biosystems Engineering.

Option Changes. The Biosystems Engineering program consisted of four options: Environment and Natural Resources, Biomechanical, Food and Bioprocessing, and Agricultural. The Agricultural option was quite general and very few students chose it. The Agricultural option was changed to a Bioprocessing & Biotechnology option. This change has enabled us to meet the needs in the growing area representing the interface between biology and technology. It also provides an opportunity to enhance student recruiting. Much research has been conducted regarding similar programs around the country, and this move is very consistent with the national trend in our discipline. The only new course associated with this new option is a senior-level bioprocess engineering course, which is team-taught and cross-listed with Chemical Engineering. Use of the term Bioprocessing in the new option also necessitated a minor change in the name of the third option to Food Processing.

Core Curriculum Revisions. We conducted a thorough evaluation of the topics in the core curriculum, i.e., those courses required of all options within Biosystems Engineering. This included a survey in which faculty prioritized, on a topic-by-topic basis, the subject matter in BAE core courses, and also evaluated the relative importance of a variety of non-BAE core courses. The results of this survey (Appendix III) helped to guide our curricular changes.

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Our students needed a comprehensive course covering both heat and mass transfer with applications to biological systems, so we developed a new course, Heat and Mass Transfer in Biological Systems (BAE 3013), to be taught for the first time in Fall 2003. We dropped the requirement of the MAE heat transfer course. We require all the available engineering science courses, with the exception of Materials Science (ENSC 3313). We dropped the requirement of Plant Biology (BIOL 1404), but still require Introductory Biology (BIOL 1114).

We added a two-credit-hour course, Experimental Methods in Biosystems Engineering (BAE 1022), at the freshman level involving a series of substantive laboratory experiences illustrating the breadth of topics within Biosystems Engineering. Aims of this course, which was first taught in Spring 2003, are to expose students to the diversity of subject matter and career opportunities within Biosystems Engineering, to provide the development of critical "hands-on" skills, to offer additional experience in data analysis and scientific reporting, and to keep students in contact with the department every semester, in an effort to improve retention. We also added Introduction to Engineering in Biological Systems (BAE 2012), a new two-credit-hour course at the sophomore level, which will be taught for the first time in Fall 2003. This course will focus on case studies drawing from subject matter representing all four options. We also moved Physical Properties of Biological Materials (BAE 2022) to the sophomore level, to make it the fourth in a series of four consecutive courses at the freshman and sophomore levels.

In addition to the above changes in our core curriculum requirements, we submitted changes for many of our existing courses. These changes were the result of a complete review of all BAE courses and consist of changes in content, titles, numbers, and catalog descriptions, many of which had not been edited in a number of years. Because so many course numbers and titles changed, the table in Appendix III ("Biosystems Engineering Core Curriculum Requirement Changes") should be helpful to the reader.

Curriculum modifications in Mathematics and Chemistry were also driven by concerns from Biosystems Engineering and other Engineering Schools. Some of these concerns and changes resulted from earlier processes within the college, but the need to implement changes was particularly influenced by the ABET processes within the college. The Mathematics Department, at the request of the College of Engineering, Architecture, and Technology, has completely restructured the engineering calculus program moving from a two 5-credit course sequence to a three-semester (4-3-3) sequence. We will be monitoring the effect of that change on Biosystems student performance in the mathematics section of the FE exam. The Chemistry Department has created a four-hour course for engineers. We will also monitor student performance to determine if this change improves their performance on the FE examination. Only students from our Biomechanical option were required to take the Engineering Science materials science course. The Biosystems Engineering "properties of materials" course (formerly BAE 3423 and now BAE 2022) is required by all options and is strongly oriented towards biological materials. The materials section of the FE exam emphasizes metals and other inorganic materials and does not test student's knowledge of the properties of biological materials. At this time we are not planning to restructure our course or require all of our students to take the Engineering Science materials science course. The department believes that the Fundamentals of Engineering examination is an important assessment tool and will continue to analyze results as part of the on-going assessment process.

In addition to the curriculum modifications described above, a concerted effort was made to incorporate more specific program objectives into various BAE courses to address some of the possible concerns, as listed below:

- Topics involving a recognition of the need for lifelong learning will be incorporated into the Senior Seminar (BAE 4001) course.
- Students' understanding of professional and ethical responsibility will be enhanced by the incorporation of formal discussions regarding engineering ethics in BAE 2022 and BAE 3213. In addition, students will be indirectly exposed to ethical examples in engineering design in BAE 3023 and BAE 4413.
- Students' knowledge of contemporary issues and the impact of engineering solutions in a societal context will be enhanced by a concerted effort to include case studies illustrating the impacts of engineering design related to the specific subject area in several courses, including BAE 1012, BAE 2022, BAE 3023, and BAE 3213.
- Students' performance in mathematics will be improved by better integrating mathematics applications into Biosystems Engineering courses.

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- Students' use of modern engineering tools will be improved by the inclusion of hands-on laboratories throughout the curriculum. It has also been postulated that the term 'modern engineering tools' is not clear to students in the survey questions. Therefore, some examples and clarification will be added to the senior exit interview questions.

2003 assessment cycle. Materials were collected and analyzed as a part of the 2003 assessment cycle. Further analysis of the results is planned. Changes in the program will be based on the analysis of these results and additional information that will be provided by the 2003 Senior Design and the Spring 2003 Exit Interview processes. The 2003 results obtained so far are summarized here: Results from four different assessment tools were summarized by the ABET and Undergraduate Curriculum Committee for the 2001-2002 academic year. The assessment tools utilized included Senior Exit Interviews, Alumni Survey, FE Exam, and Senior Design Survey. This document contains a brief summary of all combined assessment materials, however, a more detailed summary is available for each of the individual assessment tools in Appendix III. In general, the committee felt that the assessment results were very positive, indicating that our students are well prepared and very satisfied with their educational experiences. Since in many cases our results are taken from small sample sizes, some of the possible concerns should be addressed with caution because in many cases just one or two students responded unfavorably.

Observations

- Students feel very well prepared in the following areas:
 - Applying knowledge of math, science, and engineering
 - Ability to function on teams
 - Understanding of necessary agricultural and biological sciences and natural resources topics
 - Performance in design topics
- Alumni feel very well prepared in most areas, and in general, are very satisfied with the educational experience and instruction they received.
- The senior capstone design experience has received very positive reviews by both external evaluators and students in the course.
- Nearly all of our students take the FE exam, and about 73% pass it. In most of the subject matter categories (9 of the 12), our students performed at or above the national average for Agricultural and Bioengineering students.

Possible Concerns

- A number of students expressed dissatisfaction with academic advising, as evidenced by both alumni surveys and senior exit interviews.
- Some of our students do not feel very well prepared in the following areas
 - Understanding contemporary, social, and political issues.
 - Understanding the impact of engineering solutions in a global and societal context.
 - The continued development of professional abilities through lifelong continuing education.
- On the FE exam, our students do not perform as well as their peers in mathematics, chemistry, and material science. The deficiency in material science is not unexpected, since students in three of our four options are not required to take this course.

Materials documenting the department's curriculum assessment and revision processes and actions will be available for review during the accreditation visit. These materials will include the BAE Advisory Committee minutes, raw assessment tool results, and results of the 2003 assessment cycle. In addition, instructional material and student work will be available for each BAE course in the curriculum.

Department of Entomology and Plant Pathology

Prepared by Dr. Thomas W. Phillips

Degree Program(s) Assessed	Assessment Methods	Number of Individuals Assessed
B.S. –Entomology M.S. –Entomology M.S. Plant Pathology Ph.D. Entomology <i>Ph.D. Plant Pathology</i>	Written and oral exit interviews in addition to information from Curriculum Vitae on professional placement.	1 (2 graduated) 2 (3 graduated) 2 (3 graduated) 1 (1 graduated) 0 graduated this year

Analysis and Findings:

A copy of the written exit interview is available upon request. All students were given or mailed written forms and several attempts were made to retrieve those forms. Oral interviews were conducted by the Department Head as follow-ups to the written instrument. Interviews allowed graduates to comment freely about concerns or suggested improvements for the program.

The small samples sizes of interviews from the five degree programs preclude any summary statistics or statistical analyses. All exit interview responses were positive; the following summary reports the average numerical score (1=Excellent, to 4=Poor) given for departmental faculty and their instruction. The one B.S. Entomology student, 1.5; the one M.S. Entomology student, 1.5; second M.S. Entomology student, 1.0; first M.S. Plant Pathology student, 1.4; second M.S. Plant Pathology student, 1.4; the one Ph.D. Entomology student, 1.0. All respondents were pleased with the support services offered in the Department and elsewhere in the University. All graduates but one from the past year are placed in professional positions in their fields of study; four went on to pursue graduate degrees, three have positions as government or university research scientists, and one undergraduate was unaccounted for.

The Department of Entomology and Plant Pathology is a predominantly graduate education and research department, with significant responsibilities to both the Agricultural Experiment Station and the Cooperative Extension Service. The one undergraduate degree program, in Entomology, has only a few graduates a year, but substantial undergraduate instruction occurs through numerous courses offered as requirements for other majors in the College and for General Education outside the College. As a predominantly research department most of the comments we hear from students deal with research experiences they had in the department.

Uses of Assessment Results:

Responses from exit interviews, together with results from the OSU Student Survey of Instruction, are used each year to aid faculty in revisions and updating of their course materials. Since a major revision of the departmental curriculum was completed over the past five years, we do not foresee substantial changes in course material outside of yearly revisions done by most faculty.

College of Agricultural Sciences and Natural Resources

Two initiatives in program improvement surfaced following recent assessment evaluation. First, we plan to develop a new undergraduate internship program within the department. Exit interviews of graduates over the years have pointed to the value of research and other practical experiences undergraduates receive while employed as laboratory and program assistants by various faculty. Our concept is to promote these experiences by allowing students to enroll in either ENTO 4800, Undergraduate Traineeship, or PLP 4400, Undergraduate Research, for 1-3 credits as an internship in a faculty program for which there is a defined objective, executable practice, and a delivered product at the end of the semester. We feel that the formalized internship would be an incentive for more undergrads to pursue these experiences with faculty and thus to strength their potential for future professional placement. We will develop this internship concept over the coming year. Second, we feel it is important to develop a comprehensive historical database of our graduates from the past 20 years. Entomology and Plant Pathology are highly specialized fields in which our graduates eventually find positions in practice (as pest or resource managers), research, teaching or outreach. Graduate research degree programs resulting in a Ph.D. require several years of study, and typically these are followed by postdoctoral positions and other entry-level positions for several years. A valid assessment of the impact of our program on a former student may not occur until several years from the time a student leaves OSU, when he or she settles into a permanent position. This may also be the case for B.S. graduates who may have discontinuous training and job experiences after OSU. A comprehensive data base constructed from a current survey instrument administered to alumni will aid us in tracking our graduates and give us relevant information about the outcomes from our programs from those who have matured professionally. We will request funding for OUA for this purpose.

Environmental Sciences Undergraduate Program

Prepared by David K. Lewis

This report is the outcomes based assessment of the Environmental Sciences Undergraduate Program by the Environmental Science Steering Committee.

ASSESSMENT

Results of Previous Assessments

- Creation of an Environmental Science Task Force to develop recommendations regarding the administration and support for the Program.
- Review and revision of the curricula for the Environmental Science options by the Environmental Sciences Faculty.
- Development, with the Fire Protection and Safety Technology Faculty, of an academic course that leads to "HAZWOPER-40" certification.
- Development of a course focused on ethical issues associated with the environment.
- A review of quantitative skills required for environmental science professionals.

2002-03 Assessment

In terms of "The Desired Student Outcomes" the measurable standards for the program were met by the 14 seniors enrolled in Environmental Science Applications and Problem Solving (ENVR 4813). The interviews with graduating seniors indicate that they have positive feelings about the program; and their educational experience, including relationships with their advisors and other faculty. These interviews also support implementation of the results of previous assessments.

Planned Efforts

Future efforts should be focused on implementing the results of previous assessments. However, the implementation of any of these efforts requires the commitment of resources beyond the control of the Program in its current condition.

An additional effort should be devoted to monitoring the efforts of the Council of Environmental Deans and Directors to examine and review the curricula of environmental programs of instruction. The Council of Deans and Directors is also examining the opportunities for certification of environmental science professionals. This deserves to be monitored as well.

INFORMATION SOURCES FOR ASSESSMENT

Grades and "Client Reports" from Environmental Science Applications and Problem Solving (ENVR 4813)

Fourteen students were enrolled in Environmental Science Applications and Problem Solving (ENVR 4813) during Spring Term 2003. Students completed projects for the Indian Nations Council of Governments (Characterization of Biogenic Emission Factors Relating to Air Quality Problems in the Tulsa Management Area (TMA)), Oklahoma Department of Agriculture (Analysis of Lagoon and Field Application Odor Abatement Technologies for LMFO's), and United States Environmental Protection Agency – Region 6 (Field Trial of Soil Sampling Procedures for Detecting the Presence of Volatile Hydrocarbon Contaminates). Final grades in the course were A's and B's. Grades were distributed as follows:

9	-	A's
5	-	B's

Client evaluations for the projects (See Appendix A) ranged from 8 to 10 with a mean of 9.3.

Exit Interviews of Seniors at the Time of Graduation

Exit interviews of graduates were conducted by Dean Miller. The results of three interviews were available for this assessment. The interviews indicate a high level of satisfaction with advising, course content, and faculty. Suggestions were offered to strengthen field work and application elements of the curriculum, and increase the course offerings in social sciences in the curriculum. The need for a Program Coordinator was also identified.

Placement Statistics Compiled by the College of Agricultural Sciences and Natural Resources Career Services Office (Appendix B)

The statistical evidence on placement is limited. However the general view is that graduates are continuing their education in nationally ranked graduate programs or finding employment in the environmental science professions. Those seeking employment are finding jobs in a reasonable length of time and at compensation levels above the average for the College.

Recruitment and Retention Data Compiled by the College of Agricultural Sciences and Natural Resources Student Services Office (Appendix C)

The statistical information compiled by the College of Agricultural Sciences and Natural Resources Student Services Office does not include all of the students who entered the program in 2002-03 only those students who were involved in the College's recruitment program. However, this information is consistent with the observations of faculty. Eight (57%) of 14 students that entered the program in Fall Term 2002 were transfer students and two (14%) of the 14 students that entered the program in Fall Term 2002 had transferred out by the end of Spring Term 2003.

Statistics on Enrollment, Degrees Conferred, Faculty Survey, and Placement Compiled by the College of Agricultural Sciences and Natural Resources for the FAEIS Report (Appendix D)

The current FAEIS report indicates that slightly more than half of the students currently enrolled in the Environmental Sciences Program are Caucasian males and the balance are distributed among gender and racial minorities.

Employer Interviews Conducted by the College of Agricultural Sciences and Natural Resources Career Services Office

The results of employer interviews conducted by the College of Agricultural Sciences and Natural Resources were not available at the time this report was prepared.

Alumni surveys conducted by the Office of University Assessment

No information from alumni surveys beyond that reported in the 2001-02 assessment were available at the time this report was prepared.

RESULTS OF PREVIOUS ASSESSMENTS – STATUS

Environmental Sciences Task Force

In 2001 recommendations were made by the Environmental Sciences Task Force which was convened in response to previous assessments. The following recommendations were presented and accepted by the College of Agricultural Sciences and Natural Resources:

- The Undergraduate Environmental Science Program should remain as interdisciplinary program under the Associate Dean for Academic Programs. – **Implemented**
- A chair position should be established to lead the Environmental Science Program. – **Implemented** (Position of "Director, Environmental Sciences Undergraduate Program" was established and filled in December 2002).
- An Environmental Sciences Undergraduate Program Coordinator position should be established. – **Accepted but not implemented**
- Office space should be provided for the Program Coordinator. - **Accepted but not implemented**
- A Classroom/laboratory and a seminar/conference/workroom should be provided for the Environmental Sciences Undergraduate Program. – **Accepted but not implemented (Efforts have been initiated to develop a proposal for a shared teaching laboratory that will meet the immediate needs of the Program.)**
- An annual cash award of \$1,000 should be established as an incentive and reward for contributions to the Environmental Sciences Undergraduate Program. – **Accepted (The process for making the award has been initiated and will be completed during Fall Term 2003.)**
- An annual review of the Environmental Sciences Undergraduate Program and should be presented to the College's academic department heads and administration. – **Accepted and scheduled for implementation Fall Term 2003**

Development of an Academic Course that Leads to “HAZWOPER-40” Certification

A course titled “Hazardous Waste Site Safety Management” (FPST 4050) has been developed by the Fire Protection & Safety Technology Faculty () in cooperation with the Environmental Science Steering Committee. The course has been offered twice for academic credit through Engineering Extension and failed to have sufficient enrollment. This is due to the restrictive enrollment requirements of Engineering Extension (minimum and maximum enrollment of 32 students). Efforts are continuing to advertise the course with the Environmental Science Graduate Program and environmental engineering curricula offered by the College of Engineering, Architecture, & Technology with the goal of achieving enrollment requirements.

Development of an Ethics Course Dealing with the Environment

A course “Ethical Issues in Agriculture and the Environment (ENVR 4573)” has been developed, approved for offering, and offered experimentally on two different occasions. Difficulties in securing a “Humanities” designation have arisen and the course may not be offered in the future.

Quantitative Skills Review

A review of the quantitative skills required for environmental science professionals was initiated in 2001 and is continuing. Currently four subject matter areas have been identified and the Steering Committee is in the process of developing specific descriptions for needed courses.

College of Agricultural Sciences and Natural Resources

Forestry Department

Prepared by Craig R. McKinley

The following table shows the assessment methods used and numbers of individuals assessed for the Forestry Department.

Degree Program(s) Assessed	Assessment Methods	Number of Individuals Assessed in 2003
Forestry – B. S., M.S.	1) Exit interviews with graduating students 2) Performance of seniors in capstone course 3) Faculty questionnaire for student performance in capstone course 4) Student questionnaire for seniors in Forestry 4443 5) Post summer camp retention and graduation rates 6) Satisfaction survey of graduates (1994-1998)	1) 9 seniors, 1 graduate student 2) 8 seniors enrolled 3) 3 faculty responding 4) 7 seniors responding 5) All students completing summer camp 1993 - 2001 6) 80 graduates were mailed surveys

Analysis and Findings:

- 1) Exit interviews: Forestry Department Head, Dr. Craig McKinley, conducted exit interviews in fall 2002 and spring 2003 with a total of 9 graduating seniors. One graduate student was interviewed in 2002, but information is not presented in order to keep responses from being identified. Comments from seniors closely parallel those of previous years. Briefly, the following points were made by students relative to the forestry program:
 - Students indicated that their desire to work outdoors led them to Forestry.
 - Overall, students were pleased with quality of education.
 - Transfer students indicated an initial concern regarding acceptance into the department. However, summer camp generally allayed those fears.
 - Students indicated that summer camp was the highlight of their academic experience. Some concern was expressed over the cost of summer camp and the fact that a summer of work was partially lost.
 - Students who participated in the International forestry course were quite pleased with that experience and felt it added significantly to their education.
 - Students were pleased with advisors in developing academic and career paths.
 - Several students expressed a positive perception of the curriculum options to be implemented in fall, 2003.
 - Students indicated some courses provided redundant information.

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- (2) Capstone performance: The Capstone course is designed to provide an opportunity to approach real-life problems with off-campus clients. Following problem analysis and preparation of results, students make formal presentations to clients.

Teamwork skills appear to be well developed and well understood by the students as they completed the semester's work. Exit interviews demonstrate that student perceptions of the capstone course are excellent.

Client Comments from 2003 include:

- Good presentation.
- The group has researched the project well and was very knowledgeable.
- The presentation was received clearly.
- Written project well organized for presentation to non-professionals.

- (3) Faculty Evaluation of Capstone Students: Following project completion and presentations by students, faculty who attended presentations were asked to complete an evaluation questionnaire. This questionnaire was developed by the Society of American Foresters as part of that organization's efforts to better evaluate outcomes assessment. A summary of the results in 2003 indicate:

- Students were rated highest in their ability to manage teamwork productively.
- Students appear to understand forest community, structure and function.
- Students demonstrated a strong ethical sense of stewardship for the environment.
- Students were rated lowest in their ability to evaluate possible solutions in terms of specific criteria and to make a case for the preferred solution.
- Faculty rated students' communication (both written and spoken) skills at a higher level from last year. Communications has been one area of focus for improvement within the capstone course.

- (4) Forestry 4443 Questionnaire: *A total of 7 senior students in Forestry 4443 (Administration and Policy) responded to a questionnaire designed to evaluate their perceptions of the college experience. Below are listed the results of this survey. It should be noted that seven students is a limited sample and conclusions should be viewed with that fact in mind.*

- Students rated themselves high in the ability to recognize and respect the rights of others.
- Students believe they are able to make informed moral decisions with discernment.
- Students perceive themselves as having the ability to organize and lead groups of people. They also believe they are able to effectively participate as a member of a group.
- Students rated themselves low in their ability to speak effectively and with confidence. They also gave themselves a low rating in the ability to communicate research findings to relevant publics.

- (5) Post-summer Camp Retention and Graduation: The Forestry Department tracks retention and graduation following the academic forestry summer camp that is conducted between the sophomore and junior years. Of the 7 students who attended camp in 2001, 4 (57%) have graduated from OSU. The other three students are expected to graduate in summer or fall, 2003, bringing the total graduates to 7 (100%). The graduation rate of students completing camp for the nine years, 1993 through 2001, is approximately 88%.

CAMP YEAR/ GRAD YEAR	93/95	94/96	95/97	96/98	97/99	98/00	99/01	00/02	01/03
Graduation Percentage	94%	86%	91%	82%	78%	91%	91%	83%	100%

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- (6) Satisfaction Survey (forestry graduates of 1994 to 1998): Surveys to assess the satisfaction of the 1994 to 1998 graduates with their educational training were mailed in February 1999. Approximately 35 percent of those surveyed responded. Data were summarized and analyzed in summer, 1999, with a compilation of results presented to the department's Committee on Undergraduate Education (CUE) for review and action. A copy of this summary and recommendations is available upon request.

Uses of Assessment Results:

As with any activity to evaluate the quality of the educational experience, outcomes assessment must be incorporated into the overall improvement effort. As such, dramatic changes in curriculum, course content and expectations for students are not to be based solely on results reported here. Additionally, such changes should not be initiated without considerable regard to long-term trends and intended results. It has been the philosophy of this department to carefully review the results of outcomes assessment and other evaluation opportunities (SAF accreditation, etc.) over an extended time frame to assure that any program modifications attain the desired results.

Information relative to the outcomes assessment process is submitted in written form by the Department Head to the forestry faculty for their review and consideration. The department's Committee on Undergraduate Education (CUE) also utilizes this information as a basis for possible changes in the instruction program that might be recommended. The Department Head discusses comments relative to specific courses with involved faculty as part of that individual's appraisal and development process.

Other uses of Outcomes Assessment:

- (1) The Forestry Department is involved in an intensive recruitment program. Assessment results are utilized to determine student needs and expectations for a four-year degree in forestry. The development of curriculum options and the reduction in summer camp requirements based upon student inputs are expected to enhance this recruitment effort.
- (2) Curriculum reviews continue as a result of the information received from exit interviews, senior questionnaires, etc. This is not exceptional as curricular matters receive regular attention in the department. As a result of students' desire for additional specialization opportunities, a curriculum review in 2002 led to the development of a proposal for four curriculum options. Those options have been approved and will be implemented beginning in fall, 2003.
- (3) Outcomes assessments have shown that student communication skills need to be improved. The Capstone course continues to focus on oral and written communication skills both within the department and with outside clients. Several other courses include communications activities by students as part of the course requirements. Examples of such activities include presentations, written reports, leadership of discussion groups, etc.

College of Agricultural Sciences and Natural Resources

Department of Horticulture and Landscape Architecture

Programs Assessed:

Degree of Bachelor of Science in Agricultural Sciences
and Natural Resources

Horticulture Major:

Horticulture Option (Institutional Program Code = HORT)
Turf Management Option (Institutional Program Code = TURF)
Public Horticulture Option (Institutional Program Code = PHRT)

Prepared by: Brian A. Kahn, Ph.D.

Time Period Covered: Spring, Summer, and Fall Semesters, 2002

Assessment Method: As a measure of advising outcomes, counts were made of students on the College-issued graduation deficiency lists.

Numbers Assessed: 14; 2; and 9

Analyses and Findings: For Spring 2002, eleven students graduated and three had deficiencies. Two students were short due to one or more failures in core courses (both had failed BIOC 2344). A third student had not scheduled a required upper-division communications course, despite guidance from his advisor. For Summer 2002, two of the Spring deficiencies carried over (the third student was not put up for graduation). For Fall 2002, six students graduated and three had deficiencies. One student was planning to complete two courses by correspondence but did not do so. The other two students each withdrew from, and/or failed, two core courses.

Changes/Use of Results: Advisors are asked to discourage students from trying to complete graduation requirements via correspondence courses due to a history of graduation deficiencies resulting from the use of such courses. However, students do have the right to choose this option. Problems are most likely to result when a student leaves for a job and attempts to finish the last course or two by correspondence. Students have several options for meeting the organic chemistry requirement. BIOC 2344 is a relatively difficult course, but no more so than some other required courses. The Department Undergraduate Horticulture Teaching Committee (UHTC) believes a basic knowledge of organic chemistry is important to our majors.

Assessment Method: All graduating seniors had a grade point average (GPA) within the major (courses with a HORT prefix) calculated as a part of their graduation checks.

Numbers Assessed: 17

Analyses and Findings: Our objective is to have all graduates achieve at least a 2.5 GPA within the major. Fifteen graduates met the goal; one Horticulture and two Turf students did not (all of these had major GPA's > 2.3). The overall mean GPA in the major was 3.36 for graduating Horticulture students, 2.93 for graduating Turf Management students, and 3.78 for graduating Public Horticulture students.

Changes/Use of Results: Students appear to be motivated and generally are performing well in their majors. In an effort to further raise student quality, a 2.25 GPA has been required in the Major Requirements section of the option sheets (includes several non-HORT-prefix courses) starting with the 2000-2001 option sheets. These new sheets are phasing in as new students begin matriculation.

Assessment Method: Students participated in intercollegiate competitions.

Numbers Assessed: (Teams only) 3 and 7

Analyses and Findings:

- A team from our Horticulture Club participated in the Association of Collegiate Branches (ACB) Horticulture Judging Contest, held during the Southern Region, American Society for Horticultural Science (ASHS) meeting on 2-5 February 2002 in Orlando, Florida. Our team (2 PHRT majors, a HORT major, and one former minor in Horticulture) placed first overall; first in greenhouse floral and foliage plant judging; second in vegetable judging and in fruit and nut judging; and third in woody ornamentals judging. One HORT major was the highest overall individual and one PHRT major was the third highest overall individual. Two other HORT majors who participated as individual competitors earned individual awards in greenhouse floral and foliage plant judging.

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- Our Floriculture Crop Judging and Design Team participated with teams from ten other schools in the 61st Annual National Intercollegiate Floral Crop Quality Evaluation and Design Competition, held on 3-5 April 2002 at the University of Wisconsin - River Falls. Our team placed seventh overall in judging. Four students each won individual awards in specific floral arrangement categories (one first, one third, one fourth, and one fifth).

Changes/Use of Results: The faculty member who coaches the Floriculture Crop Judging and Design Team also teaches our Floral Design courses. He has used his knowledge of team strengths and weaknesses to adjust his curricula as appropriate. The Horticulture Club judging team showed strength in multiple horticultural crops.

Assessment Method: Five students graduating in 2002 participated in an exit interview process. The HORT and TURF options were represented.

Numbers Assessed: 5

Analyses and Findings: The students rated their OSU education in their major as follows: 2-above average, 3-excellent. Suggestions for improvement included more turf-specific classes and more hands-on experience in labs. All five students felt that our faculty were helpful and the quality of teaching was good. Advising ratings were: 1-above average, 4-excellent.

Changes/Use of Results: A new course called "Turfgrass Integrated Pest Management" (PLP 3663) was developed and added as a requirement for the Turf Management degree starting with the 2001-2002 option sheets. Several students are taking advantage of HRT 1163, "Bilingual Horticultural Communications", which is now being offered on the Stillwater campus via distance education from OSU-Oklahoma City.

Assessment Method: All Horticulture, Turf Management, and Public Horticulture students are required to participate in HORT 2010, Internship, for three credits (480 hours of work experience). Outcomes were assessed through student and employer evaluations, student seminars, and a specific departmental internship assessment seminar.

Numbers Assessed: 18

Analyses and Findings; Changes/Use of Results: See appended notes from the annual Departmental Internship Assessment Seminar; these notes were distributed to all Horticulture teaching faculty.

COMMENTS

The overall Horticulture and Turf Management curricula appear to be meeting the needs of students and employers. The Public Horticulture curriculum is relatively new and is just beginning to produce graduates. Possible program improvements identified during the assessment process will be considered at an upcoming meeting of the Undergraduate Horticulture Teaching Committee. Assessment results also are an integral part of departmental strategic planning.

Notes from Annual Departmental Internship Assessment Seminar: 27 January 2003

Compiled by Brian A. Kahn, Program Outcomes Assessment Coordinator (POAC)
Horticulture, Turf Management, and Public Horticulture programs
Oklahoma State University, Stillwater

Six faculty members provided input, including all members of the Department Undergraduate Horticulture Teaching Committee (UHTC) and the POAC. There were 18 student interns in 2002 from the three options being assessed. Six of the students interned outside of Oklahoma, including one in Denmark.

Progress from 2001: 1) Cooperators and students had repeatedly expressed a need for training in Spanish in previous assessments. We now have a class from OSU-OKC called 'Bilingual Horticultural Communications' being offered at OSU-Stillwater by distance education. 2) Student attendance at internship seminar presentations has been increased by the creation of two distinct "seminar fests," one for students specializing in Turf Management and another for those in Horticulture and Public Horticulture. Both seminars were tied to meetings of the respective student clubs. Twenty students and five faculty members were present to hear eight student speakers at the HORT/PHRT seminar fest. 3) A new course, 'Turfgrass Integrated Pest Management', came on line in 2002, in part in response to cooperator input that more training was needed in this area.

Notes from 2002:

* Cooperators noted several areas where more student training would be desirable. Three cooperators mentioned the need for training in Spanish. At least three cooperators stated the students were well prepared with horticultural subject matter but needed to work on communication and “people skills”; this comment also appeared in 2001. Students wanted more training in pest management and in irrigation system maintenance. Action: Availability of the ‘Bilingual Horticultural Communications’ course has already been mentioned. It is difficult to acquire “people skills” in a classroom setting; this is one motivation for requiring students to do an internship. We are considering adding a personnel management/human relations course to our curriculum. Most of our students already take one course in Business Communications, but many have not completed this course before they do their internship. Three students specifically mentioned that they gained experience in personnel management and customer relations; one called this “the best part of my internship.” Students often have not completed all the pest management courses on their option sheets before doing the internship. A lecture on the certified pesticide applicator program has been added to Greenhouse Management (HORT 3113), which is a required core course for HORT and PHRT. The addition of the Turfgrass Integrated Pest Management course has already been mentioned. We are working with the Department of Biosystems and Agricultural Engineering to try to get more horticultural applications into the existing Irrigation Principles course. Some of the practical, hands-on skills that the students want need to be learned on the job; again, this is one reason we require students to do an internship.

Notes from Annual Departmental Internship Assessment Seminar: 27 January 2003

* At least two cooperators wanted an outline of what the intern was expected to learn. Action: We have had a golf internship task checklist available for several years. We now have a second checklist available for nursery/garden center internships. Both checklists were produced through joint student/faculty efforts. These should be available on line as well as in print in 2003.

* There were two complaints of lack of communication between faculty advisors and internship cooperators. Action: Most advisors call the cooperators; however, at times the cooperators are on the job and do not get to interact with the faculty member on the telephone. Site visits are common within Oklahoma (this is rarely possible with out-of-state cooperators). Advisors were encouraged to make an effort to communicate with cooperators.

* One Floriculture cooperator encouraged the use of field trips to floral wholesalers and growers in the curriculum. Action: Such field trips have been added to Greenhouse Management. Field trips also are part of Commercial Flower Production and Marketing (HORT 4313), which is being offered in 2003 (first time in several years due to a faculty vacancy).

* At least two students complained about the monthly reports. One cooperator also wanted a place on the monthly reports to document hours worked by the intern. Action: Originally, HORT 2010 required biweekly reports. A change was made to monthly reports largely to reduce paperwork for cooperators. Students are encouraged to keep a daily journal of their activities. One student wrote that the reports were a plus because they helped him to organize his thoughts. One cooperator actually wanted to return to biweekly reports. We anticipate no changes in the monthly reporting requirements. However, we will modify the monthly report form on a trial basis for 2003 to provide documentation of hours worked.

Positive comments were noted from students, cooperators, and faculty internship supervisors. Students reported that internships connected theory with practice and provided direction towards a specific career. At least two students indicated they expected to be offered permanent positions by their cooperators upon graduation. Cooperators generally felt that students were enthusiastic and well prepared, and several specifically noted that they wanted interns from our programs in 2003. Overall, the internship program continues to be a success.

Department of Horticulture and Landscape Architecture

Prepared by Jeff Anderson

Degree Program(s) Assessed	Assessment Methods	Number of Individuals Assessed
<i>M.Ag., M.S., Ph.D. (Crop Science, Plant Science, Food Science, Environmental Science)</i>	The Graduate Assessment Coordinator determines the number and outcome of comprehensive exams, and the number of theses, formal or informal reports, and creative components successfully completed by graduate students. In addition, the number of refereed journal articles, experiment station bulletins, professional papers, abstracts, professional presentations, and related scholarly activities by graduate students are tabulated. The Graduate Coordinator periodically meets with all graduate students to provide and receive information on program assessment. Students are asked to provide candid, mid-program impressions of their opportunities and progress toward educational goals, and to make suggestions to improve the assessment process and the degree program. Graduating students are requested to complete an exit interview. The Department participates in alumni surveys and periodically undergoes an external review by CSREES, a unit of the U.S. Department of Agriculture. .	8 (All graduate students in Horticulture)

Analysis and Findings:

<u>Activity</u>	<u>Number</u>
Exams	
Preliminary	0
Qualifying	0
Final	2
Degree Option Reports	
Thesis	3
Formal Report	0
Informal Report	0
Creative Component	0
Publications in Print	
Refereed Journal Articles	5 (5 more accepted, 3 in review)
Expt. Sta. Bulletins	0
Professional Papers	3
Abstracts	2
Other Forms of Scholarship	
Web Page Development	0
Field Day Reports	2

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<u>Activity</u>	<u>Number</u>
Professional Presentations	
Local	6
Regional	2
National	1
International	1
Exit Interviews	0
Student Awards, Scholarships, Fellowships, Honorary Societies	
Local	2
Regional	0
National	1

Uses of Assessment Results:

The Outcomes Assessment Program has contributed to an evolving philosophy in the graduate program. When necessary, graduate advisors are encouraging students to shift from an activity-based focus to an emphasis on quality outcomes. Instead of limiting goals to taking a class, or getting a certain grade in the class, students are encouraged to learn concepts that they can apply to solve problems important to their discipline. Coupled with sound examples of proper technique and work ethic, integrated learning will enable students to be successful in their graduate program and in their profession. A focus on comprehensive goals is accomplished, in part, by placing a strong emphasis on peer-reviewed outcomes such as refereed publications and effective presentation of graduate student research at professional meetings. The graduate faculty have made a commitment to program excellence, but additional steps will need to be taken. Additional resources will need to be committed to attract and retain highly qualified faculty and graduate students. Investment in infrastructure, including laboratory and support facilities, is also needed to achieve state-of-the art programs.

**Department of Horticulture and Landscape Architecture
Landscape Architecture Programs**

PROGRAM ASSESSED:

DEGREE OF BACHELOR OF LANDSCAPE ARCHITECTURE
BLA, LANDSCAPE ARCHITECTURE MAJOR

BY PROGRAM OUTCOMES ASSESSMENT COORDINATOR:
PAUL HSU, ASSOCIATE PROFESSOR

EXECUTIVE SUMMARY

Prepared by Paul Hsu

Executive Summary (full report available upon request)

Degree Program (s) Assessed	Assessment Methods Used	Numbers of individuals assessed
Bachelor of Landscape Architecture BLA, Landscape Architecture Major	Records of student enrollment, graduation rate, and employment status from the past 2 to 3 years	105
	Records of visiting lecturers/critics	105
	Evaluation of design projects by professional jurors	50
	Records of senior student portfolio reviews	17
	Capstone course evaluation	17
	Student exit interviews	16
	Design competition	32
	Internship performance review	4
	Digital Portfolio for professional phase review	17
	Japan study abroad survey	14

Analyses and Findings

1. Student Performance

Student enrollment in Landscape Architecture (LA) showed a 10% increase last year. Total number of LA students increased from 90 to 105 in academic year 2002-03. 16 LA students graduated in the 02-03 academic year. Student employment indicated that students went into private practice and design and build practices with five in private and two in design/build with remaining students actively seeking employment in this economic down time.

2. Records Of Visiting Lecturers/Critics

56 jurors including speakers were arranged throughout the 2002-03 academic year.

3. Records Of Senior Students' Portfolio Review

17 senior students were involved in the review. The results of this review are graded from medium to high.

4. Evaluation Of Design Projects By Professional Jurors

The design evaluation was conducted on junior and senior students' Design I, II, III, IV, V, Seminar II, Land Use and Community Planning, and Recreational Planning projects by outside jurors. Overall, the juror's comments were very positive. They thought that all the projects, either live or hypothetical, are a practical learning experience, and the students presented medium to high quality work.

5. Evaluation of Capstone Course

The project was appropriate and it included adequately complex socio-economic, environmental and landscape architectural, planning and urban design issues. The course instructor and the professional jurors determined that approximately fifty per cent of the class of 17 performed above the national average, and thirty-five per cent performed at the national level. The performance of 15% per cent of the class was below the national average.

6. Responses Of Student Exit Interviews

An exit interview survey form was sent to 17 undergraduate LA students who graduated Spring 2003. 7 students replied with above average rating for quality of department and many positive comments for improvement. Student comments were reviewed by faculty and they are being addressed.

7. Digital Portfolio for Professional Phase Review

In Spring 2003 we implemented portfolio reviews to third years students who are applying for 4th year professional phase of Landscape Architecture Program. Students are required to compose their portfolio digitally with final output in both digital and print formats. A rubric form is developed to evaluate students' portfolios. Most of the students did excellent work on their portfolio and the rest of students did satisfactory work also. Scores of this evaluation are used along with other application material to select qualified students to be admitted into professional phase of the program.

8. Field Day and Design Competition

Four LA students along with Five LC students entered 2003 annual ALCA field day competition. Our students did satisfactory. OSU ranked 28th overall out of 51 competing schools. Among 671 students participated in the events, our students ranked from 23rd to the mid range. Three students were recognized in the ASLA national student design competition 2002 "Special Commendation". There were six entries to New York City Broadway Bloom Design Competition from the planting design class; one entry was selected for display in New York. It shows our student quality and faculty dedication. This year our students also entered the international IFLA design competition and Charles E. Peterson Prize for Historic Measured Drawings Competition, result is still pending. We also have Peruvian students visited our program and interacted with our Design IV students.

9. Study Abroad Program Survey

13 students participated in this survey. A few questions such as the time frame of the project, the sketchbook project, and what experience they gained from the study abroad and culture exchange programs were ranked very high. This survey is certainly a reflection of the essence of Japan Study Abroad Program and will be used for future program planning and improvement.

10. Internships Performance Review

The internship program is designed to enrich the education of landscape architecture students through meaningful off-campus work experiences. Students are evaluated through bi-weekly reports, employer's evaluation, and the students' oral and written reports. 4 students participated in this program last year and their ratings were among high to medium.

Instructional changes and future planning as a result of outcomes assessment:

The department has been monitoring the student outcomes very closely. Based on the outcomes assessment result of the last few years, we have implemented the following changes or modification.

- Project screening Because of professional jurors' positive responses, more careful screening of real world projects are being made to insure all design courses carry good, realistic, and practical projects. More hands on project will be planned to facilitate experiential learning. Invite professional to simulate an office like charette in studios.

- Computer training Graphic sketches and scanning, digital camera, and presentation software are integrated into graphic courses. Desktop publishing and slide presentation also became part of the design presentation process. Students also are required to publish their portfolio in digital format for performance review.

- Portfolio review Landscape Architecture program continue to apply portfolio review process to maintain the higher quality of students entering professional phase. Second year in a row we went all digital and students adapted to this format very well.

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- Internship
We maintain good contacts with professionals and employers and assist students with securing internships. Students actively participated in this off-campus educational opportunity. It is critical to maintain contact with professionals in the field and monitor our students' performance as a reference to our curriculum quality.
- Study Abroad
Based on the Japan study abroad program survey, many improvement such as host family exchange, culture workshop, urban landscape professional office visit, and citizen interaction, and studio exchange with Kyoto University of Art and Design were implemented on our Japan Study Abroad Program 2002 and 2003. Peruvian students visited our program and interacted with Design IV students.
- Design Charette
based on student exit interviews and design course evaluations, we invited major professional office to conduct several design charette and/or workshops. Students got the benefit of real world intense but creative design processes. Program Outcomes Assessment Annual report, 2003

Department of Horticulture and Landscape Architecture

Prepared by Lou Anella

Degree Program(s) Assessed	Assessment Methods	Number of Individuals Assessed
<i>B.S. Landscape Contracting</i>	<ul style="list-style-type: none"> • Graduation rates • Exit interviews • Internship reports • Internship cooperator reviews • External reviews • Student Career Days 	<p>54 0 2 2 0 9</p>

Analysis and Findings:

Graduation Rates

During the 2002-2003 academic year 54 students declared Landscape Contracting as their major. Five students graduated from the program during that time and eleven either dropped from the program or transferred to a different program resulting in a graduation retention rate of 80%.

Exit Interviews

We only had five Landscape Contracting students graduate this year and none of them opted to complete and exit interview form or to have a personal exit interview with the Department Head. Although we would prefer to have students fill out exit interview forms to get their impressions of the Landscape Contracting program, we do hope that no news is good news.

Internship Reports

This year there were only two Landscape Contracting students who did internships but the internship program was rated highly by each student. The internship students gave their cooperators ratings of excellent or very good. One student suggested that students should do internships, "away from home, outside their comfort-zone." The internship was a valuable experience for this student and he has since graduated and has taken a full-time position with the same company.

Each student was required to write an internship report and to present an internship seminar to their fellow students and the faculty. Internship reports outlined the work experience gained and seminars gave the students a chance to practice their public speaking. Many students presented computer generated Power Point seminars. Seminars were attended by the director of the Landscape Contracting program, the Landscape Contracting assessment coordinator, and various faculty.

The internship was a positive experience for both students; each one said they would recommend an internship with their cooperator, and thought college credit was appropriate for the internship. Overall, the internship was regarded as one of their best academic experiences.

Internship Cooperator Reviews

Internship cooperators also found the internship program to be valuable. Cooperators gave students ratings of excellent or very good and one student received excellent for each characteristic evaluated. One cooperator thought the student was "fairly well" prepared for the job but mentioned that courses are not offered teaching how to handle a crew. I'm not sure if he was suggesting that such courses should be offered or if he was just reflecting on how difficult it is to teach such skills in the classroom.

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The other cooperator said he would not be willing to participate in the internship program because he wanted to keep the same intern employed! So both of the students who did internships this year were offered jobs when the internship was over: one a full-time position after graduation, and the other a part-time position while she finishes school. Offering our students jobs is perhaps the highest assessment we can receive.

Overall the cooperators were impressed with our students, with their willingness to work, ability to solve problems, and academic preparation.

External Review

An ALCA Accreditation Team visited the Landscape Contracting program at OSU in April of 1999. The team gave provisional accreditation at that time and presented the Department with a list of requirements for full accreditation. On May 31, 2002 we received a letter giving full accreditation for a seven-year period. The next accreditation visit is projected for 2006.

Student Career Days

In March of 2003 the OSU Associated Landscape Contractors of America (ALCA) Club attended the ALCA Student Career Days at Hinds Community College in Jackson, Mississippi. Nine OSU students and two faculty advisors attended with 51 other schools and approximately 1000 industry professionals. Bringing only nine students does not allow us to compete in all events so our ranking does not accurately reflect the success of the individuals who attended. Our ranking this year was 26th out of 51 schools, which is similar to last year's ranking of 25th out of 48 schools.

Six hundred seventy-one students competed this year and to be competitive for the top ranking, individuals must compete in five events. We had only two students compete in five events and they ranked in the top 5% while we had one student rank in the top 10% even though he competed in only four events. Our students competed in twenty events and ranked in the top third five times. One team of students ranked in the top third despite the fact that points were taken off their score for using "antiquated equipment." That tells us that we are competing effectively with other schools and that we need to update our equipment.

Most of the students from OSU were not graduating this year so we did not have students interviewing for full-time positions but we did have a few that were interested in internships. At least one student was offered an internship while attending the Career Days. The students also had the opportunity to interact with industry professionals and students from other schools on an informal basis.

Uses of Assessment Results:

Internship information was shared with faculty during the department's internship seminar where faculty gather to hear cooperator and student evaluations and discuss possible changes. Results of the ALCA Student Career Days have been shared during faculty meetings and with the Landscape Contracting Program Advisory Committee who helped train our students for the event.

Past student internship evaluations and comments from industry led to the requirement that all landscape contracting students complete an internship. Similarly, discussions are now taking place to decide if attending the ALCA Student Career Days should be mandatory. I made a point this year of asking our students if they thought Career Days was a valuable experience since we may require it in the future. Everyone said it was a valuable experience, well worth the financial and time commitment.

Although we have not yet made attendance at ALCA Student Career Days mandatory, we have committed to telling our advisees that we expect them to attend. Also, the student officers of the OSU ALCA club have committed to holding a membership drive next fall to recruit students for the ALCA Student Career Days.

This assessment report will be forwarded to: the Department Head, Landscape Contracting Program Director, Horticulture and Landscape Architecture advisors and faculty, and the Landscape Contracting Program Advisory Committee. Elements of this report will be used to make curriculum and program recommendations to the Department Head and the Program Director.

College of Agricultural Sciences and Natural Resources

Plant and Soil Sciences

Prepared by: Jonathan M. Shaver

Degree Program(s) Assessed	Assessment Methods Used*	Numbers of Individuals Assessed**
College of Agriculture and Natural Resources, Plant and Soil Sciences, BS	o Entry level placement	o 29 graduating seniors
0082 Business	o Participation, leadership, awards in student organizations	o Approximately 75 undergraduates
0083 Biotechnology	o Regional and national academic competitions	
0084 Rangeland Ecology and Management	o Student tracking	
0086 Agronomy	o	
0088 Crop Science	o	
0089 Soil Science	o	

* Please see #2 below for further explanation; ** Depends upon assessment method

1. **Department:** Plant and Soil Sciences, College of Agriculture and Natural Resources
Degree Programs Assessed: Plant and Soil Sciences BS (Option codes: 0082, 0083, 0084, 0086, 0088, 0089)

2. **Assessment Methods Used:**
 - a. Keeping records of entry level placement of all plant and soil sciences graduates.
 - b. Tracking student progress through the degree program (sources of students, retention, academic performance and graduation)
 - c. Summarizing participation, leadership positions, and awards in student organizations and in academic contests.
 - d. Summarizing the results of regional and national academic competitions by teams in crops, soils, weed science, and range management. This includes activities of graduating seniors and results of the current year participation.

3. **Number of Individuals Assessed:** *Twenty nine BS Graduates; (Fall '02 (13), Spring '03 (16)); (Options: Crop Science (7); Soil Science (7); Agronomy (10); Biotechnology (0); Business (0); and Rangeland Ecology and Management (5)). Average undergraduate enrollment (measured at beginning of each semester)—94 (Fall '02) and 73* (Spring '03). Seventy-three continuing students (Options: Agronomy (20); Biotechnology (5); Business (4); Crop Sciences (10); Rangeland Ecology and Management (17) and Soil Science (17)). Male (61), Female (12); 61 are from Oklahoma, 6 are from out of state, 6 are international.*

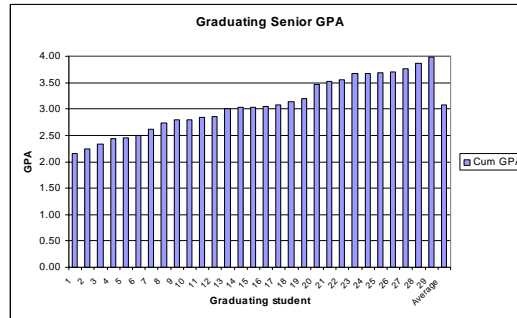
* Does not include 6 students who had not enrolled, but have not withdrawn from OSU.

4. **Analysis and Findings:**
 - a. *Initial placements of the 29 BS graduates were to private industry (3), farming or family business (5), continuing for graduate education (11; 8 at OSU and 3 elsewhere), state and federal organizations (7 (5 at NRCS, 1 at USDA, 1 at US Forest Service) Undergraduate Assessment Coordinator), self-employed (1). Two are employed outside of their area of study.*

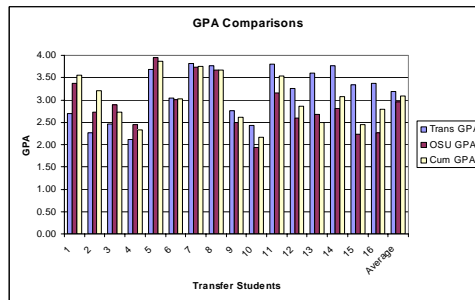
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b. The average GPA of the 29 students was 3.08 (compared to 2.84 in '01-'02; 2.85 in 00-01; 3.00 in 99-00 and 3.14 in 98-99), with seventeen at 3.0 or above, including 9 with 3.5 or above. GPA's ranged from 2.16 to 3.98 with an average GPA of 3.08 (see figure below), compared to 2.87 this past year.

c.



Of the 29 BS graduates in 2002-'03, eighteen transferred to OSU; 4 of the 16 from out of state and zero from out of the country. Sixteen of these students transferred more than 50 hours to OSU, while the remaining two transferred at least twenty hours. The cumulative GPA for 16 transfer students (20+ hours transfer) averaged 3.01 compared with an OSU-only GPA of 3.16. Upon comparison of the transfer-institution GPA and these students' OSU-GPA, we find that performance is generally consistent for the individual transfer students between the two institutions. Four students had a full letter grade drop at OSU compared to their transfer institution. Only one student had an OSU-GPA below 2.0. The group average dropped from 3.14 to 2.87. This pattern compares similarly to the last two years' graduating classes of transfer students. The following table shows individual comparisons. Students are ordered based upon differences between transfer- and OSU-institution GPAs.



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Of the ten students completing all of their hours at OSU, two graduated in 8 semesters; 3 in 9 semesters and the other 5 in ten or semesters. The average time to completion for transfer students bringing in at least 60 hours (~half of the total credits required to graduate) is 5.14 semesters. Three transfer students finished their OSU hours in 4 semesters. Therefore, we should advise transfer students that even if they transfer from in-state schools they will most likely require 2.5 years to complete their degree.

Over the past three years we have tracked the progress and retention of our students. This information is summarized in the following table. Of significance, most students take more than four years to complete a degree in our major. Also, we can expect an attrition of 30-50% of our incoming freshman before graduation. As indicated by our ability to maintain total enrollment, this loss of freshman is balanced, however, with transfer students from other institutions or from other departments within OSU. We are attempting to track the number of students who transfer from other departments within OSU.

Year entered OSU	Graduated	Still in PASS	Left PASS	Left OSU	Total
1997	18	1	1		20
1998	14	2	7	3	26
1999	16	8	7	5	36
2000	10	16	6	1	33
2001	0	18	7	2	27
2002	0	18	1	0	19

d. Of 29

the BS

graduates, 16 were members of at least one of the two departmental clubs (Agronomy Club or Soil and Water Conservation Club). Twelve of the 16 club members served as local club officers for one or more years. Two of the club members took the opportunity to attend at least one national or regional professional meeting during their undergraduate careers. Eight of the graduating seniors had participated in national academic contests as part of the American Society of Agronomy Student Activities Subdivision. Two of these students placed in the top 3 in the manuscript contest, and the papers were published in the Journal of Natural Resources and Life Sciences Education. Another two students placed in the top 3 in the nation in the visual presentation contest. Participation in national contests is highly encouraged by the faculty. One graduated student also presented two undergraduate research papers at the ASA meetings. Placement of the students in these contests at the national level is indicative of the high quality of these students.

Student clubs and teams considered an important co-educational opportunity that is meant to complement classroom learning and also introduces students to other professionals in their chosen discipline. Additionally, participation in student clubs is an important social activity that allows for development of support groups that can aid in retention of students. Although slightly better than last year, participation by incoming freshman was very poor. Of the 10 freshman in 2002, only four students participated in a student club. The Agronomy Club had approximately 20 active members which is about 25% of our students. The Soil and Water Conservation Club had about 15 active members which is about 20 % of our students. Seven students are members of both clubs.

e. *Five of the graduating seniors were members of the Crops Judging or Soils Judging teams, participating in one or more regional and/or national contests for at least two years. Three seniors were on the Soils Team, which placed 1st out of 8 schools in the regional contest in 2002. As individuals, they placed 2nd, 4th and 10th. The two students on the Crops Judging team did not place at the regional level and did not compete nationally.*

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During 2002, seven students attended the regional crops judging team in Manhattan, KS including one freshman and 3 sophomores, 1 senior and 2 students from out of the department. The team placed second out of 6 teams. The senior student and one non-departmental student participated in the national crops judging contest in Kansas City, MO and Chicago, IL. The student from our department placed 7th and 8th overall, respectively, out of 40 students.

Five students including 3 seniors, 1 junior and a student not in the department, placed 1st in the regional Soils Judging Contest in College Station, TX. Eight schools from the Southern Region participated. As individuals, team members placed 1st, 2nd, 4th and 10th out of 32 contestants. The team members traveled to the National Soils Judging Contest also at College Station, TX. The team placed 11th out of 22 schools at the national contest. Individuals placed 17th, 18th, 30th and 36th out of 85 students.

Eight students participated in national contests of Student Activity Subdivision of the American Society of Agronomy at Indianapolis, IN; two in multiple contests. Students submitted 3 manuscripts, one receiving 3rd. The third place article will be published in a peer-reviewed journal. Three (six at the local contest) students participated in the visual presentation contest for which 2 third place awards were earned. Four students participated in the Student Research Symposium Contest, for which one 3rd place was received for a poster entry. As a student organization, the Agronomy Club enters several contests. The student club was named the top agronomy club in the nation for the 14th consecutive year, receiving three 1st places and three 2nd place award in the various contests. Two students served as national committee chairs.

We did not participate in the Range Management Contest or the NACTA Agronomy contest this year. However, 3 students did travel to the Society for Range Management meetings in Wyoming.

5. Changes due to assessment:

Utilizing data collected for this annual report, a seminar was given on March 24, 2003 to the faculty members of Plant and Soil Sciences. We have used this opportunity to identify potential strengths and weaknesses that will guide us in our future activities and in the strategic planning effort taking place in the OSU system. Relevant highlights of that presentation are given below.

Enrollment goals Four years prior, an enrollment goal of 100 students had been set. During this time, we averaged 92.5 students (high 97). At the time of this seminar (and for this assessment), our enrollment was 73 students. This did not yet include new freshman and transfers

	F	T	O	Total
Business	1	2	1	4
Biotechnology	2	3	0	5
Agronomy	14	5	1	20
Rangeland Ecology and Management	11	3	3	17
Crop Science	3	6	1	10
Soil Science	3	10	4	17

students who will enter OSU in Fall 2003. A discussion was initiated as to why we have enrollment goals. Suggestions were given that included: administrative goals from above; critical mass is required to justify resources; the desire to share our knowledge; gives us strength relative to other programs; to serve the industry needs; to serve our public citizens so as to make our state more successful, and because a large enrollment demonstrates our currency and relevancy to society's needs and interests. A separate discussion was raised regarding whether these objectives are met with a large number of majors or with a large number of students in service-courses. This is a question to be considered as we examine utilization of teaching resources.

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Recruitment and retention As shown in the table at right, 34 of our current 73 students began as freshmen (F), 29 began as transfers (T) and 10 transferred from other departments within OSU (O). Additionally, this table shows the option that was chosen by students in each of these three groups. Although, 4 of the 6 options have similar enrollment, Agronomy and Rangeland Ecology and Management are the options most often chosen by freshmen, tending to demonstrate that when freshmen students identify with our program, they 'see' Agronomy and Rangeland Ecology and Management. Transfer students appear to be more aware of the broad selection of options within the program. There are no trends regarding the majors from which the O-students have transferred.

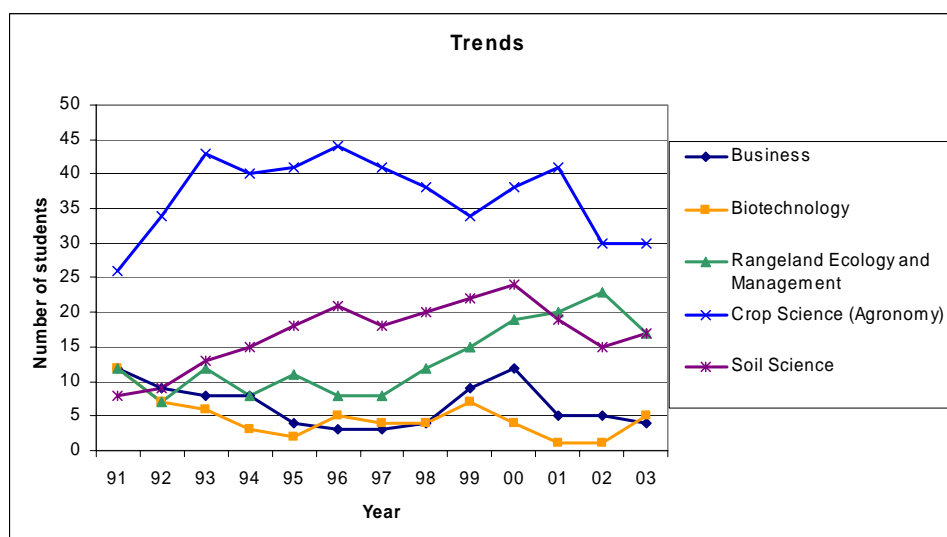
Our assessment data indicate that our freshman retention rate is 50- 70%. In the past three years, 20 of our students have left OSU and 32 have left our program to another at OSU. The following table summarizes the options from which those students left and the number currently enrolled in

	# left in past 3 years	# currently enrolled
Business	5	4
Biotechnology	4	5
Agronomy	1	20
Rangeland Ecology and Management	11	17
Crop Science	8	10
Soil Science	3	17

each. The list of other departments to which students have left (not shown) does not necessarily indicate the movement is to escape the rigor of our program. Although the number of students currently enrolled in the Agronomy and Rangeland Ecology and Management are near equal and predominant in the department, it appears as if Rangeland Ecology and Management is the most dynamic option and the Agronomy option is the most stable.

Trends The 12 year trends in enrollment among our department options are shown below. (The newer Agronomy option is taking

the place of the older version of the Crop Science option. They are therefore shown together.) The combined enrollment in these two options is dipping slightly, but relatively strong. Soil Science remains a common choice among transfer students and is one to which students change, likely due to the associated career opportunities. Enrollment in Rangeland Ecology and Management has grown in the past 5 years. The Biotechnology option is one that is growing only slightly and has great room for growth.



Our traditional student clientele are students who are familiar with production agriculture. These students are the ones who most often choose the Agronomy option, which consistently remains our most popular. However, the number of Oklahoma farmers is not increasing, and based upon national trends, the desire of many of their children to go into production agriculture per se is declining. Our enrollment in this option is in line with the national trend.

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Meeting future needs A more important assessment in determining our future needs is to determine who the students are that, based upon their interests, goals and needs, would benefit from what we have to teach in our department. Given the valuable diversity of research and teaching areas within our department, it is often difficult for an incoming freshman to really understand what all of the opportunities for study are within our program and what principles tie us together as a program. The first goal must be for us to develop a recognizable image that captures and ties together the diversity of activity in our program.

One commonality we have within the department is that of land management. Each faculty member's activities within the department revolve around one of three land uses—cropland, pastureland or rangeland. (Together these land uses constitute 72% of the land in Oklahoma.) While each of these land uses may have somewhat different objectives, the components of these systems are the same—plants and soils. The tools and the intensity by which these land uses are managed may differ, but the basic scientific principles guiding our management decisions are still the same within each of these systems. There is no reason for these systems to be studied separately through out the entire curriculum. Indeed the argument can be extended to conclude that there is little reason for forestry or horticulture to be studied as separate land management issues.

We must strive to be relevant and to meet the needs of the population of the state. Land management for the purpose of food production is just one of the several major land uses in the state. The growing of food and fiber continues to be a primary economic factor for the state and a primary interest among a specific portion of the state's population. This group of producers has traditionally been our dominant clientele in the department. The population which we are serving in this manner is no less important, but is becoming smaller.

As society in general is becoming more aware of the food and fiber production system; as rural and urban land uses conflicts increase and as the public becomes more environmentally conscientious, agriculture as an industry is becoming less capable of being socially and geographically isolated. The activities that once took place without much outside scrutiny and which often fulfilled just a single purpose, must now conform to local and global societal pressures and with fewer resources must continue to fulfill the purpose of food production, and also fulfill new objectives such as improvement of soil quality or the maintenance of wildlife habitat. We must serve those that are on the land so that they may fulfill these new objectives, and we must *also* serve the non-farming clientele of the state in order to meet their needs and desires.

We are well suited as a department to lead the state in a land management program. We must learn and teach the management of our state's plant and soil resources so they may be utilized to fulfill the needs and desires of the producers in the state, the small land owner and even of the urban population who are not on the land but have a vested interest in its proper use. Given that the primary land management activities exist in a fragmented mixture in the state and that these applied ecosystems fulfill similar functions, they should not be studied separately. Nor should the primary components of these ecosystems, plants, animals, soil, water and climate be studied in isolation. This systems approach to studying plant and soil systems has become a central theme in our curriculum discussions.

An integrated curriculum. A faculty retreat was held on May 27th and 28th to discuss and create a curriculum based upon the new vision. The theme of the curriculum discussions and modifications has been *integration and interaction*.

- Land management has been chosen as a general descriptor that can be used to capture and integrate all areas of study that take place within our department and may even be expanded to capture activities in or not in other departments. The definition of land currently consists of the soil and of the plants and microbes that live in it. Management is the study of how the components of the land interact to give rise to the structure and function of the ecosystem.
- Courses will build upon one another. We will enforce prerequisites when they are given. Course content will also be integrated laterally so that reference can be made to classes that may be taken subsequently or in close proximity.
- Students in the department should not be separated into sub-disciplines. In this way they can more easily see the commonalities and understand the issues of other land use systems.

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- All students who study land management should have a comprehensive background in the processes that give rise to the functions of soils and of plants. Specifically, these topics include in soils: Soil chemistry, soil physics, soil taxonomy, and in plants: plant physiology, plant genetics, plant taxonomy.
- The study of ecosystems is to study the interaction of ecosystem-components that give rise to the function of the ecosystem. We will stress this skill of studying functional interactions with a series of courses to highlight component interactions within plant and soil ecosystems. These courses include: plant-soil interactions, plant-plant interactions, plant-climate interactions, soil water interactions and soil-microbe interactions. More such 'interdisciplinary' courses may be created or available as desired or needed.
- Within the current department, our focus is on the management of plants and soils to produce food and/or increase wildlife habitat. Our perspective needs to broaden to include other functions and qualities of the land.
- The manipulation of plants and soils to fulfill specific purposes is studied only at an advanced level after a strong understanding of principles is gained.
- Given the highly fragmented landscape of Oklahoma, students must study how the interaction of the various ecosystems impacts the function and structure of the landscape and region.

While we are currently building the details of our curriculum and working on the restructuring of our courses, some concrete changes have already taken place. The core courses of our program (PLNT1213, PLNT2013, SOIL2124, RLEM2913) are now required courses for all students in Plant and Soil Sciences. Additionally, the content of these courses has been modified to emphasize a systems-based approach to studying plant and soil sciences; to increase lateral integration of information and to increase the relevancy to the students' needs and interests. As the curriculum modifications are completed, they will be communicated by way of the department curriculum committee to the other programs and committees.

We look forward to the changes that are taking place within our program. The information that we have gathered as part of the assessment activities has been valuable in providing the impetus to initiate these changes.

This report has been submitted to the faculty of the Department of Plant and Soil Sciences and the administration of the College of Agricultural Sciences and Natural Resources.

Department of Art

Prepared by Nick Bormann

Executive Summary (full report available upon request)**Degree Programs Assessed**

	Degree Program	Assessment Methods	Numbers of Individuals Assessed
1044	BA, Art History	Art History Symposium	6
1052	BFA, Graphic Design	Portfolio Review by outside evaluator, fall '02	12
1052	BFA, Graphic Design	Portfolio Review by outside evaluator, spring '03	15
1053	BFA, Studio Art	Portfolio Review by outside evaluator, spring '03	3

Assessment Methods

Under the current degree requirements for a BFA in Studio Art, students must submit a request for a senior exhibition of their work. A subsequent invitation to exhibit requires a successful review by the studio art faculty. This spring semester, studio art faculty selected six students to exhibit their work. The Studio Art faculty are currently in the planning stages of revamping the BFA Studio Art degree to include a mandatory senior exhibition for each BFA candidate as part of the curriculum requirements. For students seeking a BFA in Graphic Design, requirements are already in place for a mandatory exhibition of their work. ART 4493/Portfolio Capstone, taken during the last semester of their program, prepares them for a required exhibition of their body of work that is to be the essence of their design/illustration portfolio. As of the 2001-02 degree plan, students majoring in Art History will be taking ART 4800/Writing Methods concurrently with upper-division Art History courses. During their senior year they will be required to present a paper as part of a Departmental Art History Presentation to be held during the Annual Juried Student Exhibition. It is not the intention of the Department to wait until 2005-06 to implement this, but rather to encourage seniors to comply with this newer degree plan requirement since it does not delay their graduation because of a need for additional hours. The symposium that would provide the forum for these presentations was held for the first time on Saturday, April 26. Six art history majors presented papers and were reviewed by Dr. Eric Lee of the University of Oklahoma, Department of Art History.

An Annual Juried Student Exhibition is also part of the assessment process for all students in the Art Department. Each spring semester, students are given the opportunity to submit up to five works from any of the art classes for the academic year. Two or three jurors who are professionals in the areas to be judged, are contracted as consultants to select the works that will be included in the annual exhibition. This year, graphic design was judged by Scott Miller, a graphic designer in Atlanta, GA.. The juror of studio art was Kellogg Johnson, a three dimensional artist working in the area of ceramics. Kellogg has a working studio in Santa Fe, NM. The resulting exhibition included 65 accepted works of 157 submitted by studio art majors, and 63 accepted works of 150 studio and graphic design works submitted by graphic design majors.

In addition to selecting the student works for the annual exhibition, each juror provided portfolio reviews and interviews with graduating senior students. Students were asked to provide a statement of purpose and resume.

Assessments by Jurors of the Annual Juried Student Exhibition and Assessor for the Annual Art History Symposium

"The students impressed me with their seriousness, intelligence, and thorough training in art history received from the faculty of the Department of Art. The students compare favorably with the art history students of the University of Oklahoma. Some of the OSU students would like to attend graduate school in art history, and I believe that they would do well in many of the strongest departments."

██████████
Director
Fred Jones Jr. Museum of Art
The University of Oklahoma

The jurors for the Annual Juried Student Exhibition failed, unfortunately, to submit a juror's statement summarizing their impressions of the student submissions. These are generally included in the publication that lists participants and award winners for the exhibition. Both did however, verbally express opinions which reflected favorably on the quality of the student work from all media disciplines.

Additional Assessment Methods

Other methods of assessment include local, regional, and national competitions in which students participate. Each year graphic design students participate in a regional competition, Brass Rings.

The DaVinci Institute is a higher education partnership whose goal is to impact the Arts and Arts Education in Oklahoma. Two students in Jewelry/Metals had their designs selected in a design competition for a pin to be used to raise funds for the DaVinci Scholars Program.

Students presented papers at the 1st Annual Art History Symposium held on Saturday, April 26, 2003, and were subsequently reviewed by ██████████, Director of the Fred Jones Jr. Museum of Art, The University of Oklahoma.

The inclusion of this symposium as a method of assessing the art history students and program is a resounding success thanks to the efforts of the art history faculty and the aid of assessment funds that allow for the utilization of an outside reviewer/assessor.

Curriculum Changes

The most significant curriculum changes that have recently been the addition of a new course that will allow for Writing Methods to be taken concurrently with upper-division art history courses, and the addition of ART 4933/Art in Context, a new capstone course for art history majors. The Department is currently working to enhance the BFA Studio Art Degree by adding studio media courses at the sophomore level with the intention of aiding students with their choice of media focus earlier in their curriculum. Unfortunately, this change will require either the shifting of faculty from multiple sections of entry level drawing or the addition of more faculty. There are also plans for requiring a review for students after they have completed the sophomore courses, and requiring a senior exhibition as part of the BFA Studio Art Degree plan.

Survey Results

An exit survey is also conducted at the time of the student portfolio review. Students are asked to respond to their quality of university and departmental experience while a student at OSU. Student evaluation of Art Faculty continues to be the highest evaluation given. Most often mentioned as weaknesses were general support by the University of facilities and equipment needed for certain programs in the Art Department. Comments with regard to needed improvements to the computer labs are less this year, however, there are more students requesting that the open hours of the labs be increased. One item in the senior survey continues to identify "art related activities (field trips, etc.) with a low assessment. The Department does involve certain classes in limited extracurricular activities and field trips, however, the graphic design faculty encourages majors to attend monthly professional meetings with the American Institute of Graphic Arts in Oklahoma City or the Tulsa Art Directors Club in Tulsa. These are not "department sponsored field trips" by definition, but rather requires a personal commitment by the student to participate in these meaningful opportunities. Some responsibility for "educational experiences" must be assumed by the students.

Senior Portfolio Review: Department of Art

Oklahoma State University

Fall, 2002

*Average for Students Participating in the Review
rated 1 - 5 (high)*

*Graphic Design (12)
fall '02*

Quality of presentation.....	4.4
Communication Skills, direct, articulate.....	4.1
Ability to accept criticism.....	4.5
Innate sense of design, high sense of aesthetics.....	4.5
Creativity, originality.....	4.4
Composition and layout skills	4.7
Media skills	4.3
Color sensitivity.....	4.6
Production skills, accuracy and precision.....	4.5

Senior Survey: Department of Art

Oklahoma State University

Fall, '02 / Spring'03

Averages for Students Completing Survey Graphic Design

(12 / 15)

University Experience: rated 1 - 5 (high)

2002

distribution of course requirements.....	3.6 / 3.5
math and science course requirements.....	3.6 / 3.5
humanity course requirements	3.7 / 3.6
foreign language course requirements	2.3 / 2.4
electives outside the department	3.8 / 3.7
general faculty.....	4.0 / 3.9
general advising.....	2.9 / 3.0
campus facilities.....	3.4 / 3.5

Art Department Experience:

distribution of art course requirements	4.2 / 4.1
foundation art courses	3.6 / 3.8
upper-division art courses.....	4.4 / 4.3
art faculty	4.5 / 4.4
art advising.....	3.5 / 3.4
art facilities	3.3 / 3.2
gallery exhibitions	4.1 / 3.8
student exhibitions	4.3 / 4.2
art related activities (field trips, design week, etc.)	2.8 / 2.6
senior portfolio review	4.5 / 4.6

Department of Botany
Prepared by Becky Johnson

Degree Programs Assessed	Assessment Methods	Number of Individuals Assessed
B.S. Botany	National standardized exams	2
B.S. Biological Sciences	Focus groups	14
M.S. Botany	Satisfaction surveys	0
Ph.D. Plant Sciences	Track grades in required Upper division courses	20
	Alumni Surveys	181 sent/13 returned
	Presentations at seminars	6

Direct Assessment

Standardized national exams: Two of our graduating seniors had their GRE scores sent to us. One student, with a GPA of 2.44 had scores of 500 verbal and 520 quantitative. Another with a GPA of 3.78 had a verbal of 260 and quantitative of 570. The low verbal score of the second student is not surprising since the student is a Japanese national. The scores of our students and their GPAs appear to be similar to those we see for non-OSU students applying for graduate school here.

Indirect Assessment

Focus groups: One focus group was held with graduate and undergraduate botany majors. Fourteen students attended. They reported a high level of satisfaction with their experience here at OSU. Six of the students were enrolled in the plant evolution seminar that was offered in response to an interest expressed in last year's focus group. They indicated that they found the seminar a valuable addition to their curriculum.

Student satisfaction surveys: Surveys were given out to seniors by their advisor, but none were returned.

Alumni surveys: One survey was returned by an individual who got her Ph.D. here in 1997. She had been teaching at a private college on a part time basis and has now been offered a full time position.

Tracking of grades in required upper division courses:

- Thirteen botany majors and eight randomly selected biology majors were tracked with respect to the grades they received in required upper division biology and botany courses. Of the grades received by botany majors in 47 courses, 19 were A's, 17 were B's, 10 were C's and one was a D. The student with the lowest grades (one D and 3 C's) is a transfer student from another Oklahoma institution.
- Of seven grades received by the eight biology majors, one was an A, two were B's, one was a C, one was a D, and there were two F's.

Tracking of employment success

- One Ph.D. from our program left academia for a position in the biotechnology industry a little over a year ago. The company that he went to has since gone bankrupt. We have not heard if he has gained other employment. Most of our graduates with Ph.D.s take positions in academia and all who were employed last year remain employed this year.

Graduate Programs

Direct: Thesis Defense: One student completed her M.S. degree this year and she successfully passed her thesis defense.

Seminar presented as part of the departmental seminar: Six graduate students presented seminars on their thesis research. All were able to answer questions asked by faculty and other students after their presentations. All exhibited the ability to present results of their work in the format used at professional scientific meetings.

Track scholarly work:

- One Ph.D. candidate was a finalist for the Phoenix Award for Outstanding Ph.D. candidate. He also was awarded an OSU Distinguished Graduate Student Fellowship. He has authored or submitted three publications and given six presentations on his research at state, regional or national meetings this year.
- One of our M.S. candidates made four presentations at professional meetings this year. She also made two invited presentations and has one publication. She was awarded the College of Arts and Sciences Outstanding Teaching Assistant Award as well as being a finalist for the Phoenix award.

How assessment results will be used in curriculum planning and program development:

In the course of the Plant Evolution seminar it was noted that the text we used was largely a descriptive chronology of what plants occurred when and where throughout the earth's history, but there was little discussion of mechanisms of evolution. We plan to do a "Plant Evolution II: Mechanisms" seminar next spring.

Department of Chemistry
Prepared by DR. NEIL PURDIE

1. Department of Chemistry, Oklahoma State University.

Degree Programs Assessed: BS, MS, PhD

2. Assessment Methods Used:

1. Survey of Alumni
2. Exit Interviews (oral, students' written remarks on file)
3. Graduate Student Research Symposia
4. Input from Colleges served by the Department of Chemistry.
5. Research Reports from Capstone Course (CHEM 4990). In 2002-2003 academic year 6 students were enrolled in the Capstone Course.

3. Number of Individuals Assessed: For all degree programs for the 2002-2003 academic year 23 students assessed. This number consisted of only current majors and graduate students.

Degree Program Assessed	Assessment Methods Used	Numbers of Individuals Assessed
BS	2,3,4, and 5	6
MS	2,3, and 4	3
PhD	1,2,3, and 4	8

Analyses Findings: Conclusions derived from the analyses of the various categories listed in the 2001-2002 report are that the decisions that were made to improve and enhance upon the values of our undergraduate classroom and laboratory teaching are working. For the graduate program things are moving more slowly because of the continuing shift in the composition of the student body and limited enrolment figures which determine the frequency with which course offerings can be scheduled.

Investments of Student Technology Fees and lab fees have brought laboratory course contents to more contemporary levels. The laboratory experience has also been expanded and enhanced through better and more efficient use of the multi-user equipment permanently housed in the Undergraduate Teaching Laboratory (UTL). Service and maintenance of these instruments, and other major scientific instrumentation in the Department as a whole, has improved by having available competent line positions for A&P staff specialists whose primary roles are in managing nuclear magnetic resonance (NMR), mass spectrometry (MS) and general analytical laboratory facilities. The expenditure of student lab fees for this purpose will be continued and a point should never be reached where improvements can't still be made. It is still a goal to tackle the more major issue of funding an undergraduate laboratory in experimental Physical Chemistry. The prevailing concept among the faculty is that a more meaningful approach is to broaden the description to Inorganic/Materials/Physical Chemistry laboratories because as technology continues its rapid development the classical divisions between these sub-disciplines becomes less and less clear. One requirement needed to reach that goal is to find adequate funding from Federal Agencies, but more importantly to hire young faculty with the skills and commitment to make it succeed.

A laboratory/instructional concept that has achieved immense success and national publicity is the Hypothesis Based Learning (HBL) paradigm. The imaginative concept behind the program is a radical approach to scientific learning moving away from rote memorization to the challenge of how to apply scientific logic in understanding the observations of the physical and chemical world. From a presentation made to a Congressional committee in the Department of Education at Washington DC a very real likelihood of a multi-million dollar investment to develop the program for use for other states in the Union is expected within the next year. The State of Maryland has committed to a pilot study in the K-12 school systems for the next academic year.

By comparison the anticipated innovative developments in undergraduate classroom instruction is moving more slowly, or appears to be moving more slowly because changes are not tangible and therefore less apparent than the changes in laboratory offerings. A positive feeling still prevails among the faculty that students are better prepared than they were some 5 years ago.

Contrarily, at the graduate level, students are less well prepared than before. They are also fewer in number because there is a national trend of disenchantment with graduate programs in the sciences meaning that major schools are "poaching" on recruiting territories that once were conceived to be ours. As a result the proportion that are international student has increased dramatically. Part of the problem there is that while international students have a good concept of theory, with so few modern laboratory facilities, they are comparatively ill prepared for research. A consequence of this is that the rigor of the course contents is diluted. A second problem stems from the decision made by the faculty to remove the requirement of entrance examinations, replacing them with "foundation courses" that would give yield graduate credit for remedial work. The consensus is that we cease teaching foundation courses and return to placement examinations in all areas.

I will reiterate that we are still uncomfortable with the constraints placed upon our making improvements in our undergraduate program by the rules imposed on us by the Committee for Professional Training of the American Chemical Society that oversees compliance with the ACS approved degree plan. Some prestigious schools are opting out of the option of an ACS approved degree. At OSU loyalty of some faculty to the ACS, and the thought that not providing such an option, while other local schools do, would make us less competitive in student recruiting. All this in spite still of the fact that fewer than 20% of recent graduates opted for ACS approved plan. There is no statistical evidence that supports the implication that an employer has a preference based upon the details of the plan of study for the Bachelor's degree.

Once again the introduction of the specialized General Chemistry one semester course offering for Engineering majors, CHEM 1414, was frustrated by circumstances beyond our control. THE COURSE IS SCHEDULED FOR THE FALL SEMESTER OF 2002 and will be taught. Enrolment is underway and is being better controlled with respect to preferred enrolment by students in Engineering disciplines other than Chemical Engineering.

We have not been able to accomplish the goal described in last year's Changes Planned section, to upgrade the Physical Chemistry laboratory experience. The anticipated cost would be greater than the sum of the costs to upgrade all the other laboratory courses. This will remain a long term goal for the Department. In the meantime students who express interests in experimental experiences are given opportunities to work in research laboratories with instructors of their choice.

4. Changes Planned:

(a) New Honors class.

The first offering of an Honors Section of CHEM 1314 is scheduled for the Fall 2002 semester. Together with CHEM 1515H this will complete a one-year General Chemistry Honors program option. It has been requested by the Honors College for a number of years and we are pleased to be in a position where we can provide it.

(b) Specialty courses for Other Disciplines.

Now that the problems with introducing specialty course for the Engineering College has been accomplished, our desire is to accomplish similar goals for students in the Colleges of Agriculture and Human Environmental Sciences. The experiences we have had with the Engineering course should guarantee earlier introductions of these analogous courses into the class schedule.

(c) Team teaching

Scientific research is not as compartmentalized as before. The immense steps made in technological developments have succeeded in many cases by scientists crossing conventional scientific barriers to find themselves collaborating with biologists, engineers, physicians, etc. A fundamental plan for cross-training at the graduate level needs to be put in place. More and more often we are seeing students and advisers working together to construct specialized Plans of Study that incorporate elements from more than just one area or discipline. A rigorous set of policies and procedures for developing cross-discipline training need to be prepared.

A unanimous decision on the proposal to introduce team teaching to graduate offerings (mentioned in the last Assessment Report) has still not been reached although the opposition appears to be yielding some ground. Offerings of Special Topics courses does continue, and the enrolments testify to the acceptance and the success of these endeavors, since the numbers of student enrolled is 2-3 times greater than enrolments in classes that are strictly advanced chemistry classes.

(d) Undergraduate Majors.

Over the time between assessments, the number of undergraduate majors has remained steady. I reiterate the value of Dr. Bunce has shown as a dedicated adviser sufficient that he was recognized and honored with a campus-wide award. He is developing recruitment strategies that will be evaluated over the next two years.

Department of Communication Sciences and Disorders

Prepared by Randolph E. Deal, Ph.D.

Degree Program Assessed	Assessment Methods	Number of Individuals Assessed
BS in Communication Sciences and Disorders	Capstone course performance; course evaluations; senior surveys; alumni surveys	7-28 depending on assessment method
MS in Communication Sciences and Disorders	Alumni survey; National Examination in Speech-Language Pathology; portfolios, comprehensive examinations, thesis; reviews of externships; CDIS 5210 Clinical Practicum performance; graduation exit interviews; annual program re-accreditation by the American Speech-Language-Hearing Association	8-22 depending on assessment method

BS Degree in Communication Sciences and Disorders**Analysis and Findings:**

1. Capstone Courses--

Two courses are considered capstone courses for undergraduates. CDIS 4022 (Clinical Methods) requires students to complete successfully clinical projects and course work examinations. The therapy materials project/presentation and the clinical assistant project/presentation prepare students for future direct supervised work with patients. In the clinical assistant project, each undergraduate student is paired with a graduate clinician and clinical supervisor and participates in the development and delivery of treatment for a patient in the OSU Speech-Language-Hearing Clinic. In the Spring 2003 semester, 28 students took the course; 20 earned A, 7 earned B, 1 withdrew.

The second capstone course is CDIS 4010 (Clinical Practicum). A cumulative grade point average in the major of 3.25 and advisor consent are required for enrollment. In this course, qualified undergraduate students, under the supervision of faculty, are responsible for the development and delivery of patient treatment in the OSU Speech-Language-Hearing Clinic. Fall and Spring enrollments yielded a total of 16 students; 15 earned A, 1 earned B. This course has received excellent reviews from students who appreciate the opportunity to increase their understanding of clinical services during their preprofessional training and prior to their first clinical rotation in graduate school.

2. May 2003 Graduating Senior Survey--

These data are currently unavailable because no surveys were completed due to the departure of the assessment coordinator. The May 2002 survey was reported previously. Beginning May 2004, this survey will be annual.

3. 2002 OSU Survey of Alumni of Undergraduate Programs--

This survey targeted alumni who received a BS degree in 1996 or 2000. The CDIS response rate was 34.3%, or a total of 23 respondents out of 67 graduates. For the 2000 graduates, only 8 responded out of 24 graduates. Of the 1996 graduates, 80% completed the master's degree in the field and 75% of the 2000 graduates were currently enrolled (the master's degree is the minimum entry level requirement to practice in Speech-Language Pathology and Audiology). One hundred percent of both groups said the undergraduate program at OSU prepared them either adequately or very well for graduate school. They rated program strengths as child language and articulation. Weaknesses were small faculty, not enough clinical experiences, not enough adult and neurogenic classes, and faculty needed to be more approachable. One hundred percent of both groups rated their undergraduate preparation in a) basic speech development, b) basic language development, c) basic hearing development, d) basic anatomy and physiology, e) child language disorders, and f) child speech disorders as either somewhat prepared or well prepared.

4. Other indicators--

Students complete course and instructor evaluations on each undergraduate course. The Department Head and the individual instructor review the evaluations. Instructors determine if any changes should be implemented. For instance, textbooks or testing methods may be changed based on student comments.

Use of assessment results:

To free resources for enhancing clinical opportunities through increased clinical supervision, the content of several courses were incorporated into other courses. The course content so incorporated included: CDIS 4031 Clinical Observation; CDIS 4222 Language Analysis; and CDIS 4253 Diagnostic Procedures in Communication Disorders. New hires to date include a Department Head and two Ph.D. level faculty. It is the departmental aim for all faculty to be approachable and to provide enhanced clinical opportunities and instruction.

MS Degree in Communication Sciences and Disorders

Analysis and Findings:

1. 2003 OSU Survey of Alumni of Graduate Program--
The 2001 survey was reported previously. At the time of this report, the 2003 data were not yet available.
2. PRAXIS Examination (National Examination in Speech-Language Pathology and Audiology)--
Passing this examination is part of the requirements for certification as a speech-language pathologist by the American Speech-Language-Hearing Association. The examination is comprehensive and assesses the "mastery of knowledge of professional concepts and issues to which the applicant has been exposed throughout professional education and clinical practicum" (ASHA, 2000). Thus, it is a direct reflection of the success of the graduate program's academic course work and clinical teaching. Not all students take the exam prior to graduation and not all choose to have their scores reported to OSU, but they must report scores to ASHA to obtain certification. Per ASHA report, dated December 15, 2002, for the academic year 1999-2000, 22 took the exam and 22 passed; for the academic year 2000-2001, 13 took the exam and 13 passed. Additionally for those students reporting to OSU at the time of this report (6/9/03), and who graduated May 2003, 9 took the exam and 8 passed.
3. Portfolio, Comprehensive Exams, and/or Thesis--
Graduate students complete a portfolio and take comprehensive examinations to complete the creative component requirements of the graduate program, or they complete a portion of the portfolio and a thesis. Eleven individuals graduated in May, 2003 and two will graduate in July, 2003. The 11 May graduates have successfully completed the portfolio and passed comprehensive exams.
4. Reviews of Externships--
Graduate students typically complete two, eight-week externships before graduation. Externships are done in hospitals, nursing homes, rehabilitation facilities, community clinics and schools. These may be in Stillwater, Oklahoma City, Tulsa, or in other Oklahoma locations. Occasionally, placements can be made out of state or even out of country. The students provide feedback to the department on their externship experience. This includes information on the supervisor, amount of supervision, professional involvement, population served, type of therapy, length and frequency of therapy, work schedule, individual site requirements, total practicum hours obtained, tests and materials used, and the strengths and weaknesses of the facility and supervisor. These reviews are read and analyzed by the Clinic Coordinator and Clinic Committee. Based on the reviews, specific recommendations may be made about the appropriateness of the site and the professional opportunities available to the students.

Additionally, externship supervisors are asked to comment on students' strengths and weakness and address what they believe the OSU training program could do to improve the students' abilities in areas of concern.

Ratings of students for the Spring 2003 externships were uniformly high. Students also reported being pleased with their externship sites and the clinical experiences they had. Suggestions for the training program included: increase experience with different assessment instruments; increase experience in patient evaluation; provide more experience with documentation procedures used in the various clinical and school settings.

5. Re-accreditation by the American Speech-Language-Hearing Association--
In 2001, the department was re-accredited for an eight-year period. Annual reports are required and are submitted in late June.
6. Other indicators--
Students complete course and instructor evaluations for each graduate course. The Department Head and the individual instructor review the evaluations. The instructor determines if modifications in the course should be made.

CDIS 5210 Clinical Practicum requires student participation in the diagnosis and treatment of patients both within and external to the OSU Speech-Language-Hearing Clinic. Student clinical competencies are reviewed and rated by the clinical supervisor both at mid-term and end-term. In the Fall 2002, 22 students enrolled; 21 earned A; 1 earned B. In the Spring 2003, 21 enrolled; 18 earned A; 3 earned B.

Students complete written program evaluations upon graduation. Comments are generally positive about the graduate program. Recent feedback indicated a need for more work in Craniofacial Anomalies, information on paperwork requirements in other professional settings, more in depth content at the graduate level, improved off campus clinical experiences during externships. Students uniformly expressed appreciation for the accessibility of faculty and their willingness to work with students on multiple issues.

Use of Assessment Results

Because of the addition of three new Ph.D. level faculty, a graduate curriculum revision has taken place designed to not only deepen the content of existing course work, but also to broaden the course offerings to achieve a better theoretical and clinical exposure. Specifically, required course work has been added in Clinical Instrumentation, Fluency Disorders, and Craniofacial Anomalies. Additionally, a pilot clinical program is being initiated this summer in Tulsa with the OSU College of Osteopathic Medicine to establish a formal clinical relationship with the medical school and to provide expanded externship opportunities to graduate clinicians.

Computer Science
Prepared by *Terri Blevins*

Degree Program(s) Assessed	Assessment Methods	Number of Individuals Assessed
<i>BS Computer Science</i>	<i>Graduating Senior Survey</i>	55
	<i>Alumni Survey</i>	6
	<i>Internship Employer Evaluations</i>	9
	<i>Regional Competitions</i>	20
	<i>Student coursework</i>	292
<i>MS Computer Science</i>	<i>National Research Presentations</i>	9
	<i>Thesis</i>	18
<i>PhD Computer Science</i>	<i>Dissertation Presentation</i>	1
	<i>National Research Presentation</i>	9

Analysis and Findings:

- 55 Students returned the Graduating Senior Survey. According to their rating, the strengths of the Computer Science Department are Advising, Availability of instructors, and the computer science knowledge of instructors. Weaknesses appeared to be not enough course offerings in a semester and quality of instructions. Students also noted that lack of programming experience was a hindrance to success in the program.
- 20 recent graduates were sent an alumni survey. 6 students responded to this survey. 67% of those responding were working in a field related to Computer Science. 100 % of those working in the field reported that the Computer Science content prepared them extremely or fairly well for their current position. They also rated the quality of instruction at OSU as adequate. The biggest weakness identified by the alumni was the lack of preparation for the daily “office rhetoric” and lack of web-related technology. Those not working in Computer Science indicated that they had not been able to find a job in that field.
- 9 Computer Science students participated in an Internship with a variety of companies, from the University of Texas at Austin to Ford Motor Company to the Red Cross. Employers evaluated the students on their technical knowledge, the quality of their work, their initiative, their attitude, their professionalism, their communication skills, and their ability to work with others. In every single category, the majority of students were evaluated as exceeding expectations. Students received very high evaluations from all employers, with more than half of the students receiving an overall “excellent” rating.
- 20 Computer Science students competed departmentally for a chance to participate in a Regional programming competition. The Computer Science department sent 2 teams of 4 students to Baton Rouge for the Southwest Regional competition. The teams are given 6 problems, and teams are judged how many programs they can finish in the least amount of time. Both teams finished in the upper half, with the first team finishing seventh overall.
- Students are required to take a Social Issues class, as well as the more technical Computer Science Classes. The ethics class, CS 4883, emphasizes the moral and ethical responsibility of the computing professional. The more technical classes, CS 3443, 4323, and 4343 teach the fundamentals of computer systems and operating systems.
- 9 MS and PhD students submitted research papers for presentations at national conferences and were accepted. Papers were presented at the ABC conference in Orlando and the BIS conference in Colorado Springs.

- 36 students submitted and defended a thesis and received their MS degrees in Computer Science.
- 1 student successfully defended his dissertation and received a PhD

Uses of Assessment Results:

- As a result of the graduating senior survey and the alumni survey, the department will consider changes in the social issues class to include a career component. This section will emphasize job search strategies, and office procedure and management techniques.
- The Computer Science department has also added an additional programming language class to the degree requirements. Previously, this class, CS 2432, has been an elective, but was added to address the lack of programming experience in undergraduate students, and to better prepare students for industry.
- Faculty will continue to assess and review curriculum, student needs, and make program revisions based on their needs assessment.
- Computer Science continues to hire new faculty as funds permit, in order to address the need for more course offerings in a semester.

Department of English

Prepared by Ravi Sheorey

The following table shows the assessment methods used and numbers of individuals assessed for the degree programs in the Department of English:

Degree Program Assessed	Assessment Methods	Number of Individuals Assessed
M.A. & Ph.D.	Admission & graduation rates	All
	Student research, publications, and awards	All
	Graduate student evaluations by faculty	All
	Alumni survey (OSU-Tulsa)	21

ABSTRACTED ANALYSIS AND FINDINGS:

During the academic year 2002-2003, the English Department admitted a total of 42 students to its graduate program. Five students completed their master's degree and two students were awarded the Ph.D. degree during the past academic year. During the year, nearly 95% of the English Department graduate faculty submitted evaluation reports on the students enrolled in each of their graduate courses to the office of English Graduate. These reports, which can be read by the students and their advisers, are intended to help students track their academic progress and obtain academic assistance as needed.

Information collected from the graduate students regarding their scholarly and creative activities during the past academic year indicated that 37 English graduate students taken together were involved in nearly 92 such activities, which included publication of papers in scholarly journals; presentation of papers at regional, national, and international conferences; writing of technical reports; and publication of poems, short stories, and other creative works in literary journals and magazines; and chapters in edited volumes. In addition, graduate student in the department won 37 departmental and other honors and awards for their academic achievements. One of the graduating Ph.D. students was awarded the Graduate College Research Excellence Award for his dissertation during the last academic year.

The focus of past year's outcomes assessment was on the graduate program we offer at OSU-Tulsa campus. For the first time since its inception in 1992, the graduate program in Teaching English as a Second Language (TESL), offered at the OSU-Tulsa campus, was assessed by means of an alumni survey of the graduates of the classes of 1998 through 2002. Results of this survey revealed the various strengths and weaknesses of the TESL Program as judged by our alumni. Of the 21 alumni whose addresses were available, 12 responded to the survey, yielding a return rate of 57%. The *OSU-Tulsa TESL Program Alumni Survey* is designed to assess perceptions of the graduated students of following aspects of their degree program experience: Overall quality of the degree program; strengths and weaknesses of the English curriculum (especially the "core" courses); strengths and weaknesses of instruction and advising; strengths and weaknesses in the instructional aspects of the program; and interactions with the TESL faculty. Of the 12 alumni who returned the survey 11 (92%) percent indicated TESL as their major area of interest, while one alumnus/alumna was interested in linguistics.

Overall, the reactions of TESL alumni to most of the learning outcomes (as a result of their educational experiences at OSU-Tulsa) were generally positive. The results of the survey indicated that the "overall educational experience of the OSU-Tulsa TESL program" was rated as "very positive" or "positive" by 91% of the surveyed alumni. About 83% of the alumni were either employed at the time the survey was conducted (May-June, 2003), or were pursuing further graduate course work. However, nearly 66% of the respondents mentioned that the positions they held were *not* related to their preparation as TESL majors. Consequently, 57% of the alumni indicated that their graduate studies did not prepare them specifically for the positions in which they served. Of the employed alumni, all but one was employed full time, with annual salaries ranging from \$25,000 to "over 45,000". Finally, two alumni, who were enrolled in graduate or professional studies, indicated that their graduate studies at OSU-Tulsa had prepared them well for the post-MA work they were pursuing.

The most positive aspects of the TESL graduate program, as perceived by the alumni, on a scale of 1 (= least valuable) to 5 (= most valuable), were interactions with the TESL faculty (M = 4.16); some of the specific courses like “Studies in English Grammar” (M = 4.41), “TESL Internship” (M = 4.16), “Descriptive Linguistics” (M = 3.91), and “ESL Testing” (M = 4.08). The surveyed participants also reported that during their studies in the program, they had gained “knowledge of the broad field of TESL” (M = 4.58), improved their presentation skills (M = 4.33), and increased their understanding of how “the English language works” (M = 4.33). On the scale of 1 (= dissatisfied) to 5 (= very satisfied), the alumni gave a mean rating of 4.58 to academic advising and 4.66 to classroom instruction in the TESL “core” courses. Some of the positive comments made by the alumni include the following: “I thought it was well rounded, and it gave me an opportunity to pursue some of my own interests, as well;” “All of the classes were helpful in different ways;” “Good program. Great advisor. Flexibility in dealing with students who are working;” “Small size builds bonds between students and students or instructor and students;” “Internship opportunities;” “Availability in Tulsa very helpful;” “Rigorous academics”.

Among the weaknesses pointed out were the comprehensive examinations, special-topic courses, non-TESL electives, [the alleged lack of relevance of] some of the “core” courses, and insufficient preparation in identifying and analyzing the linguistic problems of non-native speakers. Some of the specific negative comments made by the participating alumni included the following: “The comps experience was difficult. I feel that students were sometimes treated as though they were children rather than adults;” “My doctoral program has been a much more positive experience than my TESL Masters program, mainly because of positive interaction from professors and a spirit of cooperation, collaboration, and community rather than a “dog-eat-dog” atmosphere that I sometimes sensed;” “There could have been more support for comps.”; “More focus on this [elementary and secondary schools] in the core classes would be helpful, since we’re not all going to be in the [college] teaching settings.”

Comments regarding suggestions for improvement centered on improving the structure of the comprehensive examinations by making them more focused, more TESL-specific course offerings in Tulsa, and more interaction with the faculty [other than the advisor].

USES OF ASSESSMENT RESULTS:

This is the first time that the English Department has conducted outcomes assessment for its graduate program in Tulsa. Overall, the alumni expressed a fair degree of satisfaction with the program offered on the Tulsa campus, and we are pleased to report that the program continues to attract students who wish to major in TESL.

- The results of the alumni survey will be shared with the Department Head and TESL and other graduate faculty of the department at the beginning of the Fall semester, 2003, and will be used individually and collectively in improving the quality and effectiveness of the degree program .
- The TESL faculty will address alumni’s concerns about the comprehensive examinations and make recommendations for changes, if any are warranted. [Some changes to the exams have already been made.]
- The Department will continue to make requests to the OSU administration to hire additional TESL faculty members specifically for the Tulsa campus, so we can offer more graduate courses.
- Course offerings will continue to be examined to ensure that students have as many choices as possible and that critically important ‘core’ courses are offered with greater frequency in Tulsa than at present.

Department of Geography
Prepared by Jonathan C. Comer

Degree Program(s) Assessed	Assessment Methods	Number of Individuals Assessed
<i>Bachelor of Arts</i> <i>Bachelor of Science</i> <i>Bachelor of Science*</i> * (resource mgmt. option)	Written Exit Interview	14
	Oral Exit Interview	14
	Written Exit Exam	6
	2002 Alumni Survey	12

Analysis and Findings:

Overview: The primary internal assessment tool currently in use by the Department of Geography is the Exit Interview, which has written and oral components. The written interview is distributed to graduation candidates mid-semester, and they are asked to return the completed interview and allot 15-20 minutes for the oral portion. The oral interview gives the Assessment Coordinator an opportunity to probe more deeply into certain answers given on the written interview, as well as to give the student an open forum to air any concerns that are not explicitly drawn out on the written interview.

Every year, an overall analysis of the interviews reveals that geography graduates are very happy with their degrees, their experiences in the department, and the treatment they receive by the faculty/instructors. This year was no exception, with just one student exhibiting a modest level of dissatisfaction with the program. This result is clear, despite the fact that a couple of students said that they did not intend to pursue geographic-related jobs upon graduation (see Exit Interview item 5 below).

The exit exam, however, is very uninformative and is being discontinued. Various problems with the exam, in conjunction with a recommendation (in 2001) by the Assessment Council that the department clearly identify expected learning outcomes, will result in a new undergraduate assessment plan being submitted to the Council this summer (2003). We hope to implement the new plan this summer so that the 2003-2004 report will encompass an entire year of new assessment results within the department.

The revision of the undergraduate plan will focus on identifying and describing the department's expected learning outcomes, then adopting new and revising existing methods that will allow for meaningful direct and indirect assessment of these outcomes. A component of this plan will be the inclusion of the OSU Undergraduate Program Alumni Survey, which is conducted every other year by the Office of University Assessment. The most recent alumni survey was conducted in 2002, and the results are included in this report due to their value as an additional assessment tool.

Exit Interviews: The written interview uses fifteen open-ended questions to assess five broad areas of the geography undergraduate curriculum. These five areas are listed below with an aggregate analysis of the comments for each area:

1. *Are student expectations being met, both in terms of the skills and marketability of the degree as well as the overall focus area of the major?*

Despite several responses from students that they chose the major because of a general, pre-college interest in geography, the majority of students again indicated that the primary reason for choosing the major was an experience in an introductory-level course such as GEOG 1113 (Cultural Geography), 1114 (Physical Geography), or 2253 (World Regional Geography). The department has always recognized this point of entry for new majors, and emphasizes excellence in teaching at all levels of the curriculum. In both the fall 2002 and spring 2003 semesters, six of twelve faculty members were teaching lower-division courses, and over the course of the year ten of twelve faculty members taught at least one introductory course.

Despite the growing awareness and marketability of Geographic Information Systems (GIS) in the private sector, a majority of interviewees indicated that they found the cultural and regional aspect of the major to be the most interesting, with GIS tallying the second-most responses. This is very important, because most geographers view GIS as a tool, rather than as a topical area in the major and discipline. This could be considered an important, though currently implicit, learning outcome, because it indicates that our curriculum transmits this philosophy to our students.

Another implicit learning outcome is the desire to make geography graduates aware of both how broad the discipline is, as well as its links to other fields. In several places on the interview (Question 1, why they chose geography, Question 2, most interesting aspect, Question 3, how geography was different from expectations, Question 4, most useful skills learned, and Question 12, how geography differs from other social sciences), multiple students indicated that the holistic and inter/cross-disciplinary aspect was important and desirable. Only one student ultimately concluded that geography was different enough from expectations that he probably would not choose it again as a major. This indicates that most students, through their experiences in introductory classes and consultations with the Undergraduate Advisor prior to declaring geography, are presented with good information that allows them to make an informed decision. Though presently undocumented, the Undergraduate Advisor feels that the number of students changing their major away from geography has declined steeply over the past few years. Tracking major retention and time to graduation is an intended new, though secondary and indirect, assessment tool that will be part of the new plan.

Finally, nearly all respondents cited GIS, assorted computer applications (database and spreadsheets), and cultural awareness as the most important skills. Given that this department emphasizes cultural geography, data handling tools related to GIS, and a dependence on modern technology in the discipline, it appears that students clearly recognize and grasp the skills and tools that they will need in the workplace.

2. *Are students satisfied with the overall environment of the department (faculty and facilities)?*

Nearly every student assessed (ten of fourteen) commented on the friendliness, informality, and availability of the faculty on Question 6 (What did you like most?), all of which facilitate a comfortable environment conducive to learning. Only one negative comment, about a single faculty member, was recorded.

Some contradictory comments included the convenience/inconvenience of our location in Scott Hall and our range of course offerings. While a few students commented positively on the variety of courses in the major, several lamented the fact that many interesting courses in the catalog were never taught.

Unfortunately (as indicated in our 2001-2002 report), it will be very difficult to expand course offerings without more faculty members. The department already teaches about 40 different courses and 60 different course sections. With the department ranking near the top of the College of Arts & Sciences for both total credit hour production as well as per instructor credit hour production, combined with a one-course faculty teaching load reduction due to the implementation of our new Ph.D. program, the faculty are already carrying heavy student-credit hour loads. Due to the present state budget crisis, geography has only been able to modestly expand its number of Ph.D.-level graduate teaching associates to make up for the faculty teaching load reduction. However, the teaching load reduction is being phased in over several years to minimize the impact on undergraduate course offerings.

3. *Do students find course requirements useful, interesting, and relevant?*

Questions 14 and 15 on the interview pertain to two specific courses that all majors must complete: Spatial Analysis (3333) and Computer Cartography (4323). Though Spatial Analysis is considered one of the most difficult courses in the department, the expected learning outcomes are met because the primary uses of Spatial Analysis are reported as: use and application of statistics in geography, analysis of human patterns on the landscape, and overall introduction to the quantitative side of geography.

Computer Cartography remains a very important and desirable course, and all geography majors acknowledge the need for mapping skills if they intend to pursue any sort of geographic career as well as the links the course provides to GIS. Most interesting and positive in the results, the highest student-reported skill was a better awareness and appreciation for design and aesthetics in mapping, rather than more vocational issues such as learning a specific software package. This matches the instructor's stated learning goals for the course.

Individual students cited specific courses in their responses that they felt were very beneficial to them, but there were only two observable patterns in these responses: they valued the GIS curriculum (including the GIS Certificate), and they are very satisfied with most of the courses they take. Nearly every course was mentioned by at least one student as being very useful to them during their career at OSU.

4. *What are the basic concepts of geography? How does geography as a discipline fit into the broader academy of natural and social sciences?*

Graduating geography majors were weak in their ability to synthesize the overall concepts and foci of geography. Their responses tended to be formulated by a few specific course-related experiences, rather than exhibiting a clear idea of the five main themes (regions, interaction, environment, landscape, and location) or three main instructional divisions (regional, topical, technical) that are generally recognized by the discipline. Generally they mentioned a mixture of areas that they experienced without recognizing the broad themes that typically permeate geography courses.

On the positive side, most respondents understood and acknowledged the integrative and interdisciplinary aspects of geography at the interface between physical and human studies. Students clearly recognized the broadness of geography and its ties to related disciplines. Nearly half the students commented on the importance of recognizing, analyzing, and explaining spatial patterns. While this is a very important aspect of geography, the Assessment Coordinator feels that this answer occurred in part because he is also the instructor of Spatial Analysis, which heavily emphasizes spatial pattern on the landscape, and students were telling him what they thought he wanted to hear. However, it does seem that learner outcomes are being met in that course, at least for students who take that course in their final semester.

In summary, graduates are better educated about the interrelationships of geography to related disciplines, but less clear on the specific themes or paths that geographers have recognized in order to maintain a clear identity for the discipline. This remains an area of concern, and the new assessment plan will be formulated with this in mind.

5. *What job or career enhancement opportunities are students pursuing?*

Of sixteen graduation candidates during in 2002-2003, fifteen received degrees, and fourteen completed the interview process with the following post-graduation plans:

<u>Current or imminent activity</u>	<u>No. of students</u>
Graduate school in geography:	2
Graduate school in related area:	1 (planetary science)
Graduate school in unrelated area:	1 (dietetics)
Employment in geographic technology:	2
Employment in related area:	2 (state environmental offices)
Employment in unrelated area:	2 (police academy, pharmaceuticals)
Uncertain/pursuing employment:	4

The three respondents who are pursuing graduate school or employment in unrelated areas all indicated happiness with their geography experiences, but they have decided to pursue different job opportunities at this time. One of the four students in the final category indicated that he wished he had stayed in his first major; however, this student is chronic graduation candidate due to having a GPA below the minimum in both the major (2.5) and overall (2.0), so that may influence his answer.

Exit Exam: The exit exam is used to assess student retention of important concepts of the various areas within geography. About ten multiple choice questions per geography course are on this exam, and students are tested on the relevant areas indicated on their transcripts. Because geography is so broad and the major core consists of just five or six courses, no two students ever end up with the same collection of courses in their major and so the exam must be tailored to each student. Annually, most students do relatively poorly on this exam. The mean is typically in the 50-60% range. This year, scores ranged from 20% to 75%, with a mean of 55%, for six students.

This result may occur due to poor retention of major concepts, as students tend to forget material quickly after a course is over, but is primarily due to a general unwillingness to study for an exam that (a) will not affect their grades, (b) will not affect their graduation, and (c) usually is administered near the end of the term. Furthermore, the Assessment Coordinator feels that several other factors reduce the informational content of these results, including: (a) this exam was first developed in 1994-5 without modification since, (b) it is very difficult to coerce students into showing up for the exam, resulting in only six participants this year out of sixteen graduating students, and (c) the results seem to provide more information about the "get done and get out" mentality of graduating seniors than actual learning and retention, due to the previously-mentioned three issues.

The department is discontinuing the use of this exam with the new assessment plan to be submitted this summer. Alternative methods for assessing student learning outcomes are being reviewed including analysis of grades in required courses, faculty evaluation of seniors or instructor evaluation of geography majors in their courses, and the idea of a capstone course. The Assessment Coordinator feels this last idea has merit, but with funding and scheduling issues it will be very difficult to implement a new course.

Alumni Survey: In February 2002, the OSU Bureau for Social Research conducted the 2002 OSU Undergraduate Program Alumni Survey for the Office of University Assessment. This survey targeted 1996 and 2000 graduates. In geography, five out of twelve 1996 graduates and seven out of twenty-three 2000 graduates responded. The survey consists of seventeen common questions and sixteen department-specific questions developed by the Undergraduate Committee. Full numerical results are available elsewhere; overall trends are summarized here in order document three main areas of interest: employability after graduation, educational satisfaction after graduation, and use and value of geographic skills obtained during undergraduate education.

1. *Post-graduation employment in geography or geographic-related fields:*

Of the twelve total respondents from the 1996 and 2000 graduate pools, eleven were employed and the twelfth was not seeking employment. Common Question 3 (CQ3) indicates that the employed alumni were evenly distributed between private and public jobs, with no clustering at a given size of corporation or level of government. Employment was even between geographic-related and non-related positions (CQ5), and all but one respondent said that their undergraduate studies prepared them for their job adequately or very well (CQ6). Of interest, sixty percent of the 1996 pool earned or was pursuing an advanced degree versus 14.3% of the 2000 pool (CQ8).

2. *Post-graduation satisfaction with undergraduate experience and education:*

On the educational satisfaction common questions (CQ10 through CQ13), none of the twelve respondents indicated any dissatisfaction with the quality of instruction, advising, and preparation they received as geography undergraduates at OSU. This is a very significant outcome for the department, indicating that despite the sparseness of truly geographic jobs, the current job market, and the effort required to track down such jobs, our alumni feel that the department and OSU have provided them with a very good education and background in geography.

These results are bolstered by open-ended responses to a departmental question (GEOG15) that stated “Not enough jobs in a concentrated area, jobs are sparse” and “There weren’t a lot of jobs with a geography bachelor’s degree”. While the department strives to provide the most up-to-date training and education in geography, we have very little control over the job market for geography majors. This includes the availability of internships; two respondents indicated a desire for a more comprehensive internship program (GEOG 14 and GEOG 15). Few internships exist that are targeted at geography majors, with the National Geographic Society being the most notable. Annually, about two geography majors per year secure an internship, usually through their own search and identification process.

3. *Use and value of geographic skills in the workplace:*

The first eight department-specific questions on the survey (GEOG1 through GEOG8) ask alumni about the use of strongly geographic or geographic-related techniques in their current positions. The results indicate that global positioning systems (GPS), remote sensing, and field techniques skills are the least used, while geographic information systems (GIS), computer mapping, database management, and statistical analysis are more commonly used.

These results are not so clear-cut, however. Much of the data used in GIS come from remote sensing and/or field work in conjunction with GPS; it may just be that these particular individuals are doing more of the back-end GIS work and are not involved with the data gathering. Thus, despite their lack of use of these skills, someone is performing these tasks, and hopefully these individuals have a good background from their undergraduate education in understanding and interpreting the results and data they are using in their jobs.

Most of the core requirements of the three bachelor’s degrees in geography involve these technological data and computer skills, and it is important to note that all of these skills are being used to various degrees by some of our graduates. The results of these eight questions provide good evidence that our core course requirements provide a solid common experience for geography graduates entering the workforce.

Departmental questions GEOG9 through GEOG13 reference the use of ancillary skills such as writing and communication, design, and computer skills, and nearly every response given was in the “somewhat important” or “very important” category.

Uses of Assessment Results:

The information gathered via assessment is used annually to improve undergraduate instruction. The Undergraduate Committee uses assessment as one of its primary means of gauging student satisfaction with the program, reporting to the faculty as a whole, and making and implementing recommended changes. The Undergraduate Advisor is also the Assessment Coordinator, so there is strong integration of these two related activities.

One major and two minor trends appeared in the interview responses and will be studied and reported to the faculty at large. The major trend, which has been reported earlier in the Analysis and Findings section, is that students read the course offerings in the University Catalog and often base their decision to major in geography, in part, on the courses described therein. They are subsequently disappointed when some of these classes are not offered during their OSU career. Of the forty undergraduate, non-independent study geography courses listed in the 2002-2003 catalog, eight courses (GEOG 3243, 3773, 4043, 4113, 4123, 4133, 4153, and 4243) have not been taught in the last two years, though five have been taught at least once in the last eight years.

Each year, in response to both student assessment results as well as inquiries from the Dean’s office, we review inactive courses for deletion or possible revival. As a result of this regular review, GEOG 3773 has been deleted, its content reintegrated with GEOG 3743, and GEOG 3743 will be taught next year after a short hiatus. GEOG 4043 and 4133 are being deleted. This leaves just five inactive courses, each of which has a faculty member who presently does not want to delete the course because (a) they hope to offer it sometime in the future, and (b) the bureaucracy of creating courses on this campus is a deterrent to deleting a course and then later wanting to revive it.

The two minor trends were detected, both of which have been observed in recent years and which have been previously discussed by the faculty. First, some students wish for more in-class discussion opportunities and praised the courses that were more discussion oriented. Since all geography courses follow a lecture or laboratory format, in-lecture discussion can greatly reduce the available time for the presentation of new material. Thus, the mix of lecture and discussion is a very personal matter for each instructor and is reflective of both their style and subject matter, and it is difficult to envision how the department could make a concerted push for more in-class discussion across the board. However, this concern will be reported to the faculty for continued evaluation, at least to inform faculty that students feel their learning is enhanced with more participation.

Second, a few students felt that more field trips or field work experience would enhance the learning experience. Four courses in the department have defined field trips. For many courses a field trip is either unfeasible or not applicable. However, some courses could have field trips but do not, primarily because of the headaches (logistical, financial, and behavioral) that are associated with trying to take a group of college students away from campus. The potential legal and ethical pitfalls of this issue alone discourage more than one faculty member from bothering with field trips. However, the Assessment Coordinator will again report on this student response to the faculty as another reminder of the outcomes of departmental assessment and student desires.

To summarize the overall impressions of the Outcomes Assessment process, the department is serving its students well in all major areas, areas of concern are recurring but difficult to address (desire for more courses, more in-class discussion, and more field trips), but new assessment methods are needed to better gauge student satisfaction and learning outcomes. Thus, the faculty in the department will be queried on the following issues preparatory to formulating and submitting a new plan for 2003-2004:

1. What are the expected learning outcomes for graduating geography majors?
2. What are the expected learning outcomes for the core courses?
3. Are the faculty willing to provide the Assessment Coordinator with short evaluations of geography majors in their classes, or of evaluations of student performance in required classes (beyond simple grade reporting)?
4. Would a capstone course be valuable to the department and its graduates? If valuable, (a) what would be the content, (b) who would teach it, and (c) how would we fit it into the departmental teaching schedule/rotation?

School of Geology

Prepared by the School of Geology Assessment Committee:
 Dr. Stanley T. Paxton, Chair, Dr. Todd Halihan, and Dr. James Puckette
Executive Summary (full report available upon request)

The following table shows the assessment methods used and numbers of individuals assessed for the degree programs in the OSU School of Geology for the period July 2002 through June 2003. This report is consistent with the Outcomes Assessment Plan we developed in Fall 2001 with goals, measures of student performance, and procedures for how this information will be used to support existing strengths and respond to shortcomings.

Degree Program(s) Assessed	Assessment Methods	Number of Individuals Assessed
B.S.	Student Performance in Capstone Course: Field Geology	9
B.S.	Performance on Area Concentration Achievement Test (ACAT) in Geology	5
B.S., M.S.	School of Geology, 2003 Student Exit Survey	Delayed
B.S., M.S.	Time to Graduation and Retention Rates	61, 59
B.S., M.S.	Job Placement Survey	61, 59
B.S.	Office of University Assessment, 2002 Survey of Alumni - Undergraduate Programs	6
M.S.	Office of University Assessment, 2001 Survey of Alumni - Graduate Programs	14
M.S.	Office of University Assessment, 2003 Survey of Alumni - Graduate Programs	Update available next reporting year.
M.S.	Thesis Defense Outcome	13

Analysis and Findings:Student Performance in Capstone Course: Field Geology

All of our majors in Geology are required to enroll in Geol 3546, a five-week long Field Geology course. Students from geology programs at other universities also enroll for our course. This course represents a capstone course in that students are expected to demonstrate the knowledge of basic concepts and techniques (field and computer) in geology and apply them to achieve the following objectives:

- 1) Develop a good understanding of the geology in an area they have not worked before;
- 2) Interpret sedimentary environments based on field observations;
- 3) Solve stratigraphic and structural problems encountered in the field
- 4) Produce a correct and meaningful geologic map;
- 5) Interpret their own map and maps produced by others;
- 6) Write meaningful reports either from their own individual work or from data gathered by a team;
and
- 7) Work in harmony with their peers.

In the summer 2002 course, 9 OSU Geology majors enrolled in the course. Two OSU students earned a grade of A and six earned a grade of B. One OSU student received a C. Eighteen students from other universities enrolled for field geology, 5 of whom earned a grade of A and 13 a grade of B. For the second year in a row, OSU students were slightly out-performed by students from other universities. The overall performance of the OSU students suggests that our majors are learning basic mapping skills but that we have room for improvement.

2003 ACAT in Geology

The Area Concentration Achievement Test (ACAT) in Geology was administered to five graduating seniors in May 2003. We are waiting on return of the test results. We will summarize the findings in the 2004 Assessment Report. Similar to last year, the Geology faculty will meet in Fall 2003 to discuss the results of the ACAT and to decide what changes to our curriculum, if any, are necessary.

Below are the results and comments presented in the 2002 Assessment Report.

The Area Concentration Achievement Test (ACAT) in Geology was administered to six graduating seniors in May 2002. Of the six students, three are female and three are male; two are transfer students and four completed their entire program at OSU; four plan to pursue graduate studies and two do not. The scores are compared to a nationwide sample by using standardized scores with a mean score of 500 and a standard deviation of 100. These overall standard scores are based on a comparison of this year's scores with a five-year cumulative sample for each content area and for overall performance.

Area Tested	Standard Score	Percentile	Comparison Group Size
Geomorphology	466	37	102
Historical Geology	494	48	132
Paleontology	442	28	115
Mineralogy	545	67	144
Petrology	536	64	174
Physical Geology	541	66	121
Stratigraphy	552	70	161
Structural Geology	503	51	155
Oceanography	487	45	102
OVERALL SCORE	496	48	102

The results show that our students performed better than 48% (range: 10% to 87%) of those who took the exam around the country. In terms of standard scores by subject area, the students performed from best to worst as follows: stratigraphy, mineralogy, physical geology, petrology, structural geology, historical geology, oceanography, geomorphology, paleontology. Among the subject areas, the only statistically significant correlation (at $p = 0.05$) between the student's scores and their GPA in Geology was in the subject area of petrology. The correlation between the overall score and GPA was also statistically significant. These scores could indicate: 1) we need to improve teaching in the subject areas where students scored the lowest; and/or 2) the exam does not test student's knowledge of concepts that we believe are most important in those subject areas. One student commented that the paleontology section covered a lot of material on vertebrate paleontology and dinosaurs...material that is not emphasized in OSU classes. Also, some of the questions were very specific about one or two certain few fossils and not those covered in classes (e.g., trilobites or brachiopods). Students also commented that the structural geology section tested material that was not covered in their classes. It is interesting that our students performed fairly well on the oceanography section even though we do not teach a class in that subject area at OSU.

2003 Student Exit Survey

Due to poor response rate, we are changing the procedure by which we conduct our Student Exit Survey. As a result, administration and evaluation of our Undergraduate and Graduate Student Exit Surveys has been delayed. When the results of this year's survey arrive, the data will be inspected and the results scrutinized by the School of Geology faculty. As necessary, we will begin discussion about changes to course content at faculty meetings. The survey results and our action plans will be summarized and discussed in our 2004 report.

Time to Graduation and Retention Rates

Since the Fall Semester of 1993, 61 students have completed their B.S. degree in Geology at OSU and 59 students have completed their M.S. degree in Geology. The average time for completion of the B.S. degree was 2.4 years for transfer students (n = 19) and 5.1 years for those who entered OSU as freshmen (n = 37) (this estimate taken from 2002 report). Inspection of the data reveals that the average time for completion of the M.S. degree was 3.0 years (range: 1-8 years). These trends are consistent with general trends at OSU.

During the 2002-2003 academic year, 11 new students declared geology their major field of study. Five students left the Geology program; two withdrew from OSU, one student left school due to academic suspension, and two students were placed on academic probation.

2003 Job Placement Survey

Since the Fall of 1993, 61 students have completed their B.S. degree in Geology at OSU and 59 students have completed their M.S. degree in Geology. Immediately after graduation, these students were placed as follows:

Placement after Graduation	Received B.S. in Geology	Received M.S. in Geology
Employed by oil & gas industry	12	30
Employed by environmental consulting firm	0	7
Employed in government as geologist	2	5
Entered military	2	0
Continued education at OSU	23	n/a
Continued education elsewhere	12	9
Teaching	0	1
Unknown	10	7
TOTAL	61	59

The placement of our graduating students reflects the tradition of the OSU School of Geology and the strong ties with the oil and gas industry developed by faculty over time. As the environmental geology focus continues to develop, we expect a larger portion of our students to gain employment in that sector. It is noteworthy that a large portion of students graduating with a B.S. in geology decides to remain at OSU for advanced studies. However, the lack of a doctoral program causes the 18% of our M.S. students who seek a doctoral degree to look elsewhere. Similar to last year, the Geology faculty will meet in Fall 2003 to discuss the results of the job placement survey and to decide what changes to the curriculum, if any, are necessary.

Thesis Defense Outcome

All thirteen students successfully defended their thesis before a committee comprised of their advisor and at least two other faculty members. Revisions were required in all cases. Some students had major revisions but in most cases, revisions were minor. No student failed his/her thesis defense.

Uses of Assessment Results:

The following changes were implemented in the 2001-02 academic year in response to the 2001 Geology Assessment Outcomes Report:

- 1) Graduate students elected a representative who attended all Geology faculty meetings (except those involving personnel matters) in a non-voting capacity and was allowed to bring any grievances to the direct attention of all faculty.
- 2) The Graduate Committee in the School of Geology revised our brochure prepared for graduate students. Procedures and requirements were clarified.
- 3) Geology faculty strongly encouraged graduate students to attend professional meetings (e.g., regional GSA and AAPG meetings) and to present papers/posters of their thesis research. When appropriate, the Geology van was used to transport students to regional meetings. Grants and contracts were used to pay for student travel to more distant meetings.

- 4) The School of Geology encouraged graduate students to organize fall and spring off-campus social events.
- 5) Faculty encouraged all graduate students to attend the Fall Geology Colloquium.
- 6) Individual faculty were assigned to supervise TAs for our large introductory courses, Geol 1014 and Geol 1114.
- 7) The School of Geology enjoys great success in placing our graduating students in business, industry, government, as well as in advanced degree programs. We will continue to invite potential employers from business, industry, and government to visit our department, specifically to meet and interview students.

The School of Geology is responding to the results of our 2003 Outcomes Assessment Report (and previous years' reports) in the following manner:

- 1) Greater attempt will be made to incorporate and practice field-based techniques in the Sedimentology and Stratigraphy (GEOL 3034) class. GEOL 3034 class is an important prerequisite for Field Geology (GEOL 3546). In this way, OSU student performance at field camp may begin to equal or exceed the performance of students from other universities who attend the OSU field camp.
- 2) The dissatisfaction of students with academic advising has been noted in the past. As stated in last year's report, we have installed new academic advisors for both the graduate and undergraduate programs. We sense that academic advising has improved.
- 3) The School of Geology, with the help of the alumni, the OSU Foundation, and the Dean of the College of Arts and Sciences, [REDACTED], has added the Pickens Chair in Geophysics to the faculty of the School of Geology. [REDACTED] has been hired to fill the Pickens Chair. Current students, faculty, and alumni of our B.S. and M.S. degree programs have recognized the long-standing need for geophysics at OSU. We are very proud of this accomplishment.
- 4) Both undergraduate and graduate students recognize the importance of scholarships in attracting them to OSU and retaining them as geology majors. The School of Geology has established five four-year T. Boone Pickens Scholarship at \$5000/year for undergraduate majors beginning in Fall 2001. We will continue to offer a number of scholarships and fellowships for graduate students to supplement the TA/RA positions. We clearly need to raise the stipend for TAs to be consistent with other departments on campus.
- 5) The School of Geology wishes to increase resources available to graduate students for conducting research. We also wish to increase the funding support for graduate students. Faculty funded-research projects increased dramatically for some of the new faculty during the 2002-2003 academic year. In the coming year we anticipate that this increase in research funding will translate into a greater number of graduate students supported at a half time rather than quarter time assistantship rate (FTE).
- 6) In an inquiry from the Dean of the College of Arts and Sciences about funding priorities from college-level fund-raising, we identified increased funding support of graduate students as one priority. Others priorities include support for undergraduate students to attend field camp and improving teaching collections (e.g., rocks, minerals, fossils). Toward this end, Arthur Cleaves' family established the Cleaves Field Camp Scholarship in his honor. Each field camp season, two of our undergraduate students benefit from this endowment. We continue to evaluate options for the means to improve the teaching collections.
- 7) With the exception of our shortcoming in Geophysics, past students appear to be satisfied with the curriculum. As mentioned in #1 above, the situation has been remedied with the establishment of the Pickens Chair and the hiring of [REDACTED].

School of Journalism & Broadcasting(Advertising & Sales, Broadcast Journalism,
News-Editorial and Public Relations)

Prepared by Paul Smeyak

Executive Summary (full report available upon request)

Degree Program Assesses	Assessment Methods	Number of Individuals Assessed
BA/BS Journalism/Broadcasting	1. Course Evaluations	891
	2. Fresh/Soph Language Exam	205
	3. Terminal Course Performance	159
	4. Internship Evaluations	114
	5. Honors Thesis	5

Analysis and Findings:

1. Course Evaluations: This method is used to gather information on student satisfaction with courses and instruction in the School of Journalism and Broadcasting. The information is used by individual instructors to improve and revise courses and effectively meet the instructional needs of students.

1a. A total of 500 undergraduate students pursuing the Bachelor of Arts or Bachelor of Science degree were enrolled in the four Journalism/Broadcasting sequences (Advertising & Sales, Broadcasting, News-Editorial and Public Relations) for the Fall 2002 semester, and a total of 511 undergraduate students were similarly enrolled for the Spring 2003 semester. Due to evaluations performed in multiple classes, a total of 891 course evaluations were completed on the Stillwater and Tulsa campuses in the fall. As of this report, spring evaluations have been completed, but are currently not available for review.

There are 52 undergraduate students enrolled at the Tulsa campus, 29 declared Public Relations students, 15 declared Advertising students and 8 undecided

On both campuses, generally, most teachers and courses in the School of Journalism and Broadcasting are rated above average. Many courses and faculty members are rated as substantially above average.

2. Freshman/Sophomore Language Evaluation: A grammar/language skill test is administered each semester to students enrolled in JB 2003 – Media Style and Structure. Students are given a diagnostic test at the beginning of the semester to measure pre-existing grammar proficiency. Following several weeks of intense study of grammar, spelling and punctuation rules, a follow-up evaluation is given. The post-test showed substantial improvement in grammar skills both semesters. The second language exam is also used as a screening device to make sure the students meet an acceptable standard of proficiency in grammar usage before being allowed to continue pursuing their SJB degree.

Fall 2002: The pre-test was administered to 97 students and the average score was 43.6 percent. The post-test was administered to 99 students and the average score was 80.6 percent. The improvement between the pre-test average and post-test average was +36.2

Spring 2003: During the spring the pre-test was administered to 102 students and the average score was 45.0 percent. The post-test was administered to 99 students and the average score was 80.7 percent.

The improvement between the pre-test average and post-test average was +35.1.

More details regarding the grammar/language skills exam are included in the supplemental information section of this report.

3. Terminal Course Performance: Advertising, Broadcast Journalism, News-Editorial and Public Relations students take capstone courses in their respective sequences and are evaluated by faculty and industry professionals for professional knowledge and competence. Most senior students are evaluated very positively. Subsequent internship evaluations and job placement statistics support faculty evaluations. Some of the terminal courses are coordinated to prepare students to participate in national and regional competitions with other schools. The department selects projects and competitions that offer an appropriate mix of both academic and practical knowledge.

The American Advertising Federation sponsors a national advertising competition each year in which students from across the country work to prepare a comprehensive campaign for a single national client. In conjunction with the Advertising capstone course, "Campaigns," a group of SJB students participated in a regional competition in Little Rock, Ark., in the spring. The OSU team placed second out of thirteen teams, ranking above last year's national winner, Southern Methodist University. Placing second in the 10th AAF District qualified the team to compete for a single "wild card" spot in the national competition. The OSU team placed second in the competition for that wild card position behind St. John's University. More details regarding the terminal course performance measurement are included in the supplemental information section.

- 4. Internships:** Many students in all options perform professional internships in their related field before they graduate. Written evaluations by their professional supervisors and weekly student-faculty discussions provide feedback on the preparation of SJB students for entry-level positions in the fields of mass communications. Discussions with the interns' supervisors indicates that the SJB students from OSU are perceived as being professionally qualified and prepared for entry level paid positions. They show an excellent work ethic and show up with an open mind, willing and eager to learn. Supervisors say they consider this a refreshing change from some interns they receive from other schools who sometimes tend to act as though they already have all the information they need to do the supervisor's job, much less their own.

In Summer of 2002, a total of 49 students were enrolled for an internship, 34 in the print sequence and 15 in the broadcast sequence. A total of 36 students were enrolled for credit for an internship for the 2002 Fall semester; 26 of those students were print majors and 10 broadcast. In Spring of 2003, 29 students enrolled for an internship, 21 in the print sequence and 8 in the broadcast sequence.

- 5. Honors Program:** Four students completed an honors thesis during the fall semester. They are [REDACTED], [REDACTED], [REDACTED] and [REDACTED]. [REDACTED] completed an honors thesis during the spring semester.

Uses of Assessment Results

- ◆ Based on previous course evaluations and enrollment statistics from previous years, it was decided that additional sections of both "Media Style and Structure" and "Reporting" were needed to fulfill student demand. As a result, an additional section of "Media Style and Structure" will be added beginning in the fall of 2003.
- ◆ More information related to the Internet and Web design is being integrated into all sequences, including news, advertising, public relations and video.
- ◆ Based on course evaluations and faculty discussion regarding the amount of information covered in "Advertising Copy and Layout," it was determined that the course should be split into two separate elements. Therefore, beginning with the fall 2003 semester, each element will be taught in a separate course: "Advertising Copy Writing," and "Advertising Layout and Design."
- ◆ The unit administrator discusses teaching performance and course organization with every faculty member annually. The director tries to assist faculty members who are having problems. The School of Journalism and Broadcasting has also established a formal mentoring program conducted by senior faculty members who make up the Personnel Committee. Where appropriate, faculty members are referred to various teacher effectiveness programs on campus.
- ◆ In student surveys and interviews, Tulsa graduate students expressed a need to communicate with the graduate director on a regular basis. Beginning Fall 2002, the graduate director was available to students during weekly office hours at the Tulsa campus.

School of Journalism & Broadcasting

Prepared by Paul Smeyak

Executive Summary (full report available upon request)

Degree Programs Assessed	Assessment Methods	Number of Individuals Assessed
MS/Mass Communications	1. Course Evaluations – Stillwater and Tulsa	23
	2. Graduates	8
	3. Creative Component	4
	4. Thesis/Dissertation	4

Analysis and Findings:

1. Course evaluation forms were used to gather information on student satisfaction with graduate courses in Mass Communications master's degree program. A total of 23 course evaluations were collected among graduate students. The written comments indicate overall satisfaction with the program.

One primary concern emerged from course evaluations at the Tulsa campus was course rotation. Even though many graduate students on an urban campus such as Tulsa take longer to complete their degree work (as much as four years in many cases) they are concerned that not every course they need is offered every semester, and therefore complicates their scheduling. Efforts are being made to address this issue, but low enrollments at the Tulsa campus preclude the scheduling of graduate courses every semester.

2. Eight students earned the MS degree in Mass Communication during the 2002-2003 school year. Three students completed the program during the fall semester and graduated in December; five students graduated in May. All eight students who graduated plan to utilize their degree in the immediate future. Three of students are professionals who worked full-time while earning their degree and plan to move up in their respective companies. Three of the graduates have been accepted into Ph.D. programs. One of the students accepted a job with the Legislature, and one student is planning to teach.
3. Four students completed the Creative Component sequence during the school year.
4. Four students defended their theses during the school year.

Uses of assessment Results:

- ◆ Graduate students are mentored and encouraged to submit articles and make formal presentations on their research to state, regional and national mass media journals and conferences. During this school year, one Mass Communication master's student presented a paper at the annual Southeast Regional Colloquium of students and faculty of mass communication.
- ◆ A limited amount of funding is provided in order to assist students in attending such conferences, and to encourage others to do so in the future.
- ◆ The one-hour course MC 5651 "Intro to Mass Communications" was taught at both the Stillwater and Tulsa campuses simultaneously. The instructor held class at the Stillwater campus and broadcasted to students at the Tulsa campus. Students at both locations could ask questions and make comments by speaking into a microphone so that everyone could hear. Based on student evaluations, OSU Tulsa students were dissatisfied with the course being presented this way. They expressed a desire to have more face-to-face communication with the instructor. As a result, beginning the 2003 fall semester the instructor will alternate campuses each week, teaching in Stillwater one week and Tulsa the next.

- ◆ Following an assessment of the time management habits of students, a Graduate Advising Agreement has been created. This agreement includes a detailed timeline to help keep students on track for completing all the steps of their master's degree in a smooth and timely sequence. The timeline will be established for each individual student, based on the total amount of time the student expects to require, depending on outside employment and other similar variables. The agreement will outline the expectations for both students and faculty in terms of timeliness of work performed and frequency of counseling during each stage of the sequence.
- ◆ Students preparing for teaching careers in higher education expressed a strong interest in the development of structured programs to provide supervised teaching experiences. Such practical experience is now required of graduate students contemplating a teaching career, and three students received such supervised experience during the 2002-2003 school year.
- ◆ The Graduate Faculty regularly conducts an on-going curriculum review. No curriculum changes took place during this school year.

Mathematics Department

Prepared by Dennis Bertholf

Degree Programs Assessed	Assessment Methods	Number of Individuals Assessed
BS in Mathematics	Grades in Core Courses	9
	Exit Survey	1
Phd in Mathematics	Results of Comprehensive Examinations	4

Analysis and Findings:*For the BS degree:*

Exit survey:

The exit survey was sent to all nine graduates but was only returned by 1 student so no analysis was made of the results.

Grades in Core Courses:

In the two core courses Math 3613 and Math 4023 this years graduates had 6 A's, 8 B's and 4 C's and only two needed to repeat the courses. In our beginning masters level courses one student attempted Math 4143 and 4153 making 2 A's and another attempted 4 courses 4143,4153, 4613 and 5013 making 4 B's. The average grade for all mathematics courses above calculus for these graduates was 3.48 which is very good.

For the MS degree:

New assessment methods are being developed for the MS degree since Comprehensive Examinations are no longer required. Seven students received their MS degree this year.

For the PhD degree:

Comprehensive examinations were given in Real Analysis, Complex Analysis and Topology over the two examination periods. Real Analysis had 4 failures, Complex Analysis had 1 pass and 1 failure, and Topology had 1 pass. So for 7 attempts we had 2 passes for a 29% pass rate. We had two students complete the PhD degree this year.

Uses of Assessment Results:

Motivated by previous Graduate Student Satisfaction Surveys and results on the comprehensive examinations we made changes in the examination procedures for the PhD degree and added an applied option to the PhD degree. We also added a Mathematics Education option to the Masters degree program.

Department of Microbiology and Molecular GeneticsPrepared by the Departmental Assessment Committee and
Moses Vijayakumar

Degree Programs Assessed: BS in Microbiology
BS in Cell and Molecular Biology
BS in Medical Technology
MS and PhD in Microbiology and Cell and Molecular Biology

I.

Degree Program Assessed	Assessment Method	Number of Individuals Assessed
B.S. Microbiology	1. Exit Interviews	6
	2. Grades in Core Courses	53
	3. Alumni Survey	15

Analysis and Findings:

1. A total of 6 seniors participated in the exit interview. The main emphasis of the exit interview for graduating seniors was to ask questions related to 1) the courses (lecture and laboratory) in the department, 2) the faculty-student interactions in the department, 3) the advisor for the department, 4) the strengths and weaknesses of the department, and 5) their preparedness for a career in microbiology.

- The seniors were satisfied with all the lecture and laboratory courses, except for the Cell and Molecular Biology course.
- The seniors felt all faculty members were very approachable, and overall very satisfactory.
- The seniors felt the advisor was very helpful, but more explanation regarding degree requirements would be helpful.
- The seniors felt the primary strength of the department was the faculty dedication to students, laboratories, diversity of material taught, and teaching effort.
- The seniors felt the primary weakness of the department was unavailability of desired courses at preferred periods, and old laboratory equipment which made the experiments ineffective at times.
- The seniors felt they are well prepared to pursue a career in microbiology.

The exit interview also provided information regarding the future plans of the graduating seniors. Most of the seniors were planning on attending professional schools (i.e. Medical, Nursing) and the remaining were interested in graduate school or obtaining a laboratory technician position as a career.

The results of the exit interview support the goals of the department, as the department seeks to prepare students to enter the world of biotechnology, as well as faculty members maintaining a high standard of teaching and student involvement.

2. Institutional Research provided grade distributions for Microbiology majors in academic year 2002-2003. Students are enrolling at appropriate times within their curriculum and succeeding at a reasonable rate in Departmental courses. The problem area seems to be in BIOL 3024, General Genetics, which also shows up as a problem in grade distributions for other majors within our department.

Semester	Course #	Class	A	B	C	D	F	W
Fall '02	BIOL 3024	Jr.			1		1	
		Sr.			3	1		1
	MICR 3224	Jr.	1	4			1	
		Sr.	2	3	1			
Spring '03	BIOL 3024	Jr.	1	3				
		Sr.	1		3			
	MICR 3224	Jr.		2		1	2	1
		Sr.	1		4	1	1	1
	MICR 3224	Jr.	3	1	2	1	1	1
		Sr.	2					

3. Alumni Survey -- The survey was sent to 57 students from all majors in the department and 15 responded (26% response rate): 1 General Services (Clerical), 1 Law/Attorney, 1 Administrative/Business, 1 Technology/Technical, 4 (30%) Medical/HealthCare/Lab Tech, 4 (30%) Microbiologist, 1 Academic/Research

Over half the alumni respondents are employed in professional positions related to the major in which they graduated from the Microbiology Department. 4 respondents occupy positions of microbiologist and 4 are engaged in Medical technology related activities.

Uses of Assessment Results:

The department has formed a committee to reorganize the Cell and Molecular Biology course. The committee decided to establish both an Introductory Cell and Molecular Biology course and an Advanced Cell and Molecular Biology course, similar to the current microbiology courses.

II.

Degree Program Assessed	Assessment Methods	Number Of Individuals Assessed
<i>B.S. Cell and Molecular Biology</i>	1. Graduate Record Exam GRE B22 2. Alumni Survey 3. Grades in BIOL 3024, CLML3014, 4113 4. Exit Interviews	0 15 20 2

Analysis and Findings:

Five students graduated in Cell and Molecular Biology in the 2002-2003 year. Two students graduated in the Fall of 2002 and 3 in Spring 2003. No students graduated in the Summer of 2002.

1. Graduate Record Exam GRE B22 -- New assessment tool, no data available yet.

2. Alumni Survey -- The survey was sent to 57 students from all majors in the department and 15 responded (26% response rate): 1 General Services (Clerical), 1 Law/Attorney, 1 Administrative/Business, 1 Technology/Technical, 4 (30%) Medical/HealthCare/Lab Tech, 4 (30%) Microbiologist, 1 Academic/Research

Over half the alumni respondents are employed in professional positions related to the major in which they graduated from the Microbiology Department. 4 respondents occupy positions of microbiologist and 4 are engaged in Medical technology related activities.

3. Grades in Core Courses --

BIOL 3024 General Genetics Fall 2002: Juniors -- 1A, Seniors - None enrolled.

Spring 2003: Juniors -- 1W, Seniors -- 1B, 1F, 1W

CLML 3014 Cell & Molecular Biology Fall 2002: Juniors -- 2A's, 1 B, 1 C, Seniors - None enrolled. Spring 2003: Juniors -- 1"I" (incomplete), Seniors - 1 C

CLML 4113 Advanced Cell & Molecular Biology Spring 2003: Juniors -- None enrolled. Seniors -- 4A's, 3B's, 1C, 1W

The grade survey data are from [REDACTED], OSU Institutional Research Office

4. Exit Interviews --Two exit interviews are available.

- One of the respondents indicated that will continue higher education by attending the medical School at OU and the other has been accepted a job at Pfizer or Merck).

- Very satisfied with the quality of the courses offered in the Department

- Favorite courses listed are: Medical Mycology, Pathogenic Microbiology and Immunology

- Least favorite courses listed are: Cell Physiology and Introduction to Microbiology

Uses of Assessment Results:

Students have complained about the lack of identity (specialization) of the Cell and Molecular Biology degree program. In response we made several changes as follows:

1. We created new courses that are focused on eukaryotic molecular biology, which includes many of the health, related professions. New courses that have been implemented are:

CLML 4113 Advanced Cell & Molecular Biology

CLML 4253 Medical Genetics

CLML 6304 Eukaryotic Genetics

2. We improved the quality of the program by modifying the degree requirements as follows:

Increase in the number of core courses directly relevant to the field of specialization, along with a decrease in the number of elective hours. In the future we plan to offer specializations within the majors such as: Bioinformatics and Molecular Genetics.

III.

Degree Program Assessed	Assessment Methods	Number of Individuals Assessed
<i>Medical Technology</i>	1.Grades in Core Courses	2
	2.Grades in Clinical Courses	3
	3.Acceptance Rate for Internship	3/6
	4.ASCP Exam	3

Analysis and Findings:

1. Only two Medical Technology students were enrolled in core courses BIOL 3024 (Genetics) and MICR 3254 (Immunology) during the '02/'03 academic year. For the Fall '02 semester these students earned a C and an F in BIOL 3024. These data represent a very small sample set but suggest a potential cause for concern.

2. Clinical course grades for those 3 students who performed the internship were as follows:

Clinical Microbiology - A, A-, B; Clinical Chemistry - B, A-, B; Clinical Chemistry II - B,A-B; Clinical Hematology - B,A,A; Clinical Immunology - B,A-,B; Topics in Medical Technology - A,A,A.

3. No students graduated in Medical Technology in the 2002-2003 year. However, 3 students graduated at the end of the previous year (August of 2002). Therefore, these students were analyzed for entry into internships, internship (clinical course) grades and performance on the ASCP certification exam. The 3 students accepted into hospital internship programs were out of a pool of 6 students who applied. Therefore the rate of acceptance was 50%.

4. ASCP Exam performance for the 3 student interns, August, 2002, are summarized in the following table:

Group	Chemistry	Hematology	Immunology	Microbiology	Urinalysis	Blood Banking	Average
OSU Students	573	449	555	512	452	498	500
All Students	466	482	502	491	483	484	477

Analysis of the above table suggests that OSU students out-performed other students nationally in Chemistry, Immunology and Microbiology. However, our 3 students trailed the national averages in Hematology and Urinalysis. It is interesting to note that our students excelled in Clinical areas related to basic chemical and biological coursework required in the Medical Technology degree plan prior to the internship, while performing less well in more specialized clinical areas which have no OSU course equivalent prior to the internship. This suggests that these basic chemistry and biology courses supplied students with information important to their clinical training. But also suggests that it would be helpful for our students if we could somehow better prepare them for later learning of Hematology and Urinalysis.

As mentioned above, no Medical Technology students graduated during the current academic year. Therefore, no exit interviews were performed and no data was available from students of previous years.

Uses of Assessment Results:

No OSU student has failed the ASCP exam in the last 10 years of the program even though the fail rate in Oklahoma as a whole is around 33%. This suggests that our students are very well prepared by their coursework in residence at OSU and during the hospital internship. However, the data gathered for this assessment evaluation will be distributed to faculty members and discussed in one or more faculty meetings. The major goals of these discussions will be to determine whether anything might be done to increase the number of Medical Technology majors, to improve the acceptance rate of our students into internships and whether the students could be better prepared to learn the clinical subjects of hematology and urine analysis during the internship.

IV.

Degree Program Assessed	Assessment Methods	Number of Individuals Assessed
<i>Graduate Program in Microbiology and Cell and Molecular Biology</i>	1. Annual Scholarly Report (survey of faculty and students for student achievements.	20
	2. Exit interview	1

Analysis and Findings:

The following data was gathered in a survey of faculty and their students in the Annual Scholarly Report.

Students completed:

8 publications

8 manuscripts

2 theses

0 dissertations

15 presentations

4 awards/fellowships/other

Publications, manuscript submissions, and completed theses/dissertations reflect the achievements of student research and serve as landmarks in the development of each student's scientific career. MS and PhD students are expected to publish at least one and two papers, respectively, during their studies in the program. Presentations and thesis/dissertation defenses allow students to demonstrate their ability to understand and discuss scientific research. Publications and presentations in the national forum indicate the program is competitive with other programs at comparable universities. However, the lack of student fellowships and the low stipends for student support have hampered efforts to attract better students to the program.

Uses of Assessment Results:

Previous assessments indicated a shortage graduate of level course offerings. This issue is being addressed by the current policy of offering at least two graduate level courses each semester. Current assessments results will be provided to all faculty members as part of the Annual Scholarly Report and discussions regarding potential changes will follow. Some of the future goals of the program will be to increase student stipends and other financial support through the university and research grants, increase student productivity, and research competitiveness at the national level.

Music Department

Prepared by Julia Haley

Degree Program(s) Assessed	Assessment Method Used	Number of Individuals Assessed
Bachelor of Music In Education	Student Teaching Evaluations	7
	Oklahoma Subject Area Test	4
	Oklahoma Professional Teaching Exam	4
Bachelor of Music In Education In Performance In Business	Senior Recitals	??
	Vocal juried auditions	??
	Instrumental juried auditions	??
	Keyboard juried auditions (majors)	30
	National Association of Teachers of Singing – District Auditions	??
	Music Department Exit Survey	5

Analysis and Findings:Music Education

Seven music education majors successfully completed their student teaching practicum; two in the fall semester and five in the spring semester. The students were evaluated by their cooperating teachers with an instrument containing a Likert-type rating scale. The group received an average rating of ?? on a 7-point scale. Four students sat for the Oklahoma Subject Area Test (OSAT) and all 4 (100%) received passing scores. Four students took the Oklahoma Professional Teacher Exam (OPTE) and all 4 (100%) passed.

Music Performance and Music Education

**** seniors (****%) successfully passed their recital juries and completed their recital performances in good standing. Juried auditions of Fall 2002 and Spring 2003 adjudicated by music faculty indicated ****% pass rates in all three areas: vocal, instrumental, and keyboard. ***** students competed in the annual Oklahoma District NATS (National Association of Teachers of Singing) auditions in Norman, OK. ***** advanced from the preliminary to the final rounds. *** student placed *** among freshmen men in the state, *** placed *** in the adult category, and *** placed *** among senior women.

Combined Degrees

Five students completed the Music Department Exit Survey in the spring semester. The survey provided data to 1) identify curriculum strengths and areas for improvement, 2) assess students' perceived level of preparedness regarding knowledge and skills for their profession, and 3) accomplish the State Regent's mandate for assessing student satisfaction. [REDACTED], the departmental assessment coordinator, compiled the survey responses, analyzed the data, and prepared the executive summary of the results:

- Preparedness in music curriculum. One hundred percent of respondents reported the highest level of preparedness in basic music theory, and studio lessons. 60% reported the highest level of preparedness in music history, and 80% in ensembles. 80% reported a very high level of preparedness in advanced literature/analysis. These ratings show a dramatic improvement from last year in every area except ensembles.
- Opportunities for performance. One hundred percent of respondents reported they had adequate opportunities to perform in large ensembles (conducted), small ensembles (non-conducted), and in solo performance, while 60% reported adequate opportunities to perform in staged ensemble productions (opera). These figures show an increase compared to last year in the areas of small ensemble and staged performing opportunities.

- Influence of performance opportunities on musical development. One hundred percent of respondents reported that a tremendous influence on their musical development was performance in large ensemble, 40% in small ensemble, 80% in solos, and 20% in staged ensemble. These ratings show a marked improvement from last year in every area.
- Importance of factors in decision to attend Oklahoma State University. Sixty percent of respondents reported a high level of importance in location, 60% in cost of tuition, 40% in recommendation of a teacher/acquaintance, 40% in assistantship/ scholarship, 60% in quality of general education, 60% in reputation of the department of music, 80% in presence of a particular faculty member, 100% in reputation of performing ensembles, and 40% in the variety of course offerings.
- Overall satisfaction. Sixty percent of respondents reported they were “very satisfied” with their experiences in the Music Department at OSU, while 40 percent reported they were “satisfied.”

Uses of Assessment Results:

All assessment measures indicate that this was a very positive year for the Department of Music and that the overall program is working very well. Areas of concern identified in past years through external assessments by NCATE and OCTP as well as internal assessments such as student course evaluations and exit surveys continue to be addressed. This year, for example, a few more revisions to the music education degree were implemented. A new instrumental methods course was brought on line, and plans were made to delete an education course which is no longer needed in order to offer a new World Music course. This Assessment Report will be distributed to members of the music faculty via e-mail. Faculty members will be encouraged to draw conclusions and make recommendations to the department head as part of a continuing improvement process. Additional program revisions may result from this data analysis.

Department of Philosophy

Prepared by Doren Recker

Executive Summary (full report available upon request)

<u>Degree Program</u>	<u>Method</u>	<u>Number Assessed</u>
Undergraduate, B.A.	Various, cf. below	(a) <u>Exit Questionnaires</u> : 7/10 Graduating Majors & Double-Majors graduating in Spring, 2003 (b) <u>Assessment of Oral Com- munication Skills</u> (Phil 4991. SP, 03, 11 Students)

Data: (a) *Exit Questionnaire...cf* summary of data below (following **Analysis Section**)

(b) *Assessment of Oral Communication in Phil 4991...* While all philosophy classes involve discussion, and some involve group reports, Phil 4991 was explicitly designed as a capstone course for Philosophy majors (following the advice of our last external program review, 1997). Each faculty member chooses an example of recent research in Philosophy (either their own work, or an example from professional journals), which are distributed to all students at the beginning of the semester, and then leads the discussion on the work they chose. This is to familiarize students with some of the major journals, as well as with how research is conducted in the field. It also provides examples of recent contributions in a wide variety of philosophical areas.

During the 2nd half of the semester, the students lead the discussion on articles that *they* have chosen (copies provided, again, for each student...at least a week before each presentation). These consist of at least a 10-15 minute oral report by each student, as well as 10-15 minutes of questions from other students and faculty.

The Department Head is the Instructor of Record for Phil. 4991, collects faculty and student articles and makes them available to other participants, and attends *each* class. Other faculty members attend *at least* their own presentation session, and frequently others as well. Graduate students also frequently attend several sessions.

So, each faculty member can assess the quality of the group discussion for at least one session, and most attend many others, if not every session. The Department Head attends all sessions, and, can assess the overall level of discussion, as well as each student's oral presentation. In consultation with other faculty who attended multiple sessions, he/she will provide a qualitative assessment each year. {cf. below, **Analysis Section**} Faculty members may also comment on the overall quality of the discussions and presentations, and students, of course, submit written evaluations of the course.

The latter have been consistently positive, and have improved even more since parts of the course were modified due to previous comments. For example, at least one class Session is now set aside for round-table discussions between students and faculty concerning applying to graduate schools, etc. Besides having recently revised the undergraduate curriculum to better match other B.A. Programs across the country (based on suggestions made by our last External Reviewers, 1997), feedback from the 4991 course provides one of our most useful barometers for how the undergraduate program is working (for majors and double majors).

Analysis: (a) *Assessment of Oral Communication in Phil 4991...* There were 11 students enrolled in 4991 during the Spring, 2003 semester. All were juniors or seniors, and about 4 were scheduled to graduate during SP, 2003. Discussions were lively, both during the faculty presentations and during the subsequent student reports. The level of discussion varied from student to student,...some were *very* articulate and conversant with the history of philosophy as well as some of the themes covered, others had a harder time expressing their views. I would rank overall oral performance as about Average, better than some of the earlier, weaker groups (numbers and quality were down in the beginning), but *not* as good as the two preceding groups [The 2002 group was *exceptionally* good, and graduates from that group (graduating in 2002, and 2003) have gone on to law schools, and to Ph.D. programs at Kansas, Emory, OU, and Duke Divinity school.]

(b) *Assessment of Student Questionnaires...* [summary of results immediately follows on next 3 pp]

Overall, the responses were obviously positive, I think we need to slightly revise the questionnaire, to better reflect the new assessment guidelines we had approved last year. We need more, and more specific, questions concerning communication skills, critical reasoning, etc., so that responses on the questionnaire's are more easily compared to our (now) explicit goals. On the present forms these are covered very briefly in items 6 and 7 of Section III, and were both rated fairly highly. I think we can replace some of the 'general' questions about the program with more of these, *and* include sections on both in Section III (the 'open-ended' questions). We will want to maintain the general 'What were 'best' and worst' aspects of program' questions, in order to catch any strengths or weaknesses that we haven't thought to explicitly include. Overall, however, many of the questions could be more 'outcomes' specific, without changing the entire format of this particular assessment tool. I will work on that before we distribute the questionnaires next year.

This, with some other possibilities discussed below, may help us elicit more *specific* goal-oriented information from each year's assessment.

Results of Student Questionnaires Follow
... (full report available upon request)...

Overall Analysis: This is the first year we have organized our assessment activities round our recently approved Outcomes Assessment Document. We still need to learn to better coordinate the various parts of assessment, in order to be able to meaningfully draw conclusions, compare data across different years, or use the data to indicate what parts of the program to strengthen, etc.

Currently, the informal data from the 4991 Capstone course, and our revamping of our undergraduate requirements are our best indications that the department is successfully moving towards accomplishing the listed goals. Both of these changes were responses to suggestions made by our last external review team, in 1997. Over the following 5 years, we have implemented most of what has been suggested (most of the suggestions not yet in place involved garnering greater resources). The changes make our BA Program much more competitive with other Programs across the country. The Department feels that these were moves in the right direction, and preliminary results (students placed in law schools, graduate schools, faculty assessments of quality of class writings, etc.) are encouraging. Research is also up *by* the faculty, with unprecedented levels of papers accepted for publication and presentation over the last 4 years. In fact, we have won the A&S Outstanding Junior Faculty Award the last two years in a row! We have also won two Regents Distinguished Teaching Awards and One Phoenix Graduate Teaching Award during the last two years. There are *many* indications that the department is becoming more active and more dynamic. Now, how do we model and assess what is otherwise rather obvious to everyone?

All of this is consistent w/ the specific goals listed in our outcomes assessment plan. [REDACTED] and I met several times to hash out the needs of this specific department, and to determine how we might translate our goals and activities into some sort of assessment model. Previous department heads didn't need to address this issue, so it is pretty much unprecedented. The goals try to reflect the fact that our Undergraduate Program has obvious goals for majors, etc., BUT...that most of our undergraduate teaching is for Gen Ed. So, writing and critical thinking skills loom large across *both* of these missions, and are heavily reflected in our assessment goals. This isn't *enough* for us to determine how we're doing, but it is *consistent* with doing so (and better reflects our Gen Ed mission than merely emphasizing how we compare in terms of training professional philosophers). Now we must learn to tie all of this together into something meaningful.

Continuing using data from the capstone course seems to be relevant here. Revising the exit questionnaires to more directly reflect specific goals such as critical thinking skills and writing skills will also help. Having now worked on University portfolios of writing samples, I am also wondering whether the Department might not be able to include something similar, on a smaller scale, in our assessment tools. Done properly, it might allow us to directly assess writing skills, and compare 1000 – 4000 level courses, majors/non-majors, etc.,...so we might actually have a rough *measure* of whether or not such skills have *improved* by students being involved in our program. We *might*, though this is rather different, *also* be able to get some sense of the *philosophical* merit of the writing samples, which might be *very* useful for us in determining required courses, etc. as time goes on. I plan to discuss this w/ [REDACTED], and see if something along these lines would be workable. If so, we will include some such data in next year's assessment.

We should also try to have another External Review before long (by 2005-2006, anyway), but will need some funding in order to do this.

By combining these changes, I think we very well might be able to better compare outcome goals and outcome results in a meaningful way, for cross-year comparisons, *and* to be better able to determine where we might need to strengthen our efforts.

Overall,...we're *beginning* to feel our way towards better assessment reports, as we've begun to better understand what is *possible* in this regard for a small, increasingly professionally active, but traditionally very heavily teaching-oriented department (where MOST of our student are *not* major and minors).

I confess this is the *first* time I've been able to think about the whole process as anything more than another administrative hoop that needs to be jumped through as painlessly as possible. I suppose that's an important first step!

Department of Physics

Prepared by J. W. Mintmire

Degree Programs Assessed	Assessment Methods	Number of Individuals Assessed
B.S. (Physics)	Exit Interview Reports Student Course Evaluations Alumni Survey (informal)	2
M.S. (Physics)	Exit Interview Reports Student Course Evaluations Alumni Survey (informal)	3
Ph.D. (Physics)	Exit Interview Reports Student Course Evaluations Alumni Survey (informal)	1

Analysis and Findings:

We received voluntary exit interview reports from two of the five B.S. students who graduated over the review period. The reports indicated that the students agreed that they had received adequate preparation to find employment in physics or to enter an acceptable graduate program. The students also indicated that the courses in Physics met their academic needs, but suggested the Physics Department do a better job in outreach to undergraduate students. One particularly detailed exit interview discussed the need for additional courses in Physics for the undergraduate majors. Course evaluations by graduating seniors overall indicated a positive class experience.

Four graduate students returned exit interview reports. All of the exit interviews for graduate students indicated that they had received adequate preparation for their degree, and in general the department had met their needs and satisfied their intellectual curiosities. One student indicated concerns with excessive focus on theory compared to application in the graduate level course work.

Our exit interviews and informal surveys also indicate that all of our graduates are finding appropriate job or continuing graduate education opportunities available to them.

Uses of Assessment Results:

We have several actions planned based on our outcomes assessment process as well as on other assessments of Department needs made over the past year.

- Over the past year the Physics Department Curriculum Committee began a review of the organization and offering schedule of our complete graduate and undergraduate curriculum. We also began work on developing a Department recommendation for the form of the syllabi and course contents for our introductory Physics service courses, a process done in conjunction with CEAT efforts for ABET recertification.
- Given the relatively small number of Physics undergraduate majors, we are expanding our current exit interview to an annual written survey of undergraduate progress and evaluation of the undergraduate program beginning with the 2003-04 academic year.
- Assessment results by the Physics Department and CEAT have led to a realignment of how the Department will teach PHYS 3313 (Modern Physics for Engineers), a service course offered by the Department of Physics for several undergraduate major programs in CEAT.
- The Department also plans to review our assessment plan and submit an updated assessment plan to the University over the next year. This review will be made in conjunction with the Department's overall strategic planning process underway.

Department of Political Science

Prepared by Vincent Burke

Degree Program(s) Assessed	Assessment Methods	Number Assessed
<i>Bachelor Arts and Sciences</i>	Exit Survey	35
	Student Interviews	20
	Law School Admission Test	15
	Graduate Record Exam	9
	Internship Evaluations	6

Analysis and Findings:**Exit Interview**

Each year we make an effort to allow each of our graduating students to express their opinions, observations and experiences as undergraduates in the Political Science Department. During the Fall of 2002, Spring and Summer of 2003 we had a total of 72 graduates, 35 of whom responded to our exit survey.

The portion of the survey most relevant to our assessment objectives were a series of questions regarding abilities and skills that would be important in students plans after graduation, the impact that the Department of Political Science played in the development of those skills, and the level of satisfaction the student had with the contribution of the Department in the development of those skills. The table below is a summation of their responses. Clearly our greatest weakness at present lies in the development of skills in the quantitative area; in terms of ensuring that students understand the relevance of these skills and in our course offerings. Our students recognize the importance of their communication skills in their future, but feel we are only offering moderate impact to the development of their writing skills, and only a small impact to their oral abilities.

In response to other questions a majority of students 51% indicated that they felt as though they were a part of the Political Science Department; 67% identified their OSU Political Science experience to be positive; and 70% indicated that if they had their choice to make over, they would still choose Political Science as their major.

Table 1. How important is this skill to your future plans; how much impact did the Political Science Department have on the development of that skill; and how satisfied were you with the departments impact on your development of that skill.

Ability / Skill	Importance In Future	Department Impact	Satisfaction with impact
Writing Effectively	90%	Moderate	Mostly
Speaking Effectively	86%	Small	Somewhat
Critically analyzing written information	53%	Moderate	Somewhat
Defining and solving problems	72%	Moderate	Mostly
Working and/or learning independently	43%	Moderate	Somewhat
Working in a group	53%	Moderate	Mostly
Understanding and applying scientific methods and principles	16%	Small	Somewhat
Understanding and applying quantitative methods and principles	16%	Small	Somewhat
Working effectively with technology, especially computers	30%	Small	Little
Locating information needed to help make decisions or solve problems	23%	Moderate	Somewhat
Using the knowledge, ideas, or perspectives gained from your major field	50%	Strong	Mostly
Using management /leadership capabilities	60%	Moderate	Mostly

Student Interviews

Student interviews were completed during Fall 2002. They indicated that students were mostly pleased with the upper-division courses that they were taking. The most common positive from students was that they found the subject matter of the course highly relevant and the instructors very interesting. One of the more surprising results of the evaluations was the number of students indicating a preference for more opportunities for sustained writing. In other words, they would like to have seen more writing projects with continuing critiques instead of one long term paper. This coincides with our exit survey responses regarding the departmental impact on the development of their writing skills. In addition, 35% would like to see more class presentations. This also is consistent with our exit survey results concerning the development of oral communication skills. Twenty percent indicated that they thought the workload excessive for a three-credit course. One of the continuing trends in our assessment was the enthusiasm for the Applied Politics Program. The Applied Politics Area is a more hands-on experience for our students who are interested in either running for political office someday, or looking for employment in the political arena as campaign managers or staff. Students were also very pleased with the Public Law component of our program. This is consistent with previous findings and also consistent with our last Alumni Survey, which indicated that students thought that their experiences in Public Law were a large part of their success in law school.

Law School Admission Test (LSAT)

Of the 15 Political Science majors who were verified as having taken the LSAT test, their average score was 148. The national average is 151. The scores ranged from a low of 130 to a high of 170. While most of our students are attending law school in the state of Oklahoma, one student will be attending Howard University Law School and another will be attending University of North Carolina.

Graduate Record Exam

A total of nine students took the Graduate record exam with a low score of 980 and a high of 1325, with most students achieving their highest scores on the verbal component and their low scores on the quantitative area.

Internship Evaluations:

All students who seek academic credit for an internship, must gain departmental approval prior to their enrolling in POLS 3100: Political Science Internship. After completing their internship, their on-site internship supervisor, files an evaluation of the student with the department. These internships range from the County District Attorney's Office to national and state legislators. While the tenor of most of these evaluations are highly complimentary towards the intern, four of the six returned discussed the need of the student to work on their writing ability and skills and three of six indicated a need for student gain a basic understanding of statistics.

Uses of Assessment Results:

Our findings this academic year are consistent with findings from previous years in respect to our impact on the development of student's communication skills both oral and written. In response, several of our faculty members have worked to limit their enrollment in upper-division courses in order to offer a more intense writing criteria and the ability to allow more in class presentations.

In regards to our further need to help students develop their analytical and quantitative skills, the department has put into our regular course offerings POLS 4003, Political Analysis. This course has in the past been offered on an infrequent and ad hoc schedule. This course is designed to teach students "logic and techniques of modern political analysis, including the logic of political analysis, the collection and analysis of political information, and data processing and computer applications to the study of politics." While this course has not yet had a large enrollment, we have seen the numbers move in a positive fashion. In addition one of our faculty members also teaches STAT 2053: Elementary Statistics for the Social Sciences, a course we currently encourage our students to take in order to meet either College of Arts and Sciences or University General Education requirements.

Our current growth in majors makes this a delicate problem to resolve, in that we must offer a full opportunity for students to complete their academic program, while acknowledging the need for smaller sections to answer these deficiencies. In addition, two-thirds of our faculty members will teach at least one section of American Government each semester. The average American Government section is 90 students. At present we are trying to reduce that number by preparing graduate students to teach. Our Graduate Teaching Mentor program would allow us relieve a substantial number of our faculty from having to teach American Government each semester, thereby allowing us to offer multiple sections of classes with a larger demand, or to offer additional upper-division courses.

These finding have also lead to the idea of revamping our current degree sheet to require these courses. Ironically, STAT 2013 or STAT 2023, POLS 4003 (or another methods course) and ENGL 3323 or SPCH 3733 were all at one time requirements on the degree sheet. By placing these courses back as requirements we would reintroduce rigor into those areas which students themselves have identified as being deficient, standardized test scores, LSAT and GRE area scores, also show needed improvement, and professionals in the field, internship supervisors, have identified in over half of our participating students as needing further development. These and other considerations are at present under discussion. Any additional program changes implemented will be identified on the next Assessment Plan. These results will be made available to all faculty members at the earliest fall departmental meeting.

Department of Political Science

Prepared by Patricia Hipsher

Degree Program Assessed	Assessment Method	Number Assessed
Master of Arts	Exit Interview	4
	Comprehensive Exams	10
	Methods Courses	11
	Thesis/Creative Component Defense	4
	Surveys of Students' Committee Chairs	4
	Presentation of Research	0
	Student Evaluations of Courses	0

Outcomes Assessment from previous year:

As the Outcomes Assessment Office was dissatisfied with the Political Science Graduate Program Outcomes Assessment Plan last year, ██████████ indicated that we should not submit an assessment for that year. Instead, she asked that the department concentrate on developing a new Outcomes Assessment Plan to measure the department's performance. We complied with her request and spent the summer of 2002 developing an acceptable Outcomes Assessment Plan.

The methods that the department chose to assess the program include student enrollment in research methods courses, student performance in thesis/creative component defense, surveys of student performance on theses/creative components by committee chairs, performance on comprehensive examinations, presentations of research by graduate students at conferences, exit interviews with graduating students, biennial survey of alumni of graduate program, and student evaluations of courses.

Analysis and Findings:

The Graduate Coordinator interviewed graduating M.A. students in May. Additionally, informal discussions were held with graduate students when they visited the Graduate Coordinator to discuss their Plans of Study, select courses, or address other issues associated with their graduate education. The questions were aimed at gaining a better understanding of what the graduate program currently was doing well, what was problematic, and what the department could do to improve students' graduate educational experiences. The students all indicated that they enjoyed the classes that they took and the faculty. Three areas of weakness that were commented upon and that will receive serious attention in the upcoming assessment period are the lack of structure in the Masters program (too few required courses), causing uncertainty among students regarding which classes they should take, classes frequently being cancelled because of low levels of enrollment, and unclear expectations about comprehensive exams on the part of students.

Students did well at completing their theses and creative components on schedule, and all received high marks from their committee chairs on the quality of the work and their performance during the students' defense of their work. Related to this, our students are reported to do well utilizing what they have learned in their research methods courses to construct solid research plans for their theses and creative components.

An area of some weakness in the graduate program this year has been performance on comprehensive exams. Three students of 10 failed one of their comprehensive exams on the first try. Two have since passed; one more will re-take the failed exam this summer.

Exit Interviews: This year we had four students graduating from the M.A. program in the spring. These four students constitute the sample population. The exit interview was designed to assess student perceptions in several areas: their departmental experiences, what classes were the most useful, what they liked most about the program, what they liked least about the program, and what could be done to improve the student's graduate educational experiences.

When asked what classes were most helpful, most students admitted that they found classes in research methods to be very useful. Among students in Public Administration and Public Policy, classes that emphasized practical hands-on experience were favored. Among students in Comparative and International Relations, the Seminar in International Political Economy, and the Graduate Seminar in International Relations were favored.

With regard to aspects of the program that need improvement or were not liked by students, two dominated. One was in regard to course offerings. Students complained that courses were cancelled on too frequent a basis because of low enrollment, and asked that the department do something about this problem. Another issue was regarding comprehensive exams. Some students commented that they were uncertain as to what the professors were expecting from students on the exams, that they were not certain what material they needed to be familiar with, and that the material covered was too broad.

Comprehensive Exams: In the fall 2002, four students each took one comprehensive exam, for a total of four comprehensive exams taken. Of these four exams, two were passed and two were failed. In the spring 2003, four students took a total of six comprehensive exams, with two students taking two exams each, and two students taking one exam each. Of these six exams, five were passed and one was failed. Overall, the program had a 70% rate of passage of comprehensive exams.

The two students who failed a comprehensive exam in the fall 2002 passed the exam when they retook it in the spring 2003. The student who failed a comprehensive exam in the spring 2003 is scheduled to retake the exam in the summer 2003.

Methods Courses: All students in the M.A. program are required to complete two courses in research methods, of which one must be in POLS 5013, Quantitative Methods. The purpose of this requirement is to introduce students to research methodology; so that they will be prepared to develop a research design for their theses and creative components and for future research endeavors. Six students enrolled in and completed POLS 5013; five students enrolled in and completed other research methods courses. Two students completed REMS 5013, Research Design and Methodology, and three students completed SOC 5273, Qualitative Research Methods.

Thesis/Creative Component Defense and Surveys: All four of the graduating M.A. students chose to do a creative component. All four successfully defended their creative components and earned an "A" for their projects. The surveys of the students' committee chairs indicate that all committee chairs were highly satisfied with their experiences working with the students and with the quality of work produced. Committee chairs referred to their students as hard working and self-directed; one committee chair indicated that the student had "worked hard to produce a well-polished, articulate final document."

Presentation of Research: None of the department's M.A. students presented research at professional conferences.

Evaluations of Courses: Due to serious budget constraints the department was not able to do student evaluations of courses and instructors.

Uses of Assessment Results:

The assessment results as well as the department's own learning experiences this past year or so are being used in three principal ways: First, to make reforms in the comprehensive exam policies and procedures, and to clarify department expectations of students on comprehensive examinations; Second, to provide more comprehensive information to incoming graduate students regarding the program's policies and procedures; Third, to make broad reforms in the M.A. program, with the goals being a broader range of graduate course offerings, higher levels of enrollment in graduate courses, a more focused and structured program, and a program that works with the department's existing strengths and resources. Copies of the Assessment Results will be made available to all faculty members at the earliest fall faculty meeting.

1. To address uncertainty and confusion among students and faculty members concerning the policies and procedures applicable to comprehensive examinations, the Graduate Faculty Committee has written two reforms to the Comprehensive Examination Policies and Procedures. The Committee will recommend that the department adopt the reforms, and the department will take action on the proposed reforms at the earliest fall faculty meeting. The Committee also has met to provide its interpretation of certain parts of existing Policies and Procedures to clarify the meaning of the Policies and Procedures for future students.
2. To provide incoming students with more explicit information concerning the Political Science M.A. program, the Graduate Coordinator has written a comprehensive document providing information to incoming graduate students. The document details the requirements of the program, including graduation requirements, expectations of faculty members with regards to comprehensive exams and which courses students should take to be adequately prepared for comprehensive exams, and program policies and procedures.
3. Members of the Graduate Committee have met three times and have communicated by email multiple times to engage in a thorough discussion of the direction of the graduate program. We discussed such issues as: What should our direction be in the M.A. program? What are ways to maximize our strengths, particularly given the size of the department and its resources, and its current weaknesses?

On the basis of these discussions and a November 2002 report to the faculty, the Graduate Committee was directed to develop a reform of the graduate program that was more structured than the existing program and that built upon the existing resources and strengths of the department in International Relations, Comparative Politics, Public Administration, and Public Policy. The Graduate Committee has developed this reform and will present it to the department in early-fall 2003 for full discussion and a vote by the department. If approved, this reformed program will likely be put in place in the fall of 2005.

4. As one of the department's objectives is to prepare students to disseminate research findings to appropriate audiences and none of our M.A. students did so this past year, the department must find ways of encouraging student research presentation. One suggestion offered by a graduating M.A. student was to have a faculty/graduate student research colloquium. This is something that has been tried in the past with minimal success, but should be tried again.

Department of Psychology

Prepared by Susan Weir

Degree Programs Assessed	Assessment Methods	Number of Individuals Assessed
B.A., Psychology B.S., Psychology	<ol style="list-style-type: none"> 1. Web-based survey completed by undergraduate students graduating in May, August, or December 2003 2. Telephone survey (coordinated by OUA) of students who graduated in 1996 and 2000 	<ol style="list-style-type: none"> 1. 64 (52%) 2. 68 (29%)

Analysis and Findings:*Summary*

In April 2003, the Department of Psychology utilized a web-based student survey to assess the following:

1. Student satisfaction with the curriculum in the department
2. Student satisfaction with academic advising in the department
3. Student use and satisfaction with information posted to the departmental web site
4. Student satisfaction with Psychology Club activities
5. Learning outcomes in seven key areas relevant to the discipline of psychology
6. Students' plans for graduate education and current admission status
7. Student recommendations for additional programs and services in the department

In 2002, the Office of University Assessment conducted a telephone survey of students who graduated from the Department of Psychology in 1996 or 2000. This survey included questions regarding employment status, continued education, usefulness of psychology course work, helpfulness of Psychology Club activities, suggestions for program improvements, and overall satisfaction with OSU.

Survey results suggest that the Department of Psychology is achieving its primary objectives regarding student satisfaction with the curriculum, programs, and services, as well as learning outcomes. Results are generally consistent with those collected in recent years. A detailed discussion of each assessment goal and the department's attainment of that goal is provided below. Recommendations for program improvement are included.

Discussion

1. Student satisfaction with the curriculum

Both current students and alumni were asked to select the courses that were most useful to them. Courses rated as most useful included Abnormal Psychology, Developmental Psychology, Quantitative Methods, Experimental Psychology, Psychology of Memory, Conflict Resolution, Personality and Special Problems. Students were given the opportunity to explain, in an open-ended response format, why they deemed specific courses to be useful to them. The open-ended responses indicated that students understand and appreciate the purpose and value of required course work. Current students indicated that their course work has assisted them in preparation for future course work, graduate study in psychology or related fields, and prospective future careers. Alumni cited a wide variety of courses as useful to them in their current professional position or graduate program.

2. Student satisfaction with academic advising

The departmental academic advisor helps undergraduates learn and understand degree requirements; assists them with academic and career planning; facilitates the resolution of personal or academic difficulties; and assists them in planning for graduate study. When asked to rate the quality of academic advising in the department, 73% of current students rated the advising they received as excellent, and about 18% rated the advising they received as above average. Ninety-two percent of the respondents stated that the advising they received met their expectations. When asked to comment on the quality of advising received, the open-ended responses provided by current students were generally very positive. Some of the alumni expressed a slightly lower level of satisfaction with advising, but overall satisfaction with advising did improve from 1996 to 2000, and has improved since 2000.

3. Student use and satisfaction with the departmental web site

The Department of Psychology web site offers links to course syllabi, graduate school preparation information, career information, faculty research links, Psychology Club news, advising information, and other items that can be helpful to undergraduate students. Although the web site is not meant to substitute for personal interaction with faculty members or the advisor, current and prospective students can utilize the web site as a convenient and detailed resource for departmental information and related resources. Most of our survey respondents indicated that they visited the departmental web site at least once, and some indicated they visited the web site over 100 times. When asked what type of information was most helpful to them, popular responses were course syllabi (75%), faculty information (65%), Psyc 4990 information (51%), degree requirements (51%), and graduate school preparation information (37%). Web site use was not addressed in the alumni survey.

4. Student satisfaction with Psychology Club activities

Psychology Club is a large undergraduate student organization that sponsors workshops concerning careers and graduate study in psychology, encourages community service and volunteerism, and facilitates interaction among faculty and students. Student participation in Psychology Club events promotes the mission of the department by facilitating learning, mentoring, leadership opportunities, and career exploration. Events that current students found most helpful were graduate school workshops (50%), careers workshops (35%), GRE preparation workshop (44%), and community service activities (27%). Alumni response patterns to items concerning satisfaction with psychology club activities were very similar to those of current students. Suggestions for activities not currently offered included more career workshops, more guest speakers, an ongoing film series, and a study pool.

5. Learning outcomes

The department identified seven learning outcomes relevant to the discipline of psychology. Students were asked to rate their skills in each of the following areas: 1) evaluating existing research; 2) designing original research; 3) using APA style; 4) interpreting statistics; 5) understanding individual differences; 6) understanding ethical principles; and 7) writing effectively. The same items appeared on our 2001 student survey, and the current pattern of responses is similar to those of two years ago. The majority of students (at least 78%) stated that they perform adequately or better in six of the seven skill areas. However, only 57% of students stated that they perform adequately or better in the design of original research, in comparison with 96% two years ago. This outcome was unexpected given the fact that no degree requirement changes or curricular changes have occurred in the past two years. Learning outcomes were not addressed in the alumni survey.

6. Students' plans for graduate study and admission status

Preparing interested students for graduate study in psychology and related disciplines is an important goal of the department. Fifty-five of our 64 respondents indicated that they intend to pursue graduate study, and the majority of those had applied to multiple programs for the upcoming academic year. Ten of those students had already accepted offers of admission. Twelve had not yet heard back regarding the status of their applications at the time the survey was completed, and 33 students had not yet submitted applications.

Of the alumni who graduated from OSU in 1996, approximately 43% had completed a graduate or professional degree program at the time the survey was conducted, 11% were currently enrolled, and 46% had not pursued graduate study. Of the year 2000 graduates, 6% had completed a graduate or professional degree program, 49% were currently enrolled, and 45% had not pursued graduate study. These data suggest a respectable rate of advanced degree pursuit and completion that is consistent with departmental goals.

7. Students' recommendations for additional programs and services

Students recommended several additions to our program such as internships for credit, industrial/organizational psychology courses, and more career and graduate school preparation workshops. These suggestions will be addressed under Program Improvements.

Uses of Assessment Results

The results of this year's assessment activity did not warrant any immediate changes to the existing curriculum or services offered. Overall, the survey results suggest that the department is meeting its objectives for the undergraduate program. However, student comments did suggest certain areas that could be improved, and those improvements will be carried out as departmental resources allow.

Program Improvements

The Department of Psychology utilizes several methods for outcomes assessment. The student satisfaction survey (indirect measure) and an analysis of GRE Psychology Subject Test scores (direct measure) are conducted in alternating years. Additionally, the Office of University Assessment conducts periodic alumni surveys and shares those results with the department. The department examines results of all of these assessments and strives to incorporate those results into ongoing program improvements, when feasible.

1. Student satisfaction with the curriculum

Current and former students are generally satisfied with the curriculum and believe the courses taken meet their expectations and prepare them to pursue their future goals. No changes are warranted at this time.

2. Student satisfaction with academic advising

Alumni survey results indicated that 63% of students who graduated in 1996 were somewhat satisfied or very satisfied with the advising they received. For students graduating in 2000, that figure rose to 88%. The survey of current students in 2003 indicated that 91% felt the advising they received was above average or excellent. In 2001, open-ended responses suggested a need for improved advising services for transfer students. Since then improvements have been made in this area, and this year, no comments indicating dissatisfaction among transfer students were present. An examination of this year's open-ended responses revealed a pattern of very positive comments and extremely few, unrelated complaints. Thus, no changes in the delivery of advising services is warranted at this time.

3. Student use and satisfaction with the departmental web site

In 2001, survey results suggested room for improvement regarding student utilization of the department's web-based resources. Student use of the departmental web site has increased since the 2001 survey and is satisfactory. No changes are warranted at this time.

4. Student satisfaction with Psychology Club activities

Survey results suggest that students utilize Psychology Club opportunities and find most of them useful. The Club will consider the suggestions included in this year's survey as they plan activities for the coming year.

5. Learning outcomes

As in 2001, this year's survey assessed student perceptions of their performance in seven skill areas relevant to the field of psychology. Results were positive and consistent with the 2001 results in six of the seven areas. However, in the area concerning the ability to design original research, the number of students who felt that they perform adequately or better in this area declined. This outcome is unexpected given that no degree requirement changes or curricular changes have been made over the past two years. The numbers of students electing to complete a senior thesis (both honors and non-honors) has remained consistent as well. The department will pay particular attention to this item in future surveys and take appropriate action should a significant trend become apparent.

6. Student plans for graduate study and admission status

The results in this area are consistent with previous years and are acceptable. No changes are warranted at this time.

7. Student recommendations for additional programs and services

Some student recommendations are consistent with previous years. Internships for credit remain a common request, however, given limited resources, as well as legal and ethical concerns regarding appropriate supervision, such internships are not likely to be feasible. Requests for more graduate school preparation and career workshops were also common, and this can be carried out by the Psychology Club beginning in the 2003-04 school year.

Department of Sociology

Prepared by *Christina Myers and Dahlia G Molloy*

Degree Program(s) Assessed	Assessment Methods	Number of Individuals Assessed
Undergraduate	<i>Exit Interviews</i> <i>Student Self-assessment of Sociological Skills and Knowledge Survey</i>	5 27
Masters PhD	<i>Comprehensive exam</i> <i>Preliminary exam</i> <i>Completion of PhD Dissertation</i> <i>Completion of Masters Thesis</i>	4 7 3 4

Analysis and Findings:*Exit Interviews:*

The exit interview was designed to assess student satisfaction and provide an indicator of where the department could work to improve student experience. Students consistently name helpful and caring staff and instructors as the department's greatest strength. Instructors are characterized as having great interest in student success. The department's greatest weakness is considered to be the timing and variety of courses available. Students often have a difficult time scheduling courses needed for graduation, however this often is related to late declaration of major and trying to fit required courses for the major into a very short time-frame. When asked what the department could do to improve their experience as a sociology major, students indicated that they would appreciate more information on jobs available to sociology majors. They suggest either more emphasis on this in the courses or the development of a course that focuses on this.

Student self-assessment of sociologically important skills and knowledge:

This instrument was developed and piloted this year in order to assess student perception of their abilities in core skills and knowledge essential to a sociology major. This skills and knowledge include general education objectives as well as objectives related to the major. The instrument can be refined and later used as a basis for designing direct assessment measures that can then be compared to student self-assessment. That information can then be used to help the department and its instructors clarify expectations of students and develop teaching methods that facilitate learning.

The instrument was administered in several classes and results and discussion of senior students' responses follow:

Mean scores of both skills- and knowledge-based items were in the average to strong range (see Appendix for items and means). Students reported slightly higher competencies in skills as compared to knowledge and intellectual abilities.

This instrument also included open-ended questions regarding student satisfaction-related issues. Once again, student respondents relate the biggest strength of the department is in its caring and knowledgeable staff and instructors. Its greatest weakness is in lack of variety of classes and perceived shortcomings in scheduling. Students also suggest that courses be more focused for majors rather than Gen Ed-based and repetitive, and request more emphasis be given to jobs available for students with a bachelors degree in sociology. Student naming of most valuable courses shows an important change from previous years when this same question was part of the exit interview. Nearly 41% of the senior students responding named Social Research Methods as the most valuable class they have taken as a Sociology major, whereas previously it had been one of the least favored classes. This change reflects a move toward making the course more hands-on and application/evaluation based. Students are able to see how research is done and how results impact their lives.

Preliminary and Comprehensive Exams:

Nine of the eleven students attempting exams successfully completed preliminary and comprehensive exams during the past year. This is a strong indicator that sociology graduate students receive the academic background in theory, methods and specialty areas necessary for their success as scholars in the field.

Completion of Dissertations and Theses:

7 students successfully defended their dissertations and theses during the past year. Successful defense is an indicator that students graduating with advanced degrees in sociology are able to perform independent research required of professionals in the field.

Other Assessment-Related Activities

Assessment practices of comparable sociology programs, including schools of the Big Twelve was undertaken this year. Best practices of sociology assessment techniques as suggested by the American Sociological Association were also reviewed. This information will be used to suggest updates to the department's educational objectives and the assessment activities used to measure them.

Uses of Assessment Results:

Special attention is being taken to insure that required courses are not offered at the same times. All required courses are offered every semester. In addition, the limit of 6 hours of Sociology 4990 special courses has been eliminated, thus allowing students to take as many of the special courses offered under this number. In addition, information regarding the A&S Career Services office is being provided to students. Plans are also under way to have short information sessions relating to careers available to Sociology majors.

Department of Statistics

Prepared by Brenda Masters

The following table shows the assessment methods used and numbers of individuals assessed for the degree programs offered by the Department of Statistics.

Degree Program(s) Assessed	Assessment Methods Used	Numbers of Individuals Assessed
Ph.D.	Comprehensive exams Oral exams	3
MS	Comprehensive exams Oral exams	6
BS	Interviews	25
Mid-Level	Data Analysis	>10,000

Analysis and Findings from program outcomes assessment:

The comprehensive written exam taken by all graduate students measures the four essential areas covered by the graduate programs in Statistics. The areas are probability, inference, models and design of experiments. Each of the four parts of the exam covers three or four program outcomes in each area. The questions are formed with a specific program outcome in mind. In addition to the written exams each completing student participates in an oral exam. Although the beginning portion of the oral exam concentrates on the student's area of research, the final portion of the exam emphasizes the program outcomes.

Part of the recent assessment effort in the Statistics Department has been to assess the assessment process. In an effort to construct a program outcome based assessment plan the statistics faculty have clarified the learner outcomes for both the undergraduate and the graduate degree programs. They identified specific courses that provide the learning opportunities for students to fulfill the stated learner outcomes.

For the second year the Department of Statistics has conducted casual interviews with undergraduates about their academic desires and objectives. Information about students' degree plans and goals was gathered from current statistics majors, prospective statistics majors and prospective statistics minors. The need for a general analytic minor, which does not depend on mathematics beyond the first calculus course and provides a substantial foundation for decision making in various fields has become obvious through the student conversations. Many majors across the University exist in which students take a beginning calculus course, but do not take more mathematics beyond that. Often though, these students need more full understanding of analytic decision-making processes than one or two statistics courses provide. Courses from the Statistics Department in addition to courses from across campus related to analytic decision making but that did not depend on mathematics beyond calculus one were identified. Course content was studied to determine if the course could make a significant contribution to a general analytic minor to accompany various majors.

Mid-level assessment continued in the Statistics Department with a further investigation of the relationship between the grade in STAT 2023 and the grade in college algebra, which is the prerequisite for the statistics course. A very large data set has been constructed in previous years with assessment funds that contains data for more than 10,000 students including their final letter grade in STAT 2023 and their past performance in freshman level mathematics courses. The question that was investigated recently focused on whether the effect on the STAT 2023 letter grade was different based on whether the college algebra grade was a transfer grade or one achieved at OSU. For example, if a student made an "A" in college algebra is the student more likely to make an "A" in STAT 2023 if the initial "A" was made at OSU, rather than being a transfer grade? In summary, the findings in the study indicate no significant difference in the effect on the grade in STAT 2023 from the two conditions, transfer versus native grade, for the letter grades of A, B, and C. That is, the probability of the various letter grades in STAT 2023 are not significantly different for the two groups of students, those who transfer a "C" in college algebra to OSU and those who make a "C" in college algebra at OSU. No difference was observed for those letter grade categories whether the transfer grade was from in state or out of state.

In the situation where the student has a “D” as the highest grade in the attempts at the college algebra there is a significant difference in whether the grade was a transfer or native grade on the resulting letter grade in STAT 2023. For the group of students who make a “D” in college algebra at OSU the probability of being in the “DFW” category in STAT 2023 is 65%. For the group of students who transfer a “D” in college algebra to OSU then take STAT 2023, there is about a 75% chance that they will be in the “DFW” category in STAT 2023. That a significant difference exists between the “DFW” rates in STAT 2023 for the two groups does not seem to be as important as the fact that the “DFW” rates for both groups were so high.

Instructional changes that have occurred or are planned as a result of outcomes assessment:

The departmental assessment plan has been rewritten based on a foundation of program outcomes. The plan states the learner outcomes for the degree plans. The courses that provide the opportunities for students to achieve the specific outcomes are identified. Assessment techniques that will be used to measure the level at which students achieve the learner outcomes are stated in the assessment plan. Through the departmental assessment process this plan should be refined and promoted in the department as a general guide for evaluating student skill level.

As a response to information gathered from assessment of undergraduates the Statistics Department has developed a minor called, “Analytic minor.” This minor will be administered through the Statistics Department, but includes course work that focuses on analytic decision making drawn from a variety of units on campus. The minor is specifically constructed for the student who has a major that uses analytic ability, but does not require mathematics past calculus one. It is a tool for undergraduate students to enhance their utilization of statistics without requiring extensive math preparation. The opportunity to enhance their analytic ability needs to be more widely available to students who do not study advanced mathematics, but will be using statistical processing and techniques in their career. The Department has obtained college approval for this minor and will be distributing information about it to undergraduates by fall 2003.

Mid-level assessment concerning the effect of the grade in college algebra on the grade in STAT 2023 has highlighted a possible instructional change. Students who make a “D” as their highest grade in college algebra have between a 65-75% DFW rate in STAT 2023 depending on whether the college algebra grade is a transfer or native grade. The institution should investigate further the negative effect that a poor grade in the prerequisite has on the resulting letter grade in the following course. The statistics faculty are considering increasing the grade required in the prerequisite for STAT 2023 to a “C” based on this assessment information.

Department of Theatre
Prepared By Bruce Brockman

The following table shows the assessment methods used and numbers of individuals assessed for the degree programs offered by the Department of Theatre.

Degree Program Assessed	Assessment Methods Used	Number of Individuals Assessed
BA Theatre	Semester Performance Juries and Portfolio	48
BFA Theatre	Production Adjudicators	60
MA Theatre	Internship and Grad School Placement	12
	Graduate Student Satisfaction Survey	7
	NAST Re-accreditation	

Analysis and findings:

Performance Juries and Portfolio reviews continue to serve as a cornerstone of our assessment activities. Both acting and design/tech jurors indicate that students continue making good progress. Juries and reviews were also used this year as the basis for admitting our first Bachelor of Fine Arts classes. In the future, BFA students will be required and graded on their participation in the Jury Process.

Four productions were reviewed by outside evaluators. The department began the year by entering its productions in the American College Theatre Festival as had been established in our assessment plan. We have found the quality of the evaluations on the first two productions to be so sub-standard that we have withdrawn further participation in ACTF and are using the assessment funds to bring our own respondents in. During the spring semester individuals from off campus reviewed both productions. Both of the reviewers had significant professional experience and found the quality to be much better. Both reviewers raised excellent points regarding various choices that student and faculty artists made regarding the productions. In general they were very complimentary of the over all quality and the performance work of the students. In turn the students found the critiques to be very helpful.

Internships and Graduate Student Placement rates continue to be good. Although summer placement was not quite as high we would like, due in part to the inability of students to get to unified auditions. All of our design tech students who choose to are gaining employment during the summer. Our first MA Thesis student has been admitted into the PhD program at the University of Minnesota Department of theatre. He is one of only three being admitted by UM this year. This student also won a Graduate Research Excellence award.

The Department has successfully secured Re-Accreditation from the National Association of Schools of Theatre. Both the MA and the BA have received five year accreditation and we have also been given plan approval by NAST for the Bachelor of Fine Arts Degree. Once we have had two students complete the program, we will be able to submit the degree for full accreditation. The accreditation visit and completion of our self-study occurred over the school year. The visitor's response document is available on request. Aside from some minor concerns there were no major issues raised. They have requested a follow up report on the impact of the BFA on the department's resources as well as a review of our current mission for the MA, which, they consider too general. (This is a topic of some confusion for us as the MA is a generalist degree.)

Instructional changes that have occurred or are planned as a result of outcomes assessment:

Having gone through substantive recent curriculum revisions, we are not planning any further modifications to the program until we have had ample time to assess the merits of our newly changed curriculum. We will initiate a review of our MA mission as requested by NAST. As we begin to implement the BFA degree, I am sure we will identify areas that need revision or adjustment, however, at this time, we don't anticipate any major changes nor have recent assessment activities indicated that any are required.

Zoology Department
Prepared by Margaret S. Ewing

The following table shows the assessment methods used and numbers of individuals assessed for the degree programs in the Zoology Department.

Degree Program Assessed	Assessment Methods	Number of Individuals Assessed
B.S. Biological Science, Physiology, Wildlife & Fisheries Ecology Zoology	1) Depth of seniors' understanding in key courses – survey	1) 7 faculty responding with respect to 368 student course performances
	2) Performance of seniors in key courses	2) Grade distributions for seniors in 7 courses (368 final grades)
	3) Performance of transfer and nontransfer students in key courses	3) Grade distributions for transfer and nontransfer juniors and seniors in 7 courses (508 final grades)
	4) Retention of declared majors	4) 209 students
	5) Exit interviews	5) 14 graduating seniors interviewed
M.S. and Ph.D Wildlife & Fisheries Ecology, Zoology	6) Performance in qualifying and final examinations	6) 11 faculty responding with respect to 28 student performances
	7) Presentations and awards	7) 11 faculty responding with respect to 79 student performances

Analysis and Findings

B.S. Programs: Data collected by assessment methods (Assessment Method 1– faculty survey) and (Assessment Method 2 – Institutional Research data) suggest that Senior Physiology majors appear to have very good to excellent understanding of animal regulatory systems (physiology) at both the organismal and cellular levels and adequate to very good understanding of the conceptual contexts of evolution, ecology and genetics. The faculty perceptions of their levels of understanding approximately match these majors' average grades in physiology and related courses. Faculty indicate that Senior Wildlife & Fisheries Ecology majors have adequate understanding of ecological concepts and wildlife management concepts as well as genetics. Levels of seniors' understanding as faculty perceive them tend to be slightly lower than average grades in courses key to this program. Zoology seniors are judged to have adequate to very good understanding of evolutionary concepts, genetics, and ecology although their ability to apply concepts is perceived as just adequate. Their understanding of regulatory systems (physiology) and cellular concepts is judged adequate to very good. Average grades in courses dealing with specific subsets of these topics are roughly comparable to faculty perceptions of understanding. In three of the seven courses examined, faculty judged students less able to apply conceptual knowledge than to understand it at a more basic level.

For 18 offerings (7 key courses) from Fall 2000 - Spring 2003 performance comparisons of students who had transferred in 45 or more credit hours (transfer students) and those who had transferred in 44 or fewer credit hours (nontransfer students) were made (Assessment Method 3 - Institutional Research data). Grade distributions among juniors and seniors in these two groups provided data for 20 comparisons in course offerings in which both transfer and nontransfer students were present and in which students were identified as Physiology, Wildlife & Fisheries Ecology, or Zoology majors. In 6 of these comparisons transfer students earned higher grade point means than did nontransfer students and in 14 comparisons, nontransfer students earned higher grade points than did transfer students. These data substantiate faculty perceptions that nontransfer students often earn higher grades than transfer students. That perception is reported as particularly true of Wildlife & Fisheries Ecology majors, and the comparison of grade distributions of those majors were consistent with the faculty view in the two courses surveyed as key to that major.

Retention of students in the majors (Assessment Method 4 – Institutional Research data) was addressed by examining the cohort of Fall 2000 juniors (≥ 60 hrs. completed) in declared Zoology Dept. majors and determining the proportion who earned bachelor's degrees by Spring 2003.

Program	F 2000 No. of Declared Majors (\geq Jr.)	Completed B.S. in a Departmental Program by Sp. 2003	Completed B.S. Other OSU Program. by Sp. 2003	No Degree by Sp. 2003 includes (2000 majors who are enrolled in F 2003)
Physiology	45	62%	11%	27% (7%)
Wildlife & Fisheries Ecology	61	64%	5%	31% (3%)
Zoology	103	68%	10%	22% (6%)

Of students who declared majors in departmental programs, 74% had completed a B.S. or B.A. three years later, 66% in the departmental majors listed and 3% in other life sciences. Among those who had not yet completed degrees in that period, 26% are still enrolled at OSU. Several Physiology majors without OSU degrees entered professional programs in the health sciences and a number of other departed majors are pursuing educational goals elsewhere. The primary reason offered for departures from the programs appears to be personal concerns. Percentages of students who finished the BS in a Zoology Dept. major are essentially the same as they were 2 years ago and percentages who finished a degree in another major are substantially higher than they were 2 years ago.

Exit interviews of 14 graduating seniors with Dr. Shaw (Assessment Method 5) explored reasons for choice of major at OSU, most and least effective courses, suggestions for improvement, quality of advisement, usefulness of extracurricular activities, and future plans. Reasons for choosing the major ranged from long-standing interest in the area or interest in animals to usefulness in preparing for a health profession. Comments about specific courses ranged widely and provide useful input for course revisions. Students mentioned more courses that they enthusiastically recommended than courses they would recommend avoiding. All but one student would recommend one of the majors offered by the department to a student with similar interests. Most interviewees were pleased with their advisor. Post-graduation plans included health professional schools, graduate programs, and jobs, mostly in areas allied with the students' majors.

Graduate Programs: In a survey, faculty evaluated Wildlife & Fisheries Ecology and Zoology graduate student achievement in terms of performance in qualifying and final examinations (assessment method 4). Faculty participated 14 times in final examinations of M.S. students and 64% were judged very good or excellent performances and 36% as adequate or good. Faculty participated 2 times in Ph.D. qualifying exams, rating performance in 50% as very good or excellent and 50% as adequate or good. Among 9 reports of faculty participation in final doctoral examinations, 100% were judged very good or excellent. Performance on final examinations at both the M.S. and Ph.D. levels was judged substantially better than in 2001.

Faculty also evaluated graduate student achievement in terms of quality of thesis or dissertation research (assessment method 5 -- survey). Among the research presentations, both local and at regional and national scientific meetings, of M.S. students witnessed by faculty members (33 reports), 82% of evaluations were ranked as very good or excellent, 18% as adequate or good. Among faculty assessments of such presentations of Ph.D. students (27 reports), 96% of evaluations were ranked as very good or excellent, and 4% as poor. Most of our graduate students have good skills in oral presentation of their research and faculty found higher percentages of very good or excellent than was true in 2001.

Success in the larger disciplinary arena was judged, in part, by awards presented by professional societies and external grants that students received. One M.S. student won an award for work that was externally judged as did 2 Ph.D. students. Four M.S. students obtained grants for support of their research as did 5 Ph.D. students. External judgement of our graduate students' research programs indicates that some have very good research skills and present their work equally well.

Uses of Assessment

Assessment data and analysis were distributed to the faculty for discussion. In addition to the assessment approaches summarized above, we revisited the results of the Zoology 2002 survey of a subset of the National Survey of Student Engagement (NSSE) items. The results of the OSU 2002 NSSE became available this spring for comparison with the Zoology Dept. data for 2002. For many of these items, students in Zoology majors' mean responses were significantly ($p < 0.001$) lower than means for College of Arts & Sciences students and for OSU students as a group. Perceptions of instruction by students in the Zoology survey indicate that departmental faculty should be emphasizing analysis, synthesis and application skills to a greater degree than we are at present. In light of our degree objectives, we should focus on this aspect of instruction and we are beginning to discuss this need as a faculty. In 2003-2004 we will refine our questionnaire and our approach to administering it as well as reassessing our instructional priorities in the curriculum. We also plan to invite a consultant/speaker to aid us in developing ways to engage students more effectively in learning tasks that are consistent with some of our departmental objectives. Focus is especially needed to facilitate their learning to analyze and apply conceptual knowledge.

College of Business Administration

Prepared by

School of Applied Health and Educational Psychology
Counseling Psychology Ph.D. Program
 Prepared by *Marie L. Miville, Ph.D.*

Degree Program(s) Assessed	Assessment Methods	Number of Individuals Assessed
Counseling Psychology, Ph.D.	- <i>Passing grades of relevant coursework</i>	45
	- <i>Passing grades on qualifying exams</i>	16
	- <i>Satisfactory evaluations in practica and internship</i>	27
	- <i>Annual student evaluations</i>	45
	- <i>Alumni feedback</i>	27
	- <i>Success rates in obtaining internship placements</i>	5
	- <i>Success rates in completing internship placements</i>	8
	- <i>Passing rates on national licensure exam for psychologists</i>	27
	- <i>Accreditation of program by American Psychological Association (APA)</i>	65

Analysis and Findings:

Student grades on coursework: 100% of students had passing grades in relevant coursework.

Student grades on qualifying exams: 92% of students had passing grades in qualifying exams.

Practica and internship satisfaction: 93% of all CPSY students were rated in the average to excellent range by their practicum or internship supervisor at the completion of their practicum or internship, with the large majority of ratings being above average or better.

Annual student evaluations: 92% of all CPSY students received satisfactory to above satisfactory ratings on their annual evaluations.

Success rates in obtaining internship sites: 80% of CPSY students who applied for full-time internship during 2002-2003 were placed, a placement rate that matched the national average. 100% of placements were at professionally accredited sites.

Success rates in completing internship placements: 100% of students completed their internship placement.

Passing rates on national licensure exam for psychologists: In a recent alumni survey, of 27 respondents, 18 had taken the exam, 17 (94%) of whom had passed the national licensing exam.

Alumni feedback: A survey was recently sent to alumni who have graduated from our program since the last site visit. Of the 32 surveys mailed out, we received 27 back, a response rate of 84%. Demographic description of the sample was 17 females/10 males, with 7 Native American/19 Euro American/1 African American. In light of the program's goal to train entry-level professional psychologists who can function in a wide variety of settings (e.g., academic, community agencies, and private practice), respondents were asked the following:

- a. initial and current employment settings of our graduates;
- b. information regarding licensure and results on the licensure exam;
- c. research activities;
- d. membership in professional societies; and
- e. perceptions regarding their level of preparation in the program

Results of the survey are as follows:

- a. Data on the initial and current employment of our graduates indicated that students' initial job placements as well as current placements are quite varied. Graduates of our program in the last seven years indicate they have worked in university counseling centers, academic teaching positions, independent practice, community mental health centers, medical settings, the military, and correctional facilities. These data provide excellent evidence that we are indeed meeting the overall goal of our training program.
- b. Of the 27 respondents, 18 (69%) have taken the national licensing exam, 17 of whom passed (94%). 14 are currently licensed, and 13 are in progress of being licensed. These data provide further evidence that the program is adequately preparing students for professional practice. The program also has sought to improve exam passing rates by incorporating multiple-choice items in many of its courses. It is hoped that passing rates will continue to improve by preparing students for the testing conditions of the EPPP.
- c. The research activities of our graduates were assessed by their number of presentations at professional meetings, number of publications, and current research activity. Of the 27 respondents, 11 (42%) had presented papers/posters at state/regional professional meetings, and 17 (63%) had presented papers/posters at national/international professional meetings. Mean number of presentations at state/regional professional meetings was 3.5, while mean number of presentations at national/international professional meetings was 3.35. Of the 27 respondents, 19 (70%) had published articles, and the average number of articles published was 3.21 (highest number published by an alumni was 11). Eighteen alumni (67%) have been involved in research activities since graduation.
- d. Of the 27 respondents, 25 were members of professional societies. Five alumni (19%) had served as officer or chaired a committee in a professional organization.
- e. Graduates were asked to rate their level of preparation in the program on a Likert scale ranging from very well prepared to very unprepared. Over 90% of program graduates indicated they have been prepared well for internship. Program graduates felt best prepared in the area of individual counseling/psychotherapy and ethical decision-making. Graduates felt least prepared in the area of consultation. This last rating may be a function of formal coursework offered by SAHEP not being offered in a consistent manner, due to SAHEP faculty changes. This issue was recently rectified by an agreement of the Educational/School Psychology area to offer EPSY 6323 Psychological Consultation on a yearly basis. The program also is exploring other ways to better meet this competency area, for example, by adding consultation material to CPSY 6543 Clinical Supervision, beginning Fall 2004.

The results of the alumni survey clearly indicate program graduates are active in both the science and practice of professional psychology. Further, activities of our graduates demonstrate an integration of science and practice in their daily professional lives. Written comments by graduates further add to our belief that our program not only prepares students for the professional challenges of psychology, but provides a collegial atmosphere for positive learning and the development of the person of the professional:

- "My time gaining a PhD at OSU ranks as one of the most valuable experiences of my life...superior and well-rounded instruction and mentoring..."
- "Overall, I have been pleased with the education I received at OSU"
- "Compared to my peers at internship and post-doc, I felt very well prepared in significant areas. Also, faculty is supportive and nurturing...Overall an excellent program" (emphasis original)"
- "The more I talk with others about their experiences in their doctoral programs, the more grateful I am for my very positive experience, especially regarding my faculty's appreciation for multiculturalism"

Accreditation: The Counseling Psychology program continues to be accredited by its professional organization, the American Psychological Association.

Summary Information:

The doctoral program in Counseling Psychology is doing well with respect to the outcome data presented here. Students are being retained in the program and have maintained above average to superior grades. Practicum and internship supervisors consistently gave CPSY students above average to superior ratings. Indeed, CPSY students were successful in obtaining competitive national internship placements. As well, students generally obtained positive annual evaluations from program faculty. Further data regarding the program also was reported, further demonstrating the effectiveness of our training program via current employment, student satisfaction ratings, and licensure rates. Improvements based on alumni feedback centered on consultation experiences. Curriculum changes have been incorporated as a result of this feedback. The Counseling Psychology program has been successful in maintaining appropriate accreditation, an excellent external review of program quality.

Uses of Assessment Results:

Assessment results were used to prepare the annual report to the American Psychological Association. The Counseling Psychology program is being reviewed for re-accreditation by the American Psychological Association in 2003, and assessment information gathered in 2002-2003 was used to facilitate this process. Faculty had the opportunity to review assessment results via the current report as well as the self-study report prepared for APA. Meetings with both faculty and students regarding assessment and re-accreditation issues were held this year, with the result of several changes made to our program requirements (e.g., program requirements for applying to internship, "lock-stepping" coursework for first and second years of the program, and improving assessment and consultation training experiences). Overall, faculty and students felt positively about the program's efforts to achieve its primary goal.

School of Applied Health and Educational Psychology
M.S. Program in Counseling and Student Personnel
Options: School Counseling, Community Counseling

Goals of the Degree Program

The M.S. Program in Counseling and Student Personnel was founded to prepare professional counselors who are knowledgeable in counseling theories and techniques, who can translate counseling theory into effective counseling practice, who are committed to respecting diversity among people, and who ascribe to the highest of ethical standards and practice. The Program incorporates teaching in psychological, pedagogical, and counseling theory, research, and practice into a practitioner-based training program that allows graduates to apply knowledge in these areas to their practice in school and mental health settings in the community. Consistent with the land-grant tradition of Oklahoma State University, the Program is committed to the outreach and training of students from Oklahoma and elsewhere who represent diversity in gender, race, ethnicity, sexual orientation, culture, rural or urban backgrounds, socioeconomic status, religious affiliation, and disability status.

N = approximately 47 students in the program, Tulsa & Stillwater campuses

Students in this program will gain knowledge and understanding of:

Outcome	Method	Time-table	Outcome- Met?
Professional identity, including history of the profession, roles of counselors, organizational structures, ethics, standards, credentialing, public policy, advocacy, and emerging issues in the profession	Grade of B or better in CPSY 5493	yearly	MET
	Grade of B or better on paper assignment on roles and values of counseling professionals	yearly	MET
	Review of student progress	yearly	47 current students were reviewed in Spring 2002. Of these, 2 were evaluated as making exemplary progress, and 41 were evaluated as making satisfactory progress. Some concerns about progress were found with 4 students, for whom remediation plans were developed by the student and their advisors.
Social & cultural diversity, including multicultural trends, counseling strategies, theories, competencies, and contextual factors for working with diverse populations, and counselors' roles in social justice and advocacy.	Grade of B or better in CPSY 5503	yearly	MET
	Documentation of acceptable performance on class presentation in CPSY 5503	yearly	MET
Human Growth and learning, development, and transition, both normal and abnormal, for individuals and families across the lifespan	Grade of B or better in EPSY 5103, CPSY 5563.	yearly	1 grade of C across all sections of EPSY 5103; OTHERWISE, MET

Outcome	Method	Time-table	Outcome- Met?
Career and lifestyle development, including theories, models, assessment and counseling strategies, information resources, program planning and administration, and emerging issues in a changing world of work	Grade of B or better in CPSY 5453	yearly	MET
	Grade of B or better on final exam case study assignment in CPSY 5453	yearly	MET
Helping Relationships, including counselor and consultant characteristics, and counseling, consulting, and systems theory, processes, and skills for working with families, children, and adults	Grade of B or better in CPSY 5553, CPSY 5473, CPSY 6553, EPSY 6323 and clinical sequence (CPSY 5593, CPSY 5686)	yearly	MET; EPSY 6323 requirement begins summer '03.
	Passing grade on videotaped counseling session in CPSY 5473.	yearly	MET
Group Work, including group development, group dynamics, and group counseling theories, methods, and skills	Grade of B or better in CPSY 5583	yearly	MET
	Grade of B or better on formal self-assessment paper assignment in CPSY 5583	yearly	MET
Assessment, including basic principles of testing and assessment, case conceptualization, diagnosis, diversity factors related to assessment, and individual and group approaches to assessment and evaluation	Grade of B or better in one of the following: CPSY 5523, EPSY 5783, or REMS 5373	yearly	MET
Research and program evaluation, including research methods, basic statistics, needs assessment, and program evaluation	Grade of B or better in REMS 5013, EPSY 6323	yearly	MET; EPSY 6323 requirement begins summer '03.
Effective leadership skills to plan, implement, and evaluate a comprehensive, developmental guidance and counseling program to address the needs of all students	Grade of B or better in CPSY 5513	yearly	MET
	Grade of B or better on paper assignment on evaluation of comprehensive counseling programs in CPSY 5513.	yearly	MET

Additional competencies for school counselors- Students in the school counseling option will gain knowledge and understanding of:

Outcome	Method	Time-table	Outcome- Met?
Guidance and counseling services that address the needs and concerns of students and that help students develop skills to use in future situation	Grade of B or better in CPSY 5533	yearly	MET
	Passing grade on videotape of counseling skills in CPSY 5473	yearly	MET
Human development in order to provide a comprehensive, developmental guidance and counseling program	Grade of B or better in EPSY 5103	yearly	1 grade of C across all sections.
Effective leadership skills to plan, implement, and evaluate a comprehensive, developmental guidance and counseling program to address the needs of all students.	Grade of B or better in CPSY 5513	yearly	MET
	Grade of B or better on paper assignment on evaluation of comprehensive counseling programs in CPSY 5513.	yearly	MET
Effective leadership skills to plan, implement, and evaluate a comprehensive, developmental guidance and counseling program to address the needs of all students	Grade of B or better in CPSY 5513	yearly	MET
	Grade of B or better on paper assignment on evaluation of comprehensive counseling programs in CPSY 5513.	yearly	MET
How to facilitate the education and career development of individual students to help all achieve success	Grade of B or better in CPSY 5453	yearly	MET
Formal and informal assessment to provide information about and to students, to monitor student progress and to recommend changes to the student's educational environment	Grade of B or better in CPSY 5686	yearly	MET
Consultation processes with parents and school personnel, how to provide professional expertise and establish collaborative relationships that foster a support system for students, parents, and the community	Grade of B or better in EPSY 6323	yearly	EPSY 6323 requirement begins summer '03

Outcome	Method	Time-table	Outcome- Met?
Human diversity as it applies to providing equitable guidance counseling services for all students and promoting a climate of mutual respect that helps students value themselves and others	Grade of B or better in CPSY 5503	yearly	MET
The need for strong and positive ties with the home and the community to promote students' growth in school and beyond the school setting.	Grade of B or better in EPSY 6323	yearly	MET
Professional ethical codes, the importance of professional development and the need to work with colleagues to advance the profession	Grade of B or better in CPSY 5493	yearly	MET
The impact of environmental influences on students' developmental achievement, to help students develop strategies to reason and cope with situations that may hinder learning	Grade of B or better in CPSY 5103	yearly	1 grade of C across all sections.

Additional Learning Outcomes for All Students

Students in the M.S. Program in Counseling and Student Personnel will:

Outcome	Method	Time-table	Outcome- Met?
Be generally satisfied with the perceived usefulness of courses completed	end-of-semester course evaluations	collected yearly; compiled every three years	Using a sample of all of the 276 course evaluations that were collected in CPSY master's level courses in 2002, faculty received an overall mean rating of 3.51 ($sd = .60$; 4 = "very high."). The 19 courses on which these evaluations were based received an overall mean rating of 3.59 ($sd = .47$; 4 = "definitely yes" ["this was a good course"]) Full results are available on request.

Outcome	Method	Time-table	Outcome- Met?
While in the program, behave professionally and ethically and make timely progress towards degree completion	review of student progress	yearly	47 current students were reviewed in Spring 2002. Of these, 2 were evaluated as making exemplary progress, and 41 were evaluated as making satisfactory progress. Some concerns about progress were found with 4 students, for whom remediation plans were developed by the student and their advisors.

Additional Methods used to evaluate student outcomes:

Method	Timetable	RESULTS
1. Rates of "pass" on LPC Exam	every three years	Between March 2002 and March 2003, 17 OSU graduates took the LPC exam and 16 passed (94% pass rate). Earlier data unavailable.
2. Rates of "pass" on the Certification Exam for Oklahoma Educators (CEOE), specifically, the Oklahoma Subject Area Test (OSAT) in School Counseling.	every three years	Data compiled by the College of Education indicate a 100% pass rate on this exam over the past three years.
3. Successful completion of portfolios (school counseling)	biannually	no portfolios in 2002-03

How Assessment Results will be Integrated into Curriculum Planning and Program Improvement

Most of these assessment results have been shared with program faculty at meetings during spring semester, 2003. Most of these assessment results were shared with our Advisory Committee at our annual meeting with them in April, 2003. The results have been used to identify areas of curricular strength and areas in need of improvement. (For example, we revised our student conduct policy based on these assessment results.). These data are also part of our self-study documentation as we seek accreditation from the Council for Accreditation of Counseling and Related Programs (CACREP).

School of Applied Health and Educational Psychology
Educational Psychology MS Program
 Prepared by Kay S. Bull

Degree Program(s) Assessed	Assessment Methods	Number of Individuals Assessed
MS in Educational Psychology	<ul style="list-style-type: none"> • Faculty evaluation and approval of competency domain portfolios (at end of program in lieu of comprehensive examinations) • Feedback from students on the accomplishment of domain tasks as the tasks are approved by faculty • Determination of rates of program completion • Determination of numbers successfully completing the competency domain portfolios • Determine numbers of students successfully completing thesis, creative component or report. 	<p style="text-align: center;">0</p> <p style="text-align: center;">0</p> <p style="text-align: center;">0</p> <p style="text-align: center;">0</p> <p style="text-align: center;">0</p>

Analysis and Findings:

No students completed the program this year.

Uses of Assessment Results:

Assessment results and portfolio outcomes are used to judge the effectiveness of coursework and field work which shapes the development of graduates. All members of the area evaluate all of the portfolio information and these data are used to modify coursework.

School of Applied Health and Educational Psychology
Educational Psychology, Ph.D. Program
 Prepared by Kay S. Bull

Degree Program(s) Assessed	Assessment Methods	Number of Individuals Assessed
Ph.D. Program in Educational Psychology	• Effective Instruction: Qualifying Experience	3
	• Theoretical Knowledge: Qualifying Experience.	3
	• Inquiry and Research Skills: Qualifying Experiences and Qualifying Products	3
	• Professionalism and Ethical Decision-Making: Qualifying Experiences	3
	• Scholarly Production : Qualifying Products	3
	• Intra/Inter Personal Skills: Qualifying Experiences and Qualifying Products	3
	• Written and Oral Communication Skills: Domain Portfolio and Qualifying Experiences	3
	• Dissertations completed	3
	• Exit Interviews Conducted	3
	• Count Students Graduating	3

Analysis and Findings:

Portfolio data were collected and examined by faculty on students committees. Two students attempted and were passed successfully and asserted that they had learned to competencies which they desired at the beginning of their programs.

Feedback was collect from students informally during the individual reviews of the portfolios and both students were satisfied that they had accomplished the learning needed to meet their program goals.

Exit interviews were conducted by the area coordinator. Students were generally satisfied with their programs and were applying for jobs appropriate with their level of training.

Uses of Assessment Results:

Assessment results and portfolio outcomes are used to judge the effectiveness of coursework, internship experiences, teaching experiences and field work which shapes the development of graduates. No changes were made as the result of this year's assessment

School of Applied Health and Educational Psychology
School Psychology Programs, *Ph.D. and Ed.S. programs*
 Prepared by Terry A. Stinnett

Degree Program(s) Assessed	Assessment Methods	Number of Individuals Assessed
Ph.D. Ed.S.	Annual Program Faculty Evaluation of Student Progress	13 12
	Plan of Study progress, time to degree	13 12
	Student self-evaluation	12 10
	Advisor evaluation	13 12
	Portfolio Assessment	12 12
	Grades in program course work	18 16
	Practicum Logs	12 8
	Practicum Evaluation Forms	12 8
	Progress toward internship	2 2
	Internship Logs and Evaluation Forms	2 2
	Professional organization memberships	18 7
	Licensure, certification progress	2 5
	Research Team Advisor Evaluation	17 5
	Teaching Assistantship evaluations	10 2
	Graduate Assistant Evaluation	14 5
	Progress toward Postdoctoral experience/ Employment	2 1
Ph.D.	Comprehensive Exam	4 2
	Dissertation Progress	18
	Research presentations and publications	18

Analysis and Findings:

Student outcomes listed above were used to assess student progress through the program, satisfactory completion of course work, practica and research components of the program. Additionally, professional development in areas such as involvement with organizations, attendance at conferences, and teaching were evaluated. Students performed at an outstanding level, with the majority presenting at national conferences and performing above average in their course work. All of these data sources are additionally reported to our accrediting body, the American Psychological Association. Our annual report to the APA provides additional accountability for our program. The student self-evaluation form is particularly useful to gauge student perspective of their progress and also any suggestions for program modifications.

Uses of Assessment Results:

Annual assessment data are compiled by the program faculty and shared with the students individually by their advisors and by the whole faculty during the annual student evaluation reviews which occur in the fall semester. Students return feedback to the faculty in that meeting. The student group has established a formal School Psychology Graduate Association (SPGO) and there are two SPGO representatives to the faculty. The SPGO representatives attend the biweekly program meetings and express concerns or suggestions for program modification to the faculty in that venue. Feedback from the SPGO has resulted in consideration of curriculum modification in the area of biological bases of behavior, social bases of behavior, and the educational foundations area. Also feedback from the students has resulted in revision and modification of the numerous rating forms with an effort being made to consolidate and simplify the forms (in progress).

Feedback from practicum and internship supervisors has been summarized and used to improve instruction of skill in the area of professional practice. For example this year a shadow practicum was added (EPSY 5210) so that 2nd year students could be exposed to field based experiences earlier in their program.

The school psychology faculty conducted weekly program planning meetings. The various sources of assessment data are considered and program modifications are agreed upon after discussion in the program meetings. SPGO also has two student representatives who attend this meeting to give student input and to take faculty questions back to the student group. This reciprocal flow of information has enhanced program modification. An example was to begin to use the PRAXIS II exam as part of the students' comprehensive exam protocol. The students wanted us to include the PRAXIS exam because they could also use their score on the test for application for the National Certification in School Psychology.

STUDENT OUTCOMES ASSESSMENT SUMMARY TABLE

Assessment Method	# students assessed	Area assessed	Outcome		Summary
			Positive	Needs Improvement	
Annual Program Faculty Eval	25	All	24	1	The school psychology faculty committee met with each student in the fall semester and all performance rating forms were reviewed. The advisor for each student completed a summary form. Only one student was given feedback to improve performance related to dissertation progress. The faculty were satisfied that all students were progressing toward meeting the program objectives.

Assessment Method	# students assessed	Area assessed	Outcome		Summary
			Positive	Needs Improvement	
Plan of Study progress, time to degree	25	All	25		Plans of Study were reviewed by the advisors and all students are meeting the graduate college requirements for timely submission of the POS. All but 3 students are progressing toward a timely completion of the degree. The plans of study all fulfilled the degree requirements and the coursework specified to our national learned societies, APA and NASP
Student self-evaluation	22	All	22	0	Student self-evaluations were reviewed by the school psychology faculty committee during the annual student reviews. Discussion of any modifications in the students' long-range goals occurred. Examples of use of the data included advisement of individual students centered on appropriate internship sites, elective coursework that would match the students' goals and research activity that would facilitate the accomplishment of these dimensions of the students' training.
Advisor evaluation	25	All	25	0	Advisor's evaluations were completed and used in the annual student review process. All students were appropriately advised and are in the correct sequence of training.
Portfolio Assessment	24	All	24	0	The school psychology program portfolio scoring rubric was used to score each students portfolio in the fall semester. Portfolios were presented to the faculty as part of the annual student review and

Assessment Method	# students assessed	Area assessed	Outcome		Summary
			Positive	Needs Improvement	
Portfolio Assessment cont...					were scored by each student's advisor immediately after the student reviews were completed. Suggestions for improvement are given to each student by the advisor and the portfolios are evaluated yearly to assess the improvements and mastery of program objectives. The rubric allows for scores from 1-5 across each of the program objective areas which are required to be represented in the portfolio with 5 representing superior.
Comprehensive Exam	6	All	6	0	Comprehensive exams were administered to doctoral students by the faculty and were scored as pass or fail. All doctoral students who took the comps passed. The specialist students are now required to take the ETS Praxis II school psychology exam. A passing score of 660 is required for the NCSP credential and this score is the cut point for the program as well. Scores from the exam are now being submitted to the program. To date 4 specialist students have taken the exam the scores have averaged 770.
Grades in program course work	34	All	34	0	Student grade reports are examined each semester by the advisor. No grades below B were obtained by any of the students.
Practicum Logs	20	Professional Practice	20	0	Practicum logs were evaluated biweekly by the university practicum supervisor and entered into the practicum experiences database for each student. The practicum field supervisors signed each

Assessment Method	# students assessed	Area assessed	Outcome		Summary
			Positive	Needs Improvement	
Practicum Logs cont...					practicum log verifying the student completed the time and activity indicated on the log. A year end summary of hours and activities was printed for each student. These summaries are included in the student portfolios.
Practicum Evaluation Forms	20	Professional Practice	20	0	Field supervisors submitted practicum evaluations for each student 3 times during the academic year. The evaluation forms use the metric AE – above expectation, PW – progressing well, ES – emerging skill, NI – needs improvement, and NO – no opportunity. All students were rated as progressing well or Above Expectation in all areas.
Progress toward internship	4	Prof Practice, life-long learning	4	0	2 doctoral and 2 specialist students were applying for internship placements. Students were advised toward sites which were a good match for their goals by the advisors in individual meetings and by the faculty committee during the annual student review. 100% of the students who applied were placed in their first or second choice. Doctoral student applied, competed for, and were awarded APA/APPIC internships across the nation.
Internship Logs and Evaluation Forms	4	Professional Practice	4	0	Internship Field supervisors submitted evaluations for each student 3 times during the academic year. The evaluation forms use the metric AE – above expectation, PW – progressing well, ES – emerging skill, NI – needs improvement, and NO – no

Assessment Method	# students assessed	Area assessed	Outcome		Summary
			Positive	Needs Improvement	
Internship Logs and Evaluation Forms cont...					opportunity. All students were rated as progressing well or Above Expectation in all areas.
Professional organization memberships	25	Professional Identity	25	9	Student membership and activity in state and national school psychology associations was monitored by the faculty committee and reviewed in the annual student evaluation. Nine students were not involved because of financial constraints (they could not afford the membership fees).
Licensure, certification progress	7	Professional Identity /Practice	7	0	Graduates were surveyed with the school psychology program graduate survey. All program graduates were employed as school psychologist in various settings. All were certified school psychologists through the State Department of Education. The doctoral students were obtaining post doctoral supervision to fulfill the criteria for licensure through the Board of Examiners of Psychologists.
Dissertation Progress	18	Research	15	3	All students were assessed for progress on the dissertation during the annual student review. 8 students proposed dissertations in the spring 2003 semester, 1 defended, 6 are in the process of data collection. Three students needed improvement. 1 was inactive; two were not yet ready to propose. Feedback was given to each student by the advisor and by the faculty as a whole in the annual student evaluation meeting.

Assessment Method	# students assessed	Area assessed	Outcome		Summary
			Positive	Needs Improvement	
Research Team Advisor Evaluation	22	Research	22	0	All research team evaluations were reviewed during the annual student evaluation meeting. All students were rated to be Above Expectaiton or Progressing Well.
Research presentations and publications	18	Research	18	0	See above. Student vitas were in the portfolios. 80% of students on research teams have presented at NASP, APA, OSPA, or the Graduate Student Research Symposium. Those who had not presented or published were preparing submissions.
Teaching Assistantship evaluations	12	Teaching	11	1	Faculty reviewed teaching evaluations at the end of each semester. Only one student had evaluations below 3.0 on the OSU course evaluations. A remedial plan for the student was developed by the faculty teaching supervisor.
Graduate Assistant Evaluation	19	assistantship	18	1	See above cell.
Progress toward Postdoctoral experience/em ployment	3	Prof identity, specialty area, Practice	3	0	Graduates were surveyed with the school psychology program graduate survey. All program graduates were employed as school psychologist in various settings. All were certified school psychologists through the State Department of Education. The doctoral students were obtaining post doctoral supervision to fulfill the criteria for licensure through the Board of Examiners of Psychologists.

School of Applied Health and Educational Psychology
Health and Human Performance – Athletic Training
 Prepared by Tona Palmer

Degree Program(s) Assessed	Assessment Methods	Number of Individuals Assessed
Athletic Training	1. Student Clinical Education Experience and Portfolio 2. NATABOC Examination	1. 24 2. 7

Analysis and Findings:

1. *Student Clinical Education Experience and Portfolio*

Twenty-four students completed at least two internships during the assessment period. Each student also completed a portfolio as part of the requirements for the clinical experience. Supervisor evaluations indicated students at all levels improved in their ability to develop and apply classroom instruction in a practical setting. Furthermore, the evaluations indicated that most students improved on their communication with patients and other healthcare clinicians, development and administration of therapeutic measures and exhibition of professional demeanor. However, the report also indicated that while improvement was noted in all levels the level one and level two students were still below what is considered effective for their respective level. Faculty and supervisors also observed students' oral and communications skills through their formal evaluations of proficiencies completed during these internships. This process helped determine that students still need more interaction with medical personal and more experience communicating with other allied health care professionals. (Outcomes A, B, C, D, E, F, G)

2. *NATABOC Examination*

Athletic training is improving on preparing students for the NATABOC certification exam, graduating, and placing athletic training students. The 2002 individual school results from the NATABOC exam shows that OSU athletic training student's performance is on the rise. During this testing period seven first time candidates took the exam with three passing all three parts on the first attempt for a 42.86% first time pass rate. This is very close to the national average (43.55%) for curriculum programs and much higher than the 27.31% average of internship candidates. This number is specifically impressive as the seven OSU students taking the exam started as internship students until OSU received accreditation and recognition as an accredited program in July of 2002. While these reports are encouraging, these findings also reported that our students scored below the average curriculum student on the written and written simulation portions of the exam. Based on this knowledge adjustments to testing procedures in all athletic training courses will be made in an attempt to improve these areas of weakness. (Outcomes A, B, C, E, F)

Uses of Assessment Results:

The results from this year's assessment activities were shared with all individuals teaching or supervising in the athletic training education program during a summer workshop. This group used this information to make changes in courses, specifically the addition of new courses in athletic training procedures and general medical conditions based on the feedback from students and scoring on the NATABOC examination. The group also used the results to review the content of each course and made changes as needed to ensure content presented and testing procedures were meeting all objectives of the athletic training education program.

**School of Applied Health and Educational Psychology
Health Promotion**

Prepared by *Betty Edgley/Erin Floyd-Bann*

Degree Program(s) Assessed	Assessment Methods	Number of Individuals Assessed
Bachelor of Science in Health Promotion	Senior Capstone Course	29/29
	Completion of Internships	27/28
	Internship exit interviews	27/27
	Alumni Survey	16
	Certification Exams	31
	Projects in Program Design	40
	Number of Students Placed in the Field	17/27
	Number of Students Graduating	27

Analysis and Findings:

Students participating in the pre internship experience presented power point presentation to the class regarding potential internship sites. This experience gave the students an opportunity to research a variety of internship sites both in and out of state. Students also developed portfolio's that included such areas as philosophies, professional goals, and mock interviews that later will be expanded in their internship experience.

Twenty seven of twenty eight students successfully completed a 520 hour internship with at least a passing grade of 80%. Fourteen of the 27 students chose internships out of state, while 13 stayed in Oklahoma for this experience. Students returned back to campus for an exit interview, an oral presentation, submitted the completed portfolio which included an assessment of the site, and completed an assessment survey regarding the health promotion program. This experience afforded them an opportunity to work as a health promotion professional for a period of approximately 13 weeks.

All twenty seven students successfully completing the internship experience participated in an exit interview with the health promotion faculty. Students discussed both the positive aspects of the program and those areas that they felt needed some improvement. Students felt that they were well prepared for the internship and the learning goals were helpful in giving them direction throughout the internship experience. Redundancy in several courses was cited as a concern and students needed more hands on experience in laboratory skills such as body fat and blood pressure measures.

The results of the 2002 alumni survey stressed the importance and need for students gaining certifications in the health field. These certifications would enhance student's opportunities for future employment. The addition of a sports nutrition class was also cited as a need in the program.

Certification exams (CPR and First Aid) are required for the internship in health promotion so all 27 students received both of these certifications. In addition four students participated in the ACSM Health and Fitness Instructor workshop and sat for the certification exam. Results of this exam are pending. Certifications are an important aspect of the health promotion field and students are encouraged to gain certifications in areas such as American College of Sports Medicine, Certified Health Education Specialist, National Strength and Conditioning Association and American Council on Exercise.

Information gathered from the groups in informal discussions, as well as the formal instructor evaluations indicated the need for increasing opportunities for such projects in order to provide practical applications for classroom learning. Such projects will be implemented for the next year.

The number of students gaining employment in the health field included seventeen students. Four students have been or in the process of being accepted into a health professional school and four are in graduate school. Two students are employed in an unrelated field.

The number of students graduating this past year was twenty seven. Enrollment continues to remain stable. We are in the process of establishing an undergraduate health promotion program in Tulsa-OSU. Currently there are four HHP majors in OSU-Tulsa and approximately fourteen students that are completing prerequisites at Tulsa Community College. As of August we will have a full time faculty at OSU-Tulsa working in the area of health promotion.

Application of Assessment Results:

As a result of researching potential internship sites, students are able to discern excellent, good and poor sites. They have more insight for out of state and in state possibilities for internships and future employment. The portfolios have been helpful in expanding the students understanding of the internship and eventually a framework for developing a job portfolio.

The completing of the intern process has allowed the student an invaluable opportunity to see first hand the duties and responsibilities of a health related setting. Students may decide that is not the setting that they prefer and look into further possibilities, however many of the interns have secured jobs at the site of their internship. Next year students will display internship posters related to their internship experience in a public forum so students and faculty can become more knowledgeable regarding the field of health promotion.

As a result of the feedback gleaned from the exit exams, the health promotion faculty addressed the issue of course redundancy and revised both the HHP 4503 course and the HHP 4533 course to better meet the needs of the students. Also the NSCI Sports nutrition class will be available as an option nutrition course. Assessment results will be shared with faculty on a regular basis during regularly scheduled faculty meetings.

One of the suggestions cited in the alumni survey was to modernize the laboratory and physiology equipment. A large amount of equipment has been purchased for the new physiology lab that will be completed in May 2004. A physiology lab and new equipment will be available at OSU-Tulsa in fall of 2003.

Certification exams will continue to be stressed in the health promotion curriculum. The results of the exams will be assessed to analyze areas that demonstrate both strong and weak skills.

Information gathered from the groups informal discussions, as well as the formal instructor evaluation, indicated the need for increasing opportunities for small group projects in order to provide practical applications for classroom learning. Such projects will be implemented for the next year.

The job database will continue to be updated to better inform students of job opportunities. The alumni health promotion student list has been updated and revised to better track our former students.

Faculty will continue to provide the knowledge, skills and guidance to health promotion students so they will be prepared to successfully graduate, pursue jobs in health promotion, and attend graduate school or professional school.

School of Applied Health and Educational Psychology
Physical Education
 Prepared by Dr. Sarah Price

Degree Program(s) Assessed	Assessment Methods	Number of Individuals Assessed
Bachelor of Science in Physical Education	Portfolio Submission I	20
	Portfolio Submission II	15
	Portfolio Submission III	11
	Professional Exams	34+
	Physical Education Exit Interviews	14
	NASPE/NCATE	Program Assessment Every Five Years (all students) approximately 100 students directly or indirectly assessed with program
	College of Education Assessment of Portfolio	46 (three different levels)

Analysis and Findings:**Portfolio:**

Submission I Nineteen of twenty students are meeting desired outcomes and are beginning to become professionally active in the discipline. Students are developing a philosophy of professionalism in physical education and demonstrating behaviors that model an understanding of desired outcomes. In the event that desired outcomes are not being accomplished students are counseled and appropriate remedial recommendations are required.

Submission II Submitted during the semester of student teaching, prior to initial field experience. During the second step in the sequence of this development model students (15 of 15) are meeting desired outcomes. **When students are not meeting desired outcomes they are counseled and appropriate remedial assignments are required as needed. Students who have not completed submission II are not permitted to begin student teaching.** While maintaining and expanding on outcomes addressed in portfolio submission I, students are successfully developing an understanding of curriculum and integration processes. With supervision, students are able to conduct self-critiques and make modifications as needed. Students are demonstrating an understanding of core concepts as developed in the College of Education Professional Education Unit.

Submission III Submission III is the cumulating experience of the degree requirements for a B.S in physical education/recommendation for licensure. Submission III is following the completion of student teaching. While maintaining and expanding on outcomes addressed in portfolio submission I and II, students are successfully developing an understanding of curriculum and integration processes and applying combined competencies in a supervised teaching situation at the elementary and secondary level. By the completion of submission III, students are required to demonstrate an understanding of each of the outcomes listed above and meet all competencies as required by local, state and national accrediting entities (NASPE/NCATE). During the third and final step in the portfolio sequence 11/15 met the desired outcomes. Based on results from submission III students are recommended for licensure in physical education/health/safety.

Professional Exams:

Professional Exams including Oklahoma General Education Test, Pre-Professional Skills Tests, Oklahoma Subject Area Test, and Oklahoma Professional Teaching Examination. Overall physical education majors are passing standardized exams with above 100% pass rate. When physical education institutional means for subject area test compared with statewide means, Oklahoma State University physical education majors are above the statewide mean in 21/21 sub-areas. Students are maintaining 100% pass rate.

Exit Interview:

Physical education exit interview following student teaching written & oral – program changes are implemented as needed based on feedback from students. Curriculum changes are under investigation as a partial result of the exit interviews

NASPE/NCATE Accreditation:

National Council for Accreditation on Teacher Education (NCATE) reviews teacher preparation programs at Oklahoma State University every five years. NCATE's learned society—national Association of Sport and Physical Education (NASPE) provides competencies that must be clearly addressed within the degreed program. NASPE/AAHPERD folio is provided for assessment. A copy of the portfolio is kept in the program coordinator's office.

College of Education Portfolio Assessment:

Following student teaching the COE Portfolio Specialist administers a Portfolio Assessment Survey to professional education majors who have completed the portfolio requirement (not administered due to College modification Spring 2003)

Uses of Assessment Results:

Portfolio Submissions I, II, III – Information in portfolio **Submission I** is used to begin tracking student progress through the physical education degree option. Specific content is evaluated (goals, transcript, GPA, philosophy, initial field experience, interview...) for student to become fully admitted into the teacher education program.

Submission II is a continuation of the sequence used to monitor student's progress. Information is used to critique individual understanding of core concepts as developed in the College of Education Professional Education Unit. Assessment results are also used as a check point prior to students being allowed to begin student teaching. Students must demonstrate acceptable competence in their understanding and development in the following areas: Professional development, life-long learning, diversity, and professionalism.

Submission III assessment is used as the cumulating experience of the degree requirements for a B.S in physical education. By the completion of submission III, student's ability to demonstrate an understanding of each of the outcomes listed above and meets all competencies as required by local, state and national accrediting entities (NASPE/NCATE) are assessed. Based on results from submission III students are recommended for licensure in physical education/health/safety.

Professional Exams:

Professional exams are used as formal assessment tools utilized to assess student's competency in general education and physical education. Results are used for licensure and certification in physical education.

Exit Interview:

Physical education exit interviews are following student teaching and before graduation. Results are used to assess student overall opinion of the program, identify strengths and weaknesses in the program and make the necessary curriculum and other changes to improve the physical education program.

NASPE/NCATE Accreditation:

Accreditation results are utilized to strengthen the program and maintain sufficient rigor to maintain compatibility as compared with similar institutions.

College of Education Portfolio Assessment:

Results used by COE to monitor student opinion and strengthen the unit,

School of Applied Health and Educational Psychology
Health and Human Performance Program
 Prepared by Dr. Steve Edwards

Degree Program(s) Assessed	Assessment Methods	Number of Individuals Assessed
M.S. in Health and Human Performance	Retention and Graduation – 70% of all students admitted to the degree program will complete the degree. (Student status within the program will be entered into an ongoing assessment database)	57

Analysis and Findings:

The database from the College of Education graduate records office was used to gather entrance data for the M.S. students in HHP. Therefore, the actual data set used in the analysis here included students whose data appeared on the COE graduate database.

Total Number Admitted	57	Percent of Total Admitted
Total Number Active	21	37%
Total Number Graduated	17	30%
Total Admitted/Never Enrolled	3	5%
<i>Total Expected to Graduate</i>	<i>41</i>	<i>72%</i>

Uses of Assessment Results:

All faculty in the Health and Human Performance have been given a full and complete copy of the assessment report. These data have been used to help faculty schedule courses which will continue to allow M.S. students to graduate in a timely manner.

**School of Applied Health and Educational Psychology
Leisure Studies**

Prepared by Lowell Caneday

Degree Program(s) Assessed	Assessment Methods	Number of Individuals Assessed
<ul style="list-style-type: none"> • Bachelor of Science in Leisure Studies • Master of Science in HPER (emphasis in Leisure Studies) • Doctor of Education in Educational Studies (emphasis in Leisure Studies) 	<ul style="list-style-type: none"> • Number of students graduated • Number of students placed in the field • Number of students who passed national certification exams • Comparison of certification exam scores with regional and national data • Accreditation review • Departmental goals and objectives 	<ul style="list-style-type: none"> • 19 undergraduates: 8 in Leisure Service Management; 11 in Therapeutic Recreation • 4 Master of Science graduates • 2 Doctoral graduates

Analysis and Findings:

Undergraduate – Bachelor of Science

Outcome	Measurement	Finding
1. Employment of baccalaureate graduates.	<ul style="list-style-type: none"> • Graduates who desire employment in their respective fields can find a position within a reasonable time. • Seventy five percent of all students completing a Leisure Studies degree will find employment appropriate to their degree within the State of Oklahoma. 	<ul style="list-style-type: none"> ➤ All graduates are employed. Two graduates are in “related fields.” One graduate is pursuing a graduate degree. ➤ 15 of the 19 graduates (80%) have found employment in Oklahoma.
2. Competencies gained by students in the baccalaureate program are in compliance with expectations in the profession.	<ul style="list-style-type: none"> • External review of preparation provided by the program through the Internship experience. • Ninety percent of all students completing a Leisure Studies degree will be rated excellent or above average by their respective internship supervisors. 	<ul style="list-style-type: none"> ➤ All graduates were rated above average or excellent on the overall evaluation by their respective internship supervisors.
3. Curriculum, faculty, students, support resources, and other aspects of the baccalaureate program are in compliance with peer practices and standards.	<ul style="list-style-type: none"> • Five-year accreditation review by the National Recreation and Park Association and the American Association for Leisure and Recreation. • Oklahoma State University will maintain accreditation under NRPA/AALR. 	<ul style="list-style-type: none"> ➤ In October 2000, NRPA/AALR granted continuing accreditation through 2005. ➤ The program has maintained annual filing of necessary forms.

<p>4. Retention rate and graduation rate.</p>	<ul style="list-style-type: none"> • Seventy five percent of all students declaring a Leisure Studies major will complete the degree. 	<ul style="list-style-type: none"> ➤ Current retention of declared majors to graduation is 93%.
<p>5. Knowledge of, understanding of and ability to apply professional competencies.</p>	<ul style="list-style-type: none"> • Professional certification examinations. • All graduates completing degrees in Leisure Studies will meet sitting requirements for the appropriate certification examinations. Further, ninety percent of all students completing a Leisure Studies degree will successfully complete (pass) their national certification examination on the first attempt. 	<ul style="list-style-type: none"> ➤ One graduate took and passed the CPRP exam. No report on TR students and the NCTRC exam. ➤ All graduates from the program meet sitting requirements for the respective certification examinations.

Uses of Assessment Results:

- Curricular changes were made during 2001 – 2002 and monitored during the past year.
- An “outdoor certificate” program was developed in conjunction with the COE Extension Office and Outdoor Adventure.
- Procedural changes in approval of internship sites have been implemented.
- All faculty meet weekly to discuss issues related to the program and assessment of the program. Information is shared among the faculty at those meetings.

Graduate – Master of Science and Doctoral Degrees

Outcome	Measurement	Finding
1. Knowledge and competency specified for a graduate from an NRPA/AALR accredited undergraduate program.	<ul style="list-style-type: none"> Admission criterion based on alma mater and major with prerequisite courses for those students not meeting the expectation. 	<ul style="list-style-type: none"> ➤ “Leveling” courses are necessary on individual plans of study since most applicants present other UG degrees.
2. Knowledge and credentials appropriate to the student’s interest and professional aspirations.	<ul style="list-style-type: none"> NCTRC and CLP examinations, student resume or portfolio. 	<ul style="list-style-type: none"> ➤ Individualized plans of study. No national examination results.
3. Masters level – Ability to integrate knowledge of Leisure Studies with another supporting discipline.	<ul style="list-style-type: none"> Individual courses on plan of study and comprehensive examination. 	<ul style="list-style-type: none"> ➤ One student failed repeated attempts on the written, comprehensive examination.
4. Masters level – Foundational knowledge of research design, methodology, analysis and application.	<ul style="list-style-type: none"> Comprehensive examination (creative component) and research project (thesis). 	<ul style="list-style-type: none"> ➤ Two students successfully completed theses. One thesis recognized for award by Group V Graduate faculty.
5. Masters level – Ability to design and implement research through replication of methodologies in the profession or through original research.	<ul style="list-style-type: none"> Creative component or thesis. 	<ul style="list-style-type: none"> ➤ Two students successfully completed theses. One thesis recognized for award by Group V Graduate faculty.
6. Doctoral level – Ability to integrate and disseminate an understanding of Leisure Studies and a supporting discipline.	<ul style="list-style-type: none"> Comprehensive examination, publication and presentation in professional settings, teaching and seminars. 	<ul style="list-style-type: none"> ➤ Three students have completed comprehensive examinations. Several have made presentations or taught courses.
7. Doctoral level – Competence in multiple research designs and methodologies with ability to analyze and interpret research disseminated in the profession.	<ul style="list-style-type: none"> Comprehensive examination and research projects, including dissertation. 	<ul style="list-style-type: none"> ➤ Two students presented at the Graduate College Research Symposium. Three students have defended dissertations. Two have completed colloquy.
8. Doctoral level – Ability to design and implement original research adding to professional knowledge and to disseminate that knowledge.	<ul style="list-style-type: none"> Dissertation, research symposium, seminars, presentation and publication in professional settings. 	<ul style="list-style-type: none"> ➤ In addition to the above, students in the program have presented papers at state and national meetings.
9. Doctoral level – Ability to design, develop and deliver course content in an academic setting.	<ul style="list-style-type: none"> Teaching experiences, symposia and seminars. 	<ul style="list-style-type: none"> ➤ One graduate is presently employed as a university faculty member. The other teaches and manages a university student service program.
10. Professional membership and activity appropriate to individual career goals.	<ul style="list-style-type: none"> Student resume or portfolio. 	<ul style="list-style-type: none"> ➤ All graduate students are members of professional organizations. Fourteen graduate students attended national professional meetings during the year.

Master of Science – Health, Physical Education and Leisure

- Assessment efforts in recent years led to the decision to discontinue this degree. The degree title and “generalist” nature of the degree did not meet professional expectations for graduates. The last students admitted to the program are matriculating to graduation.

Master of Science – Leisure Studies

- No graduates to assess. This is a new degree program.

Doctor of Education – Applied Educational Studies

- Assessment efforts in recent years led to the decision to discontinue this degree. The Doctor of Education degree and nondescript title did not meet the professional and academic needs of graduates. The last students admitted to the program are matriculating to graduation.

Doctor of Philosophy – Health, Leisure and Human Performance

- No graduates to assess. This is a new degree program.

Doctor of Philosophy – Environmental Science

- This program is assessed fully through the Graduate College as an interdisciplinary degree program.
- One student working with a major advisor in Leisure Studies graduated in fall 2002.

Uses of Assessment Results:

- Curricular changes were made during 2001 – 2002 and monitored during the past year.
- All faculty meet weekly to discuss issues related to the program and assessment of the program. Information is shared among the faculty at those meetings.

School of Teaching and Curriculum Leadership

Prepared by Dr. Pamela Fry

Degree Program(s) Assessed	Assessment Methods	Number of Individuals Assessed
<i>Bachelor of Science in Elementary, Secondary, and Technical and Industrial Education</i>	Performance on certification examinations for Oklahoma educators	
	OSAT	396
	OGET	351
	OPTE	214
	Performance on professional education portfolios that demonstrate the achievement of goals and competencies for beginning teachers	
	Submission I, II, & III Elementary	197
	Submission I, II, & III Secondary	212
	Student assessment of professional education preparation	55
	Performance of student teachers by cooperating teachers and university supervisors	
	Elementary level	74
Secondary level	54	
Master of Science in Teaching, Learning, and Leadership	Performance during first year of teaching (residency year)	252
	Survey of principals who recently hired program graduates	5
	Performance on advanced level, state certification examinations for Oklahoma educators	
	Reading Specialist	12
	Special Education	12
	Performance on comprehensive examinations	60
	Student assessment of graduate program preparation	57
	Performance on theses or creative component projects (master's level)	45
	Performance on qualifying examinations	11
	Student assessment of graduate program preparation	
Survey Respondents	3	
Focus-Group Interview	3	
Doctor of Philosophy in Education	Dissertations completed	11

Analysis and Findings:**Bachelor of Science in Elementary, Secondary, and Technical and Industrial Education**

- (1) Performance on certification examinations for Oklahoma educators (Note: Each student may take more than one test and/or sub-areas of tests.) Tests measured pass rates of students during the July 2002 data through May 2003 period are reported.

The Oklahoma General Education Test (OGET) evaluates a) critical thinking skills in reading, communications, mathematics, writing; b) computation skills; c) liberal studies: science, art, and literature. The pass rate for OSU students (N=417) was 85%. The statewide pass rate was 79%.

The Oklahoma Subject Area Test (OSAT) evaluates content area competency of potential teachers for initial certification in elementary education, art education, foreign language education, English education, mathematics education, social studies education, and science education. The OSU pass and fail rates are as follows:

	<u>% OSU Pass Rate</u>	<u>% State Pass Rate</u>
Elementary Education (N=215)	95%	93%
Art (N=3)	100%	94%
Foreign Language (N=7)	86%	74%
English (N=39)	99%	89%
Mathematics (N=11)	82%	71%
Social Studies (N=35)	97%	82%
Science (N=43)	86%	74%
Psych/Soc (N=1)	100%	48%
Speech/Drama (N=1)	100%	88%

The OPTE (Oklahoma Professional Teaching Examination) evaluates each candidate's pedagogical knowledge.

	<u>% OSU Pass Rate</u>	<u>% State Pass Rate</u>
PK-8 (N=157)	97%	86%
6-12 (N=144)	93%	94%

The scores for OSU students on the OGET and OSAT exceeded the statewide average in each area. On the OPTE, students' performance exceeded the state average for PK-8 pre-service teachers and was within one percentage point of the state average for 6-12 pre-service teachers.

- (2) Performance on professional education portfolios

Students must demonstrate competencies related to the four core concepts of the OSU teacher preparation program (understanding of integration, diversity, professionalism, and lifelong learning) as well as the 16 Oklahoma General Competencies for Teachers. Each program requires an initial submission (Submission I), a pre-student teaching submission (Submission II), and a submission at the time of program completion (Submission III). Faculty and external reviewers, who were trained public school personnel, evaluated portfolios. Below, a summary of evaluations of Submission I for Spring 2003 is based on a scale as follows: 3=exceeds expectations, 2=meets expectations, and 1=needs improvement. Submission I requires students to write a philosophy of education essay and goals essay which discuss students' individualized ideas about their future teaching. Submission II and Submission III are also listed, and the same evaluative scale was utilized.

Elementary (N=67); Submission I	Percentage of Students By Scores		
Overall portfolio=2.41;	3-43%	2-55%	1-2%
Philosophy essay=2.15;	3-19%	2-78%	1-3%
Goals essay=2.27;	3-30%	2-69%	1-1%

Elementary (N=64); Submission II

Overall portfolio=2.75;	3-64%	2-34%	1-2%
Integration essay=2.33;	3-50%	2-36%	1-14%
Professionalism essay=2.29;	3-42%	2-41%	1-17%
Life-long Learning essay=2.29;	3-44%	2-38%	1-18%
Integration artifact=2.43;	3-47%	2-42%	1-11%
Diversity artifact=2.56;	3-53%	2-41%	1-6%
Professionalism artifact=2.42;	3-42%	2-52%	1-6%
Life-long artifact=2.38;	3-42%	2-48%	1-10%

Elementary (N=66); Submission III**(Note: See Appendix A for list of competencies, A-O.)**

Second philosophy=2.33;	3-23%	2-59%	1-18%
Artifact A=2.13;	3-39%	2-61%	1-0%
Artifact B=2.17;	3-26%	2-74%	1-0%
Artifact C=2.00;	3-41%	2-59%	1-0%
Artifact D=2.06;	3-39%	2-61%	1-0%
Artifact E=2.12;	3-33%	2-67%	1-0%
Artifact F=2.23;	3-21%	2-77%	1-2%
Artifact G=2.03;	3-6%	2-85%	1-9%
Artifact H=2.07;	3-6%	2-89%	1-5%
Artifact I=2.18;	3-21%	2-76%	1-3%
Artifact J=2.39;	3-39%	2-61%	1-0%
Artifact K=1.97;	3-2%	2-92%	1-6%
Artifact L=2.35;	3-35%	2-65%	1-0%
Artifact M=2.06;	3-6%	2-94%	1-0%
Artifact N=2.23;	3-24%	2-74%	1-2%
Artifact O=1.95;	3-3%	2-89%	1-8%

Secondary (N=38); Submission I

Overall Portfolio=2.65;	3-61%	2-39%	1-0%
Philosophy essay=1.56;	3-5%	2-63%	1-32%
Goals essay=1.78;	3-5%	2-74%	1-21%

Secondary (N=90); Submission II

Overall portfolio=2.33;	3-34%	2-61%	1-5%
Integration essay=2.13;	3-23%	2-61%	1-16%
Diversity essay=2.17;	3-24%	2-63%	1-12%
Professionalism essay=2;	3-19%	2-63%	1-18%
Life-long Learning essay=2.06;	3-28%	2-51%	1-21%
Integration artifact=2.12;	3-21%	2-63%	1-16%
Diversity artifact=2.23;	3-31%	2-53%	1-16%
Professionalism artifact=2.03;	3-18%	2-68%	1-14%
Life-long artifact=2.07;	3-20%	2-64%	1-16%

Secondary (N=84); Submission III**(Note: See Appendix A for list of competencies, A-O.)**

Second philosophy=2.13;	3-23%	2-68%	1-9%
Artifact A=2.36;	3-37%	2-62%	1-1%
Artifact B=2.23;	3-25%	2-61%	1-14%
Artifact C=2.30;	3-33%	2-63%	1-4%
Artifact D=2.32;	3-32%	2-68%	1-0%
Artifact E=2.29;	3-30%	2-69%	1-1%
Artifact F=2.12;	3-14%	2-83%	1-3%
Artifact G=2.07;	3-13%	2-81%	1-6%
Artifact H=2.06;	3-13%	2-80%	1-7%
Artifact I=2.23;	3-26%	2-70%	1-4%
Artifact J=2.17;	3-20%	2-76%	1-4%
Artifact K=2.06;	3-10%	2-87%	1-3%
Artifact L=2.26;	3-26%	2-74%	1-0%
Artifact M=2.06;	3-8%	2-89%	1-3%
Artifact N=2.12;	3-13%	2-86%	1-1%
Artifact O=2.00;	3-6%	2-88%	1-6%

Student achievement of program outcomes was clearly demonstrated in this review of comprehensive portfolios of program completers.

(3) Student assessment of professional education

A survey of 55 program completers evaluated various elements of their programs. Results of the survey included:

Eighty-seven percent of the respondents rated their specialty preparation as fairly well-prepared to exceptionally well-prepared. Thirteen percent rated their preparation as not very well or poor.

Ninety-eight percent of respondents rated their knowledge and understanding of subject matter as fairly well prepared to exceptionally well- prepared.

Respondents positively rated their programs on all survey items. According to this survey, areas of program strengths included a) using hands-on, experiential learning, b) understanding biases and attitudes, c) openness to new ideas, d) understanding how students learn, e) encouraging students' social skills and responsibilities, f) knowledge of current school and societal issues. Areas that received relatively less positive ratings included identification and instruction of children with special needs, instruction of children from different cultural and linguistic backgrounds, discipline techniques, and utilization of community resources.

Overall, the results of the survey indicate that students assessed their learning within professional education programs as significant in preparing them to enter the teaching profession although several areas of competence need to be better addressed in programs according to these students.

(4) Performance of student teachers evaluated by cooperating teachers and university supervisors

Using a scale of 1 (lowest) and 5 (highest), cooperating teachers (N=74) and university supervisors (N=74) at the **elementary level** assessed the competence of OSU student teachers as follows. This value represents the cooperating teacher and university supervisor's combined assessment.

Understanding content	AVG.
Demonstrates broad knowledge in liberal arts and sciences	4.52
Demonstrates in-depth knowledge in content areas	4.52
Uses variety of appropriate teaching/problem-solving strategies	4.63
Incorporates guidelines and standards in teaching	4.66
Demonstrates an understanding of legal and ethical aspects of teaching	4.71

Curricular connections	
Integrates subject matter across content areas	4.68
Uses materials, resources, and technology for best practices	4.68
Varies knowledge construction through developmentally appropriate experiences	4.64
Organization and management	
Uses best practices related to motivation and behavior	4.68
Exhibits an ability to foster active inquiry, collaboration, and supportive interaction	4.75
Practices appropriate classroom management behaviors	4.57
Plans for opportunities to organize and manage varied learning groups	4.52
Understanding child development and individual differences	
Recognizes stages of human development and learning	4.59
Provides learning opportunities that are developmentally appropriate	4.77
Plans learning opportunities that allow for individual differences	4.55
Interactions with others	
Communicates effectively in written form	4.8
Communicates effectively in oral form	4.75
Interacts positively with families, administrators, and others	4.79
Exhibits collegiality with other teachers	4.8
Meaningful assessment	
Designs/selects assessment appropriate to the development	4.64
Interprets and communicates assessment results ethically	4.73
Integrates information from assessments into instruction	4.63
Diversity issues	
Uses appropriate practices in working with special needs students	4.71
Exhibits an ability to identify the diversity in the classroom	4.79
Seeks out and creates diverse curriculum	4.66
Professionalism	
Evaluates effects of his/her choices and actions on others	4.73
Fosters positive interaction with colleagues, families, and others	4.8
Encourages students to be life-long learners	4.86

Using a scale of 1.0 as the lowest and 4.0 as the highest, (N=54) the **secondary level** assessed the competence of OSU student teachers as follows. This value represents the cooperating teacher's rating. Note that the scores represent Spring 2002; the spring semester is designated as the student teaching semester for secondary students.

Professional dispositions	AVG.
Shows initiative	3.57
Demonstrates genuine concern	3.72
Interacts professionally	3.63
Develops rapport	3.61
Communicates value and relevance	3.54
Uses clear grading pattern	3.54
Works effectively as team member	3.54
Attends in-service and other meetings	3.46
Confers with teacher	3.5
Expresses self using correct grammar	3.41
Shows evidence of personal organization	3.56
Maintains ethical standards	3.72
Diversity	
Encourages mutual respect	3.70
Understands individual difference	3.56
Helps students understand similarities and differences	3.48
Selects appropriate activities	3.52
Provides proper modifications	3.57
Uses variety of assessment strategies	3.61

Integration of knowledge, skills, and pedagogy

Plans instruction on goals	3.52
Uses long and short term goals	3.52
Uses experiences to make learning meaningful	3.54
Provides collaborative activities	3.52
Provides a variety of instructional techniques	3.39
Uses current education theories/practices	3.52
Varies activities/methods	3.48
Uses best practices	3.44
Fosters inquiry and active engagement	3.52
Stays knowledgeable on current information	3.54
Uses assessment to guide instruction	3.39
Uses various assessment techniques	3.44
Uses self-reflection	3.69

As indicated by data gathered from the individuals who monitor and evaluate the student teaching internship, OSU students in STCL programs demonstrate a high degree of competence in all areas of evaluation.

(5) Performance during first year of teaching

The state of Oklahoma supports a residency program for first-year teachers. Each first-year teacher's committee must include a higher education committee member who attends three committee meetings and completes at least three observations that focus on the resident teachers' abilities in the areas of human relations, teaching and assessment, classroom management, and professionalism. During 2002-2003, OSU faculty served on 252 residency year committees of OSU graduates in over 90 school districts. Ninety-nine percent of OSU entry year teachers successfully met the criteria. One percent (two teachers) was recommended for a second year in the residency program.

(6) Assessment of recently hired graduates by principals

A telephone survey of five administrators representing three area school districts was conducted to determine how well recently-hired OSU graduates have demonstrated the program and state's 16 General Competencies. (See appendix.) All rated OSU graduates as well prepared and generally gave high ratings on each of the general competencies. Areas for improvement of new teachers entering the profession included legal rights and responsibilities of teachers, students, and the community as well as including career knowledge within the curriculum.

This feedback, based on the perceptions of employers of our students, corroborates information presented elsewhere in this section that indicates a high degree of competence by graduates in STCL degree programs.

Master of Science in Teaching, Learning, and Leadership**(1) Performance on state certification examination (OSAT) for Oklahoma educators**

Students who want to qualify for reading specialist or special education certification must pass the Oklahoma Subject Area Test. Students performed as follows:

Reading Specialist (N = 12)

%OSU Pass Rate	%State Pass Rate
100%	100%

Special Education (N=12)

% OSU Pass Rate	% State Pass Rate
50%	61%

Students in the reading specialist program performed extremely well while those students in the special education program performed eleven percentage points below the state average.

(2) Performance on comprehensive examinations

Comprehensive examinations assess a students' knowledge about fields of specialization and professional education. It requires a synthesis of thinking and proficiency in communication skills.

During the academic year 2002-2003, fifty-nine students passed the comprehensive examinations and one failed. The one student who failed later took the test and passed.

These results demonstrated end-of-program competencies in each of their respective specialty areas.

(3) Student assessment of graduate program preparation

Upon completion of their programs of study, fall and spring master's students in STCL (N=57) evaluated the outcomes of the program. The results are listed below.

Ninety-five percent of respondents agreed or strongly agreed that the program improved their general level of education.

Eighty-eight percent agreed or strongly agreed that the program was effective in improving the skills needed for a professional career.

Ninety-five percent rated their programs and classes as strong or very strong, and ninety-five percent rated STCL classes and its professors as strong or very strong.

(4) Performance on theses or creative component project

The purpose of a thesis or creative component is to demonstrate competence in the field by completing original research or project. During the academic year under review, master's students in STCL successfully completed 45 theses or creative components.

Doctor of Philosophy in Education

Note: The Ph.D. program has three options: 1) Professional Education, 2) Occupational Studies, and 3) Curriculum and Social Foundations. Given that the third option spans two schools, this program area compiles a separate assessment report. In addition, most students discussed in this report are Ed.D. students because the Ph.D. option has been available only since last fall.

(1) Performance on qualifying examinations

Qualifying examinations are designed to present a rigorous and thorough examination of a doctoral student's progress. During the academic year under review, eleven students successfully completed qualifying examinations.

(2) Student assessment of graduate program

Upon completion of their programs, fall and spring doctoral students in STCL were invited to evaluate the outcomes of the program. The survey results (N=3) are as follows:

All agreed that the program improved their general level of education, and one strongly disagreed with this statement.

All agreed that the program was effective in improving the skills needed for a professional career, and one strongly disagreed with this statement.

All students highly rated classes and professors in SCTL.

In addition, a focus group interview was held with three doctoral students at the conclusion of their programs to ascertain competencies gained from their programs as well as to understand aspects of the program that could be strengthened to provide additional competencies. Competencies gained from STCL doctoral programs included: knowledge of strategic planning, understanding and using research methodologies, ability to evaluate multiple perspectives, and improved writing skills. The students considered the following as areas to be addressed: more information about the process of the doctoral program, increased structures in the program to facilitate peer and faculty support, and more emphasis on working with different cultures.

(3) Dissertations completed

Each dissertation should demonstrate the ability to conduct original research and special expertise in the field of study. During the academic year under review, eleven dissertations were successfully completed by doctoral students in STCL.

Uses of Assessment Results:

The assessment report was disseminated and discussed at a STCL program coordinators' meeting in the Fall 2002 semester. Program coordinators then met with area faculty to discuss specific information contained in the report. From these activities, the following changes were made:

1. When the assessment report was circulated, several program coordinators were not aware of their students' performance on state examinations. Therefore, an immediate change was made to initiate a clear process of sharing results of the examinations with faculty. Once this process was in place, program coordinators have more meaningfully used the results with their program area faculty and advisory committees. They also found some errors in the state-reported data.
2. This year, each certification area chair began compiling assessment data for accreditation reports that are due February 2004. Each of the 12 STCL certification programs must meet their respective specialty association's standards at the state and national levels. Test reports from the OGET, OPTE, and OSAT were used by program faculty to evaluate specific areas in which student learning can be strengthened. In addition, the use of other assessment report data, especially portfolio data, has been used in making modifications in some programs. Examples of modifications include the following:

Secondary-level student teacher observation forms were modified to better focus on evaluating competencies of pre-service teachers. These changes will support secondary programs' ability to demonstrate if standards are met.

Special Education faculty members are working to significantly revise their program including improved connections to other program areas in the college to strengthen certain areas of their program.

Elementary Education is developing a significant component in their program to offer students advanced preparation in working with diverse populations.

English Education made significant changes to its degree program in order to enhance students' content knowledge and writing skills.

Reading Education developed rubrics to evaluate student work for each certification course.

3. The portfolio process at the undergraduate and graduate levels continues to be revised to better integrate portfolio requirements in coursework, that is, students better understand how to use artifacts developed in classes and field experiences in the development of the portfolio. Further,

programs are meeting aspects of accreditation requirements by the use of external portfolio reviewers.

4. In response to concerns expressed by graduate students, the School will have a Graduate Student Handbook available by Fall 2003.
5. In order to address core goals for two, common master's courses (Curriculum Issues and Educational Advocacy and Leadership), faculty who teach those courses presented at a faculty meeting to review their syllabi including course objectives, content, and evaluation. A common understanding about core courses will underpin use of comprehensive examinations as an effective student assessment tool.
6. A focus-group exit interview was initiated with doctoral students in order to gain more information from students about the program.
7. To improve our abilities in assessing students' knowledge, skills, and disposition, a unit-wide assessment system is being developed. This system will significantly enhance our abilities to evaluate student competencies in all certification areas.

**School of Educational Studies
Aviation and Space**

Prepared by Steven K. Marks And Susannah Lyon

The following table shows the assessment methods used and numbers of individuals assessed for the degree programs in Aviation and Space.

Degree Program(s) Assessed	Assessment Methods	Number of Individuals Assessed	
Aviation and Space I. BS II. MS III. Ed.D.	I. The BS is assessed by graduation checks.	BS	72
	II. The MS is assessed by the faculty reviewing the creative component.	MS	6
	III. The Ed.D. is assessed by looking at the comprehensive examinations and reviewing the responses of the students. Each student is given eight questions to answer over a two-day period.	Ed.D.	5

Analysis and Findings:

The following information demonstrates a breakdown of students in the various aviation degree options. This information was useful in determining the need or for more Aviation Management classes because of the high number of students graduating with this option.

Bachelor of Science in Aviation Science Degree

	Professional Pilot	Aviation Management	Technical Services	Total
Male	21	45	6	72

A total of 72 BS degrees were used for spring, summer and fall 2002 data.

MS - All MS students defended their creative components. Students demonstrated proficiency in their research design and objectives. The committee members for all students accepted the creative components.

Ed.D. - All the students passed the comprehensive examinations. No students had to rewrite questions.

Uses of Assessment Results:

A review of the needs of the aviation industry, recent Aviation graduates, advancements in technology, and program objectives demonstrated the need for changes in course curriculum. The following chart shows proposed revision for Aviation Education curriculum.

BS/MS - Aviation Education Curriculum

New Courses:	Courses Deleted:	Course Title Changes:
AVED 2513 Aviation Career Planning & Development AVED 3453 Aviation Security AVED 3433 Aviation Ethics AVED 3543 Aviation Organizational Communications (replaces BCOMM 3233) *AVED 4353 Cockpit Automation AVED 4663 Aviation Leadership *AVED 4963 Airport Design	AVED 1503 History of Manned Space Flight AVED 2203 Impact of Aviation and Space Exploration on Society AVED 2633 Air Traffic Control and the National Airspace System AVED 3441 Aerobatic Flight Lab AVED 3553 General Aviation Management (Combined with *AVED 4953 Corporate Aviation Management) New Title: *AVED 4953 Corporate and General Aviation Management *AVED 4213 Trends & Issues in Aviation Replaced by *AVED 4653 International Aviation Issues	*AVED 3443 Aviation Law to *AVED 3443 Aviation Legal & Regulatory Issues AVED 3513 Aviation Management to AVED 3513 Aviation Management Principles *AVED 3663 Air Transportation: The Industry to *AVED 3663 Air Carrier Industry <hr/> Course Title & Content Changes: *AVED 4953 Corporate Aviation Management to *AVED 4953 Corporate & General Aviation Management (<i>Combines AVED 3553 General Aviation Management with AVED 4953 Corporate Aviation Management</i>) <hr/> *Approved for Graduate Credit

MS - Creative Components need to be assigned to a more specific class. AVED faculty is currently reviewing the criteria for completion and submission of the Creative Component and determining if modification is necessary. The Aviation and Space Program Outcome Assessment Model is currently being revised to include the graduate programs.

Ed.D. - The comprehensive examinations brought out the knowledge of the students. The students were able to demonstrate the key concepts learned and mastered in the Ed.D. classes. At this time, no students are currently able to enroll in the Ed.D. Program.

School of Educational Studies
Educational Leadership
 Prepared by Judith Mathers

Degree Program(s) Assessed	Assessment Methods	Number of Individuals Assessed
<i>EdD in School Administration</i>	Qualitative data were gathered at the end of the Fall 02 and Spring 03 semesters using a series of open ended questions. Responses were either returned in hardcopy during class or by email.	28

Analysis and Findings:

Purpose

These data were gathered in an effort to gain a sense of student perceptions and experiences within the cohort system begun in the Fall of 2002. Organizing EDLE doctoral students into cohorts is designed to facilitate student learning and improve the efficiency of course scheduling.

Method

A series of open-ended questions were asked of current doctoral students in School Administration. Two separate cohorts were included in the survey. The OSU-Stillwater cohort has 16 students and the OSU-Tulsa cohort has 12 students, for a total of 28 students surveyed. Students were surveyed both at the end of the Fall 2002 semester and at the end of the Spring 2004 semester. Responses were accepted both in hardcopy form and by email. Data were transcribed with the assistance of the office staff of the School of Educational Studies. There were a total of 37 responses from the two data collection periods.

Findings

Analysis of the data indicated that students felt positive about the following:

- Support from other students
- Closeness to or bonding with classmates
- Opportunity to form professional networks
- A sense of trust between cohort members and faculty
- Value of the learning atmosphere created by the cohort model

The data analysis showed two areas common to cohorts that were perceived as negative by students. First, very often a cohort will have one student with a forceful personality who tends to dominate class discussion and activities. One of the cohorts reported this phenomenon while the other did not. Second, students in both cohorts reported a sense of frustration with lack of information on the processes and procedures for moving through doctoral study. This has generally been found to be a product of "group think," experiencing an close, supportive environment characterized by open communication between students, fails to establish a close bond with the program assigned advisor, and instead relies on information that is presented to the group.

Uses of Assessment Results:

The positive and negative aspects of the use of the cohort model in doctoral study identified in the data analysis may be found in the cohort research literature. While none are surprising, the positive perceptions must continue to be supported by all faculty delivering courses and the negative perceptions must be attended to with improvement to or changes within the program.

Recommendations

- **This type of assessment should be extended to the Higher Education doctoral cohorts.**
- **Separate survey instruments should be created for gathering data at the following points:**
 - **End of first year of study**
 - **End of second year of study**
 - **Before the qualifying examination is taken**
 - **After defense of proposal**
 - **Upon successful defense of the dissertation**
- **A student handbook should be designed specifically for EDLE doctoral cohorts.**
- **Better communication must be established between each students and their advisor/chair.**

School of Educational Studies
Human Resource Development/Adult Education Program
 Prepared by Robert Nolan

Degree Program Assessed	Assessment Methods used	Number of Individuals assessed
Master of Science in HRAE Ed.D. in HRAE/OAED	<p>**Surveyed 34 graduates who graduated from Dec. 2001 to Spring, 2003 by means of a web-based survey send by email with a link</p> <p>**Two focus groups on April 18 and 24, 2003</p>	<p>34 graduates were contacted by email; 18 responded to the web-based survey.</p> <p>7 individuals participated in the focus groups.</p>

Findings and Analysis of the Outcomes Assessment

Mission of the program (revised January, 2003): To provide graduate courses and mentoring to qualified students in order to prepare them to be professionals in the field of Human Resource Development and Adult Education. Graduates of this program will be able to design and conduct effective educational programs for adult learners in both formal and informal organizations.

Goal 1, Objective 1: Graduates will be able to assess and present material to diverse audiences as well as facilitate the learning of self-directed adults.

Measure: Graduates were surveyed by means of a web-based questionnaire. In answer to the question, how did the program help you meet the demands of your professional career?

Meet the demands of your current professional role	
A great deal	14
Somewhat	3
Not at all	2

Goal 1, Objective 2: Students will be able to demonstrate basic and current knowledge in the professional fields of adult education and human resource development.

Measure: Graduates were surveyed by means of a web-based questionnaire. In answer to the question whether courses provided them with current, up to date information, they responded:

Courses Provided Up-to-date Information in Adult Ed and Human Resource Dev.	
The latest ideas	13
Somewhat dated Ideas	5
Old ideas	1

Goal 1, Objective 4 Students apply knowledge from the classroom in creative ways in program settings or in research. Six of 19 graduates presented a total of 10 papers to professional groups outside their classroom activities. However, one respondent who presented 3 papers noted that the papers were not in the field of adult education or human resource development.

Presented Papers at Regional, National or Local Professional Conferences	
Yes	6
No	13

Goal 1, Objective 4 (continued). Three students won awards for their research. At the Doctoral level [REDACTED] won the Group V award for excellence in dissertation research. [REDACTED] won the Group V award for excellence in Master's thesis research and [REDACTED] won the AARP national Andrus Foundation award for her Master's thesis research.

Goal 1, Objective 5: The HRAE program will develop a 'research culture'. (See responses to Objective 4 above.

Goal 2: Students and Graduates will be satisfied with their graduate experience and will be able to apply their knowledge and skills in a professional setting.

Objective 1: Students and graduates will belong to professional associations, present at scholarly conferences; co-present with faculty and co-author with faculty.

Presentations and articles co-authored with faculty	
National presentations	4
Local presentations	2
Journal Articles	4

Goal 2, Students and graduates will express satisfaction with the program.

The web-based survey asked three open-ended questions:

What Graduates Liked best about the Program	
Professors were great, because they tried to meet the needs of the students	4
Learned more in Master's degree program than I ever imagined	
Liked evening and weekend classes for working adults	
Encouragement with research, help with research	3
Able to incorporate projects directly related to my work	2
Flexibility to pursue specific areas of interest within coursework	
██████████'s cohort group	
Professionalism of professors and advisers	2

What Graduates Liked Least about the Program	
Freezing of the Doctoral program	3
Professor did not give a student credit in a book for which student did research	
Curriculum—each course was similar.	
Never opened a book for one professor's class, yet received an 'A'	
Lack of evenness or equality among course demands	
The muddled thinking and verbal abuse of another professor	
Some of required readings were outdated	
The difficulty in trying to get the Chair of one's committee removed	
The amount of time spent on non-academic activities	
Non-HRAE required courses offered only during daytime (working hours)	
Narrow courses to choose from	
The complicated process of having a plan-of-study approved.	

Recommendations for improvement	
Reopen the doctoral program	
Encourage research and presentation of papers at conferences	
Revamp the rigor of the program	
Take student evaluations seriously	

Program Changes Planned as a Result of the Assessment

1. HRAE faculty will work on the overall program design including a review of the doctoral core; the design of new courses and the course rotation.
2. More attention will be given to paper work between the Tulsa and Stillwater campuses.
3. Faculty will have a discussion about course loads.
4. Faculty will give more attention to initial advisement and orientation. Faculty will discuss the feasibility of having all incoming students begin in the Fall semester with the Doctoral Seminar I.
5. Faculty will give more advisement in Tulsa
6. Priority will be given to lifting the freeze on admissions to the doctoral program.

School of Educational Studies
Research, Evaluation, Measurement, and Statistics (REMS)
 Prepared by Laura L. B. Barnes

Degree Program(s) Assessed	Assessment methods	Number of Individuals Assessed
Educational Psychology Ph.D. Emphasis in REMS	14 REMS and former ABSED Research and Evaluation alumni were emailed a link to an internet-based survey. Eight alumni responded.	7 Ph.D. Students
Educational Psychology M.S. Degree Emphasis in Educational Research and Evaluation		1 masters student

Method and Findings:

Method: Email addresses were obtained for 14 out of 15 REMS and former ABSED-Research and Evaluation alumni who graduated since 1990. These REMS alumni were emailed a request to respond to an electronic survey; a link to the survey was included in the email. The survey, which is attached to this report, asked them to provide ratings for skills that the program identified as desired outcomes for REMS students and which are reflected in the REMS assessment plan. The survey sought ratings for 17 skills plus 12 specific research methods. Alumni were asked to provide three ratings for each skill: (1) the relevance of that skill to them professionally, (2) their current level of skill development, and (3) the emphasis given that skill while they were students in the REMS/ABSED program. The rating scale for each item was Low, Medium, and High. This year's alumni assessment survey differs from the previous survey (see 2000-2001 Outcomes Assessment Report) in that the current survey focuses on the relevance, emphasis, and current development of very specific skill outcomes.

Findings: Eight out of 14 students responded to the survey (7 doctoral recipients and 1 masters recipient). This represented overall a 57% response rate. Of the 17 skills and 12 methods, respondents identified eight skills and 4 methods as having high relevance to them professionally. If more than half the respondents rated an item as high relevance, it was categorized as having high relevance. These are listed in Table 1 below. Two items were classified as Low Relevance items because they received no high relevance ratings and several low relevance ratings. These were Qualitative Research and Generalizability Theory.

Table1. REMS Alumni Skill Acquisition for Highest Relevancy Skills: Frequency Count by Category of Skill Development and Program Emphasis (Total N=8)

High Relevance Items	Current Skill Development			Emphasis by REMS Program		
	High	Medium	Low	High	Medium	Low
Plan and carry out research	6	2	0	4	4	0
Teach research methods	5	3	0	0	7	1
Provide research consultation to others	4	4	0	1	4	3
Develop research instruments	5	3	0	4	3	1
Evaluate research instruments	5	3	0	3	5	0
Conduct appropriate statistical analyses	7	1	0	6	2	0
Use computers for statistical analyses	7	1	0	1	6	1
Develop personal research agenda	6	2	0	0	4	4
ANOVA	7	1	0	7	1	0
Regression	7	1	0	7	1	0
Multivariate Techniques	6	2	0	6	2	0
Exploratory Factor Analysis	4	3	1	4	na	na

Table 1 shows the level of current skill development and the reported REMS program emphasis for each of the high relevance items. Students reported possessing a generally high level of current skill development for most of the high relevance items. Lower ratings were given to “providing research consultation to others” and “exploratory factor analysis.” Alumni reported that the REMS/ABSED program emphasized skills in “conducting statistical analysis”, specifically ANOVA, Regression, and Multivariate analysis. *However, a number of skills that these respondents identified as highly relevant were not emphasized in their REMS program.* These were “teach research methods”, “provide research consultation to others”, “evaluate research instruments”, “use computers for statistical analysis”, and “develop a personal research agenda.” That many reported a high level of skill development in areas that were only moderately emphasized in their programs (e.g., develop a personal research agenda and use computers for statistical analysis) indicates that alumni have continued to develop professionally since graduation. The one alumnus who gave “use computers” a low emphasis rating graduated in 1990; the one who gave this item a high emphasis rating graduated in 2002, which is consistent with an increased emphasis on this skill in the REMS program.

Alumni were also asked to identify the three most important skills they acquired while in the REMS/ABSED program and to identify three skills they wish they would have acquired but did not while in the REMS/ABSED program. For both these categories, the skills broke into three areas: (1) data analysis techniques, (2) conceptual understandings, and (3) practical hands-on skills. As shown in Table 2, in addition to multivariate analysis, several former students listed psychometric theory and factor analysis as important skills. They also valued their conceptual understandings as well as practical hands-on applications, including the dissertation experience. Table 3 shows that alumni identified computer applications, several advanced research techniques, qualitative methods, and more practical experience as things they wish they had had in the REMS program.

Table 2. Alumni Most Valued Skills Learned in REMS program

Data Analysis Techniques	Conceptual Understanding	Practical Hands-on
Factor Analysis (2)	Statistics as system for understanding error	Contacting professionals for permission to use instruments
Multivariate Analysis (3)	Critical thinking and conceptual background in REMS (2)	Doing major relevant class projects
Psychometric Theory (3)	Understand scientific method	Working on large research project
General Linear Model		Dissertation
Identify research procedures/design (2)		

Table 3. Alumni Wish List of Skills for REMS program

Data Analysis Techniques	Conceptual Understanding	Practical Hands-on
Monte Carlo studies using SPSS	Philosophy of Science	Work with large datasets
Training Evaluation (Kirkpatrick’s model & ROI)	Put statistics together in broad overview	Consulting contracts
Statistical Computing Packages		More application to the real world and business applications
Structural Equation Modeling		Project management issues and managing research teams
Advanced Research Design		
Qualitative Methods (2)		
Generalizability Theory (2)		
Hierarchical Linear Modeling (2)		
Categorical Data Analysis		

Uses of Assessment Results: These results, together with past assessment results and other sources of student input, suggest some specific curriculum issues to be addressed within the REMS program. There is clearly a need to continue to incorporate more practical hands-on computer-based work with real data. Alumni have learned computer applications but suggest that these were not emphasized sufficiently in the REMS program. Mentoring regarding the development of a personal research agenda is something that would benefit students according to these results. These issues can be addressed through coursework and through ensuring that all REMS students experience student-faculty research collaboration. Specific content that alumni have identified as needing greater emphasis, are factor analysis and methods for evaluating instrument quality. The need for additional work in factor analysis has been recognized and a factor analysis course is being offered this summer. Though skill in qualitative methods and generalizability theory were rated as low relevance skills, two alumni included them in their wish list. Qualitative methods are required in the new REMS degree options. Though REMS no longer has undergraduate courses to specifically provide teaching opportunities for students, many of our doctoral students are faculty at regional universities and develop teaching skills without it being emphasized in the REMS program. Opportunities for developing consulting skills should be expanded within our program. The REMS faculty are currently discussing the development of a research consultation center within the College of Education that would provide REMS students with opportunities to develop many of the skills addressed in this survey.

Next Steps: A Blackboard website has been created for communication among REMS students, faculty, and alumni. This was initially developed to facilitate constituent input into the SWOT analysis and was to be included with these assessment results. Due to a technologically induced miscommunication, the student input into the SWOT analysis is not yet available for this report. Nevertheless, we envision the Blackboard site as a permanent source of continued communication among current and former students and faculty and should be a valuable mechanism for on-going program monitoring.

School of Architecture

Prepared by Eric Connell

Degree Programs Assessed	Assessment Methods Used	Numbers of Individuals Assessed
Bachelor of Architecture & Bachelor of Architectural Engineering	Survey of professionals who served on student presentation juries.	37 from ARCH 5119
	Exit Interviews	30
	Portfolios of cumulative student work	10

Population of Students Assessed:

Populations surveyed vary with the assessment protocol utilized. For most assessments each year's entire graduating class is selected as the population for study. The year's assessment of the capstone studio course evaluated 30 students (19-BArch and 11-BArchEngr), for whom all passed with a grade of C or better, qualifying them to graduate upon satisfactory completion of other courses. The population assessed by external accreditation review by the National Architecture Accrediting Board is assumed to be all undergraduate students in the Bachelor of Architecture Program.

Analysis of Findings for 2002–2003:

Survey of professional capstone course jurors:

Surveys were mailed to 64 participant jurors at the middle of the spring semester 2003; we sent two surveys to each juror and asked them to fill out either one or both and we had 37 surveys returned. Some returned both and others only one, so an accurate percentage would be hard to determine accurately. However for those returned the results were improved over last years survey. Surveys used a scale of 1–7 in which the assessment by the jurors was from (1) not at all to (7) very well. Results indicate that the program continues to successfully instill the intended attitudes and commitment to the profession in the students in the capstone course. The professional respondents found overall students understanding to be above average (3.0 or higher) or higher in all knowledge areas, with students understanding most areas judged as "very well" (6.0 or higher) Out of 960 possible responses, only 22 responded with a below average score, or less than 3% of the overall scores. Of the below average scores only all were a score of 2, and there were no (0%) scores of 1. On the other end of the spectrum, 173 of a possible 960 responses were given a score of 7, that is 18% of responses were assessed as excellent.

Portfolios of cumulative student work:

High-quality color laser copies are made of available student portfolios from selected students graduating each semester. Portfolios are regularly reviewed at each meeting of the school's Professional Advisory Council (the school's principal external advisory body), and no concerns were raised this year.

Masters candidates:

No graduated Masters students this year.

Exit Interviews:

The Head of the School of Architecture interviewed graduating students from Architectural Engineering and Architecture at the ends of the Fall 2002 and Spring 2003 semesters. The results of those interviews were presented and reviewed by faculty. Implications on the teaching and curriculum at the School of Architecture will be discussed at the initial annual planning meeting in August 2003.

AE Course Outcome Assessment Form:

Faculty identified which of the EC 2000 criteria were met in each required course. The information from the assessment is distributed to the faculty for consideration in the 2003–2004 academic year.

Instructional Changes:

Curriculum modifications:

Several changes were implemented into the curriculum based on the data gathered from the Outcomes Assessment and the school's Professional Advisory Council. Additionally, changes will be proposed based on each year's new data if it is deemed significant.

Assessment modifications:

Survey of professional capstone course jurors:

Forms were modified to distinguish the Architectural Engineering and Architectural student evaluation criteria with the user of color paper sent to jurors.. The jurors were given the opportunity to evaluate both Architecture and Architectural Engineering criteria. or in their area of expertise. 24 surveys returned for Architecture students and 13 for Architectural Engineering. Some jurors indicated they did not know the difference during the review process and would appreciate a method of identifying the different students during their presentations.

Appendix:

The majority of graduating students have secured good jobs in the profession. These opportunities are in both large and small architectural and architectural engineering firms in Oklahoma and throughout the nation. However, due to a current tight market, some graduates remain active in seeking employment in their respective fields. This condition continues from last year.

**School of Chemical Engineering
Undergraduates**

Prepared by R. Russell Rhinehart, School Head

The following table shows the assessment methods used and numbers of individuals assessed for the BS degree programs offered by the School of Chemical Engineering.

Degree Program Assessed	Assessment Methods Used	Numbers of Individuals Assessed
Bachelor's Of Science in Chemical Engineering	Fundamentals of Engineering Exam	68 (5-years)
	Senior Survey in the fall semester	29
	Exit interview fall and spring	12
	End of course survey – student response to objectives	7x25
	End of course evaluation by the faculty	7x25
	Course evaluations	10x25
	Feedback by Celanese visitors on student design problem	1x25
	External academic contests and scholarships	8
	Student activity in School's activities	100
	AIChE National Data	Many
	Semi Structured Alumni Phone Interviews	25 (97 and 99)
	Industrial feedback (IAC and recruiters)	20
	OSU Alumni Survey	28 (96 and 00)
	Employer Survey of Communications	24

Following is a table of contents for attachments revealing assessment activities throughout the year and supporting the following summary:

Item	Page
Industry Supervisor Evaluation of Recent OSU ChE Alumni	7
Senior Survey Results	8
Exit Interview Fall 2002	9
Exit Interview Spring 2003	11
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Math in the ChE Curriculum	30
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Fall End-of-Course Instructor Assessment	34
Academic Year End-of-Course Instructor Assessment	39
Analysis of FE Exam Performance	42

Accreditation

The Accreditation Board for Engineering and Technology (ABET) requires a continuous improvement process for engineering education programs. In preparation, during the past five years (and substantially in the past three) the School has explicitly defined Educational Objectives (what we expect graduates to be able to do/have done by two years after graduation); and, from those, Program Outcomes (skills and assets that students have upon graduation), and the topics and skills that define the essence of chemical engineering. We developed a continuous assessment process, and for the past two years, closed the feedback loop. Most of our efforts for the University Assessment of Instruction are within the ABET activities.

This year ABET will visit to inspect our CQI process in detail.

Assessment Overview

Feedback from both our internal alumni phone interview, OSU Alumni phone interview, and our own survey of employers indicates that our program prepared the alumni well for practically all aspects in their diverse careers. An industry survey indicates that our graduates perform as well or better than those from other schools. Feedback suggests better preparation in computer programming, dealing with ambiguity, integration of business economics, and better preparation for team effectiveness.

While we do an excellent job preparing students for formal oral and written presentations, communication is much broader. Industrial feedback indicates that new employees generally lack listening skill. In addition, since email is the primary communication tool, we need to help students understand that it is neither informal nor personal. Since it forms a public and permanent record, proper English, and carefully considered words are important. Since practically all industrial communication is action-oriented students should be trained to connect technical analysis to recommended action within an enterprise situation.

Employers and graduate advisors are generally well pleased with OSU ChE graduates. This is a continuing finding.

Analysis of performance on the Fundamentals of Engineering Exam indicates that OSU ChE student test-takers are significantly better prepared in the science and engineering fundamentals than the average national student test-taker. We have sustained a 94% pass rate, compared to a national pass rate of 82% for the past ten years. In the last 2.5 years, our students had a 100% pass rate. Only in one category, mathematics, do we frequently test lower (marginally significant) than the national average. This is a continuing finding.

Our students and alumni have a strong utilitarian value, and rate the importance of courses to their perceived or actual utility to a professional's life (career as well as personal). This is a very "engineering" characteristic. Alumni and students generally volunteer that ENGL3233 (Technical Writing) is redundant and inferior to the writing instruction we provide in the CHE 4001/4112 and 4124/4224 courses. Starting in AY04 ENGL3233 will convert from being the required second English course to an option to Composition II.

Also very high on the list of least useful classes was STAT4033 (probability and statistics). Primarily, the problems are the lack of connection to practical application, inability to cover all course topics, no required homework, and several barriers to students obtaining help from the instructor.

Students also had significant complaints about ENSC2613 (Circuits), because of poor teaching.

In the past students, faculty, and alumni in graduate school feel that the mathematics ability of our undergraduates needs to be improved. The students want more "practical math" ability; not math theory. They want engineering analysis skill. The alumni in industry do not suggest additional math training, but recommend that we develop better computer programming skill – a subset of practical math. Along with better computer programming skill, IAC members would like BS engineering graduates in general (not necessarily OSU) to have better ability to apply probability and statistics to design and analysis, and to be better able to judge the veracity of computer output. Our interpretation is that students do not need better math skill in order to perform employment tasks, but that they need greater comfort in the application and interpretation of math-related skills to understand ChE fundamentals, to analyze ChE phenomena, and to design ChE processes. Faculty has accepted the challenge of integrating such experiences into their classes. This is the first year that senior students have not complained about insufficient skill in practical math.

Students, alumni, and IAC members encourage us to replace FORTRAN with VB and prepare students to use Macros in Excel. Because of the inconvenience of access to FORTRAN software, student rarely use it. However, all have Excel, which permits programming in VB macros. Accordingly, we are introducing the mechanics of VB programming in CHE2033 and the ChE section of ENGR1352.

Freshmen and sophomore students are disengaged from both chemical engineering and the School. The math, science, and ENSC courses misdirect any understanding of ChE, and the joy that awaits them if they stick to the plan. Seniors suggest that seniors talk to Pre-Professional School Students (PPSS), that PPSS tour UOL while it is in session, and that PPSS take field trips to ChE sites.

College of Engineering, Architecture, and Technology

Computing facilities have improved each year. However, facilities, software, and user instruction on software and hardware are inadequate. There are too few computers, in inconvenient locations. Class use of the "open" labs blocks student use, and is very frustrating. Students need instruction on system and software operation to be proficient. We added a lab section to CHE2033 and have a ChE instructor teaching a lab in ENGR1352 for software training. We need sufficient tabletop workspace in the labs. Software products are limited, and some of primitive version. In spite of substantial improvements in computer facilities in each of the past several years, we are still far behind. Our expectations and desired software products expand, as fast as we improve the facilities. Students want 24-hr access to EN labs where the reference books are located, and where encounters with professors are likely. Being in the labs for long hours, students would like a coffee/snack shop in Cordell. This is the first time students did not have a dozen types of complaints about the technical inadequacy of the computers. These are continuing findings.

We started using a single ChE advisor this academic year. The academic advising process requires experienced advisors to interpret and locate the convoluted rules and conditions. Students cannot effectively advise themselves because the degree requirements are not clearly stated. This is exacerbated for transfer students because credit amount and category of transfer courses often requires interpretation, with multiple OSU departments claiming authority. As a result engaging the entire faculty in advising was inefficient. The single advisor system creates expertise and uniformity. However, as students progress from pre-professional school to professional school, advising shifts from CEAT Student Services to the CHE Faculty, whereupon interpretation of the degree requirements changes. Advisors within any one group give conflicting direction. While this is a continuing finding, the frequency and severity of complaints seem to have lessened.

Students struggle with certain prerequisite material when they enter subsequent courses. Key prerequisite topics that pose subsequent difficulty are computer programming, differential equations, material balances with recycle, and statistical analysis of data. This is a continuing finding.

We need more automation, and larger-scale experiments, piping craft, and safe human space in the Unit Operations Laboratory to make it reflect industrial practice. This is a continuing finding. However, this year, the addition of an industrially fabricated, integrated, multi-heat exchanger unit makes substantial progress. We have redone piping on several experiments to represent craft, and are now seeking industrial help to upgrade the fluid flow experiment.

ChE enrollment cycles with a 13-year period, and all US schools are in phase. We have been in the downward trend of matriculation, but each of the last two year's data showed a slight rise. As indicated by the rate of scholarship applications this year, the freshman ChE class should be about 25-50% larger than last year. In the past low portion of the cycles, freshman matriculation had dropped to about 30. Anticipating, the coming drop, we revised recruiting materials and procedures, and this cycle the freshman class only dropped to about 60.

Instructional changes that have occurred or are planned because of outcomes assessment

We are working well beyond "instructional" changes. This discussion includes all changes.

We have an active EC2000 Accreditation Committee of three faculty members which acts as a steering committee, digesting data, and preparing for semi-annual faculty meetings and annual IAC meetings for curriculum improvement decisions. As a School, we now have formalized criteria to use in exit interviews and end-of-course assessment, and meet each semester to review assessment data and direct curriculum improvement.

Welcome letters to new matriculates, recruiting letters, response to enrollment inquiries, and the Head's address at the first AIChE Student Chapter meeting address the intensity of the curriculum, the need for commitment, and the importance of extra curricular activities in the development of the entire person. It is important to shape the person's perspective to ensure success within the new environment.

We are making greater use of multi media in teaching.

We are making greater use of simulators and CAD packages for student home assignments. CFX was extended to the reaction class this year. We added a discussion section to CHE2033 for instruction on software (MathCAD, Excel, and ChemCAD) use.

College of Engineering, Architecture, and Technology

VB is introduced in ENGR1352 and CHE2033.

Starting in the spring of 2002, CHE course instructors have been actively looking for ways to integrate “practical math” into the student activities of their courses. Now three semesters later, graduating students are not complaining about practical math skill. The transition from theoretical MATH to its practical application is difficult. Wherever we introduce it the CHE curriculum, students seem to struggle and instructors complain about lack of prerequisite ability. But, the complaints disappear in subsequent courses. This year, transient material and energy balances, leading to ODEs, were covered in CHE2033.

ChE is represented on the CEAT Statistics Oversight Committee which continues to seek a solution to improve course effectiveness.

ENGL3233 was changed from a required to an option as the second ENGL course.

We added an integrated heat-exchanger unit (from industrial donations), re-piped several units, and renovated Unit Operations Lab space to improve safety and functionality. We added two computers to the UOL for student use (there are now 9), with 7 units computer monitored, of which 4 are computer controlled.

Advising materials continue to be carefully edited to provide clear and non-conflicting advice to students. We are considering changing the ChE advising from a shared responsibility to a single person assignment within ChE.

School of Civil and Environmental Engineering

Prepared by Gregory G. Wilber

Degree Program(s) Assessed	Assessment Methods	Number of Individuals Assessed
BS - Civil Engineering	<i>Exit Interviews</i> <i>Fundamental of Engineering Exam</i> <i>Board of Visitors</i> <i>Employer Survey</i> <i>Student Advisory Committee</i> <i>OUA Undergraduate Program Alumni Survey</i> <i>Faculty and Professional Evaluations</i>	26 30 * 18 8 22 26
MS - Civil Engineering	<i>Exit Interviews</i> <i>Theses/Report Defense (Committee Evaluation)</i> <i>OUA Graduate Program Alumni Survey</i> <i>Board of Visitors</i>	12 12 0 *
MS - Environmental Engineering	<i>Exit Interviews</i> <i>Theses/Report Defense (Committee Evaluation)</i> <i>OUA Graduate Program Alumni Survey</i> <i>Board of Visitors</i>	7 7 0 *
PhD - Civil and Environmental Engineering	<i>Exit Interviews</i> <i>Theses/Report Defense (Committee Evaluation)</i>	0 0

* The Board of Visitors evaluates program components (curriculum, students, faculty, facilities, etc.) While they do speak to individual students, they do not formally assess specific individuals.

A variety of assessment tools are in use by the School of Civil and Environmental Engineering, for the purpose of monitoring and improving the program. The School also uses these tools as part of the assessment process required for maintaining accreditation by the Accrediting Board for Engineering and Technology.

Analysis and Findings:

Employer Survey

The 2002 Employer Survey was performed in July 2002. The survey was sent to 22 employers, and 18 responses were received. These employers were selected to represent a cross section of those who have employed our graduates from the past five years. Participants included public institutions at all levels (federal (US Army Corps of Engineers), state (Oklahoma Department of Transportation) and local (City of Tulsa Public Works)), industry (Koch and Hilti), large consulting firms (Atkins America), and a few small specialty firms. It is felt that these employers hire a representative group of our graduates in terms of ability, specialization, and demographics. In the case of employers that hire a large number of our graduates (such as the Corps of Engineers or the OK Department of Transportation), the survey was distributed to more than one supervisor with direct contact with employees from our program. The survey included a variety of questions aimed at determining the employers' assessment of the quality of our graduates, with particular attention paid to achievement of most of our Program Educational Objectives and Program Outcomes. In general, a high level of satisfaction was expressed by the employers of our recent graduates. Two areas did receive some negative comments, with three of the 18 respondents stating their OSU-degreed employee did not meet their expectations. These areas were in planning and scheduling of projects and in written communication. These findings have been passed on to the School's Curriculum Committee, which is investigating possible curricular responses.

Exit Interviews

Beginning December 2001, the exit interviews administered to all graduating seniors by the School Head were altered to be more focused. Each student is now asked to fill out a two-page survey form asking his or her views of the program, particularly the degree to which the program accomplished certain types of learning. The interviews begin with a scan of the student's written responses and any comments that the student might have to amplify on his or her responses. The interviews usually last about fifteen minutes, although some last longer.

Without exception the students--for the past three years at least--have been extremely positive about their educational experience at OSU. An analysis of the data for spring 2003 illustrates this conclusion. Interviews were conducted with all 16 graduating seniors. All 16 had taken the FE exam, and 14 had passed it. Two had not yet received word regarding their success on the exam. These 16 students each responded to 8 multiple-choice questions, meaning that there were 128 multiple-choice responses. Of these 128 responses all but 3 were in the first three categories ("very well," "well," and "adequately"). In particular, 34.3% of the responses were "very well," 53.1% were "well," and 10.3% were "adequate." Thus, 97.7% were adequate or better.

The question addressing students' teamwork experiences provide a current example of the quality control process. Noting the relatively low student assessments on teamwork experiences, the Head followed up on the team work issue during the open-ended part of the interviews. The result is that he learned that we do not provide our students with as many teamwork experiences as he had thought. The result is that two things will occur beginning in the fall semester, 2003. One is that teamwork will be increased in the Senior Seminar course (CIVE 4042 - Engineering Practice). Two, the faculty will discuss this issue at its annual retreat in August and will be asked to identify courses in which teamwork will be added or expanded.

Fundamentals of Engineering Exam

This is a national, standardized exam administered twice each year. It is the first step to professional registration and passing it is necessary for most entry-level jobs in civil and environmental engineering. All CIVE students are encouraged to take the exam, and approximately 80% of all CIVE graduates have done so before graduation. The vast majority of those students who do not take it are international students who plan to return to their home countries.

Data detailing the performance of CIVE students on the exam are made available to the Associate Dean of Engineering each semester. These data do not give results for individual students but rather composite scores for groups of students, categorized according to the discipline listed on their application. All examinees take the same morning 'general' exam. Students then have a choice of taking either another 'general' exam in the afternoon, or a discipline specific afternoon exam. The vast majority of CIVE students elect to take the 'civil engineering' afternoon section. As such, results are sent to the Dean's office categorized by the specific exam taken by a given group of examinees. A detailed statistical analysis of these results is prepared twice each year by an assessment specialist in the College of Engineering, Architecture, and Technology.

As an example of the way these results are used, focusing on the 1997 - 2002 summaries for the morning and afternoon exams, the following conclusions were recently drawn:

- 1) During this period, CIVE students performed significantly above the national average on the following topic areas:
chemistry, dynamics, electrical circuits, materials science, mechanics of materials, statics, and thermodynamics.
- 2) CIVE students performed significantly below the national average on the following topic areas:
computers (general exam) and computer and numerical methods (civil exam).
- 3) For the past two years' results, CIVE students performed above the national average on at least one occasion on the following topic areas:
thermodynamics and dynamics.
- 4) Also in the past two years, CIVE students performed below the national average, on at least one occasion, on the following topic areas:
mathematics, computers (general exam), computer and numerical methods (civil exam), hydraulics and structural design.

College of Engineering, Architecture, and Technology

Note that a 'significant difference' here is defined as 'greater than one standard deviation' from the mean value of the national test scores. The significance of the above information is of course open to debate. As mentioned above, the two sections in which CIVE students have consistently performed below the national averages over the past five years are computers (from the general exam) and computers and numerical methods (from the afternoon civil exam). The School's Curriculum Committee is currently investigating ways in which to address this situation. Among the issues under review are the timing of the exam (i.e. students taking the exam too early in their programs), the prevailing attitude about the exam (i.e. students viewing the exam as something to take more than once, the first time "just to see what it's like"), as well as specific course content that may be addressed toward specific deficiencies (i.e. incorporation of more spreadsheet skills within courses).

Board of Visitors

The Board of Visitors, which consists of eight civil and environmental engineering professionals, many of whom are alumni of our programs and/or employers of our graduates, met twice this academic year. They met with faculty, students, and administrators and reviewed curricula, programs, and departmental resources. In general, they expressed a high level of satisfaction with the program and the direction it is moving. In particular, they are enthusiastic about the capital campaign underway that will eventually lead to great improvements in the department's labs. They expressed concern about the enrollment in the program. They encouraged the department to maintain the curriculum as it is, covering a broad range of CIVE topic areas and not allowing excessive specialization. They cited the 5-year FE results study as support of this position.

Undergraduate Program Alumni Survey

The OSU Office of University Assessment performs a wide variety of assessments aimed at meeting the requirements for the university-level accreditation of the Higher Learning Commission, as well as those set by the regents of the university system. Among the assessment tools used is the Undergraduate Program Alumni Survey, which is performed on a three-year cycle. It focuses on alumni of undergraduate programs who graduated approximately two and five years before the time of the survey. In the most recent survey, performed in January 2002, graduates of the BSCE degree program in 1996 and 2000 were contacted. Questions asked of all alumnus center on the graduate's satisfaction with their experiences at OSU, as well as his or her current employment status. However, individual programs have the opportunity to ask additional questions of their graduates specifically. These questions have been tailored to assist in determining our program's achievement of its Educational Objectives and Program Outcomes. Overall, these graduates expressed satisfaction with their OSU educations and experiences. They also indicated a high level of continuing education and professional advancement. They also provided some additional insight into specific aspects of their civil engineering education that have been particularly useful in their professions.

Student Advisory Committee

This committee consists of eight student leaders who represent student concerns to the departmental leadership. They meet with the department head periodically. In general, this group expresses satisfaction with the program. Concerns that do arise routinely include the sub-standard educational technology in Engineering South classrooms, the sub-standard lab facilities for the department, and the lack of a common area for CIVE students to congregate. These last two, in particular, have been addressed, as discussed below.

Faculty and Professional Evaluations

Each student takes at least one "capstone" design course. This generally occurs in the student's final year. In these courses, group design projects are completed, the products of which (reports, design work, and presentations) are presented to faculty (in addition to the course instructor) and to participating professionals. These individuals evaluate these products and present the evaluation to the students and course instructor. In all cases available for review, the practitioners reported satisfaction with the work performed. They offered suggestions for the improving the projects themselves but felt the curriculum had prepared the students adequately for the work.

Graduate Theses Defenses

The examination committee for each candidate assesses the candidate's academic record as well as the product of his/her graduate research (creative component report or thesis). As required, the examining committee found all students who passed this examination satisfactory.

Uses of Assessment Results:

A number of program changes have been implemented as a result of the various assessment results.

Curriculum Review

In response to several of the assessment results cited above, a review of the program curriculum is planned for Fall 2003. Among the issues to be addressed are writing in the CIVE professional school curriculum, integrating more spreadsheet applications in upper-level courses, and the way the FE Exam is managed. In addition, emerging issues, such as pressure to lower the overall credit hour requirements and the potential impact of the American Society of Civil Engineers' endorsement of the master's degree as the first professional degree will be addressed.

Revision of the Engineering Statistics from STAT 4033 to STAT 4910

In response to comments from both students and faculty (collected in student surveys and solicited faculty input), a change was made to the statistics course requirement for civil engineering students. A new course, STAT 4910 Engineering Statistics, was developed to meet the specific needs of engineering students. This course is focused more on engineering analysis and less on statistical theory. It was taught for the first time in the Spring 2003 semester.

Content of CIVE 4273 Construction Engineering and Management

CIVE 4273 Construction Planning and Scheduling previously was a required course for all Civil and Environmental students that focused primarily on the critical path method. It also served as the entry course in the graduate program in Construction Engineering and Project Management. To expand the exposure of construction to undergraduate students and to provide a common base of knowledge for entry into the graduate program, CIVE 4273 was changed in title and content. The new title is Construction Engineering and Management. The new course content includes the topics of project planning, development of cost estimates and project schedules, construction methods and fundamental terminology used in the engineering and construction industry. This course revision provides a broader exposure to undergraduate students and forms the foundation for graduate courses that contain more in-depth coverage of the topics covered in this course. With the revised CIVE 4273 course title and content, the subsequent graduate level courses in construction management were also modified. These courses are eligible as electives to undergraduate students.

Content of CIVE 4042 Engineering Practice

Over the years the Board of Visitors has offered many suggestions to the Head. The most recent recommendation was two years ago when the Board recommended that public finance be included in the curriculum. The past two years this subject matter has been included in the Senior Seminar as a result of the Board recommendation. Student feedback has also produced course changes. We added a segment discussing how to run meetings, and another on listening skills. We used the class as a committee to decide what topics to add to the course. We also expanded the coverage of contemporary issues by discussing the BS as a professional degree and ASCE Proposition 465.

Initial implementation of CIVE 3623 - Engineering Materials Lab

In response to both student demand and discussions with alumni and employers, CIVE 3623 is being introduced into the curriculum this fall semester. The course will address basic construction materials including Portland cement concrete, asphalt concrete, aggregates, metals and composite materials. It will also include behavioral characteristics, use and quality control of these materials, as well as basic statistical procedures used for material specifications. Laboratory sessions will provide "hands on" experience in performing standard tests. This course will initially be offered as an elective, but it is anticipated that it will eventually be integrated into the required curriculum.

Non-Curricular Improvements

Some of the assessment tools in place may also identify opportunities to improve the program in ways outside the curriculum. One such example occurred when the Student Advisory Committee identified a need among CIVE students for a gathering place within Engineering South (the location of the School offices and a majority of the professional school courses). A lounge for CIVE students had previously existed in the basement of Engineering South but had been consumed in the expansion of the computer labs the previous year. Another room in the basement was identified as underused and, with the School Head's approval, the room was painted and furnished for use as the Civil Engineering Student Lounge. The room serves as a study area for students with breaks between classes in Engineering South and is also used for ASCE officer meetings and for groups to meet to work on group projects.

Furthermore, the capital campaign to raise the funding necessary to dramatically improve the laboratory situation in the department is continuing. Groundbreaking for the new structures lab took place in March 2002. Renovations of the geotechnical and hydraulics labs, and new space for the environmental labs in the Advanced Technology Research Center are also planned. This will address the concerns about the lab space expressed in several recent assessments.

Electrical and Computer Engineering

Prepared by *Alan Cheville*

Degree Program(s) Assessed	Assessment Methods	Number of Individuals Assessed	
Bachelor of Science in Electrical Engineering Bachelor of Science in Electrical Engineering, Computer Option	Fundamentals of Engineering Exam	Fundamentals of Engineering Exam	31
	Senior Exit Survey	Senior Exit Survey	~80
	Course Content Surveys	Course Content Surveys	~450
	Alumni Survey (OSU Assessment Office)	Alumni Survey (OSU Assessment Office)	34 (alumni)
	Instructor Survey	Instructor Survey	22 (faculty)
	Area of Specialization Reports	Area of Specialization Reports	NA
	IEEE and HKN Report	IEEE and HKN Report	NA
	Design II Written Reports (Consultants)	Design II Written Reports (Consultants)	~80
	Design II Oral Reports (Consultants)	Design II Oral Reports (Consultants)	~80
	Course Matrix	Course Matrix	NA
	Evaluation of Final Exams	Evaluation of Final Exams	~120
	Board of Visitors annual report	Board of Visitors annual report	NA

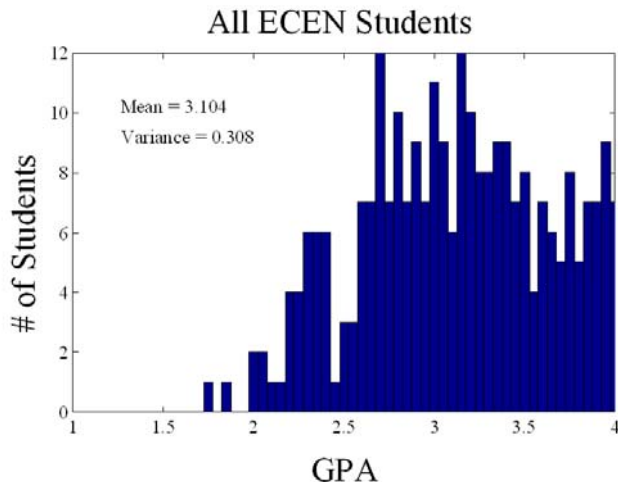
Analysis and Findings:

ECEN uses a variety of metrics both to evaluate student progress and evaluate the program which directly impacts students. We present summary data from each of our assessment metrics below then give an overall evaluation of the assessment data:

FE Exam

The FE exam measures a specific subset of students. To verify that this subset represents the student population as a whole we compare the overall GPA of all ECEN juniors and seniors with those that took the FE Exam in 2002, the only year this data is available.

Overall, ECEN students have an average GPA of 3.10, shown below. Those who took the FE exam in 2002 have a mean GPA of 3.08 with a variance of 0.167. We conclude that the students who took the FE exam in Spring 2002 are representative of ECEN students.



College of Engineering, Architecture, and Technology

Summary of 2002 Exam Results (spring and fall semesters)

ECEN students who took the FE Exam in 2002 did significantly better than the national average in: fluid mechanics and mechanics of materials. ECEN students did significantly worse than average on the general exam in: ethics and electrical circuits. On the PM subject exam students performed below the national average in: computer software engineering, computer hardware engineering, network analysis, and instrumentation

Scores deviating 2 or three standard deviations from national average from FE Exam

Semester	F97	S98	F98	S99	F99	S00	F01	S02	F02
# Taking	2	3	1	3	3	2	3	21	10
# Passing	2	3	1	2	3	2	3	16	7
% Pass	100.0%	100.0%	100.0%	66.7%	100.0%	100.0%	100.0%	76.2%	70.0%

	Deviation from National Score (2 or 3 st. dev.)								
AM Subject (1 Point Each)									
CHEMISTRY		++							
COMPUTERS									
DYNAMICS		+++						+++	
ELECTRICAL CIRCUITS									---
ENGINEERING ECON									
ETHICS								---	
FLUID MECHANICS	+++						+++	++	
MAT SCI/STR MATTER									
MATHEMATICS	++					---			
MECH OF MATERIALS		++			+++		+++		
STATICS									
THERMODYNAMICS									
PM Subject (2 Points Each)									
ANALOG ELEC CIRCUITS									
CONT SYS THEORY ANAL				---					
COMP HARDWR ENGINRNG		++			++	++			
COMP & NUM METHODS									
COMP SOFTWR ENGINRNG									---
COMM THEORY				+++					
DIGITAL SYSTEMS							+++		
ELECTRO THEORY & APP			++						
INSTRUMENTATION									
NETWORK ANALYSIS							--		
POWER SYSTEMS									
SIGNAL PROCESSING									
SOLID ST ELEC & DEV			--						

No clear trends are yet evident in this data, but ECEN is carefully watching scores in computer software engineering, computer hardware engineering, and basic circuits which may be problem areas in the curriculum.

Senior Exit Survey

From spring semester, 2000, students have been asked to fill out an exit survey evaluating their preparation and the quality of instruction and facilities in many area of ECEN as well as the core curriculum using a Likert scale. On one survey form students are asked about their educational outcomes by rating their ability and the perceived importance of a variety of topics. On a second form students are asked to rate aspects of their educational experience at OSU.

In analyzing data on educational outcomes we have looked for values of perceived ability, perceived importance or the ability/importance ratio which show long-term trends over several semesters. We also look for values which fall far outside the mean response for all questions. The data on educational experience are analyzed similarly. Overall there are few areas that raise concerns, most measurements remain fairly constant with time and within reasonable ratings of student satisfaction of experience, ability, or perceived importance. This report only highlights areas which data indicates are potential concerns.

The main concern is in computer science. Students rating of ability/importance has fallen from 1.0 to 0.7 in three semesters. Student ratings of computer science instructors and TA's are significantly lower than their ratings of instructors or TA's in any other subject. Overall ECEN faculty are rated 3.5, TA's at 3.1.

College of Engineering, Architecture, and Technology

Other areas of concern are students' ratings of their ability to understand the environmental aspects of engineering (ability/importance 0.5 to 0.8). This is significantly below the mean ability/importance ratio of approximately 0.8. Similarly low ability/importance ratios are found on the question asking students about their understanding of the relation of engineering to society.

Within ECEN there has been a recent precipitous drop in the student rating of laboratory facilities for the senior design laboratories. Note that these laboratories have *never* received a rating above 3.0 (average). Smaller drops have occurred for ECEN computer facilities and other laboratories. Since the senior design capstone course is a critical component of the ECEN degree program the facilities issue should be addressed immediately.

Course Content Surveys (coverage and ability surveys)

The coverage and ability surveys are aids to individual faculty members and areas to better evaluate data in their courses and area. In every course this metric surveys faculty and students on the coverage and student ability on specific topics each semester. Results are tabulated for the department as a whole and for each area of specialization. Each instructor or area is asked for a list of topics taught each semester in each course. The faculty supplied topics are used as the basis for survey questions in each course. Faculty were asked to rate the depth of coverage of topics in a given course and their perception of student abilities. Ratings are on a scale from 1 (least coverage/ability) to 3 (most coverage/ability). For each course, students are asked both to rate the coverage of topics as well as their perceived abilities on the same one to three scale.

The data from each course is presented as a table. Values that vary by one standard deviation from the course mean are in boldface to aid each instructor in evaluating his/her course. Results from individual courses are supplied to instructors and area coordinators. They are not made public and will be provided on request.

Summary of coverage vs. ability surveys, Fall 2002

Course	STUDENT COURSE SURVEY RESULTS					Faculty:Student Ratios	
	Coverage		Ability		A/C	Student Coverage	Student Ability
	Mean	Variance	Mean	Variance		Faculty Coverage	Faculty Ability
ECEN3031*	2.00	0.61	1.61	0.51	0.81	0.81	0.69
ECEN3233*	2.46	0.29	1.60	0.39	0.66	0.86	0.74
ECEN3513*	2.39	0.42	1.67	0.50	0.71	2.03	
ECEN3613*	2.38	0.33	1.75	0.55	0.75	0.99	0.96
ECEN3713*	2.65	0.28	1.87	0.29	0.71	0.92	
ECEN3723*	2.37	0.32	1.79	0.49	0.79	0.96	0.90
ECEN3813	2.49	0.38	1.79	0.45	0.73	1.32	1.00
ECEN4133	2.36	0.38	2.06	0.55	0.92	2.20	2.20
ECEN4413	2.61	0.30	1.67	0.26	0.64	0.91	0.65
ECEN4503*	2.38	0.38	1.69	0.48	0.75	1.21	1.17
ECEN4523	2.52	0.37	1.71	0.34	0.68	2.45	3.00
ECEN4613	2.43	0.23	1.81	0.45	0.86	1.09	1.24
ECEN4763	2.47	0.40	1.80	0.40	0.74	1.10	0.83

All ECEN:							
Mean	2.42	0.36	1.75	0.44	0.75	1.30	1.22
Variance	0.024	0.009	0.015	0.009	0.006	0.310	0.535

Req. ECEN							
Mean	2.38	0.37	1.71	0.46	0.74	1.11	0.89
Variance	0.037	0.013	0.010	0.008	0.003	0.181	0.037

The data collected by the survey is used by individual faculty and areas for program improvement. This is the primary mechanism by which ECEN assures curricular content and coverage remain constant over time.

Alumni Survey

To evaluate whether students who successfully complete the ECEN degree requirements achieve the program objectives, ECEN uses responses from an alumni survey. ECEN has analyzed two separate alumni surveys performed by the Office of University Assessment. The undergraduate alumni survey consists of common questions specific to the College of Engineering, Architecture, and Technology, and discipline specific questions submitted by ECEN. We have given special weight to the open ended questions, looking for trends in the data or groups of responses. There were 14 responses from the class of 1996, and 20 responses from the class of 2000. The evaluation and raw data from the alumni survey results are attached as appendix 2.C.

We have analyzed the survey in two different ways. We first analyze the results to see what data supports or refutes students meeting the program objectives. Next, we analyze the data, especially the open-ended questions, to evaluate specific strengths and weaknesses in our program which may lead to program actions.

In this summary we have not included data on specific program objectives, it is available on request. The responses to open ended questions are more pertinent. In analyzing data from the alumni surveys we have looked for broad trends, specifically in the open-ended questions. Some unintentional interpretation of responses may be possible due to the brief nature (one sentence or less) of the data collected from the alumni office.

The strongest opinions of alumni on open-ended questions of strengths, weaknesses, and possible improvements of the ECEN program had to do with design courses. In rating weaknesses and areas to improve the ECEN curriculum the top response was to improve or increase design courses. In rating ECEN strengths, the second largest response was the benefit of design courses. In these categories 21% of respondents stated the design courses were the strongest part of the ECEN curriculum, 38% thought the weakest part of the curriculum was insufficient, non-relevant, or not up-to-date design courses. 42% of respondents thought the program could best be improved by focusing on labs or design experiences. While these are somewhat contradictory, analyzing the individual responses shows that alumni feel design courses are extremely important but are somewhat dissatisfied with the quality, content, or facilities of design courses.

18% of alumni surveyed thought the ECEN faculty or instruction was the strongest part of the program. 18% thought faculty or instruction was the major weakness. Positive comments were generally about the quality of the faculty while negative comments were about the lack of sufficient faculty or quality of TAs.

24% of alumni surveyed felt that a primary strength was the breadth of the ECEN program. Specific positive comments were on breadth of ECEN courses and the sound theoretical and mathematical background. 8% commented that improving math background would be the best way to improve the ECEN program. However, 18% of alumni criticized the breadth, though well over half of these criticisms were directed toward the CEAT engineering science core curriculum rather than ECEN courses.

18% of alumni surveyed thought a primary weakness was lack of courses reflecting current areas of importance in electrical engineering or lack of sufficient advanced courses. Many of these mentioned a specific topic, probably related to the respondent's job. When asked the best way to improve the ECEN program, 15% suggested more advanced topics or adding specific topics. No respondents mentioned advanced topics as a primary strength of the program although on a five point scale graduates rated their preparation in advanced topics at a 3.6 (near mean).

Instructor Survey

Each semester instructors are asked to identify up to three areas in which students have poor preparation, and three areas in which students are well prepared for their course. These items listed by faculty are tabulated in appendix 3.1.A.

Faculty listed a total of 25 topics in which students lacked sufficient preparation in Fall, 2002; approximately 50% of the topics listed cited difficulties in mathematics at various levels. Of the other responses, the next largest (12%) was problem solving ability and a lack of understanding of basic physics and chemistry (8%). Of the fifteen responses indicating areas students had good preparation, two listed basic calculus and one a more advanced math topic. The other responses varied widely.

Capstone Design Written Reports

Written project reports from the capstone design course are given to an independent panel of faculty and graduate students from the OSU technical writing department. The reports are evaluated using a rubric with a Likert (1-5) scale. ECEN has set a goal that all student teams will achieve a score of three or greater for the capstone design report. As of the date of this report we have received evaluation of one semester, evaluating ten student teams. While the mean score for all teams was 2.98, six teams scored between 2 and 3, three teams were between 3 and 4, and one team scored over 4.

This demonstrates that teams need to place more emphasis on the written communication portion of the design laboratory. The written report is 10% of the grade, which may lead to some teams not putting forth sufficient effort on this portion of the project.

Capstone Design Oral Reports

Oral communications in the capstone design course have been evaluated by members of the OSU Speech department. Evaluators attended required oral presentations in the ECEN capstone design course (ECEN 4023). Teams were evaluated on their overall presentation as well as organization, credibility, visual aids, eye contact, and elocution on a 1-5 scale using a rubric. Overall, nine teams are an average score of 2.47 with organization averaging 3.13, credibility of 2.97, visual aid of 3.44, eye contact of 2.56, and elocution of 2.41. The evaluators' recommendations focused mainly on elocution, eye contact, and presenting material in a dynamic manner. These skills are gained with practice, which other ECEN courses do not generally provide. The evaluators also stressed teaching students how to better structure presentations. Since the course outcome matrix indicates only 3.2% (unnormalized) or 0.9% (normalized) of the curriculum is spent on oral communication, there is room to improve this skill.

Course Matrix

To ensure that all students are given sufficient skills in the ECEN curriculum such that they are able to meet all objectives, ECEN has tabulated required and elective courses for each program objective. To determine the numerical rating of each course faculty are surveyed (or CEAT assessment documents are used for core engineering classes). Data is analyzed using two methods to ensure adequate measurement of coverage of each of the program objectives. Only required ECEN courses are discussed in this analysis to ensure that we account only for the subset of courses taken by all students. Students are guaranteed to exceed these scores at graduation having taken seven additional ECEN and technical electives.

Of the five major ECEN objectives, ECEN objective #1 is covered extremely well with the exception of advanced discipline specific topics which are covered in elective courses and are therefore not included in the overall total. The total reported coverage of the sub-outcomes in ECEN courses is 68%/52% of the curriculum devoted to objective #1. Similarly ECEN objective #2 is extremely well covered; this objective amounts to approximately 17%/27% of the ECEN curriculum. Of the remaining 15%/20%, about 3%/6.5% is devoted to ECEN objective #3, 1%/3.3% to ECEN objective #4, and 11%/11% to all topics which make up ECEN objective #5. This analysis shows that ECEN needs to address the final three objectives directly, especially objective #4. ECEN program objectives are available on request.

Evaluation of Final Exams

Starting in Spring 2003, a team of faculty from each area of specialization analyze specific exam problems from each course at the end of each semester using a rubric. Example problems are analyzed as a group to set a consistent rating scale, then each faculty member evaluates specific examination problems in his/her area. The faculty team then compares evaluations and decides on an overall integer score. Problems are evaluated from five students in each course – one each from high and low grade ranges, and three from near the class mean. Three courses are being evaluated currently. ECEN3713, the basic electrical networks course, ECEN3613, the introductory electromagnetic fields course, and ECEN4503, an advanced course in random signals and noise. We feel these courses are a good representation of students at the beginning of the ECEN program, near the mid-point, and at the end of the program.

Results from each of these courses is available on request, but not included in this evaluation since trends are not yet visible in the data. Future assessment will establish a baseline to use to determine if curriculum changes increase or decrease student skills in solving examination problems. We also set as a criterion that the scores will increase between the sophomore and senior year, indicating increase in student problem solving abilities.

Board of Visitors, Area of Specialization Reports, IEEE and HKN Report

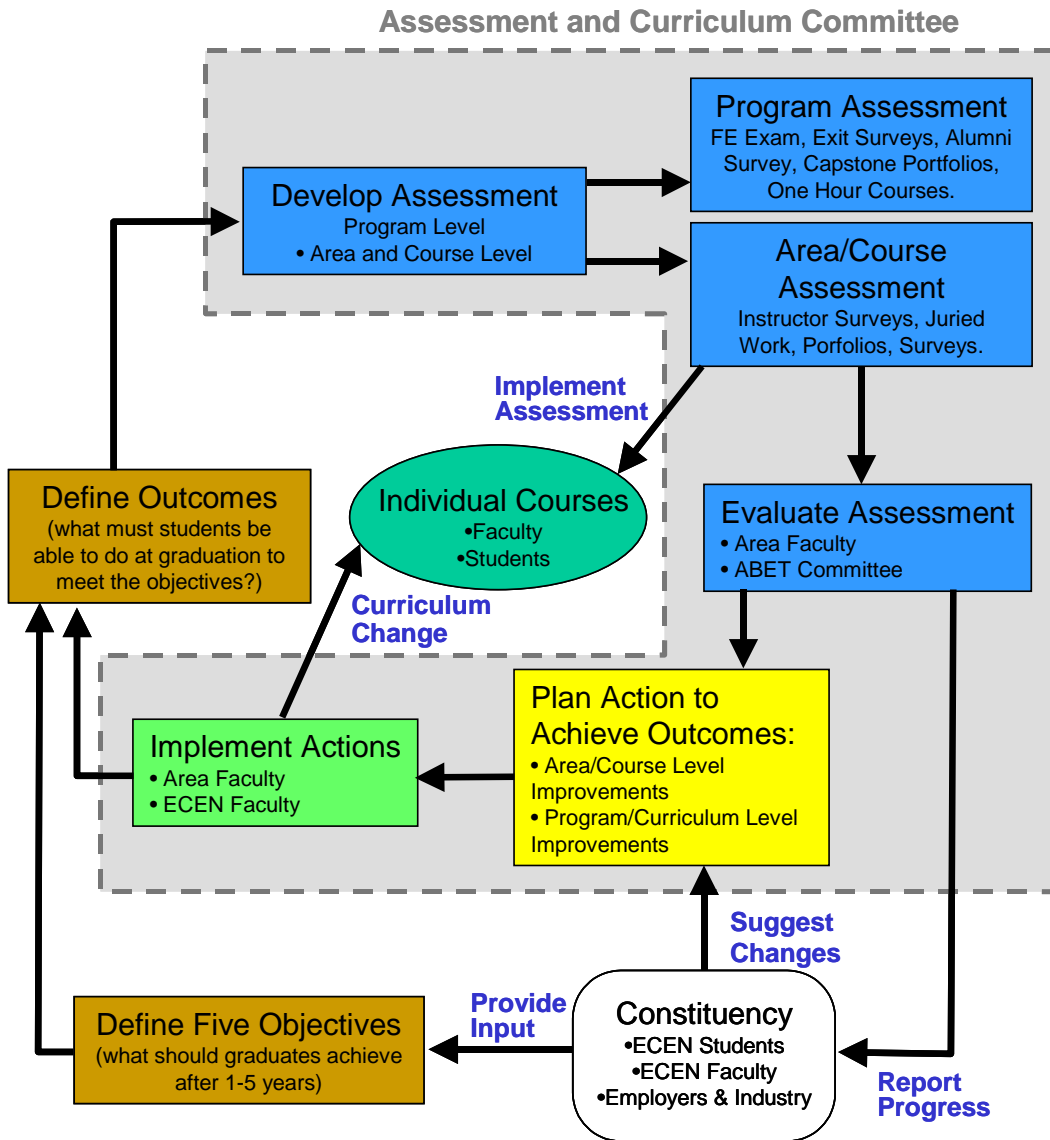
ECEN additionally uses reports from its external advisory board, reports from each individual area of specialization, and reports from student professional societies to evaluate its program. Since these do not directly measure student achievement or the program they are not included in this report, but are available on request.

Use of Assessment Results:

Description of Assessment Process

This section outlines the process by which ECEN assesses and acts to improve achievement of objectives and outcomes. This process is outlined in the figure below. This section outlines the process as envisioned.

The evaluation and assessment process, the process of acting on the assessment to plan curriculum change, and the process of implementing proposed changes all fall under the aegis of the ECEN Curriculum and Assessment Committee (C&AC). The C&AC is divided into three working groups corresponding to the three aforementioned processes. The Assessment Working Group (AWG) is responsible for course and program evaluation, represented by the blue boxes. The AWG communicates the results of program assessment evaluation along with recommended actions to the C&AC for discussion. A summary of the assessment metrics and a list of general recommended actions are given to the Curriculum Working Group (CWG). The CWG is represented by the yellow box in the diagram below. The CWG is responsible for planning course, curriculum, and program changes to improve the ECEN undergraduate program and to address recommendations from the assessment group. Proposed actions are evaluated and implemented by the Implementation Working Group (IWG). The IWG is represented by the green box in the diagram below. The IWG is responsible for ensuring course, curriculum, and program changes get implemented in a timely fashion into the ECEN program.



The assessment loop is closed annually. Each summer the ECEN C&AC and each Area of Specialization will generate a short report in a standardized format that is used as archival evidence. These reports contain results from assessment, document all areas of concern in the curriculum, and propose specific curricular changes. A faculty meeting, held annually, will be used as the forum to present these reports and discuss specific actions.

Assessment Driven Curricular Change

First, we summarize, in general, the conclusions of our assessment process. The following recommendations are drawn from the full assessment reports summarized above. All these recommendations have a high priority and indicate areas assessment has indicated immediate action needs to be taken to improve the ECEN program and help meet ABET objectives and outcomes. These recommendations are given in no particular order.

- Data on course coverage, the FE exam, and ad hoc input from faculty indicate the program needs to directly address ethics. One hour courses are being planned to achieve this.
- ECEN needs to re-examine the number of hours in the sophomore year, primarily the engineering core curriculum. Data from the alumni survey indicates that graduates feel too much time is spent on these core courses. Data from the FE exam indicates our students do significantly better than the national average in general engineering compared to other electrical engineering students nationwide (with the exception of electrical circuits). These changes require a change of policy at the college level to be able to implement.

College of Engineering, Architecture, and Technology

- ECEN should examine structure and content of design courses and review the content of current design courses. Funding must be obtained to upgrade and support development of more design courses in the curriculum and bring laboratories up to standard. ECEN should re-examine the methods courses and the two senior design courses to see if they provide sufficient design experience. This is underway.
- ECEN should seek to offer a larger number of advanced courses at the undergraduate level. Alumni feel that offering more courses in advanced electrical engineering topics will benefit the program. This is the responsibility of faculty in each area of specialization. The implementation of areas of specialization will help by giving more flexibility to faculty.
- ECEN should guarantee students meet objectives for softer outcomes such as ethics, social impact of engineering and environmental issues. Senior exit survey results indicate students do not feel prepared in environmental or social aspects of engineering. One hour courses are being implemented to achieve this.
- ECEN should re-examine course offerings in computer science due to declining student satisfaction with instructors and TA's. Additionally ECEN should examine whether we should offer or require more courses on computer hardware and software engineering for ECEN students. Scores on the FE exam indicate ECEN students are not competitive with other electrical engineering students nationwide. This has not yet been addressed.

Changes Implemented or Planned in Specific Courses:

- ECEN has been negotiating with the Physics department to modify the contents of the Modern Physics course. After a number of meetings, the modern physics course content will change to emphasize rigorous solid-state physics and will be less of a survey of modern physics.
- ECEN making changes to improve the experience in our Experimental Methods Labs (ECEN 2011, ECEN 3021 and ECEN 3031). In the past, these laboratories have been independent of any course, and this has made it hard to coordinate the coverage of the analytical background needed for understanding of laboratory assignments. Significant student feedback has been received on this subject, and a committee was formed to study the issue. Based on the results of this study, starting in the fall of 2003, ECEN 3021 will be taught by the same instructor as ECEN 3713, and ECEN 3031 will be taught by the same instructor as ECEN 3313.
- ECEN has made several changes to improve our Systems I course (ECEN/MAE 3723). Starting in the Fall 2003 semester, each section of 3723 will consist of half electrical engineering students and half mechanical engineering students.
- ECEN has significantly redesigned the capstone design course, ECEN 4023. This will produce a more consistent design experience for all students, and will involve the entire faculty. This redesign will address deficiencies highlighted by written and oral communication assessments.

Programmatic Changes Implemented or Planned:

- The most significant change that we have introduced to strengthen the ability of students to explore topics in depth is the introduction of Areas of Specialization, which is a major program rearrangement. Each student now will be offered carefully selected curriculum plans that facilitate limited specialization in one of several topical areas.
- ECEN has begun the potentially lengthy process of implementing one-hour courses to ensure life-long learning, social and environmental aspects of engineering, and ethics are covered directly by the curriculum and is not ad-hoc. To free up time in the curriculum for these courses, ECEN has requested that ECEN students no longer take ENGR1342, Engineering Design with CAD, part of the CEAT engineering science core curriculum. The two hours saved in the curriculum were to be used for the implementation of two new one-hour courses in the sophomore and junior years with the curriculum described in appendix 3.3.A. After ECEN proposed this idea to CEAT administration, the Dean requested ECEN take the lead on establishing a new format for ENGR1342 which will incorporate into a two hour course the items planned for the two one-hour courses. While not in line with the original plan this potentially addresses concerns about faculty workload compensation. Additionally, during the Fall semester of 2003, we will be bringing in industrial speakers to our Senior Design I course (ECEN 4013). These speakers will address the importance of professionalism and ethics in the workplace.

School of Industrial Engineering and Management (IE&M)

Prepared by W. Kolarik
 Programs: B.S., M.S., and Ph.D.

Assessment Methods

Assessment methods included capstone design project reviews, thesis and dissertation proposals and defenses, TA/RA performance evaluations, Fundamentals of Engineering Exam results, and a review by our Industrial Advisory Board of student work and IE&M activities and plans. Other methods included, exit surveys/interviews, advisory group inputs, course outcome assessments, class grade summaries, and teaching evaluations.

Degree Programs Assessed	Assessment Methods Used	Number of Individuals Assessed
B.S.	Industrial Advisory Board (review of work and activities)	14*
	Fundamentals of Engineering Exam results (national in scope)	14 6**
	Undergraduate Student Advisory Council	17
	Senior exit surveys/interviews	25
	Capstone projects (with outside clients)	14
	Alumni survey (2002, former undergraduates)	All
	Class grades	All
	Course outcome evaluations	All
M.S., M.I.E., M.M.S.E., and Ph.D.	Industrial Advisory Board	14*
	Graduate Student Advisory Council	6**
	Graduate exit surveys/interviews	11
	Graduate TA/RA performance evaluations (Fall 2002)	24
	Graduate TA/RA performance evaluations (Spring 2003)	29
	Thesis and dissertation proposals	All
	Thesis and dissertation defenses	All
	Class grades	All
Course outcome evaluations	All	

*Number of board members.

** Number of advisory group members.

Analysis and Findings

During the past year IE&M continued to refine its approaches to the Engineering Accreditation Commission/Accreditation Board for Engineering and Technology (EAC/ABET) criteria in preparation for a re-accreditation visit this coming September (2003). The focus of this work is at the undergraduate level. The undergraduate program received the most attention this past year. In the two previous years the graduate program was redesigned and the redesign was implemented. Both programs share the same Industrial Advisory Board and the same faculty and facilities. Hence, many of the approaches described below apply either directly or indirectly to both programs.

IE&M collected information from basic constituencies, which included alumni and employers, students, and faculty members. The Industrial Advisory Board (IAB) represents alumni and employers while student advisory councils represent the students. Survey information was collected on how well students perceive they meet the IE&M program objectives.

IE&M Educational Objectives

The educational program emphasizes the application of technologies and tools in the short term, and the ability to discover, acquire, and adapt new knowledge and skills in the long term, such that our graduates are prepared:

- i. To define, analyze, and solve complex problems within and between enterprises.
- ii. To discover, understand, and incorporate appropriate new technologies in the design and operation of enterprises.

College of Engineering, Architecture, and Technology

- iii.* To lead/manage design, development, and improvement efforts that benefit customers, employees, and stakeholders
- iv.* To function in culturally diverse teams, communicate in a professional manner, and uphold the ethical standards of the engineering profession.

Graduating students were asked to rate their abilities and their preparation regarding each objective. Results containing averages and ranges from the spring 2003 and fall 2002 exit surveys of BS and MS graduates provided the following information.

Undergraduates (Spring 2003, n=9)

<i>i.</i> Ability = 2.78 (range = 1)	Preparation = 2.67 (range = 1)
<i>ii.</i> Ability = 2.33 (range = 1)	Preparation = 2.22 (range = 2)
<i>iii.</i> Ability = 2.44 (range = 1)	Preparation = 2.33 (range = 1)
<i>iv.</i> Ability = 3.22 (range = 1)	Preparation = 2.78 (range = 1)

Graduates ((Spring 2003, n=6)

<i>i.</i> Ability = 2.50 (range = 1)	Preparation = 2.67 (range = 1)
<i>ii.</i> Ability = 2.17 (range = 1)	Preparation = 2.67 (range = 1)
<i>iii.</i> Ability = 2.33 (range = 2)	Preparation = 2.83 (range = 2)
<i>iv.</i> Ability = 3.17 (range = 2)	Preparation = 2.67 (range = 3)

Scale: 0 = poor; 1 = marginal; 2 = good; 3 = very good; 4 = mastery/outstanding

Undergraduates (Fall 2002, n=8)

<i>i.</i> Ability = 2.25 (range = 2)	Preparation = 2.12 (range = 2)
<i>ii.</i> Ability = 2.38 (range = 2)	Preparation = 1.62 (range = 3)
<i>iii.</i> Ability = 2.75 (range = 2)	Preparation = 2.00 (range = 3)
<i>iv.</i> Ability = 2.62 (range = 3)	Preparation = 2.25 (range = 3)

Graduates (Fall 2002, n=5)

<i>i.</i> Ability = 2.00 (range = 2)	Preparation = 1.80 (range = 1)
<i>ii.</i> Ability = 1.80 (range = 2)	Preparation = 1.60 (range = 3)
<i>iii.</i> Ability = 2.60 (range = 1)	Preparation = 2.60 (range = 3)
<i>iv.</i> Ability = 2.60 (range = 1)	Preparation = 3.20 (range = 2)

Scale: 0 = poor; 1 = marginal; 2 = good; 3 = very good; 4 = mastery/outstanding

Responses from the previous year (for comparative purposes) for undergraduates are shown below:

<i>i.</i> Ability = 2.72	Preparation = 2.56
<i>ii.</i> Ability = 2.28	Preparation = 2.28
<i>iii.</i> Ability = 2.56	Preparation = 2.41
<i>iv.</i> Ability = 3.09	Preparation = 2.69

Scale: 0 = poor; 1 = marginal; 2 = good; 3 = very good; 4 = mastery/outstanding

IE&M's target is a "good" rating or above, with minimal variation. In the fall statistics, objective *ii* dipped below our target, but recovered in the spring statistics. We will continue to make improvements in order to move our performance to higher levels. Several improvements are listed in the next section.

College of Engineering, Architecture, and Technology

We had 14 students sit for the Fundamentals of Engineering (FE) Exam this past year. The display below summarizes our FE exam results since 1998.

Exam Date	Number of Students (IE&M)	Number of IE Students (National)	IE&M Pass Rate	National Pass Rate
1998-2002 (AM section)	52	2,291	87%	70%
1998-2002 (PM section - general)	7	162	86%	60%
1998-2002 (PM section - IE)	45	2,129	87%	71%
April 1999 (AM and PM)	3	216	100%	75%
Oct 1999 (AM and PM)	11	175	100%	75%
April 2000 (AM and PM)	2	300	100%	69%
Oct 2000 (AM and PM)	6	160	83%	74%
April 2001 (AM and PM)	5	291	80%	65%
Oct 2001 (AM and PM)	4	181	75%	70%
April 2002 (AM and PM)	5	327	60%	67%
Oct 2002 (AM and PM)	9	223	78%	69%

About 25% of IE&M students complete the FE exam. These students (semester in and semester out) tend to represent a cross-section of our students in terms of academic achievement and gender. Demonstrated performance typically exceeds our expectations/target of being above the national average – April 2002 was one exception in a number of years. We are unable to explain this data point, but think it was likely a lack of student preparation on the part of a couple of our students.

Although results may vary somewhat from semester to semester on the exam, overall our students appear to be nationally competitive in the FE. In addition to FE examination results which typically fall above the national average, results in general indicate that the current program is solid. For example, ██████████, a 2002 graduate, won the National IIE Student Paper Competition in 2002 with her (team) capstone design work, as presented in Orlando, Florida. ██████████, a 2003 graduate, won the 2003 IIE Student Award for Excellence (first place in national competition, Portland, Oregon). Over the last three years, more than 10 students have been successful in national-level scholarship competition. For example, in 2003 ██████████, an IE&M junior, won the United Parcel Service Scholarship for Minority Students and was recognized for the same at the IIE National Conference in Portland, Oregon. These facts add further evidence that our academic program is solid and meeting professional engineering expectations

Our faculty continues to win numerous educational awards. For example, ██████████ won the College Advising Award for his work in integrating personal attention and database technology within the advising processes. ██████████, and ██████████, together, won over 15 teaching awards of significance within the last three years. In addition, over one-third of our faculty are Fellows within their respective professional societies.

All in all, IE&M contends that our students meet our stated program objectives and outcomes. Nevertheless, we constantly strive to improve in educating our students for professional practice. Our old traditional engineering education approach always yielded several changes and improvements per year. Our new outcome-related approach is helping us locate parts of our program faster and reduce our improvement cycle time, as well as provide a more sound basis for verifying that the changes are indeed improvements. A number of program and course-related improvements have been implemented (or are in the process of implementation). The lists below highlight the most significant programmatic improvements made in the past three years.

Uses of Assessment Results

We collect information at more detailed levels than that reflected in the overall survey and FE exam statistics above. We use open-ended questions on surveys and use the student advisory councils as sources for detailed information. Instructor evaluations of course outcome attainment and suggested improvements regarding the same are collected. This information helps us to locate specific issues and ideas. This information is fed back into the faculty at faculty meetings or at the two work sessions (one full day in the fall and one-half day in the spring) and to the IAB during their semi-annual on-site visits. Improvements are put in place for the next term or after proper approval from the University is obtained. For example, major course/curricular changes require several levels of approval and require at least one year to implement, whereas smaller improvements in a course or the curriculum can be implemented before the next term begins.

We continue to introduce significant changes in the program, courses, and physical resources. Program and course foci have been expanded and sharpened in all areas. A major program redesign project, in collaboration with the Industrial Advisory Board, is in midstream. This redesign is in response to shifts in professional practice as well as internal program assessment.

In general improvements fall in three categories: (1) process, (2) program, and (3) courses. The lists below are a summary of major changes undertaken in IE&M as a result of program and course assessments over the past three years:

Process-related improvements:

- The explicit naming and involvement of constituencies –
 - the reestablishment of the IAB.
 - the formation of the Student Advisory Councils.
- Development of vision, mission, core values, objectives, and outcome statements.
- The Alumni Survey and its alignment with the program objectives statements.
- The Exit Survey and its alignment with the program objectives and outcomes.
- Better student-faculty communications.

Program-related improvements:

- The redesign of the undergraduate curriculum (under way).
- The redesign of the student advisory system.
- The development of course portfolios, course outcomes, and formal instructor evaluations and the sharing of the information therein.
- Major upgrades of student laboratories (under way, and described in the Facilities Section).
- Upgraded presentation support with dedicated color printers for IE&M students.
- Restructuring of the course offerings prior to entry into senior projects (IEM 4913).
- Strengthen project management skills across the curriculum (need identified Fall 2002 and Spring 2003, improvement in progress).
- More student-friendly IE&M Web site.

Course-related improvements:

- Outcome-based course structures and performance surveys (and the improvement of our capabilities in writing course outcomes and assessing the same, related to program outcomes).
- Course topic mappings to program outcomes and objectives.
- Restructuring and coordination of IEM 4913.
- Coordination and action to make STAT 4033 more effective for IE&M students.
- Addition of a research methods course for undergraduates (IEM 4010).
- Numerous course-level improvements.
- Better coordination of Web-based educational materials.

One brief example of a significant change completed this year deals with our capstone design experience. Once we formed our IAB, one of their tasks was to review several of our IEM 4913 senior projects (our capstone design experience). Their findings were that the reports were sound, but could be strengthened with more direct executive summaries and in expanding the students perspectives of the overall impact that the project would likely make in the client's operations. In addition to these detailed comments, the IAB explained that project management was critical to their operations, and that new IEs would likely be working along project lines from day one.

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Information collected from the exit surveys (open-ended questions) over the course of one or two semesters indicated that the graduates struggled with time/project management of their capstone projects. For example, they indicated that a time crunch was occurring towards the end of the semester and that their work was not as good as it could be if this time crunch could be avoided. Faculty mentors (one for each project team) also weighted in on the issue. Their contention was that students had difficulty managing their projects and lost time picking up the skills in mid-course.

This information was put on the table in our fall 2002 work session. The result was a redesign for IEM 4913. The new design called for a program manager (one faculty position) and one technical mentor (faculty member) for each project team (of three students). In addition, the IEM 4913 stated outcomes were realigned to address all issues described above. The spring 2003 section worked under this new model, with a mid-term assessment and adjustments. The result was a more level load, more project skills gained earlier, and excellent reception by clients. Results collected from IEM 4913 our capstone design experience (spring 2003) indicate that our students are accomplishing our stated course/program outcomes. Composite ratings (provided by our faculty) on a scale of 0 to 5 (0 – did not satisfy requirements; 5 – satisfied all requirements) run in the 3 to 5 range across the categories of evaluation. Current targets are set at 2.5.

In summary, this improvement was the result of using a number of assessment tools and resources to redesign our most significant undergraduate course. The course will continue to evolve and improve through continuous improvement.

Resources are traditionally tight, however, we have made significant upgrades to our facilities in response to information we gained from our constituents. We have upgraded our office area to accommodate student needs in specialized software and hardware access for project work and communications work. We have converted our primary classroom to a multimedia presentation room. Plans are in the implementation stage to add full-scale CAD/CAM equipment to our manufacturing laboratory, as well as upgrade equipment in our work analysis and ergonomics laboratory. Hence, we are (and will be) better able to provide more hands-on opportunities to our students. Primary characteristics of our graduates are hands-on attitudes and abilities.

Note: The tools and techniques that we are using in our assessment processes were gained in collaboration with the Office of University Assessment. Their work in Alumni surveys (and other surveys) has been helpful in gaining perspectives that are beyond our departmental resource base. Much of the data reported in the first section was gained with their support.

**Construction Management Technology
Division of Engineering Technology**

Prepared by: Charles A. Rich

Executive Summary (full report available upon request)

The following table shows the assessment methods used and numbers of individuals assessed for the degree programs offered by the Department of Construction Management Technology.

Assessment Methods Used	Number
Exit surveys of graduates for F02 (11) & S03 (18) semesters	29
Course evaluations for F02 semester; S03 data not available	297
Employer reviews of student performance in internships, Sum 02	40
AIC Graduate Placement Surveys for F02 & S03 semesters	28
National CQE Level I for F02 semester; S03 data not available	15
ASC/AGC and NAHB Student Competitions, S03	24
Alumni Telephone Survey by OUA, S02 (1996 & 2000 grads)	25

Analyses and Findings from program outcomes assessment:

Current graduates feel well prepared in most areas. Areas of weakness were noted.

Course evaluations are excellent, indicating general satisfaction with the curriculum.

Employers of graduates and student interns are very pleased with their attitudes, work ethic and job performance.

Placement is excellent and starting salaries are consistent with the national average.

CQEI scores are below national averages. Areas of weakness were noted. Also, an exit survey indicated areas in which the students felt most and least prepared and whether they thought the exam was a fair measure of what entry-level Constructors should know.

Competition teams were again successful in our region – one team placed 1st, one placed 3rd, one placed 4th and one team placed 9th. One student placed 1st, one placed 2nd and one placed 3rd in the individual presenter categories. The 1st place team (Heavy-Civil) placed 2nd in the National Competition.

Recent graduates are satisfied with the preparation they received. Some graduates felt less than adequately prepared in a few areas.

Instructional changes that have occurred or are planned as a result of outcomes assessment:

Created a course in Construction Safety (CMT 4443)

Combined Mechanical and Electrical Systems courses (CMT 3463) and added laboratory component

Added a course containing an Advanced Surveying Module, an Equipment Management Module and a Scheduling Module (CMT 4783)

Increased requirements for developing oral, written and graphic communication skills

Created a Capstone Course (CMT 4293) with elements from the entire curriculum; continue to add emphasis in areas of deficiency as noted through our assessment program

Added ACCT 2103 as an approved Business Elective for students on the older programs

Continued revision of the Computer Estimating course (CMT 4273)

Course Actions Recently Approved: (these changes will be reflected in the Degree Requirements for freshmen entering the program in Fall 2001 and later)

ACCT 2103 is now a required course.

CMT will add an "in-house" construction scheduling course.

Many prerequisites have been modified to insure students have adequate preparation for the advanced courses.

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Several courses will be modified to avoid duplication of content with other courses and to include topics felt to be lacking in the current courses.

Structural design courses (Timber, Formwork, Steel, Concrete) will be combined and modified to include construction emphasis.

Two internships are now required for all students on curriculum sheets dated Spring 2001 or later.

A new soils course, CMT 3734 – Soils in Construction Technology, covering topics of primary interest to construction professionals, was taught for the second time in Spring 2003, by a member of the CMT faculty. This course will be phased out next year, and selected topics will be included in CMT 3433 (see below).

A new course, CMT 3433 – Site Development, is being developed to alleviate some of the duplication noted in previous assessment efforts, and to introduce some new environmental topics that have recently become important to the construction industry.

Electrical Engineering Technology

Prepared by T. G. Bertenshaw

Degree Program(s) Assessed	Assessment Methods	Number of Individuals Assessed
<i>BSET – Electronics, or Computer Technology, or Telecommunications Technology</i>	<ul style="list-style-type: none"> • Portions of the national Fundamentals of Engineering exam administered in Senior Projects (EET4833). • Exit surveys from graduating seniors • Feed back from alumni. • Employer surveys. • Employment statistics. • Feedback from EET industrial advisory board. 	<p>31</p> <p>0</p> <p>0</p> <p>0</p> <p>0</p> <p>0</p> <p>5</p>

Analysis and Findings:

The Assessment Methods are those identified in our recently overhauled Outcomes Assessment Plan. They target the gathering of data required to satisfy our accreditation agency. Not all of the methods delineated above have been implemented as yet. Because our accreditation agency, TAC/ABET, has initiated sweeping reforms of the information required for accreditation (heavy emphasis on program outcomes) we are in process of developing the procedures, processes and tools of complying. Most, or all, of those tools will be in place by 2004 and the fall out will include a very enhanced ability to assess both our educational and program outcomes.

The FE (Fundamentals of Engineering) exam is a national level instrument required of all who wish to eventually attain registered status as a Professional Engineer – it is the first step. The test is broad in scope exercising a student’s mastery of the field of knowledge offered in his/her degree program. Within the curriculum, a truncated version focused on electronics is required of all seniors. From the examination results it can be seen that EET students perform well in the areas of:

- a) Ethics
- b) Equivalent resistances
- c) Basic ac/dc circuit analysis w/o dependent sources
- d) Simple op-amp circuits
- e) Number systems
- f) Digital systems
- g) Microprocessor/Computer applications

However, the following areas of weakness have been identified and will be addressed in the faculty curriculum review meeting for 2003:

- a) Applications of diodes in rectification circuits (ac to dc conversion)
- b) Circuit analysis with dependent sources
- c) Transformer circuits (reflection of load resistances and induced currents)
- d) Transistor circuits
- e) Thevenin Voltages
- f) RMS v.s. Peak-to-Peak voltages
- g) Mixed voltages (DC and AC combinations)
- h) Capacitor and Inductor energy storage w/integral equations

The examination was administered at Stillwater, and both of our off-campus sites at Oklahoma City and Tulsa. The range of exam averages for these locations is 3.16 to 3.67 on a 4.0 scale, indicating that our students are generally quite knowledgeable in the fundamentals of their major.

Uses of Assessment Results:

In the past results of department specific surveys (which included feedback from alumni) were used to by the faculty and the Industrial Advisory Council to adjust curriculum emphasis when/where needed. However for this year, we have had zero funds to allay the costs of preparing and mailing surveys. Until those funds are restored our ability to generate information from that source aspect is extremely limited.

Fire Protection and Safety Technology

Prepared by J.D. Brown

Degree Program(s) Assessed	Assessment Methods	Number of Individuals Assessed
Bachelor of Science, Engineering Technology, Fire Protection and Safety	Exit Interviews	33
	National Exams	6
	Alumni listserv	NA
	Portfolio	40

Analysis and Findings:

The assessment plan was revised in the spring of 2002. Some of the assessment methods will not yield meaningful results until data has been collected for a few years. For example, *portfolio data* was collected for the freshman class in FPST 1213. However that data will not be correlated with performance in other classes or yield meaningful insights until those students have taken subsequent FPST coursework. *Midlevel assessment* will begin in 2005. The enrollment management plan for the department was approved to begin with the freshman class of 2003. No *graduate survey* was performed during this period. A survey including graduates of the last 3 years will be undertaken in the late fall to assess the effects of recent curriculum changes.

National Exams

National exams are a broad assessment of the quality and depth of the student's preparation.

Three students took the Fundamentals of Engineering Exam (FE) and reported their impressions (scores not yet reported). Engineering technology students typically do not take this exam and may not be allowed to take the exam in many states. Success in this exam indicates exceptional preparation often through independent study.

One current student and three former students (recent graduates) took the Associate Safety Professional (ASP) exams and passed (scores not revealed).

The students taking the FE felt ill prepared in dynamics, thermodynamics.

The students taking the ASP felt generally well prepared and felt that their OSU education was sufficient in coursework and content in order for them to be successful in that exam. However they felt somewhat weak in some System Safety Techniques, particularly Fault Tree Analysis.

Listserv

Model code issues are frequently addressed, as are regulatory issues. Fire alarm questions are often basic questions that indicate a lack of adequate preparation. Issues regarding suppression system design are often related to interpretation of codes and are complex.

A significant amount of discussion concerns pursuing professional certification. Many still feel that certification and licensure should have been emphasized more in the curriculum.

Graduates feel the program should place increased emphasis on issues and techniques surrounding model fire and building codes.

Exit Interviews

- Seven (of 33) graduates commented the Industrial Hygiene (FPST 2344) and Industrial Hygiene Instrumentation (FPST 4133) were repetitive, contained the same material and assignments or similar.

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- Seven graduates commented that labs and equipment require replacement, repair, or modernization.
- Four graduates commented that the program needs to emphasize and push the PE/FE exam and preparation for the exam.
- Three graduates commented that the internship program needs to be formalized and enhanced
- Three graduates recommended splitting the Fire Protection and Safety topics in the upper division to allow more specialization.
- Three graduates recommended increasing the amount of material on Fire Alarms and detection systems.

Uses of Assessment Results:

- Beginning in Fall 03 and continuing in Spring 04, new lab facilities are being brought on line, new equipment installed and all Lab courses being revised to use new facilities and equipment. This has been ongoing and was hampered by construction delays which have placed the building 1 year behind scheduled completion. The fire alarm laboratory will be a significant improvement over current facilities. This should enhance student experience in an area which has been consistently identified as a weakness.
- The department held a strategic planning session last fall to integrate the results of prior assessment periods into individual courses and build continuity throughout the curriculum
- FPST 3143 *Structural Design for Fire and Life Safety* was revised to include more material from the International Building Code.
- FPST 4333 *System Safety* will be revised during the next offering (Spring Semester) to include more detailed instruction in methodology of some techniques including fault tree analysis.
- Instructors have been given the results of the exit interviews and changes will be made in individual courses as appropriate.
- The department has developed an advising track through the curriculum that will better prepare those students who wish to pursue the FE/PE certifications as a career objective. This involves taking more rigorous alternatives for some courses.
- Students preparing for national exams were encouraged to utilize the College of Engineering's review sessions. This, coupled with course advisement tailored to student career objectives will benefit student success on these exams. Commencing Fall 03, Professional Engineering Exam preparation track is in place to prepare student for successful completion of the FE exam.
- Starting Fall 2003, FPST 4133 is no longer required for all students. Students may choose between Industrial Hygiene Instrumentation (FPST 4133) and Advanced Sprinklers (FPST 3113) allowing some specialization.
- Starting Fall 2003, the number of upper division controlled electives have been increased from 2 (6 hours) to 3 (9 hours) to allow more choice in areas of specialization.
- Internship program will be reviewed during the 2003-2004 academic year.
- Fire Alarm course material is in the process of being completely revised coupled with the anticipated delivery of 20 new Fire Alarm Panel workstations from Notifier. This is in conjunction with moving into the new lab facilities.
- All items will be reviewed during the faculty's next curriculum retreat in August 2003.

Mechanical Engineering Technology

Prepared by: James E. Bose

Degree Program(s) Assessed	Assessment Methods	Number of Individuals Assessed
B. S. Mechanical Engineering Technology	Fluid Power Society	25
	Capstone Design Course	27
	Embedded Assessment	260
	Industrial Advisory Council Review	8
	Alumni Survey (OSU/OUA)	NA at this time
	Mini Baja Competition Car	8

Analysis of Findings:

External evaluators from project sponsors of our Capstone Design Course and paid jurors provided excellent input in regards to the technical content and the oral and written reports prepared by the students.

Videotapes were made of all the projects. The quality of both the written and oral reporting has been maintained. The paid jurors provided improved feedback that was lacking when only volunteer/peer review was used. The faculty assigned to this course for this time period has significant industrial experience and a history of successful design work.

The performance of students on embedded assessment consists of taking questions from the Fundamentals of Engineering exam and including them in regular testing exams. The number of students taking the FE remains small and consists of only the best students. The new procedure of using FE exam questions tests a majority of the MET student body and is much more representative. Testing which does not involve graduation implications has not been as successful such as the Fluid Power Certification test.

The Mini-Baja team competed in Provo, Utah and Troy, Idaho. Significant improvements were made on required reports submitted by the student team members. This competition is time consuming for the students and tests all activities from fund generation to testing and competition. There is continual concern over inadequate funding and the students spending too much time on this activity and performing poorly on their academic programs. Also, the competition is scheduled during finals week which is difficult for all parties involved.

In the Student Exit Interview, students were asked about the adequacy of the computer labs and software. The results were strongly positive with over 90 percent answering yes. Also, the students were asked about the appropriateness of the Math, Chemistry, and Physics sequence for their degree. Again, the response was strongly positive.

Fluid Power Society (FPS)

Twelve students took the job performance test (Hydraulic) on April 12, 2003, and all of them passed the test. Twelve students took the written test (Industrial Hydraulic Technician) on April 26, 2003, and four of them passed the test. Students need to pass both written and job performance tests in order to get certified. The low pass rate on the written test according to the professor in charge can be attributed to students prematurely taking the test and/or not taking advantage of the review sessions made available to them.

Fundamentals of Engineering Exam

Two professors continue taking questions from the FE and have reported that their students performed well on these exam questions. Performance of most students on the FE Exam questions was quite similar to their performance on the other test questions on the examinations. The specific courses were: GENT 3433 Basic Thermodynamics, GENT 4433 Heat Transfer, MET 3313 Applied Fluid Mechanics, and MET 4453 Applied Thermodynamics. Each test given in the 2002-2003 Academic Year in the courses listed above included four typical Fundamentals of Engineering Examination questions. In most cases, some small but significant fundamental calculation was needed to choose the most correct response. Each question involved the application of one or more fundamental essential concepts. Success rates of 75% have been reported.

In Fall 2001, MET 2103 Industrial Materials students (40 students) were given an exam with a total of 41 questions, 15 of which were from the Fundamentals of Engineering (FE) exam. Success of students on the FE questions correlated well with the student's success on the overall exam. The test score average was 73.6 and the FE score average on the 15 exam questions was 72.0. In Fall 2002, MET 2103 Industrial Materials students (53 students) were given comparable exam with a test score of 79.4 result. The average score on the FE questions was 66.4. In both semesters, students were mixed in their appraisal of which was harder, the FE questions or the instructor questions. From the distribution of the scores, there appears to be no significant problem with the performance of our students based on national norms.

Mini-Baja Competition Car

Student teams designed, fabricated and competed in two Mini-Baja off-road vehicle contests. Students are required to design and build a competition car and compete with other major universities. Students are required to schedule their activities, build the car, arrange transportation to the competition site and compete. Two races were competed with reasonable success. Reports are written and a senior faculty member supervises activities.

Capstone Design Course (MET 4123 Senior Design Projects)

(Fall 2002, 9 students, 4 project teams; Spring 2003, 18 students, 6 project teams)

In the senior design project or capstone course, students work in teams of two or three to develop a mechanical design, which integrates their knowledge and skills acquired in their previous courses. Each student asks local industrial contacts for potential projects, formulates a suitable problem with the industrial sponsor, develops a project proposal, and presents the proposal to the class. Students, with guidance from the instructor, form teams to work on a subset of available projects. Each team develops a design, writes a report, and gives an oral presentation of their design to an audience of industrial sponsors, faculty, and students. Feedback to the instructor from industrial sponsors and other faculty members verify that the technical content and creativity of the student designs are consistently at a baccalaureate level or higher.

Paid jurors were used in both the Fall 2002 and Spring 2003 presentations. Their specific comments included:

- Student projects should be narrower in scope with more definitive requirements detailed by the sponsor, the instructor and the team.
- There is a need for more departmental faculty involved in the student team projects. Calculations without units, spelling, etc. needs attention.
- Presentation mechanics were good. Presentations were well rehearsed and reports were available.
- Some formalized method of selection of the projects should be discussed.

Uses of Assessment Results:

Academic Program

Machine Design Curriculum Changes

CEAT Common Lab Concept

Provided ANSYS software

Students get better value on Lab Fees

FEA Course

Provides "New Technology Transfer" to MET students

Applied focus allows coverage of high-level analysis techniques industry needs

OSU-MET

Adequate student enrollment and faculty with proper skills to sustain regular offerings of two electives in each specialty area

Certification and State of the Art Technology

- AutoCAD, ProE, Rapid Prototyping, ANSYS
- Hydrasim, Designer, 3 or 4 Fluid Power Technician Certifications
- Strain Gage, MathCAD, Fast Fourier Transform
- MasterCAM, CMM, Injection Molding, Liquid Plastic Molding

Industrial Advisory Board

The Industrial Advisory Board was tasked to concentrate on those activities which support our TAC/ABET2K accreditation. Specifically, the following action items were identified:

1. Provide more input to them on the new ABET 2000 accreditation
2. Graph A-K for IAB to look at before the next meeting
3. Provide information on how IAB members can become ABET Evaluators
4. Develop objective statements for each course
5. Identify advisory board members that could be trained as TAC/ABET Evaluators

Results:

February 18, 2003 IAB meeting

██████████ of Halliburton Corporation attended a TAC/ABET Program Evaluator Training workshop in New Orleans. He stressed to the faculty that all course syllabi should have objectives and outcomes statements and demonstrate how A-K is covered in class. Also, we should have a file on each course with documentation of A-K.

ABET Assessment Workshop highlights presented to departmental faculty. Specific tools that can be used to measure expected accomplishments of the students are: 1). Employer feed back surveys – there is no need to do this every year, maybe every 2-3 years. 2). Videotaping students throughout their college career to show progress students are making, also having students keep a portfolio of their work.

May 14, 2003 IAB meeting

The IAB committee reviewed the program objectives and recommended changes be made. The Program Objectives were developed for review by the appropriate university administration.

The IAB reviewed course objectives submitted by the faculty and made the following recommendations:

- Faculty must have proof that they are doing what their course objectives state.
- Course objectives must not be too general so that measurements can be made.
- Coverage of A-K must be assured.

Tasks to be completed by the next IAB meeting include:

- 1). Course objectives for all courses should be completed.
- 2). Course matrix completed.
- 3). One sample per instructor of a course evaluation form should be prepared.
- 4). One sample per instructor of home-work/test/report – that document A-K.

OSU College of Human Environmental Sciences, CHES

Prepared by CHES Assessment Task Force

Lona Robertson, Assistant Dean

College/ Department	Degree Programs Assessed	Assessment Methods Used	# Assessed
CHES	Entering Undergraduates Entering Undergraduates Midlevel Undergraduates Midlevel Undergraduates Senior level	College Student Inventory	210
		Critical Thinking Disposition Inventory	161
		Critical Thinking Disposition Inventory	376
		Critical Thinking Skills Test	381
		Modified NSSE administered to 2003 graduating seniors	182
Design, Housing & Merchandising (DHM)	BS DHM	Academic and design portfolios Two advisory boards (ID: ADP & M)	95 Overall program assessment & feedback
		Internship employer survey – by major	75
		Modified NSSE administered to 2003 graduating seniors	68
		Embedded course projects	492
Human Development & Family Science (HDFS)	BS HDFS	2002 HDFS Senior Exit Survey: 60 college competencies and 40 departmental competencies were evaluated	76
		Early Childhood Education Portfolio	Fall 2002 70 Spring 2003 104
		OSU Alumni Survey	56
		Modified NSSE was administered in Spring 2003.	89
		Oklahoma Subject Area Test	37
	MS & PhD	Oklahoma Professional Teaching Examination	26
		Development of a survey to assess MS student competencies is underway. Instrument is to be completed and administered in 2004	28
		Annual Doctoral Review	
		Informal assessment strategies including qualitative faculty observations of student performance over time, comparisons of the HDFS doctoral program with programs at peer institutions, and assessment of employability of doctoral graduates.	
Hotel & Restaurant Administration (HRAD)	BS HRAD	Modified NSSE administered to 2003 graduating seniors	28
		2002 Senior Exit Survey	23
		2002 OSU Alumni Survey	20

Table continued from previous page. . .

College/ Department	Degree Programs Assessed	Assessment Methods Used	# Assessed
Nutritional Sciences (NSCI)	BS NSCI	Registered Dietitians Exam: Graduates of the OSU dietetics program Registered Dietitians Exam Alumni of Dietetics Internship Program Modified NSSE administered to 2003 graduating seniors OSU Undergraduate Alumni Survey (graduated 1996 and 2000) Survey of Dietetic Internship Alumni (1995-2001) and First Time Employers	19 12 54 13 Dietetic Interns n=43 Employers n=22
	MS – Nutritional Sciences	Survey of Graduate School Alumni who graduated 1996 and 2000 – conducted Spring 2003	.

Analysis and findings from program outcomes assessment:

College of Human Environmental Sciences

Since implementing the Retention Management System with the College Student Inventory (CSI) in the fall of 1996, the College of Human Environmental Sciences has seen the retention of first year, new freshmen increase from 80.4% to 91.1%. Data for the HES 1111 students for Fall 2002 are presented below.

Scores	Dropout Proneness	Predicted Academic Difficulty	Educational Stress	Receptivity to Institutional Help
Low	47.1%	28.1%	33.3%	31.0%
Moderate	45.7%	60.9%	53.8%	52.4%
High	7.1%	10.9%	12.8%	16.7%

These data indicate a strong propensity for incoming freshman to complete an undergraduate degree program. A majority of these students also presented with moderate levels of predicated academic difficulty, educational stress and likelihood to utilize university support services. These results are being used to identify characteristics for early detection and intervention for students with high dropout proneness.

Since fall 2000 the **California Critical Thinking Disposition Inventory (CCTDI)** and the **California Critical Thinking Skills Test (CCTST)** have been a part of the HES Assessment Plan. The following is a summary of percentages of the seven disposition scales of the **CCTDI** for students in HES 1111 (fall 2002) and HES 3002 (summer 2002, fall 2002 and spring 2003). Persons who score below 40 have a weak disposition and persons who score above 50 are strong in that disposition. An overall score of less than 280 shows serious deficiency in disposition to think critically. An overall score of 280 or less is a marker of weak disposition for critical thinking while a score of 350 or higher is a solid indication of strong disposition across all scales.

CCTDI Subscale	HES 1111		HES 3002	
	< 40	> 50	< 40	> 50
Truth Seeking	78.9%	0.6%	66.2%	1.9%
Open-mindedness	36.0%	10.6%	22.3%	17.8%
Inquisitiveness	28.6%	28.0%	17.6%	31.9%
Systematicity	42.2%	12.4%	34.6%	12.5%
Maturity	28.6%	21.7%	17.3%	30.1%
Self-confidence	34.8%	18.6%	23.7%	20.5%
Analycity	31.1%	11.2%	16.0%	17.6%

	HES 1111		HES 3002	
	< 280	> 350	< 280	> 350
Total Score	35.4%	5.6%	77.1%	6.1%

One of the goals for collecting **CCTDI** scores from students enrolled in HES 1111 and 3002 is to examine changes in the seven sub-scales over time. As many of the freshmen initially tested in HES 1111 have now reached the upper division HES 3002, we have achieved 142 matched pairs for direct comparison of changes during their academic career. The data for HES 1111 and HES 3002 are provided below.

<i>CCTDI Subscale</i>	HES 1111			HES 3002		
	Mean \pm SD	< 40	> 50	Mean \pm SD	< 40	> 50
Truth Seeking	34.9 \pm 4.7	82.4%	0.0%	37.0 \pm 5.8	67.6%	1.4%
Open-mindedness	43.0 \pm 5.1	25.4%	8.5%	44.1 \pm 5.9	19.0%	17.6%
Inquisitiveness	43.6 \pm 6.6	24.6%	20.4%	45.2 \pm 6.8	17.6%	26.8%
Systematicity	41.4 \pm 6.5	40.1%	10.6%	43.1 \pm 6.9	32.4%	19.0%
Maturity	44.3 \pm 6.4	23.2%	21.8%	46.0 \pm 6.6	17.6%	30.3%
Self-confidence	41.7 \pm 6.2	35.9%	11.3%	43.2 \pm 6.9	24.6%	19.0%
Analycity	43.2 \pm 6.2	26.8%	15.5%	44.6 \pm 5.7	16.9%	16.9%

	HES 1111			HES 3002		
	Mean \pm SD	< 280	> 350	Mean \pm SD	< 280	> 350
Total Score	292 \pm 27	25.4%	0.7%	303 \pm 31	21.8%	5.6%

Significant increases were found in raw scores on each of the seven subscales and the cumulative total scores from administration of the CCTDI in HES 1111 to HES 3002. This is indicative of improvements in the dispositions for critical thinking. The greatest change in raw scores for a subscale was found in truth seeking; however, only 1.4% of students achieved a strong disposition (> 350) for truth seeking by HES 3002. The data also indicated significant decreases in the proportions of students with weak dispositions as well as significant increases in the proportion exhibiting strong dispositions on all other subscales. Data will continue to be collected and analyzed to increase the number of matched pairs. This will allow us to better identify characteristics related to persistence to graduation and academic success. Results will be shared with faculty for use in curriculum development.

The following **CCTST** sub-scale scores for students in HES 3002 in summer and fall 2001 semesters were summed and viewed as gross indicators of overall group strength and weakness:

CCTST Subscales	Mean \pm SD	Percentile
Analysis	4.24 \pm 1.47	>49 th
Evaluation	5.33 \pm 2.24	>52 nd
Inference	5.52 \pm 5.52	>37 th
Deductive	7.11 \pm 2.68	>47 th
Induction	6.33 \pm 2.24	>48 th
Total	15.09 \pm 4.49	>50th

Of the students assessed, the highest level of skills indicated on the CCTST was in the participant's ability to evaluate the logic and merit of various arguments. Data for the inference subscale presented the lowest percentile ranking at the >37th percentile. This area measures the skill of applying intuitive insight into conclusion development from various situations. Evaluation scores, which measure the ability to evaluate claims and arguments, ranked highest, representing scores greater than the 52nd percentile. This result appears to be in opposition to the truth seeking disposition as found in the CCTDI. Over the next year further analysis will examine the correlation between sub scores on the CCTDI and CCTST.

Select items from the NSSE (National Survey of Student Engagement) were extracted to serve in place of a senior exit survey this year. Questions and categories retained original content as to be compared to university-wide data; however, coordination with the office of University Assessment will not make the data unavailable for the current report due to processing and analysis time requirements. Results from the 2002-2003 senior exit survey will be shared with the CHES executive group and with faculty meetings by department when available.

Analysis and findings from program outcomes assessment:

Design, Housing and Merchandising

Academic and Design Portfolios

- Forty-eight (48) Interior Design majors participated in the portfolio review process at the sophomore level. The process involves a review by all interior design faculty of representative work from courses. Students receive written feedback and a score. In addition, the students participate in an 8-hour charrette to solve a design problem, and must generate graphic materials to communicate a recommended solution. Decisions were made regarding acceptance of students into the junior year of the program based upon these assessments. Of the 48 student who participated in the review, 36 students were accepted into the Stillwater campus upper division studio classes and 6 into the Tulsa upper division studio classes.
- Thirty-five (36) Stillwater campus and thirteen (13) Tulsa campus interior design students developed design portfolios and resumes while enrolled in DHM 3881, Pre-internship. The students presented portfolios to industry professionals during a mock interview process and received feedback from the interviewers regarding their interview skills and the portfolios. In addition, portfolios are graded and represent a portion of the DHM 3881 grade.
- Thirty-nine (39) merchandising and AD/P students developed portfolios while enrolled in DHM 4011, Post-Internship Seminar. The students presented portfolios to industry professionals during a mock interview process and received feedback from the interviewers regarding their interview skills and the portfolios. In addition, portfolios are graded and represent a portion of the DHM 4011 grade.

Advisory Boards

- The *Interior Design Advisory Board*, the interior design faculty and Janine James, the Chris Salmon Endowed Professor. met to discuss innovative approaches to facility and curriculum development. An ongoing dialogue during the coming year will continue to provide input and ideas as part of continuous improvement approach to the interior design curriculum. Board members served as interviewers to provide students feedback on interview and presentation skills, and other assistance.
- The *Apparel Design/Production and Merchandising Advisory Board* provided recommendations regarding curriculum updates, suggestions for selection of equipment and technology, and related assistance in preparation for the AAFA curriculum and facilities review. Individual board members serve as resource persons for faculty as needed.

Internship Employer/Supervisor Survey

- During summer 2002, 69 DHM students (35 ID; 26 M & 13 AD/P) completed internships. Each internship employer completed a survey. This is a 13% increase in the number of students completing internships over the previous year. Overall, the evaluations and comments from the employers were very positive. Many students returned to campus with offers for permanent employment following graduation.
- Summary of *Interior design* supervisors' assessment
 - ◆ 93% stated they would like to have another DHM ID student intern based on the performance of this student; 7% stated possibly or a qualified yes.
 - ◆ 76.7% of the interns received all evaluation ratings as above average (excellent or good) for the following areas:
 - Interest in the field: includes desires to acquire knowledge and experience, ...
 - Personal abilities: includes punctual, through, enthusiastic, follows instructions, ...
 - Skills, business and technical: includes drafting, computer use, client relations, ...
- Summary *apparel design/production* supervisors' assessment
 - ◆ 92.3% received an overall rating of 9 or 10 on a ten point scale. No intern received an overall rating below average.
 - ◆ 84.6% received all ratings above average (exceptional or commendable). For the following areas: ability to learn, reading/writing/computation skills, listening and oral communication skills, thinking and problem solving skills, professional and career development skills, interpersonal and teamwork skills, organizational effectiveness skills, basic work habits, character attributes.
 - ◆ In response to the question "If here were a job opening, would your company offer employment to this intern?" only 1 stated no.
- Summary *merchandising* supervisors' assessment
 - ◆ 76.9% received an overall rating of 9 or 10 on a ten point scale. No intern received an overall rating below average.

- ◆ 65.4% received all ratings above average (exceptional or commendable). For the following areas: ability to learn, reading/writing/computation skills, listening and oral communication skills, thinking and problem solving skills, professional and career development skills, interpersonal and teamwork skills, organizational effectiveness skills, basic work habits, character attributes.
- ◆ In response to the question "If here were a job opening, would your company offer employment to this intern?" only 1 stated no

HES Survey of Supervisors of 2001 and 2002 Interns (**example findings**)

- Most DHM employers rated DHM students as "more competent" than interns from other colleges/universities and as being "as competent" as interns from other colleges/universities.
- DHM employers were satisfied or very satisfied with interns' ability to use computers to complete work assignments.
- DHM employers were satisfied or very satisfied with interns' ability to function as a contributing member of a team.

Modified NSSE

The results of this survey will be reported in the 2003 - 04 assessment report.

Embedded Course Projects

- Multiple projects are routinely embedded within courses and designed to assess mastery of specific performance goals. Many of the performance goals assessed by projects are based on competencies set by external review requirements (FIDER and AAFA). This process was continued during the past academic year.

FIDER Review. External review by the Foundation for Interior Design Education and Research (FIDER) for renewal of accreditation was completed. A team of three reviewers conducted the site visit. The Interior Design Program received a six (6) year accreditation approval. The six year approval is the maximum granted by FIDER. Recommendations from the FIDER team are being discussed and appropriate action planned as part of the ongoing curriculum improvement discussion.

AAFA Review. **Self-evaluation documents were review by the Curriculum Evaluation Sub-committee of the American Apparel and Footwear Association (AAFA) for renewal of curriculum approval (accreditation). Approval was received for both the pre-production (design) and production management options in the apparel design/production (AD/P) major. The five year renewal of the curriculum approval is the maximum period possible. As a result of this approval, the AD/P program remains one of ten bachelor degree programs approved in North America. This elite group of schools receive scholarship and industry support that is not available to the schools without this approval**

Human Development and Family Science

*Analysis of responses to the **open ended question** giving students an unstructured opportunity to write anything they wanted about the program yielded 84 comments that were organized into the following categories: Advising, Courses/Curriculum, Professors/Instruction, Internship and Other. A brief summary of responses follows:*

- **Courses/Curriculum** attracted the most responses (41.7%). Of these responses several related to a desire to have courses offered more than one time per year and to a preference for small classes. Several respondents were desirous of more hands-on experiences. Other comments called attention to the need for less busy work, less homework, less repetition, and less lecture.
- A request for more help with career oriented information and decisions was expressed by three students. A plea for providing more accommodation (consideration) for non-traditional students was made by two students.
- The next most frequent number of responses (27.4%) were for the category labeled "**Other.**" Most of the responses in this area related to the need for more access to the computer lab and the need for better multi-media equipment in the classrooms. Several students used the "Other" category to offer praise for the department and to express appreciation for the opportunities afforded.

- *Thirteen percent of the responses to the open questions related to **Professors/Instruction**. Concerns in this area reflected a desire for respect from professors, professional role models, more real-world experience, less spoon-feeding, fewer group projects, and more faculty to staff the Tulsa program.*
- ***Advising** was the subject of 14.3% of the open-end responses. Concerns related to the difficulty of making appointments, the need for more career counseling, advisors have more knowledge of the curriculum and degree plans, and advisors having a more favorable attitude toward advising.*
- *The **Professional Internship** was the subject of one student's comment. The nature of the comment was that "most students have to work and go to school and rely on summer to make money for school, but most internships are non-paid."*

Highlights of the responses to **closed-ended questions** on the 2002 CHES Senior Exit Survey are as follows:

- *Compared to other departments in the college, FRCD (now HDFS) seniors were more satisfied with their career choice; 69.7% would choose the same major compared to a CHES average of 61.9%.*
- *Responses to seven items regarding satisfaction with instruction, faculty, advising, policies, and student development again showed that the level of satisfaction was higher than students in the college as a whole. In only one instance did the FRCD level of satisfaction lag behind the college level. Specifically, 53.9% of FRCD seniors were somewhat or extremely satisfied with advisor's interest in student's academic success compared to 54.4% in the college as a whole.*
- *The question in this cluster that showed the greatest separation of FRCD students from seniors in the entire college was satisfaction with instruction in the major. FRCD seniors reported a satisfaction level of 80.3% compared to 65.9% for the college.*
- *Responses to a cluster of 20 items about the achievement of core college competencies showed that FRCD seniors expressed higher levels of achievement on 17 competencies in the cluster when compared to their peers in the college. Three areas where FRCD seniors lagged slightly behind the college average were "learning effectively on your own," thinking critically and analytically," and "using computing and information technology." The questions for which FRCD seniors outscored their peers by 10 or more percentage points were: "high standards of honesty and integrity," "understanding people of diverse backgrounds," "maintaining confidentiality," "demonstrating responsible citizenship," and "writing clearly and effectively."*

ECE Portfolio Assessments

For this academic year 100% of the early childhood education students satisfactorily completed the required portfolios submissions. Students enrolled in teacher education programs are required by the Oklahoma State University Office of Professional Education (as mandated by state law) to prepare portfolios that document their competencies at three stages during the academic career. The portfolios are extensive documentations of knowledge and skills the students have developed in the early childhood education program. During the 2002-2003 Fall semester, staff completed the evaluation of 28 Submission I, 28 Submission II, and 14 Submission III Portfolios. During the Spring 2003 semester 42 Submission I, 28 Submission II and 34 Submission III Portfolios were evaluated.

Students submitting their portfolio in fall 2002 received feedback from the evaluator in a very timely manner. The evaluator indicated that overall students had great content in their portfolios but there appeared to be confusion regarding the organization of materials. The ECE program was provided with a summary with each student's score and plan of improvement. Additionally, the evaluator provided the ECE program feedback concerning the process. Based on this feedback, students completing Submission III during the spring semester were provided with more detailed instruction for completing the portfolios.

Student submitting portfolios for the spring 2003 semester had fewer questions about Submission III of the portfolio. Students appeared to be more confident in completing the portfolio than the previous Submission III students. There is a great deal of work involved in completing student portfolios. It continues to be a work in progress as the ECE program uses this process to best support and encourage students through successful completion of their portfolios.

Teacher Certification Examinations

Over the past year graduates from HDFS with an option in Early Childhood Education participated in two state examinations. Thirty-seven graduates completed the Oklahoma Subject Area Test; 36 of the graduates received a passing score.

Twenty-six graduates completed the Oklahoma Professional Teaching Examination. Twenty-five of these graduates received a passing score.

Highlights of Results of Survey of Undergraduate Alumni from 1996 and 2000.

- In the spring of 2002, alumni who graduated in 1996 and 2000 were surveyed by telephone. A cluster of 14 questions assessed whether or not graduates felt their OSU education had prepared them with abilities to function well as a professional.
- Fifty-six HDFS graduates were surveyed using the same protocol as graduates from other departments in the college.
- The vast majority (80.5%) of HDFS undergraduate alumni reported that they were adequately or very well prepared for their current positions.
- The three items (abilities) for which HDFS graduates indicated they felt less well prepared were: "understanding and implementing guidelines for ethical practice," "effectively managing time and resources," and "identifying and using credible information." The lowest percent for any of the items assessed by HDFS graduates indicated that 89.5% of the respondents felt that they were adequately or very well prepared.

Hotel and Restaurant Administration

The majority of HRAD graduates indicated that they are employed by corporations, full-time, and believe they have been adequately prepared by OSU. They report earning \$26,000 to \$55,000 annually with no continuing education. The majority are "somewhat satisfied" to "satisfied" with the quality of instruction in their major.

Nutritional Sciences

Assessment Method	Analysis and Findings
Registered Dietitian Exam: Alumni of Dietetics Program	84% (16/19) of the individuals who took the national registration exam to become a registered dietitian passed the exam. The 5 year pass rate is 92% (79/86).
Registered Dietitian Exam: Alumni of Dietetic Internship Program	92% (11/12) of the individuals who took the national registration exam to become a registered dietitian passed the exam. The 5 year pass rate is 90% (74/82).
Modified NSSE administered to 2003 graduating seniors	Data collected Spring 2003 semester: Results will be presented in next year's report.
Survey of Graduate School Alumni who graduated 1996 and 2000 – conducted Spring 2003	Results will be presented in next year's report.
Survey of Dietetic Internship Alumni (1996-1999) and First Time Employer	50% of first and current job positions are in clinical positions.
OSU Undergraduate Alumni Survey (graduated 1996 and 2000)	Of the 13 respondents, 86% or greater responded "adequate" or "very well prepared" on all questions asked. The 3 questions to which 85% responded "adequately" or "very well prepared" were: understand how external factors influence you and your profession; manage a team of individuals to meet goals; assess my abilities and make plans for professional development. When comparing 1996 graduates to 2000 graduates, the 1996 graduates were the ones that did not feel prepared in the 3 questions mentioned above. All 2000 graduates felt "adequately" or "very well prepared" in all competencies.

Instructional changes that have occurred or are planned as a result of outcomes assessment:

College of Human Environmental Sciences

- The College Student Inventory (CSI) was administered to entering HES students in the required HES 1111 orientation course. Results of the inventories were reviewed with students by the course instructors and then placed in students' records at the departmental level to be used by academic advisors. CSI scores were entered into an ongoing database that includes other background and academic information. Student enrollment status is also being collected. This information has been helpful in identifying predictors of persistence and withdrawal among incoming students in the college.
- The California Critical Thinking Disposition Inventory (CCTDI) and California Critical Thinking Skills Test (CCTST) were administered to assess the development of critical thinking among students in the college. The CCTDI was administered at both entry level and midlevel to determine student inclination toward thinking critically. The CCTST, administered at midlevel, assesses the ability of students to succeed as critical thinkers. A database has been developed that allows for tracking of scores longitudinally to assess trends in critical thinking disposition and skills. Changes in student's disposition to think critically are now being tracked.
- HES will examine the relationships that exist between the CCTST and CCTDI. Results will be examined as a whole and by department. It is believed that data by department will help departments with curriculum development.
- Results of all surveys were reviewed by the HES assessment committee and provided to departments for review and action. The information from last years' Senior Exit Survey was summarized for presentation to faculty and administration. ██████████ presented overall college findings to the HES E-Group and HES Assessment Committee in fall 2002.
- Results of the prospective employer survey were shared with HES faculty during the HES 2002 fall faculty retreat.
- HES Fall 2002 Faculty Retreat featured programming to help faculty incorporate active learning into their courses.
- In the coming year the college assessment committee will continue to focus on collection and analysis of data collected and resulting program recommendations.

Design, Housing and Merchandising

- Results of the 2002 senior survey will be shared with DHM faculty and discussed during an upcoming faculty meeting. Plans of action will be made based upon needs identified.
- ██████████, the first ██████████ Endowed Professor, joined the faculty as a visiting professor for selected periods during the fall and spring semesters. ██████████, a renowned NY interior designer and owner of The Moderns, worked with both students and faculty. Known for her innovative work related to using design as part of developing a brand and image, ██████████ is also active in the movement that promotes up cycling of all products, including interiors products. As a result of her influence, the ID faculty are evaluating the ID curriculum to incorporate the changes necessary to position this OSU program at the forefront of ID programs in the U.S.
- In addition to working with the ID program, ██████████ was a speaker in merchandising courses and apparel design courses because of her expertise that extends to branding, merchandising and marketing products and services. Her expertise and philosophy regarding up cycling was shared at a public lecture held at the Wes Watkins Center for International Trade Development. Despite a vicious February ice storm, over three hundred people attended.
- The Interior Design program at OSU-Tulsa had six students complete their degree requirements. These are the first graduates from the Tulsa program. The program continues to grow.
- As part of the evaluation component of an externally funded project to incorporate science principles into DHM 2573, Textiles, data were collected to evaluate laboratory teaching methods and materials. Data analyses indicate new methods and materials had a positive impact on student learning. A proposal to NSF to continue this course development is planned.
- Beginning with the 2002-2003 degree plan, the merchandising major and the AD/P major modified the natural science requirement to incorporate DHM 2573, Textiles, as a natural science/laboratory course. This change has been implemented.
- Increasing enrollments (see tables below) and the resulting stress on available resources has resulted in the adoption of a review process for AD/P majors that is similar to the review process used for ID majors

prior to beginning upper division studio courses The appropriate information about the review process was incorporated into official documents, such as the *University Catalog*. Students beginning the first AD/P sequence course (DHM 1003) in fall 2003 will be reviewed for acceptance into the upper division AD/P courses (DHM 3013, 3023, 3153, 4243, and 4403). Documents to be used for advising and for student handouts have been completed and are available as needed. All students will receive the policies and procedures handouts each fall in DHM 1103.

- Increasing enrollments and limited resources will need to be discussed in relation to maintaining quality programs for all students and improving student satisfaction with instruction and advising. The following tables illustrate current enrollment trends that drive the need to assess methods to deliver excellence in instruction and advising.

Human Development and Family Science

*Results from **Senior Exit Survey** open-ended questions fortified the college's plan to improve computer lab access, a project that was completed in the Summer of 2002. Subsequent scheduling of computer lab hours has increased opportunities for students. In regard to classroom technology, five new state of the art multimedia units were placed in high-use classrooms.*

Summaries of the results of the Senior Exit Survey were shared with the faculty and department head who has reiterated selected findings with faculty at critical points throughout the year. Specific changes that have been made by professors to accommodate needs indicated by student responses are as follows:

- *The senior capstone course utilized a comprehensive class project that engaged the whole class in a community project that required students to integrate knowledge and skills gained across the curriculum into one community-based problem.*
- *Another course provided the option of meeting requirements for the major class project as part of a three-member management team or independently.*
- *Several faculty planned class sessions that met in the computer lab in order to give students more access to computer applications significant to their discipline.*
- *The use of e-mail and Blackboard as a means of providing instructional assistance increased dramatically.*
- *One course introduced students to a presentation capturing system that utilized a digital camera and computer to enable students to demonstrate professional interviewing skills. Several professors incorporated more purposeful components requiring critical thinking into their courses.*
- *Other professors required additional writing and recitation exercises in order to help students develop in these areas. An example is the requirement that students listen to the State of the State and State of the Union addresses, summarize key points, and then suggest the implications of these addresses for the field of human services in the coming year.*
- *Several instructors have incorporated both peer and faculty evaluation of the productivity of students as members of project teams. This strategy attempts to avert the negative pull of some students who attempt to use the group as a "free ride" to a good grade. The strategy also provides more realistic monitoring of the contributions of peers in reaching desired outcomes.*
- *Results of this survey were used in curriculum planning in AY02 and AY03*

Internships

Based on the results of a survey of employers in 2000-2001, the input from internship supervisors, and the outcomes of faculty review and collaboration, various changes were made in the professional internship program. Perhaps the greatest change was to increase the number of on site placement hours from 300 to 375 for 3-credit hours. Other changes included raising the level or quality of the internship, monitoring accountability, addressing work ethic questions, and increasing the expectations regarding reflection, self-evaluation, and renewal.

Another change in the internship program implemented in 2002-2003 is the new requirement that each intern must show evidence that he/she is covered by professional liability insurance. These changes are impacting the attitude of students entering the professional internship phase of the program. Students are accepting more responsibility for internship planning and placement and are developing a more professional perspective on the role of the professional in child and family services and early childhood education.

ECE Portfolio Assessments

Early childhood education faculty work together to review portfolio results and subsequently provide feedback to the professional education students. The great majority of the portfolios indicate that students have satisfactorily developed the competencies they are expected to have before placement. When it is clear that competencies have not been met, students are counseled and provided with alternative means of removing any deficiencies.

Undergraduate Student Engagement with Practicing Professionals

While it is difficult to determine the origin of change, e.g. whether faculty are responding to assessment results or to their own desires to improve their programs, there have been numerous changes in HDFS academic courses and student services over the past year. One such change is noted in increased opportunities for engagement provided by the departmental club. Among the benefits are more opportunities for contact with practicing professionals in the field, opportunities to develop leadership skills and more group participation in social service work in the community. Overall, the majority of the faculty has embraced pedagogies of engagement.

Survey of Undergraduate Alumni from 1996 and 2000.

Results of the Undergraduate Alumni Survey were shared with departmental faculty, in particular the departmental graduate committee. Of particular interest to the faculty was the indication that HDFS majors felt less well prepared for graduate or professional school than did their peers across the college (93.8% for HDFS compared to 96.2% for the college as a whole). The results were very useful in making changes through zero-based curriculum review.

Doctoral Program Review

Consistent with departmental policy, each major advisor carefully reviews the student's report and responds in writing. Responses usually make note of accomplishments and recommend areas of emphasis for the coming year. The formal faculty response also provides an opportunity to remind students of departmental and graduate college policies that become more and more important as the time to completion diminishes. Students have reported that they have benefited from the doctoral student review process by being more accountable for their time in program and by being encouraged to become more strategic planners. We are using aggregate information to help examine needs in graduate curriculum review

Hotel and Restaurant Administration

HRAD faculty meet bi-monthly and discuss results of survey information. The HRAD curriculum committee is currently evaluating the curriculum to incorporate needed changes relative to this data. Writing across the curriculum is currently being discussed. The 2003 NSSE surveys are currently being analyzed and will be incorporated into the 2004 assessment report.

Nutritional Sciences

- The faculty involved with teaching the sequence of courses in medical nutrition therapy met during spring semester 2003 to discuss issues impacting those courses. It was decided to try to collect data soon to see if students felt prepared in MNT. This still needs work.
- Another curriculum change that was implemented fall 2000, was an added course, NSCI 4573, Food Systems Administration. Data collection during the next two years should reflect the addition of this course.
- Another course that was implemented spring 2001 was a separate counseling and nutrition assessment course to meet the concerns of students and preceptors about counseling skills. The students' preparedness perception has increased in the area of counseling. Some courses may need to be added or a different directed elective list created for the Foods & Nutrition option.
- The information collect in Spring 2003 will be shared with the Department Head, and the NSCI faculty in August 2003 at the faculty retreat.

**Agricultural Education, Communications and 4-H Youth Development
Agricultural Communications Option**

Prepared by Shelly Sitton

Degree Program(s) Assessed	Assessment Methods	Number of Individuals Assessed
Agricultural Communications	1. <i>Senior Capstone Course</i>	1. 28
	2. <i>Student Internships</i>	2. 50
Agricultural Communications/ Animal Science Double Major	3. <i>National Agricultural Communicators of Tomorrow Critique & Contest</i>	3. 34

Analysis and Findings:

1. *Senior Capstone Course*
Of the 28 undergraduate students who completed AGCM 4413, 23 earned As, four earned Bs, and one received an incomplete. With one exception, all students were able to complete the assigned tasks in writing, layout and design, and photography, most of which required the use of specialized computer software. On individual assignments the lowest scores were earned in writing and editing. All students performed well as members of a team. (Outcomes A. and C.) *NOTE: The magazine produced through this class received the first place in the magazine division of the National Agricultural Communicators of Tomorrow Critique and Contest (see item 3).*
2. *Student Internships*
Fifty students completed at least one internship during the period May 2002 through May 2003. Supervisor evaluations indicated “outstanding” or “excellent” average performance by students in all areas that were evaluated: quality of work in writing, layout and design and/or photography, cooperative spirit, contribution to the organization, care and use of equipment, reaction to criticism, punctuality, initiative, creativity, and ability to meet deadlines. Highest marks were in cooperative spirit. Faculty also observed students’ oral communications skills through their formal presentations and determined that students are adequately prepared to handle oral communications tasks as well as use presentation software. (Outcomes A., B., and C.)
3. *National Agricultural Communicators of Tomorrow Critique & Contest*
Thirty-four students submitted their best work in writing, layout and design, photography, broadcasting, Web design, and advertising in the 2003 National ACT Critique & Contest. Of those entries, nine received first place awards (graphic design, page layout, video production, advertising, multimedia presentation, magazine, black & white photography, digitally enhanced photography, and color photography). OSU students also received Award of Excellence recognition (highest ACT honor) for photography, for electronic media, and for design and layout. In addition, 18 other entries received honors (placings from second through fifth). (Outcome D.)

Uses of Assessment Results:

The results from this year’s assessment activities have been shared with all agricultural communications faculty. The faculty members have used the results to make changes in courses, specifically the addition of a new courses in agricultural campaigns based on the feedback from previous senior exit interviews. In addition, plans are underway to implement an agricultural broadcasting course in Spring 2004. The faculty members also used the results to make revisions in the degree requirements for both degrees being assessed, including the restructuring of writing requirements.

**Agricultural Education, Communications and 4-H Youth Development
Agricultural Education Teaching Option**

Prepared by Bill Weeks

Assessment Method	# Assessed
Portfolios	
Submission #1 - Admission to Professional Education	55
Submission #2 - Student Teaching Placement	34
Submission #3 - Recommendation for Licensure	34
Admission to Professional Education Unit Interviews	34
Examinations	
Oklahoma General Education Test - 76% pass rate	38
Oklahoma Subject Area Test (OSAT) - 100% pass rate	47
Oklahoma Professional Teacher Exam (OPTE) – 84 % pass rate	38
Cumulative GPA for program completers – 3.03	34
Student Teacher Site Visits	66
1 st Year Teacher Follow-up - Oklahoma Resident Teacher Program	21

Supervision

Departmental funds were used to pay for the cost of one supervisory visit per student teacher; assessment funds paid for the other visit. Student teachers are placed throughout the state, from Waynoka to Antlers and from Afton to Chattanooga. Five teacher education faculty, one doctoral level graduate teaching assistant, and one master's level graduate student (with teaching experience) supervised student teachers completing an evaluation form on each class taught by the student teachers. A conference with the student teacher, cooperating teacher at the local school, and the teacher educator is held at the conclusion of the school day. Additionally, six faculty and two graduate assistants served on Resident Teacher Committees which serve first-year agricultural education teachers. All 21 first-year teachers were recommended for certification.

Table 1. Data on program completers

Assessment Method	1999-00	2000-01	2001-02	2002-03
Cumulative GPA of Program Completers	2.95	3.14	3.09	3.03
Number of Program Completers	19	23	38	34
Oklahoma Resident Teacher Committees	23	17	21	21

Portfolios

Students complete submission I of their teacher education portfolio as part of the AGED 3101 course. The faculty member responsible for the course, with the help of a graduate assistant, reviewed each of those portfolios. Two faculty members or one faculty member and a graduate assistant conducted a formal interview with each student prior to their admission to the professional education unit. Faculty members review the second submission of the portfolio, which requires students to document their knowledge and understanding of the core concepts of OSU's Professional Education Unit. This submission must be approved before a student is placed in their student teaching site. Finally, at the conclusion of the student teaching experience, all student teachers complete a third submission of their portfolio supplying evidence of their competency on fifteen teacher education criteria as required by the Oklahoma Commission for Teacher Preparation. If a portfolio submission is unacceptable, the candidate is issued a Plan of Improvement, outlining the unacceptable portions of the portfolio. Plan of Improvements were required of five students on submission II and 22 students on submission III. All portfolios were eventually completed to acceptable standards. The use of digital portfolios was suspended in the 2002-03 academic year because of a change in faculty assignments and loss of special assessment funds to support the development of digital portfolios.

Examinations

The OGET measures basic skills in reading, writing, and math. Effective January 1, 2002, students were required to pass the OGET (score of 240) in order to be admitted to the professional education unit. The

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pass rate reflected in Table 2 is for the entire group of Ag Ed students taking the exam during the past academic year. Because students take this exam in their junior or senior year, it reflects the general education background of students who aspire to teach. Table 4 shows scores for program completers. Because passing the test is a condition of admission to the program, the pass rate for program completers is 100%.

The OPTE measures a candidate's knowledge of teaching on a six-scale exam. The 2002 Oklahoma legislature passed legislation requiring teachers to pass the OPTE before being licensed. The legislation took effect 7/1/02, but because most of last year's candidates were already licensed, they had until 6/30/03 to pass the exam. Data in Table 1 reflect scores for program completers as well as some first year teachers, while the data in Table 4 only reflect scores for 2002-03 program completers.

The OSAT measures our pre-service teachers' knowledge of agriculture across the five broad areas of agricultural economics, animal science, plant/soil science, mechanized agriculture, and natural resources. In the academic year 2002-03, all Agricultural Education students who took the OSAT passed.

Table 2. Standardized test scores for all those seeking certification

Test	Ag Ed Test Takers	OSU Test Takers	Statewide Test Takers
OGET – Basic Skills –	N=38	N=493	N=6710
Pass Rate	76%	84%	79%
OPTE – Teaching –	N=38	N=167	N=1258
Pass Rate	84%	93%	94%
OSAT – Agriculture –	N=47		
Pass Rate	100%		

Table 3. Standardized test scores for program completers

Test	Ag Ed Program Completers	OSU Test Takers	Statewide Test Takers
OGET – Basic Skills	N=34	N=493	N=6710
Reading & Communications	268	276	273
Communications Skills	246	254	251
Mathematics	275	277	270
Computation Skills	281	272	268
Liberal Studies	236	241	238
Writing Skills	241	245	241
Combined	256	261	257
OPTE – Teaching	N=34	N=167	N=1258
Learning Environment	244	257	260
Writing: Critical Analysis	252	263	267
Instruction & Assessment	247	274	275
Writing: Student Inquiry	249	264	262
Professional Environment	268	242	242
Writing: Teaching Assignment	245	253	254
Combined	253	259	260
OSAT – Agriculture	N=34		
Agribusiness	272		
Animal Science	272		
Plant & Soil Science	269		
Ag Power & Technology	270		
Natural Resources	273		
Combined	271		

Student Progress

AGED 3103 represents the first course in the professional development sequence of courses for Agricultural Education students. Students in this course are introduced to the Agricultural Education Teaching profession and complete some of their required field experiences in Agricultural Education programs around the state. Generally, students who enroll in AGED 3103 in the fall semester are on schedule to complete the program four semesters later. Table 4 reflects the progress towards teacher licensure for students who enrolled in AGED 3103 in the fall 2000 and fall 2001 semesters.

Table 4. Status of students who began the Ag Ed program in 2000 and 2001

Status	AGED 3103 Fall 2000 N=54	AGED 3103 Fall 2001 N=61
Graduated in Ag Ed with teaching license	35	28
Graduated in Ag Ed Leadership & Service option	5	5
Graduated in Ag Ed without teaching license	7	1
Left OSU without degree	4	4
Graduated with another CASNR degree	2	1
Graduated with another OSU degree	1	1
Enrolled at OSU in teaching option		17
Enrolled at OSU in Leadership & Service option		3
Enrolled at OSU in other CASNR major		1

Use of Assessment Results

Beginning this year, student teachers were required to submit an artifact and reflection for each of the 15 OCTP competencies. Although portfolios increased in volume, faculty members believe they have clear evidence that their students have met each of the required competencies. The Professional Education Unit's portfolio assessment system will undergo a review from the Oklahoma Commission on Teacher Preparation in December, 2003.

Faculty are concerned with the lower than desired pass rate on the Oklahoma General Education Test (OGET). This test reflects skills refined in a student's general education courses. Because ~75% of the teacher education students in Agricultural Education transfer from a junior college, this reflects poorly not on OSU's general education preparation, but that of the junior college. In the next year we will further track students identify trends in the preparation students receive. Additionally, Agricultural Education students scored below the OSU and statewide scores on each of the writing assessments of the Oklahoma Professional Teachers Exam (OPTE). This next year, teacher education coursework in Agricultural Education and coursework taken in the College of Education will be cross walked to identify competencies which are not being met.

Formal feedback from cooperating teachers, student teachers and faculty observations indicate that student teachers performance in agricultural mechanics and safety is not acceptable. This next year we will be working with the Department of Biosystems and Agricultural Engineering to develop a single course to address competencies in agricultural mechanics.

Placement for the 34 fall 2002 and spring 2003 graduates is as follows: One secured a full-time teaching position in December, three others have secured full-time teaching positions, three have entered graduate school full-time, one has taken employment with OSU, and 26 are still seeking employment as of June 1, 2003. Many of these candidates will secure teaching jobs before the start of the 2003-04 school year as jobs are filled later in the summer.

Department of Agricultural Education, Communications and 4-H Youth Development
Agricultural Education Graduate Program

Prepared by Bill Weeks

Executive Summary (full report available upon request)

Background

Beginning with the spring 2003 semester, the GRE was required for admission to the Master of Science graduate program in Agricultural Education. The GRE was added as a requirement in an attempt to assess the writing ability of graduate students entering the program. In October of 2002, the GRE analytic portion of the test was replaced with an analytical writing component. It is hoped that adding GRE scores to the admission criteria will enable faculty to make informed decisions on the ability of prospective Master of Science students. Table 1 reflects data gathered on applicants and those admitted to the three graduate programs.

Table 1. Graduate students accepted into program in 2002-03

Graduate Admissions	MAG	MS	PhD
Number of applicants	17	11	10
Number accepted	15	11	8
Undergraduate GPA of accepted	3.09	3.18	3.78
Verbal GRE – mean		438	460
Verbal GRE – range		360-510	340-580
Quantitative GRE - mean		532	519
Quantitative GRE - range		390-630	360-770
Writing GRE - mean		4.25	5.00
Writing GRE - range		3.5 – 5.0	4.5 – 5.5

Table 2 shows the number of students in each program as well as their enrollment status. At least one graduate course in Agricultural Education is offered via distance each semester. Also, at least one course each semester is offered in late afternoon or early evening to accommodate part-time students. Student numbers in Table 1 are not included in Table 2.

Table 2. Graduate student status for 2002-03

Graduate Student Status	MAG	MS	PhD
Full-time	11	11	5
Part-time	11	7	6

Table 3 shows the number of students completing graduate degrees last year in Agricultural Education.

Table 3. Graduate degrees awarded for 2002-2003

Graduate Degrees	MAG	MS	PhD
Summer 2002	0	4	1
Fall 2003	3	2	0
Spring 2003	4	3	1

Placement

In addition to collecting data on our own graduates, we participated in the 2001 OSU Survey of Alumni of Graduate Programs. Placement data for this academic year's graduates are included in Table 4. Four graduates are still seeking employment.

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Table 4. Placement Data for 2002-03 graduates

Employer	Job Title
Canel-Winchester Public Schools, Canel, OH	Agricultural Education Instructor
Stillwater Public Schools, Stillwater, OK	Agricultural Education Instructor
Woodward Public Schools, Woodward, OK	Agricultural Education Instructor
Leedey Public Schools, Leedey, OK	Superintendent
Belle Public Schools, Belle, MO	Agricultural Education Instructor
Pioneer Technology Center, Ponca City, OK	Career Tech Instructor
OSU Cooperative Extension, Cleveland, Co.	Community Development Educator
University. of Missouri	Doctoral Student in Ag Ed
OSU Cooperative Extension, Canadian Co.	Program Assistant
Virginia Tech University	Instructor
OSU Alumni Officer	Coordinator Information Services
OSU Plant Science	Doctoral Student in Plant Science
Self employed	Realtor

Student Research and Publications

Sixteen papers and four posters were presented by Agricultural Education graduate students last academic year. Students participated in the OSU Graduate College Research Symposium, Southern Association of Agricultural Scientists Meeting, Southern Region Agricultural Education Research Conference, Western Region Agricultural Education Conference, and the National for Agricultural Education Research Conference.

Master of Science students [REDACTED] (summer 2002) and [REDACTED] (spring 2003) were awarded the OSU Graduate College Social Science Research Award.

**Agricultural Education, Communications and 4-H Youth Development
Leadership and Service Option**

Prepared by: Penny Pennington

Degree Program	Assessment Method	# Assessed Summer '02	# Assessed Fall '02	# Assessed Spring '03
AGED – Leadership and Service Option	Portfolio Submission #1 (Professional portfolio developed and submitted in AGED 3101)		11 students	8 students
AGED – Leadership and Service Option	Portfolio Submission #2 (Professional portfolio revised and submitted in AGED 4203)		19 students	14 students
AGED – Leadership and Service Option	Portfolio Submission #3 (Professional portfolio enhanced by internship experience and submitted in AGED 4300)	17 students	2 students	2 students
AGED – Leadership and Service Option	Cooperator's/Supervisor's Final Evaluation and University Coordinator's Visitation Record/Report	17 students	2 students	
AGED – Leadership and Service Option	Internship Seminar (40-minute presentation addressing the student's internship experience)	17 students	2 students	
AGED – Leadership and Service Option	Exit Interviews (Student's Final Evaluation of the Internship & LAS Internship Survey)	17 students		

Analysis and Findings:

1) Cooperator's/Supervisor's Final Evaluation (Intern's Performance) – Interns are evaluated by their respective supervisors. The mean rating achieved by the 2002 summer and fall interns (21) was "Excellent" in all areas evaluated (ability to perform without supervision, willingness to accept instruction, relationships with other employees, dependability and reliability, thoroughness in completing tasks assigned, personal appearance, enthusiasm and courtesy). All students received the grade of "A" for their internship performance in AGED 4300. The Cooperator's/ Supervisor's and University Coordinator's observation/input together are used to assess the intern's career and professional readiness.

2) Exit Interviews (Internship Completers) – During the summer 2002 internship seminar 17 participants completed the "Students Final Evaluation of the Internship" and the "Internship Survey" as an exit interview, which provides information about the quality of the internship, interest of their supervisor in the program and the intern, ability to teach, quality of instruction provided, etc. Fourteen interns indicated their internship experience was "very satisfying" while three ranked their internship as "satisfying."

3) Internship Seminar – The 30-minute seminar presentation of the internship experience involved faculty assessment of professional dress, oral presentation skills, PowerPoint/slide presentation, portfolio, and overall evaluation. Student retention of material covered in AGED 4203 (Professional Development in Agriculture) was quite evident in the professionalism, creativity and responses to questions from the audience during the seminar presentation. All of the seminar presentations merited an overall evaluation of "excellent." Portfolios were evaluated on the basis of creativity, originality, completeness and neatness.

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Completeness and writing skills seem to be the most evident deficiencies observed. The value of the portfolio served as documentation for the students' readiness in becoming an agricultural professional.

USES OF ASSESSMENT RESULTS:

1) Cooperator's/Supervisor's Final Evaluation (Intern's Performance) – Assessment areas with weak evaluations will receive special emphasis/instruction in the next class (AGED 4203 – Professional Development in Agriculture).

2) Exit Interviews (Internship Completers) – Faculty will use exit interview information to update, improve and/or expand course offerings. Pertinent information included: the overall importance of AGED 4203 to professional development, the need to continue offering student presentation opportunities, the overall importance of leadership curriculum, and the importance of additional agricultural coursework in support of future career goals. Additionally, AGED 4203 – Professional Development in Agriculture was moved from the spring semester to the fall semester in 2001-02 and based on feedback gained from the exit interviews will continue to be held in the fall semester.

3) Internship Seminar – Student input/feedback from LAS Internship Survey, faculty observation and evaluation of the Seminar Presentation.

Department of Agricultural Economics

Prepared by Dr. Joe Schatzer

The following table shows the assessment methods used and numbers of individuals assessed for the degree programs in the Department of Agricultural Economics.

Degree Program(s) Assessed	Assessment Methods	Number of Individuals Assessed
B.S. AGECE & AGBU	Exit interviews	58
M.S. & Ph.D. AGECE	Survey of Alumni of Graduate Programs	In progress
B.S. AGECE & AGBU	Team Competition at regional & national meetings	22

Analysis and Findings:

- Exit interviews provide the Department Head and curriculum committee a feel for the students' understanding of whether their curriculum prepared them for their next venture in the real world. Which courses are meeting the needs of the students and which are not? What areas do the students see missing in the curriculum? We are in the middle of a reorganization of our courses and this feedback continues to help us analyze the impact of this reorganization.
- The Department participated in the Survey of Alumni of Graduate Programs. We included our own questions to help with our ongoing review of the topics and requirements for our graduate degrees. Our curriculum committee is using the results to consider changes in our M.S. programs.
- The Department sponsored a team from the OSU chapter of the National Agri-Marketing Association club that competed at the Student Marketing Competition at the national organization's annual meetings in San Diego. We also sponsored a team from our Aggie-X Club that participated in the American Agricultural Economics Association quiz bowl and another group to the Southern Agricultural Economics Regional Quiz bowl. The experience of the students provides feedback on how our curriculum and students compare to others around the country.

Uses of Assessment Results:

- As we have discussed the last several years, we began implementation of revised and new courses Spring 2001. We implemented new option sheets Fall 1999 which have been revised to agree with the revised and new courses. Therefore, at the undergraduate level we have moved into a transition period for assessment. Unless major problems with the new curriculum show up in exit interviews or discussions with employers, we expect few changes for the next few years. We had a faculty discussion of the courses by discipline during the summer of 2002 to discuss strengths and weaknesses of the changes we have implemented. Also, the curriculum committee continues to examine the results of the Alumni Surveys of Undergraduates and Graduates along with other information to figure out if additional courses in the finance and accounting areas are needed. We are examining whether to create additional options or minors.

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Department of Animal Science

Prepared by Dr. David S. Buchanan

The following table shows the assessment methods used and numbers of individuals assessed for the degree programs offered by the Department of Animal Science.

Degree Program(s) Assessed	Assessment Methods Used	Numbers of Individuals Assessed (number of students completing degrees)
B.S. Animal Science	Oral and written communication skills <i>Capstone class assignments (papers and oral presentations)</i> Student satisfaction survey in Capstone class concerning the college experience Knowledge in specific field of Animal Science Animal Science Quadrathlon - academic competition Intercollegiate Judging Teams Institute of Food Technology Regional Quiz Bowl	~200 (B.S.)
M. Agr. Animal Science	Oral and written communication skills	1 (M.Agr)
M. S. Animal Science	Thesis or dissertation for M. Agr., M.S. and Ph.D. graduates	8 (M.S.)
Ph.D.	Final Exam Seminar and thesis defense for M. Agr, M.S. and Ph.D. graduates	4 (Ph.D.)
Animal Breeding and Reproduction	Knowledge in specific field of Animal Science	
Animal Nutrition		
Food Science	Comprehensive Exam Ph.D. Candidates	

Analysis and Findings from program outcomes assessment:

Oral and written communication skills

Capstone assignments reveal that B.S. graduates have generally good oral communication skills. Their oral presentations are presented clearly and concisely and they answer questions well. Each student delivered his/her presentation using Microsoft Powerpoint. They do indicate, unfortunately, that a small percentage (small but still important) of the seniors have basic problems with following instructions carefully. The students are now also demonstrating proficiency with development of Web pages. Written communication skills in the capstone class vary somewhat among students but generally the writing is clear.

Students completing upper division Animal Science courses demonstrate good to excellent skills in problem solving. There is ongoing difficulty with students who have difficulty using information from prerequisite classes when taking upper division courses. This is partially due to students who take courses out of sequence such that they have not completed the prerequisite courses. However, not all of the concerns can be traced to that issue.

There is also an ongoing issue with class grade distributions which are spread out more widely than might be normally expected. Several classes, particularly the ones with large basic science components, end with large numbers of students earning high grades but an equal number of students who must drop or receive an F at the end of the semester.

Students earning advanced degrees display excellent oral communication skills through seminars (both departmental and in their discipline area) and in presentations at scientific meetings. These seminars are also delivered using Microsoft Powerpoint. Their written communication skills are also excellent, evidenced by the high satisfaction level for theses and dissertations, their contributions to the Animal science Research Report and papers in scientific journals.

Student satisfaction

B. S. students are surveyed in the capstone class and all graduates have the opportunity to have an exit interview with the department head. These surveys and interviews continue to indicate high satisfaction with the department. The department is especially complimented for its caring attitude toward students and generally high level of teaching. Although it was indicated last year that some of the problems with lack of uniformity among advisors had been alleviated, it is obvious that the problems have not been eliminated.

The 2002 Undergraduate Program Alumni Survey revealed the following from 1996 and 2000 Animal Science graduates:

- > 95% believe their degree program prepared them adequately or very well for employment
- > 93% of those involved in further degree programs believe their undergraduate program prepared them adequately or very well
- >80% were somewhat satisfied or very satisfied with their academic advising
- >99% were satisfied or very satisfied with their overall OSU educational experience
- large majorities (>80%) agreed with statements about their education enhancing problem solving, career flexibility or general quality of life

Knowledge in specific field of Animal Science

All Ph.D. students are administered a comprehensive exam (both written and oral) by their advisory committee. These exams indicate good to excellent performance on the part of the students.

Students in the Senior production classes frequently demonstrate good problem solving skills and ability to synthesize information from the prerequisite classes. Unfortunately, this is not true of all students in these classes. This is partially due to failure to take the appropriate prerequisite classes even after caution from the advisor and the professor in the class.

B.S. students participate in a variety of intercollegiate competitions. Results are reviewed here:
Participation in the Academic Quadrathlon (4 students) - Southern Section American Society of Animal Science (2nd place)
Institute of Food Technology Regional Quiz Bowl six students) – 1st place
Livestock Judging Team (20 team members) - entered 9 national contests and finished 6th, 4th, 5th, 6th, 3rd, 2nd, 3rd, 2nd and 2nd.
Meat Judging Team (7 team members) - entered 7 national contests and finished 3rd, 2nd, 5th, 1st, 4th, 4th and 4th.
Poultry Judging team (4 team members) - entered 1 national contest and finished 6th.

Two Animal Science seniors were recognized as Top 10 Seniors in the College of Agricultural Sciences and Natural Resources and 20 Animal Science students were initiated into Phi Kappa Phi. There were 30 Animal Science students who earned recognition on the Presidents Honor Roll and 93 Animal Science students listed on the Deans Honor Roll.

Instructional changes that have occurred or are planned as a result of outcomes assessment:

It has been several years since the Animal Science curriculum has had substantial changes. We are starting a process in which we can examine our curriculum to determine if changes are warranted. The first concern appears to be the nature of the curriculum for students with an interest in attending the College of Veterinary Medicine. Additional issues include the Biotechnology option and options oriented to students interested in careers in livestock production

Instructional technology use continues to expand in our department. With only once exception, faculty are using the computer technology available in the classrooms in the Animal Science Building.

College of Agricultural Sciences and Natural Resources

The College of Agricultural Sciences and Natural Resources has established a computer laboratory in ANSI 126. This lab has more than 30 computers and is well used. Two Animal Science classes meet in the lab on a regular basis and students use the equipment for assignments in many other classes. Since the Animal Science Building is on the path between many OSU classrooms and the new living facilities on the north edge of the campus, the labs are increasingly being used by students from other parts of the campus.

A program was established last year to start students, at the beginning of their college career, in expanding their understanding of research. Eighteen students took a class taught by [REDACTED] and [REDACTED] as an overview of research and each of these students worked directly with a faculty mentor in his/her research laboratory. The class includes interaction with numerous other scientists in the department as well.

We started a course in Web Design. Fourteen students took this class. In addition, there is now a web page requirement in the Capstone class.

[REDACTED] (in Nutrition) and [REDACTED] (in Food Science) have started teaching courses for graduate students in laboratory methods appropriate for those disciplines. [REDACTED] is in his third year teaching a course in Analysis of Animal and Food Science data.

Biochemistry and Molecular Biology

Prepared by U. Melcher

Degree Programs Assessed ¹	Assessment Methods	Numbers of Individuals Assessed
B.S.	ACS standard examination	135 (cumulative)
	Exit questionnaires	9
M.S. and Ph.D.	Self reported grades	53 (cumulative)
	Program Alumni Survey	11
	Years to degree	50
	Dropout rate and enrollment statistics	62
	Cumulative examinations	6
	Program Alumni Survey	6
		n.a.

¹B. S. degrees in "Biochemistry", offered through the College of Arts and Sciences, and "Biochemistry & Molecular Biology", offered through the College of Agricultural Sciences and Natural Resources, are combined for this assessment report as "B. S. Biochemistry" since the programs differ in only minor respects.

Analysis and Findings:**1. B.S. programs**

Standardized examinations The American Chemical Society (ACS) standard examination is administered to facilitate comparison of the quality of graduates over longer time frames. The mean score of eight students taking the ACS standardized exam this year (23.25) was the lowest of the nine years that this measure has been used for assessment. Over the past three years the average score, 25.2, was lower than at its peak of 27.7 for the 1996-1999 period (though the current average includes the all-time highest score). The trend in the past five years has been noticeably steadily downward. Combining 2001-2002 and 2002-2003 scores for comparison with 1999-2000 and 2000-2001 scores resulted in a mean for the last two years (24.0) that was significantly lower than the mean for the prior two years (26.4) at the $P < 0.1$ level of significance, but not at the $P < 0.05$ level.

This trend in the three-year average score needs addressing. It suggests that either the examination is no longer relevant to modern biochemistry and molecular biology or our current graduates are leaving OSU with less factual knowledge than their predecessors. Another possibility is that the test does not measure what was intended to be measured. The test was last modified in 1992 and was designed to be administered immediately after a 2 semester Biochemistry course sequence, instead of during finals week of the students' last semester. Since students are told not to study for the exam and that it does not affect their graduation, they may not take the exam seriously.

Program Alumni Survey The program participated in a telephone survey of alumni who received baccalaureate degrees in 1996 and 2000 conducted by the University Office of Assessment. Though the survey was conducted in February 2002, the results were not available for the previous assessment report. Since the numbers of respondents were low (3 and 8 from the 1996 and 2000 classes, respectively), their responses are combined in the following narrative analysis. (Response rates were 33.3 and 38.1% for 1996 and 2000 graduates, respectively.)

None of the 11 alumni were looking for employment. The median salary of those employed was in the \$26,000 to \$35,000 range. Two-thirds were associated with large corporations. Forty-four % judged that they were working in biochemistry and molecular biology or a closely related field. Oklahoma continued to be the residence of all but two of the respondents. The non-Oklahoma residents lived in neighboring states. Six of the alumni surveyed had gone on to graduate or professional school: graduate (3), business (2), and medicine (1). One had graduated. Only one thought their OSU education had not at all prepared them well for graduate or professional school.

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Relative to skills that working alumni unanimously judged were important to their jobs (oral and written communication, creative problem solving and critical thinking, and teamwork and team building skills) only one person felt that he/she had been poorly trained. Leadership skills were deemed important by eight of the nine responding alumni, but three felt poorly prepared by OSU in this regard. Alumni were prompted for additional courses or skills the alumni thought they could have used. Only one suggestion appeared in multiple responses (4): more business courses. There seemed, however, to be little enthusiasm for an additional required course in finance and accounting.

In department specific responses, the alumni group ranked the importance to them of skills gained at OSU. In this list, the number in parentheses is the number (out of 11) that ranked the skill as very important: problem solving and experimental design skills (10), oral and written communication skills (9), laboratory skills (8); computer skills (6). The amount of formal laboratory training was judged about right by the majority (7) of respondents. In open-ended questions, the respondents were asked to identify the strengths and weaknesses of their degree program. The one topic mentioned by multiple respondents (6) in strengths was training in problem solving skills. The only discernable common theme in weaknesses was that there weren't any (four respondents).

Finally respondents were asked how important study of selected subjects was to them. Their responses were:

Subject	Very important	Not important
Research laboratory experience	9	1
Microbiology	6	3
Analytical Chemistry	6	4
Biochemistry	5	4
Genetics	5	5
Physical or Biophysical Chemistry	4	2
Statistics	4	2
Biochemistry Laboratory	4	4

Overall, the results of the survey indicate that the degree program is doing well at providing the students the skills that they recognize as important to them as alumni, in particular, creative problem solving skills.

Exit Questionnaires The exit questionnaires were meant to gauge students' satisfaction with their education in the degree program and to identify potential problems in our curriculum and in faculty-student relationships. This year, in accord with the revised assessment plan, new questions were added regarding the amount of exposure students had to oral and written presentations and to the reading of scientific literature. Though there is as yet no basis for comparison, the responses indicate that the curriculum gives the students good experience in these and in critical thinking skills.

Universally, students commented on the size of Stillwater being just right. Relative to the university, opinions ranged from "adequate" to highly enthusiastic. Comments on the college were mixed.

Relative to the department five of eight students were pleased. One singled out the Biochem. club activity as a plus. However, a higher proportion expressed reservations than in the previous year when only three of 13 respondents made any comment critical of the department. Two-thirds of the respondents had some critical comment about the faculty in their response. Three years ago, only less than 20% of the comments had any hint of criticism. This year there were fewer negative comments about advising than in previous years, though some still persist. As in previous years, comments were either highly enthusiastic or critical.

Comments were elicited on other departments and their faculty. They were generally favorable, but specific departments were singled out for comment. Relative to degree requirements, there was general satisfaction with the requirements, though a plea for more Biochemistry courses surfaced as it has in previous years. Asking the students to make any comments they wished about what was good and what was bad drew a variety of comments. Individual student comments have been shared (in summary fashion) with the faculty and without identifying the commenter.

Self-reported grades Grades of B.S. graduates over the past four academic years were examined to identify possible problem courses and trends. In the 19 courses that four or more graduating B.S. students had completed at the time of reporting, the 2003 class exceeded the four-year average in 14 courses. Courses with below average performance were MATH 2145 (down 0.19) and CHEM 1515 (down 0.11). Performances in MATH 2155 and CHEM 2122 and 3112 were within one-tenth of a grade point of average.

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In only one course, BIOC 4224 was the average grade below 3.0 (it was 2.8). An average GPA of 3.8 was achieved in each BIOC 3653 and MICRO 2124 by nine students, the highest GPAs for these 19 courses. The better than average performance in course grades this last year contrasts with the continuing decrease in ACS standardized exam scores over the past few years (see above). The conflict needs further examination.

Overall result Despite the general satisfaction with the undergraduate experience expressed by graduating seniors and their good performance, the assessment noted some indicators that require consideration for possible action by the faculty of the department. The department should decide whether declines in the scores on the ACS standardized exam are due to the examination being out of date or to the acquisition of less factual knowledge by our graduates. Comments on the alumni survey and in exit interviews indicate that students and alumni have the perception that biochemistry education at OSU is targeted at developing academic researchers and is not sufficiently cognizant of the needs of students, after graduation, seeking employment rather than graduate or professional school training. This perception may require faculty investigation and discussion.

2. Graduate programs

Enrollment and graduation statistics For the second year, statistics were assembled and gathered on the performance of graduates of our Ph.D. and M.S. programs. These statistics will serve as a basis for comparison of our performance in future years.

Enrollment in the graduate programs is comparatively high. In the five-year periods 1986-1990 and 1991-1995 there were, respectively, 8 and 11 M.S. graduates. In 1996-2000, that number jumped to 22, which is also the number in the most recent five year period. For Ph.D. graduates, there were 11 and 14 in the first two periods and 22 in the 1996-2000 period. In the 1998-2002 period, the number was slightly lower at 18.

Twelve (12) students enrolled in the graduate program since 1995 but left without completing a degree. Half of those were in 1995, suggesting improvement in our retention rate since 1995. We expect some dropouts due to program unrelated causes and thus do not view these numbers with great concern.

Years to Degree Efficiency of graduate education can be measured in years required to attain the degrees. Graduate students must accomplish certain goals. The better their training, the faster they should reach those goals. For Ph.D. students, last year we noted an insignificant decrease in length of time from initial enrollment to awarding of the degree: 4.85 y for 1990 to 1995 entering students (23 students) as compared with 4.96 y for 1980-1989 (26 entering students). The insignificance of the difference is underscored by this year's analysis which shows an average of 5.08 y for students entering between 1990 and 1996. For M.S. students, The sliding three year averages were:

Years entered	Years to MS degree
1998-2000	2.53
1997-1999	2.98
1996-1998	3.02
1995-1997	3.09

Thus, there was a substantial decrease to a value approaching the 2.35 y for 1980-1989 (16 students) time. Our previous department head had set a goal of reducing the time to degree, particularly for the M.S. degree. Thus progress towards the goal has been made. The goal of reducing years to degree, incidentally, is also shared by President [REDACTED].

One of the goals in the PhD program is the passing of cumulative examinations. Students are asked to pass five such examinations before proceeding to the qualifying examination. A few years ago we changed the number of exams that may be attempted and the number that must be passed, keeping the ratio approximately the same. We have now accumulated sufficient numbers of students in the new system to calculate an average which will be a standard for comparison in future years. That standard is nine tries to obtain five passes.

Last year, an attempt was made to identify citations in the scientific literature of articles published by our alumni. Due to the uncertainty of coverage (it was not always possible to uniquely identify each individual), that analysis has been put on hold until better methods are developed.

Alumni Survey The department's graduate program participated in a telephone survey of alumni satisfaction in February 2003. The results of that survey are not yet available and will be presented in next year's report.

Uses of Assessment Results:

The department has been severely hampered in its ability to utilize the results of assessment to improve instruction for two reasons.

First, the number of faculty members and support staff personnel has declined significantly while enrollment has increased. Although we expect two new members of the faculty, they are in effect replacing members who have left, have retired, or are retiring in the very near future. Whenever a support staff position becomes vacant, it remains so for several months, at the behest of higher administration, interrupting the smooth operation of the Department. We educate more students using fewer resources. Quality may suffer. Second, our previous department head left the University in summer 2001. Protracted negotiations with a potential new head ended unsuccessfully in January 2003 and no new steps to acquire a head have been made. We have been under the interim leadership of [REDACTED]. Although she has performed well as a leader, we have postponed decisions and discussions, especially about curriculum, in hopes of involving the new head in them.

Despite the above difficulties, three adjustments have been made in response to assessment results.

First, we have managed to have two excellent individuals accept offers of faculty positions. [REDACTED] and [REDACTED] are likely to be fine teachers and researchers.

Second, in response to the requests for more biochemistry courses, encountered in multiple years, we have instituted a sophomore level course for biochemistry majors on a trial basis. The course is exploratory in nature, concentrating on thinking skills by in depth study of a small number of topics. To date, the course has been well received and steps will be taken to make the offering permanent.

Third, the department had been requested by CASNR to draft a unit action plan. It has recently approved action objectives relevant to undergraduate education. These include: add 3 more Teaching Assistant positions to the teaching program; procure equipment and space to maintain up-to-date teaching labs and to accommodate a greatly increased number of students; teach undergraduate biochemistry majors concepts in critical thinking without sacrificing a grasp of basic biochemistry; implement a 1-2 credit sophomore class that will introduce biochemistry students to primary literature (the new course offering just described); evaluate if BIOC 2344 should continue to be a lecture/laboratory course, if it should be converted to a 3 credit lecture class, or if it should be a 4 hr lecture/discussion class (a service course and thus not one that majors in our programs take); review course content and emphasis as a whole faculty. These action objectives will be acted on as time and funds allow.

Draft copies of this report were given to faculty. The report was discussed at a faculty meeting. This revision is, in part, a result of that meeting.

Biosystems Engineering

Prepared by Dr. Ronald Elliott

The following table shows assessment methods used for the degree programs in Biosystems and Agricultural Engineering.

Degree Program(s) Assessed	Assessment Methods
Bachelor of Science in Biosystems Engineering	Alumni survey FE exam results Exit interviews Senior Design performance Core curriculum grades Student feedback sessions

The following is an excerpt from the self-study report for a Bachelor of Science in Biosystems Engineering Program designed for the Engineering Accreditation Commission, June 2003.

Program Outcomes

In consultation with its advisory committee, the BAE Department has established these educational outcomes:

We expect that students graduating from our program will have:

- a. An ability to apply knowledge of mathematics, science, and engineering. (ABET criterion 3.a.)
- b. An ability to design and conduct experiments, as well as to analyze and interpret data. (ABET criterion 3.b.)
- c. An ability to design a system, component, or process to meet desired needs. (ABET criterion 3.c.)
This includes the ability to synthesize system specifications, make decisions based on partial knowledge, account for uncertainty and risk in design, apply engineering principles to accomplish an outcome, develop recommendations for decision makers based on engineering principles, and promulgate standards, regulations, and engineering practices.
- d. An ability to function on multi-disciplinary teams. (ABET criterion 3.d.)
- e. An ability to identify, formulate, and solve engineering problems. (ABET criterion 3.e.)
- f. An understanding of professional and ethical responsibility. (ABET criterion 3.f.)
This includes an understanding of the issues of safety, law, and reliability.
- g. An ability to communicate effectively. (ABET criterion 3.g.)
Includes oral, written, and graphical communications.
- h. The broad education necessary to understand the impact of engineering solutions in a global and societal context. (ABET criterion 3.h.)
This includes an understanding of the economic impacts, both internal and external, of the implementation of engineering solutions.
- i. A recognition of the need for, and an ability to engage in life-long learning (ABET criterion 3.i.)
- j. A knowledge of contemporary issues. (ABET criterion 3.j.)
Students must have the body of knowledge related to societal issues in order to demonstrate the broad education necessary to understand the impact of engineering solutions in a global and societal context and an understanding of professional and ethical responsibility.
- k. An ability to use the techniques, skills, and modern engineering tools necessary for engineering practice. (ABET criterion 3.k.)
- l. A knowledge of appropriate agricultural and/or biological sciences, and/or natural resource topics. (ABET Program criteria)
This applies to both engineering sciences and contemporary issues.

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The program outcomes directly support the educational objectives. The educational objectives state in general that it is the program's objective to "Provide the comprehensive education necessary to prepare students for successful, productive, and rewarding careers in engineering for agricultural, food, and biological systems." The educational objectives then further identify five expectations of graduates of the program. Program outcomes describe specific skills or attributes that support the five expectations of the educational objectives. The educational outcomes are related to the expectations in the educational objectives as shown in Table 1. In addition, the Biosystems Engineering outcomes fully include and expand upon ABET Criterion 3.

How Program Outcomes relate to the requirements of Criterion 3. Each of the outcomes of Criterion 3 is an element of the outcomes of the Biosystems Engineering Program. Criterion 3 elements are referenced directly in the outcomes of the Biosystems Engineering Program. An additional outcome, without a direct reference to the a. – k. elements of Criterion 3, is included in the Biosystems Engineering outcomes. This outcome relates to the ABET program criteria and is a specific outcome for Biosystems Engineering.

Process used to produce Program Outcomes and evaluate their appropriateness. The Program Outcomes were developed with input from constituents through the BAE Advisory Committee. Other sources of guidance included ABET EC 2000 criteria, the ABET regional faculty workshops, and samples of outcomes developed by other BAE departments and by other schools within the OSU CEAT. The departmental ABET committee drafted an initial set of outcomes, which was adopted by the full faculty in fall 2000. The initial outcomes are still in effect, and refinement of the outcomes was part of the agenda for the May 2003 BAE Advisory Committee meeting. Actions and subsequent faculty follow-up from that meeting are pending as of the compilation of this self-study, and results will be available at the time of the visit. Hereafter, a two-year cycle is planned for assessment of the outcomes themselves, with the objectives being reviewed in the alternate years.

Survey of occurrences of Program Outcomes in BAE courses. After the Program Outcomes were developed, instructors completed a survey aimed at providing an estimate of the significant occurrences of each outcome in each of the BAE courses in the curriculum. The results of this survey were presented in the form of charts; see Figure 4 for the overall summary and Appendix III for the charts for individual courses. The survey was completed prior to the 2002 curriculum changes. A similar survey is being conducted now as an aid in: (a) evaluating the impact of those changes on outcome occurrences in the curriculum; and (b) preparing for future changes in the curriculum.

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Table 1. Relationship between expectations in our educational objectives and our educational outcomes.

Educational Objective Expectation	Educational Outcome
Be able to apply the mathematical, physical, engineering, and biological principles needed to understand, analyze, and solve problems in food, agricultural, environmental, and biological systems.	An ability to apply knowledge of mathematics, science, and engineering. (ABET criterion 3.a.) An ability to design and conduct experiments, as well as to analyze and interpret data. (ABET criterion 3.b.) An ability to design a system, component, or process to meet desired needs. (ABET criterion 3.c.) An ability to use the techniques, skills, and modern engineering tools necessary for engineering practice. (ABET criterion 3.k.) An ability to identify, formulate, and solve engineering problems. (ABET criterion 3.e.) A knowledge of appropriate agricultural and/or biological sciences, and/or natural resource topics. (ABET Program criteria)
Be effective in oral, written, and visual communication.	An ability to communicate effectively. (ABET criterion 3.g.) (Includes oral, written, and graphical communications.)
Be self-motivated in accomplishing tasks, both as an individual, and as a contributor to multi-disciplinary teams.	An ability to function on multi-disciplinary teams. (ABET criterion 3.d.)
Be able to understand the social, environmental, safety, and economic impacts of their work in local and global contexts, and to perform in a professional and ethical manner.	The broad education necessary to understand the impact of engineering solutions in a global and societal context. (ABET criterion 3.h.) A knowledge of contemporary issues. (ABET criterion 3.j.) An understanding of professional and ethical responsibility. (ABET criterion 3.f.)
Be committed to enhancing knowledge and skills through continuing education.	A recognition of the need for, and an ability to engage in life-long learning (ABET criterion 3.i.)

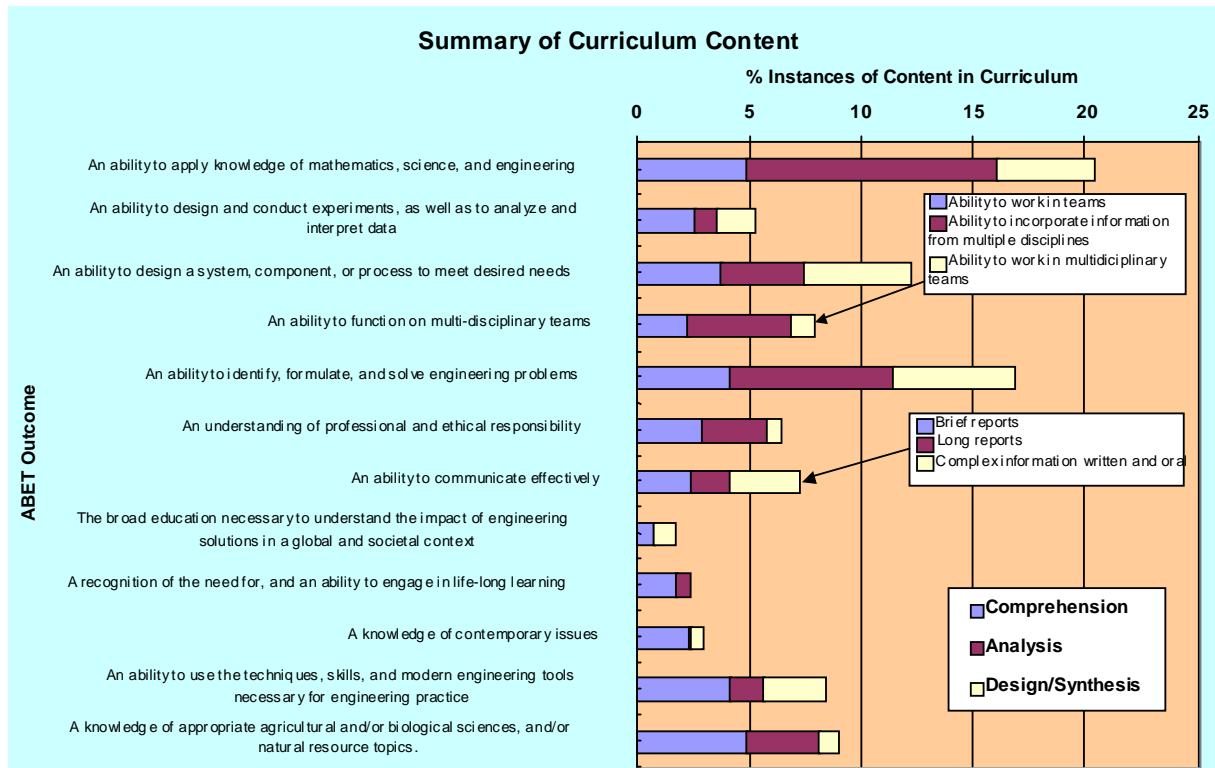


Figure 4. Overall summary of the estimated coverage of Program Outcomes in BAE courses.

Assessment Tools and Processes

Assessment process with documented results to measure outcomes. Two assessment cycles have been conducted with the first completed in February 2001. As a result of the initial assessment, review of the curriculum by the BAE Advisory Committee, formal and informal input from current and graduated BAE students, and observations by the BAE teaching faculty, the BAE ABET and Undergraduate Curriculum Committee formulated a statement of concerns and questions. This statement was reviewed with the BAE Advisory Committee and the BAE faculty, and became the basis for revising the undergraduate engineering curriculum. The revised curriculum was approved in turn by the College of Engineering, Architecture, and Technology Curriculum Committee and the University Instruction Council, and implementation began in Fall 2002. Results of the second assessment cycle were collected in Fall 2002 and analyzed in Spring 2003.

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Table 2. Assessment tools used to assess outcomes for Biosystems Engineering.

Tool	Description	Biosystems Engineering Outcomes Assessed
Alumni survey	A telephone survey conducted by the University Assessment Office of graduates one and three years after graduation.	All outcomes
FE exam results	A nationally normed exam taken by virtually all Biosystems Engineering graduates.	Outcomes a., e., f., and h.
Exit interviews	A one-on-one interview conducted by the department head with each graduating student near the end of the final semester of the student's program.	All outcomes
Senior Design performance	Evaluation of performance in the capstone course series in the program.	Outcomes a. through e., g., h., j., k., and l.
Core curriculum grades	An examination of grades of Biosystems students in the pre-professional core curriculum. This secondary assessment was conducted in 2001 only to gain a better understanding of concerns regarding FE results during that cycle.	Outcomes a. through h., k., and l.
Student feedback sessions	Open-ended sessions, each involving the department head and a group of students (pizza provided). These were initiated in spring 2003, and grew out of less structured mechanisms for student feedback that had proven valuable in the past.	All outcomes are possible but not guaranteed (depends upon the nature of the feedback provided by students).

Educational outcome assessment tools and metric goals. Table 3 provides a summary of the metric goals for each program outcome. These goals are intended to establish the required level of quality of outcome achievement. Graduates who meet these levels are expected to achieve the Educational Objectives following their graduation. These goals are used with each assessment tool in determining if the expected quality for the outcome is being reached for that particular assessment tool. Note: Senior Design is a comprehensive capstone course and covers most of the program outcomes; however, assessment is done on a subset of those outcomes as shown in Table 3. The composite of the results for all assessment tools are examined and changes are made based on the composite result.

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Table 3. Metric goals for each Biosystems Engineering outcome assessment tool.

Metric Goals				
Assessment Tool				
Biosystems Engineering Outcome	Alumni Survey	Fundamentals of Engineering Examination	Exit Interviews	Senior Design Performance
a. An ability to apply knowledge of mathematics, science, and engineering. (ABET criterion 3.a.)	Graduates find that they are very well or adequately prepared to apply knowledge of mathematics, science, and engineering.	Performance at or above the national average of peer accredited Biosystems Engineering Programs	Graduating students believe that they are very well or adequately prepared to apply knowledge of mathematics, science, and engineering.	Successful completion of project to client's and instructor's expectations and satisfaction.
b. An ability to design and conduct experiments, as well as to analyze and interpret data. (ABET criterion 3.b.)	Graduates find that they are very well or adequately prepared to design and conduct experiments, as well as to analyze and interpret data.		Graduating students believe that they are very well or adequately prepared to design and conduct experiments, as well as to analyze and interpret data.	Passing grade in course and completion of project.
c. An ability to design a system, component, or process to meet desired needs. (ABET criterion 3.c.) This includes the ability to synthesize system specifications, make decisions based on partial knowledge, ability to account for uncertainty and risk in design, apply engineering principles to accomplish an outcome, develop recommendations for decision makers based on engineering principals, and be able to promulgate standards, regulations, and engineering practices.	Graduates find that they are very well or adequately prepared to design a system, component, or process to meet desired needs.		Graduating students believe that they are very well or adequately prepared to design a system, component, or process to meet desired needs.	Successful completion of project to client's and instructor's expectations and satisfaction.
d. An ability to function on multi-disciplinary teams. (ABET criterion 3.d.)	Graduates find that they are very well or adequately prepared to function on multi-disciplinary teams.		Graduating students believe that they are very well or adequately prepared to function on multi-disciplinary teams.	A score of 5 or better on the TIDEE scale. ¹
e. An ability to identify, formulate, and solve engineering problems. (ABET criterion 3.e.)	Graduates find that they are very well or adequately prepared to identify, formulate, and solve engineering problems.	Performance at or above the national average of peers in Biosystems Engineering	Graduating students believe that they are very well or adequately prepared to identify, formulate, and solve engineering problems.	A score of 5 or better on the TIDEE scale.
f. An understanding of professional and ethical responsibility. (ABET criterion 3.f.) This includes an understanding of the issues of safety, law, reliability.	Graduates find that they adequately understand professional and ethical responsibility.	Performance at or above the national average of peers in Biosystems Engineering	Graduating students feel that they adequately understand of professional and ethical responsibility.	
g. An ability to communicate effectively. (ABET criterion 3.g.) Includes oral, written, and graphical communications.	Graduates find that they are very well or adequately prepared to communicate effectively.		Graduating students believe that they are very well or adequately prepared to communicate effectively.	A score of 5 or better on the TIDEE scale.

¹ The Transferable Integrated Design Engineering Education (TIDEE) was a National Science Foundation project that generated "Seven-Point Scoring Scales for Student Achievement in Engineering Design." TIDEE Final Report, January 1999. [REDACTED], and [REDACTED]. Washington State University.

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	Metric Goals			
	Assessment Tool			
Biosystems Engineering Outcome	Alumni Survey	Fundamentals of Engineering Examination	Exit Interviews	Senior Design Performance
h. The broad education necessary to understand the impact of engineering solutions in a global and societal context. (ABET criterion 3.h.) This includes an understanding of the economic impacts, both internal and external, of the implementation of engineering solutions.	Graduates find that they are very well or adequately prepared to understand the impact of engineering solutions in a global and societal context.	Performance at or above the national average of peers in Biosystems Engineering	Graduating students believe that they are very well or adequately prepared to understand the impact of engineering solutions in a global and societal context.	Not assessed independently, but a lack of proficiency would be reflected in the quality of the design and the final grade.
i. A recognition of the need for, and an ability to engage in life-long learning (ABET criterion 3.i.)	Graduates find that they recognize the need for, and have an ability to engage in life-long learning		Graduating students feel that they recognize the need for, and will have an ability to engage in life-long learning	
j. A knowledge of contemporary issues. (ABET criterion 3.j.) Students must have the body of knowledge related to societal issues in order to demonstrate the broad education necessary to understand the impact of engineering solutions in a global and societal context and an understanding of professional and ethical responsibility.	Graduates find that they are very well or adequately prepared with a knowledge of contemporary issues.		Graduating students feel that they are very well or adequately prepared with a knowledge of contemporary issues.	Not assessed independently, but a lack of proficiency would be reflected in the quality of the design and the final grade.
k. An ability to use the techniques, skills, and modern engineering tools necessary for engineering practice. (ABET criterion 3.k.)	Graduates find that they are very well or adequately prepared to use the techniques, skills, and modern engineering tools necessary for engineering practice.		Graduating students feel that they are very well or adequately prepared to use the techniques, skills, and modern engineering tools necessary for engineering practice.	Not assessed independently, but a lack of proficiency would be reflected in the quality of the design and the final grade.
l. A knowledge of appropriate agricultural and/or biological sciences, and/or natural resource topics. (ABET Program criteria) This applies to both engineering sciences and contemporary issues.	Graduates find that they are very well or adequately prepared with knowledge of appropriate agricultural and/or biological sciences, and/or natural resource topics.		Graduating students feel that they are very well or adequately prepared with knowledge of appropriate agricultural and/or biological sciences, and/or natural resource topics.	Successful completion of project to client's and instructor's expectations and satisfaction.

Assessment Results and Responses

Quantitative and qualitative assessment results and analysis. A two-year cycle of assessment, analysis, and program adjustment is being conducted for the Biosystems Engineering program. Assessment materials are being collected and examined on a continuous basis, but the analysis of the composite results is being done on a two-year interval. The university conducts the alumni survey in alternate years, though it was originally expected to be done yearly. In addition, the time required to get curriculum changes approved and implemented is approximately one year. Some assessment-driven changes in course content are being implemented in a more immediate manner.

2001 assessment cycle. Materials were collected and analyzed as a part of the 2001 assessment cycle. These results drove curriculum changes that were implemented beginning in 2002. The assessment results for each individual tool, as well as an executive summary, were prepared by members of the departmental ABET and Undergraduate Curriculum Committee. These documents are included in Appendix III. In

addition to the official assessment tools described previously, the committee also received informal input from both faculty and students, which was taken into account.

Our general conclusions were as follows:

Observations

- Students feel very well prepared in the following areas:
 - Applying knowledge of math, science, and engineering
 - Ability to function on teams
 - Understanding of necessary agricultural and biological sciences and natural resources topics
 - Performance in design topics
- Alumni feel very well prepared in most areas, and in general, are very satisfied with the educational experience and instruction they received.
- Nearly all of our students take the FE exam, and most pass it.
- The mean scores of our students averaged over all phases of the FE exam are 99% of the national average for Agricultural and Bioengineering students.

Possible Concerns

- Some of our students do not feel very well prepared in the following areas:
 - Understanding the social, environmental, safety, economic, and business consequences of their work and the importance of risk in engineering analysis.
 - Understanding professional and ethical responsibilities and the pursuit of lifelong continuing education. [Note: Our alumni, however, felt very well prepared in these areas.]
 - The use of modern engineering tools.
- Our students do not perform as well as their peers in mathematics, chemistry, and dynamics, as evidenced by both course grades and subject matter tests on the FE exam.
- Course grades in Fluid Mechanics are significantly lower than other CEAT students.
- Both informal and formal meetings between undergraduate students, faculty, and the department head have revealed a need for more contact with students in the freshman and sophomore years, and the need for exposure to the breadth of subject areas within Biosystems Engineering earlier in the student's career.

2001 Response to Assessment Results

After compiling the composite results of the 2001 assessment, a formal response was generated by the departmental ABET & Undergraduate Curriculum Committee. This response was provided to the faculty for their consideration and action in modifying course content and curriculum.

The curriculum revisions were stimulated by several things: the need to re-evaluate our core curriculum to ensure that it is meeting the needs of our constituents; the need to improve retention of students between the freshman and junior years; the need to enhance students' laboratory experiences; and the need to provide students early exposure to the diversity of career opportunities within Biosystems Engineering.

Option Changes. The Biosystems Engineering program consisted of four options: Environment and Natural Resources, Biomechanical, Food and Bioprocessing, and Agricultural. The Agricultural option was quite general and very few students chose it. The Agricultural option was changed to a Bioprocessing & Biotechnology option. This change has enabled us to meet the needs in the growing area representing the interface between biology and technology. It also provides an opportunity to enhance student recruiting. Much research has been conducted regarding similar programs around the country, and this move is very consistent with the national trend in our discipline. The only new course associated with this new option is a senior-level bioprocess engineering course, which is team-taught and cross-listed with Chemical Engineering. Use of the term Bioprocessing in the new option also necessitated a minor change in the name of the third option to Food Processing.

Core Curriculum Revisions. We conducted a thorough evaluation of the topics in the core curriculum, i.e., those courses required of all options within Biosystems Engineering. This included a survey in which faculty prioritized, on a topic-by-topic basis, the subject matter in BAE core courses, and also evaluated the relative importance of a variety of non-BAE core courses. The results of this survey (Appendix III) helped to guide our curricular changes.

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Our students needed a comprehensive course covering both heat and mass transfer with applications to biological systems, so we developed a new course, Heat and Mass Transfer in Biological Systems (BAE 3013), to be taught for the first time in Fall 2003. We dropped the requirement of the MAE heat transfer course. We require all the available engineering science courses, with the exception of Materials Science (ENSC 3313). We dropped the requirement of Plant Biology (BIOL 1404), but still require Introductory Biology (BIOL 1114).

We added a two-credit-hour course, Experimental Methods in Biosystems Engineering (BAE 1022), at the freshman level involving a series of substantive laboratory experiences illustrating the breadth of topics within Biosystems Engineering. Aims of this course, which was first taught in Spring 2003, are to expose students to the diversity of subject matter and career opportunities within Biosystems Engineering, to provide the development of critical "hands-on" skills, to offer additional experience in data analysis and scientific reporting, and to keep students in contact with the department every semester, in an effort to improve retention. We also added Introduction to Engineering in Biological Systems (BAE 2012), a new two-credit-hour course at the sophomore level, which will be taught for the first time in Fall 2003. This course will focus on case studies drawing from subject matter representing all four options. We also moved Physical Properties of Biological Materials (BAE 2022) to the sophomore level, to make it the fourth in a series of four consecutive courses at the freshman and sophomore levels.

In addition to the above changes in our core curriculum requirements, we submitted changes for many of our existing courses. These changes were the result of a complete review of all BAE courses and consist of changes in content, titles, numbers, and catalog descriptions, many of which had not been edited in a number of years. Because so many course numbers and titles changed, the table in Appendix III ("Biosystems Engineering Core Curriculum Requirement Changes") should be helpful to the reader.

Curriculum modifications in Mathematics and Chemistry were also driven by concerns from Biosystems Engineering and other Engineering Schools. Some of these concerns and changes resulted from earlier processes within the college, but the need to implement changes was particularly influenced by the ABET processes within the college. The Mathematics Department, at the request of the College of Engineering, Architecture, and Technology, has completely restructured the engineering calculus program moving from a two 5-credit course sequence to a three-semester (4-3-3) sequence. We will be monitoring the effect of that change on Biosystems student performance in the mathematics section of the FE exam. The Chemistry Department has created a four-hour course for engineers. We will also monitor student performance to determine if this change improves their performance on the FE examination. Only students from our Biomechanical option were required to take the Engineering Science materials science course. The Biosystems Engineering "properties of materials" course (formerly BAE 3423 and now BAE 2022) is required by all options and is strongly oriented towards biological materials. The materials section of the FE exam emphasizes metals and other inorganic materials and does not test student's knowledge of the properties of biological materials. At this time we are not planning to restructure our course or require all of our students to take the Engineering Science materials science course. The department believes that the Fundamentals of Engineering examination is an important assessment tool and will continue to analyze results as part of the on-going assessment process.

In addition to the curriculum modifications described above, a concerted effort was made to incorporate more specific program objectives into various BAE courses to address some of the possible concerns, as listed below:

- Topics involving a recognition of the need for lifelong learning will be incorporated into the Senior Seminar (BAE 4001) course.
- Students' understanding of professional and ethical responsibility will be enhanced by the incorporation of formal discussions regarding engineering ethics in BAE 2022 and BAE 3213. In addition, students will be indirectly exposed to ethical examples in engineering design in BAE 3023 and BAE 4413.
- Students' knowledge of contemporary issues and the impact of engineering solutions in a societal context will be enhanced by a concerted effort to include case studies illustrating the impacts of engineering design related to the specific subject area in several courses, including BAE 1012, BAE 2022, BAE 3023, and BAE 3213.
- Students' performance in mathematics will be improved by better integrating mathematics applications into Biosystems Engineering courses.

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- Students' use of modern engineering tools will be improved by the inclusion of hands-on laboratories throughout the curriculum. It has also been postulated that the term 'modern engineering tools' is not clear to students in the survey questions. Therefore, some examples and clarification will be added to the senior exit interview questions.

2003 assessment cycle. Materials were collected and analyzed as a part of the 2003 assessment cycle. Further analysis of the results is planned. Changes in the program will be based on the analysis of these results and additional information that will be provided by the 2003 Senior Design and the Spring 2003 Exit Interview processes. The 2003 results obtained so far are summarized here: Results from four different assessment tools were summarized by the ABET and Undergraduate Curriculum Committee for the 2001-2002 academic year. The assessment tools utilized included Senior Exit Interviews, Alumni Survey, FE Exam, and Senior Design Survey. This document contains a brief summary of all combined assessment materials, however, a more detailed summary is available for each of the individual assessment tools in Appendix III. In general, the committee felt that the assessment results were very positive, indicating that our students are well prepared and very satisfied with their educational experiences. Since in many cases our results are taken from small sample sizes, some of the possible concerns should be addressed with caution because in many cases just one or two students responded unfavorably.

Observations

- Students feel very well prepared in the following areas:
 - Applying knowledge of math, science, and engineering
 - Ability to function on teams
 - Understanding of necessary agricultural and biological sciences and natural resources topics
 - Performance in design topics
- Alumni feel very well prepared in most areas, and in general, are very satisfied with the educational experience and instruction they received.
- The senior capstone design experience has received very positive reviews by both external evaluators and students in the course.
- Nearly all of our students take the FE exam, and about 73% pass it. In most of the subject matter categories (9 of the 12), our students performed at or above the national average for Agricultural and Bioengineering students.

Possible Concerns

- A number of students expressed dissatisfaction with academic advising, as evidenced by both alumni surveys and senior exit interviews.
- Some of our students do not feel very well prepared in the following areas
 - Understanding contemporary, social, and political issues.
 - Understanding the impact of engineering solutions in a global and societal context.
 - The continued development of professional abilities through lifelong continuing education.
- On the FE exam, our students do not perform as well as their peers in mathematics, chemistry, and material science. The deficiency in material science is not unexpected, since students in three of our four options are not required to take this course.

Materials documenting the department's curriculum assessment and revision processes and actions will be available for review during the accreditation visit. These materials will include the BAE Advisory Committee minutes, raw assessment tool results, and results of the 2003 assessment cycle. In addition, instructional material and student work will be available for each BAE course in the curriculum.

Department of Entomology and Plant Pathology

Prepared by Dr. Thomas W. Phillips

Degree Program(s) Assessed	Assessment Methods	Number of Individuals Assessed
B.S. –Entomology M.S. –Entomology M.S. Plant Pathology Ph.D. Entomology <i>Ph.D. Plant Pathology</i>	Written and oral exit interviews in addition to information from Curriculum Vitae on professional placement.	1 (2 graduated) 2 (3 graduated) 2 (3 graduated) 1 (1 graduated) 0 graduated this year

Analysis and Findings:

A copy of the written exit interview is available upon request. All students were given or mailed written forms and several attempts were made to retrieve those forms. Oral interviews were conducted by the Department Head as follow-ups to the written instrument. Interviews allowed graduates to comment freely about concerns or suggested improvements for the program.

The small samples sizes of interviews from the five degree programs preclude any summary statistics or statistical analyses. All exit interview responses were positive; the following summary reports the average numerical score (1=Excellent, to 4=Poor) given for departmental faculty and their instruction. The one B.S. Entomology student, 1.5; the one M.S. Entomology student, 1.5; second M.S. Entomology student, 1.0; first M.S. Plant Pathology student, 1.4; second M.S. Plant Pathology student, 1.4; the one Ph.D. Entomology student, 1.0. All respondents were pleased with the support services offered in the Department and elsewhere in the University. All graduates but one from the past year are placed in professional positions in their fields of study; four went on to pursue graduate degrees, three have positions as government or university research scientists, and one undergraduate was unaccounted for.

The Department of Entomology and Plant Pathology is a predominantly graduate education and research department, with significant responsibilities to both the Agricultural Experiment Station and the Cooperative Extension Service. The one undergraduate degree program, in Entomology, has only a few graduates a year, but substantial undergraduate instruction occurs through numerous courses offered as requirements for other majors in the College and for General Education outside the College. As a predominantly research department most of the comments we hear from students deal with research experiences they had in the department.

Uses of Assessment Results:

Responses from exit interviews, together with results from the OSU Student Survey of Instruction, are used each year to aid faculty in revisions and updating of their course materials. Since a major revision of the departmental curriculum was completed over the past five years, we do not foresee substantial changes in course material outside of yearly revisions done by most faculty.

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Two initiatives in program improvement surfaced following recent assessment evaluation. First, we plan to develop a new undergraduate internship program within the department. Exit interviews of graduates over the years have pointed to the value of research and other practical experiences undergraduates receive while employed as laboratory and program assistants by various faculty. Our concept is to promote these experiences by allowing students to enroll in either ENTO 4800, Undergraduate Traineeship, or PLP 4400, Undergraduate Research, for 1-3 credits as an internship in a faculty program for which there is a defined objective, executable practice, and a delivered product at the end of the semester. We feel that the formalized internship would be an incentive for more undergrads to pursue these experiences with faculty and thus to strength their potential for future professional placement. We will develop this internship concept over the coming year. Second, we feel it is important to develop a comprehensive historical database of our graduates from the past 20 years. Entomology and Plant Pathology are highly specialized fields in which our graduates eventually find positions in practice (as pest or resource managers), research, teaching or outreach. Graduate research degree programs resulting in a Ph.D. require several years of study, and typically these are followed by postdoctoral positions and other entry-level positions for several years. A valid assessment of the impact of our program on a former student may not occur until several years from the time a student leaves OSU, when he or she settles into a permanent position. This may also be the case for B.S. graduates who may have discontinuous training and job experiences after OSU. A comprehensive data base constructed from a current survey instrument administered to alumni will aid us in tracking our graduates and give us relevant information about the outcomes from our programs from those who have matured professionally. We will request funding for OUA for this purpose.

Environmental Sciences Undergraduate Program

Prepared by David K. Lewis

This report is the outcomes based assessment of the Environmental Sciences Undergraduate Program by the Environmental Science Steering Committee.

ASSESSMENT

Results of Previous Assessments

- Creation of an Environmental Science Task Force to develop recommendations regarding the administration and support for the Program.
- Review and revision of the curricula for the Environmental Science options by the Environmental Sciences Faculty.
- Development, with the Fire Protection and Safety Technology Faculty, of an academic course that leads to "HAZWOPER-40" certification.
- Development of a course focused on ethical issues associated with the environment.
- A review of quantitative skills required for environmental science professionals.

2002-03 Assessment

In terms of "The Desired Student Outcomes" the measurable standards for the program were met by the 14 seniors enrolled in Environmental Science Applications and Problem Solving (ENVR 4813). The interviews with graduating seniors indicate that they have positive feelings about the program; and their educational experience, including relationships with their advisors and other faculty. These interviews also support implementation of the results of previous assessments.

Planned Efforts

Future efforts should be focused on implementing the results of previous assessments. However, the implementation of any of these efforts requires the commitment of resources beyond the control of the Program in its current condition.

An additional effort should be devoted to monitoring the efforts of the Council of Environmental Deans and Directors to examine and review the curricula of environmental programs of instruction. The Council of Deans and Directors is also examining the opportunities for certification of environmental science professionals. This deserves to be monitored as well.

INFORMATION SOURCES FOR ASSESSMENT

Grades and "Client Reports" from Environmental Science Applications and Problem Solving (ENVR 4813)

Fourteen students were enrolled in Environmental Science Applications and Problem Solving (ENVR 4813) during Spring Term 2003. Students completed projects for the Indian Nations Council of Governments (Characterization of Biogenic Emission Factors Relating to Air Quality Problems in the Tulsa Management Area (TMA)), Oklahoma Department of Agriculture (Analysis of Lagoon and Field Application Odor Abatement Technologies for LMFO's), and United States Environmental Protection Agency – Region 6 (Field Trial of Soil Sampling Procedures for Detecting the Presence of Volatile Hydrocarbon Contaminates). Final grades in the course were A's and B's. Grades were distributed as follows:

9	-	A's
5	-	B's

Client evaluations for the projects (See Appendix A) ranged from 8 to 10 with a mean of 9.3.

Exit Interviews of Seniors at the Time of Graduation

Exit interviews of graduates were conducted by Dean Miller. The results of three interviews were available for this assessment. The interviews indicate a high level of satisfaction with advising, course content, and faculty. Suggestions were offered to strengthen field work and application elements of the curriculum, and increase the course offerings in social sciences in the curriculum. The need for a Program Coordinator was also identified.

Placement Statistics Compiled by the College of Agricultural Sciences and Natural Resources Career Services Office (Appendix B)

The statistical evidence on placement is limited. However the general view is that graduates are continuing their education in nationally ranked graduate programs or finding employment in the environmental science professions. Those seeking employment are finding jobs in a reasonable length of time and at compensation levels above the average for the College.

Recruitment and Retention Data Compiled by the College of Agricultural Sciences and Natural Resources Student Services Office (Appendix C)

The statistical information compiled by the College of Agricultural Sciences and Natural Resources Student Services Office does not include all of the students who entered the program in 2002-03 only those students who were involved in the College's recruitment program. However, this information is consistent with the observations of faculty. Eight (57%) of 14 students that entered the program in Fall Term 2002 were transfer students and two (14%) of the 14 students that entered the program in Fall Term 2002 had transferred out by the end of Spring Term 2003.

Statistics on Enrollment, Degrees Conferred, Faculty Survey, and Placement Compiled by the College of Agricultural Sciences and Natural Resources for the FAEIS Report (Appendix D)

The current FAEIS report indicates that slightly more than half of the students currently enrolled in the Environmental Sciences Program are Caucasian males and the balance are distributed among gender and racial minorities.

Employer Interviews Conducted by the College of Agricultural Sciences and Natural Resources Career Services Office

The results of employer interviews conducted by the College of Agricultural Sciences and Natural Resources were not available at the time this report was prepared.

Alumni surveys conducted by the Office of University Assessment

No information from alumni surveys beyond that reported in the 2001-02 assessment were available at the time this report was prepared.

RESULTS OF PREVIOUS ASSESSMENTS – STATUS

Environmental Sciences Task Force

In 2001 recommendations were made by the Environmental Sciences Task Force which was convened in response to previous assessments. The following recommendations were presented and accepted by the College of Agricultural Sciences and Natural Resources:

- The Undergraduate Environmental Science Program should remain as interdisciplinary program under the Associate Dean for Academic Programs. – **Implemented**
- A chair position should be established to lead the Environmental Science Program. – **Implemented** (Position of "Director, Environmental Sciences Undergraduate Program" was established and filled in December 2002).
- An Environmental Sciences Undergraduate Program Coordinator position should be established. – **Accepted but not implemented**
- Office space should be provided for the Program Coordinator. - **Accepted but not implemented**
- A Classroom/laboratory and a seminar/conference/workroom should be provided for the Environmental Sciences Undergraduate Program. – **Accepted but not implemented (Efforts have been initiated to develop a proposal for a shared teaching laboratory that will meet the immediate needs of the Program.)**
- An annual cash award of \$1,000 should be established as an incentive and reward for contributions to the Environmental Sciences Undergraduate Program. – **Accepted (The process for making the award has been initiated and will be completed during Fall Term 2003.)**
- An annual review of the Environmental Sciences Undergraduate Program and should be presented to the College's academic department heads and administration. – **Accepted and scheduled for implementation Fall Term 2003**

Development of an Academic Course that Leads to “HAZWOPER-40” Certification

A course titled “Hazardous Waste Site Safety Management” (FPST 4050) has been developed by the Fire Protection & Safety Technology Faculty () in cooperation with the Environmental Science Steering Committee. The course has been offered twice for academic credit through Engineering Extension and failed to have sufficient enrollment. This is due to the restrictive enrollment requirements of Engineering Extension (minimum and maximum enrollment of 32 students). Efforts are continuing to advertise the course with the Environmental Science Graduate Program and environmental engineering curricula offered by the College of Engineering, Architecture, & Technology with the goal of achieving enrollment requirements.

Development of an Ethics Course Dealing with the Environment

A course “Ethical Issues in Agriculture and the Environment (ENVR 4573)” has been developed, approved for offering, and offered experimentally on two different occasions. Difficulties in securing a “Humanities” designation have arisen and the course may not be offered in the future.

Quantitative Skills Review

A review of the quantitative skills required for environmental science professionals was initiated in 2001 and is continuing. Currently four subject matter areas have been identified and the Steering Committee is in the process of developing specific descriptions for needed courses.

College of Agricultural Sciences and Natural Resources

Forestry Department

Prepared by Craig R. McKinley

The following table shows the assessment methods used and numbers of individuals assessed for the Forestry Department.

Degree Program(s) Assessed	Assessment Methods	Number of Individuals Assessed in 2003
Forestry – B. S., M.S.	1) Exit interviews with graduating students 2) Performance of seniors in capstone course 3) Faculty questionnaire for student performance in capstone course 4) Student questionnaire for seniors in Forestry 4443 5) Post summer camp retention and graduation rates 6) Satisfaction survey of graduates (1994-1998)	1) 9 seniors, 1 graduate student 2) 8 seniors enrolled 3) 3 faculty responding 4) 7 seniors responding 5) All students completing summer camp 1993 - 2001 6) 80 graduates were mailed surveys

Analysis and Findings:

- 1) Exit interviews: Forestry Department Head, Dr. Craig McKinley, conducted exit interviews in fall 2002 and spring 2003 with a total of 9 graduating seniors. One graduate student was interviewed in 2002, but information is not presented in order to keep responses from being identified. Comments from seniors closely parallel those of previous years. Briefly, the following points were made by students relative to the forestry program:
 - Students indicated that their desire to work outdoors led them to Forestry.
 - Overall, students were pleased with quality of education.
 - Transfer students indicated an initial concern regarding acceptance into the department. However, summer camp generally allayed those fears.
 - Students indicated that summer camp was the highlight of their academic experience. Some concern was expressed over the cost of summer camp and the fact that a summer of work was partially lost.
 - Students who participated in the International forestry course were quite pleased with that experience and felt it added significantly to their education.
 - Students were pleased with advisors in developing academic and career paths.
 - Several students expressed a positive perception of the curriculum options to be implemented in fall, 2003.
 - Students indicated some courses provided redundant information.

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- (2) Capstone performance: The Capstone course is designed to provide an opportunity to approach real-life problems with off-campus clients. Following problem analysis and preparation of results, students make formal presentations to clients.

Teamwork skills appear to be well developed and well understood by the students as they completed the semester's work. Exit interviews demonstrate that student perceptions of the capstone course are excellent.

Client Comments from 2003 include:

- Good presentation.
- The group has researched the project well and was very knowledgeable.
- The presentation was received clearly.
- Written project well organized for presentation to non-professionals.

- (3) Faculty Evaluation of Capstone Students: Following project completion and presentations by students, faculty who attended presentations were asked to complete an evaluation questionnaire. This questionnaire was developed by the Society of American Foresters as part of that organization's efforts to better evaluate outcomes assessment. A summary of the results in 2003 indicate:

- Students were rated highest in their ability to manage teamwork productively.
- Students appear to understand forest community, structure and function.
- Students demonstrated a strong ethical sense of stewardship for the environment.
- Students were rated lowest in their ability to evaluate possible solutions in terms of specific criteria and to make a case for the preferred solution.
- Faculty rated students' communication (both written and spoken) skills at a higher level from last year. Communications has been one area of focus for improvement within the capstone course.

- (4) Forestry 4443 Questionnaire: *A total of 7 senior students in Forestry 4443 (Administration and Policy) responded to a questionnaire designed to evaluate their perceptions of the college experience. Below are listed the results of this survey. It should be noted that seven students is a limited sample and conclusions should be viewed with that fact in mind.*

- Students rated themselves high in the ability to recognize and respect the rights of others.
- Students believe they are able to make informed moral decisions with discernment.
- Students perceive themselves as having the ability to organize and lead groups of people. They also believe they are able to effectively participate as a member of a group.
- Students rated themselves low in their ability to speak effectively and with confidence. They also gave themselves a low rating in the ability to communicate research findings to relevant publics.

- (5) Post-summer Camp Retention and Graduation: The Forestry Department tracks retention and graduation following the academic forestry summer camp that is conducted between the sophomore and junior years. Of the 7 students who attended camp in 2001, 4 (57%) have graduated from OSU. The other three students are expected to graduate in summer or fall, 2003, bringing the total graduates to 7 (100%). The graduation rate of students completing camp for the nine years, 1993 through 2001, is approximately 88%.

CAMP YEAR/ GRAD YEAR	93/95	94/96	95/97	96/98	97/99	98/00	99/01	00/02	01/03
Graduation Percentage	94%	86%	91%	82%	78%	91%	91%	83%	100%

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- (6) Satisfaction Survey (forestry graduates of 1994 to 1998): Surveys to assess the satisfaction of the 1994 to 1998 graduates with their educational training were mailed in February 1999. Approximately 35 percent of those surveyed responded. Data were summarized and analyzed in summer, 1999, with a compilation of results presented to the department's Committee on Undergraduate Education (CUE) for review and action. A copy of this summary and recommendations is available upon request.

Uses of Assessment Results:

As with any activity to evaluate the quality of the educational experience, outcomes assessment must be incorporated into the overall improvement effort. As such, dramatic changes in curriculum, course content and expectations for students are not to be based solely on results reported here. Additionally, such changes should not be initiated without considerable regard to long-term trends and intended results. It has been the philosophy of this department to carefully review the results of outcomes assessment and other evaluation opportunities (SAF accreditation, etc.) over an extended time frame to assure that any program modifications attain the desired results.

Information relative to the outcomes assessment process is submitted in written form by the Department Head to the forestry faculty for their review and consideration. The department's Committee on Undergraduate Education (CUE) also utilizes this information as a basis for possible changes in the instruction program that might be recommended. The Department Head discusses comments relative to specific courses with involved faculty as part of that individual's appraisal and development process.

Other uses of Outcomes Assessment:

- (1) The Forestry Department is involved in an intensive recruitment program. Assessment results are utilized to determine student needs and expectations for a four-year degree in forestry. The development of curriculum options and the reduction in summer camp requirements based upon student inputs are expected to enhance this recruitment effort.
- (2) Curriculum reviews continue as a result of the information received from exit interviews, senior questionnaires, etc. This is not exceptional as curricular matters receive regular attention in the department. As a result of students' desire for additional specialization opportunities, a curriculum review in 2002 led to the development of a proposal for four curriculum options. Those options have been approved and will be implemented beginning in fall, 2003.
- (3) Outcomes assessments have shown that student communication skills need to be improved. The Capstone course continues to focus on oral and written communication skills both within the department and with outside clients. Several other courses include communications activities by students as part of the course requirements. Examples of such activities include presentations, written reports, leadership of discussion groups, etc.

College of Agricultural Sciences and Natural Resources

Department of Horticulture and Landscape Architecture

Programs Assessed:

Degree of Bachelor of Science in Agricultural Sciences and Natural Resources

Horticulture Major:

Horticulture Option (Institutional Program Code = HORT)

Turf Management Option (Institutional Program Code = TURF)

Public Horticulture Option (Institutional Program Code = PHRT)

Prepared by: Brian A. Kahn, Ph.D.

Assessment Method: As a measure of advising outcomes, counts were made of students on the College-issued graduation deficiency lists.

Numbers Assessed: 14; 2; and 9

Analyses and Findings: For Spring 2002, eleven students graduated and three had deficiencies. Two students were short due to one or more failures in core courses (both had failed BIOC 2344). A third student had not scheduled a required upper-division communications course, despite guidance from his advisor. For Summer 2002, two of the Spring deficiencies carried over (the third student was not put up for graduation). For Fall 2002, six students graduated and three had deficiencies. One student was planning to complete two courses by correspondence but did not do so. The other two students each withdrew from, and/or failed, two core courses.

Changes/Use of Results: Advisors are asked to discourage students from trying to complete graduation requirements via correspondence courses due to a history of graduation deficiencies resulting from the use of such courses. However, students do have the right to choose this option. Problems are most likely to result when a student leaves for a job and attempts to finish the last course or two by correspondence. Students have several options for meeting the organic chemistry requirement. BIOC 2344 is a relatively difficult course, but no more so than some other required courses. The Department Undergraduate Horticulture Teaching Committee (UHTC) believes a basic knowledge of organic chemistry is important to our majors.

Assessment Method: All graduating seniors had a grade point average (GPA) within the major (courses with a HORT prefix) calculated as a part of their graduation checks.

Numbers Assessed: 17

Analyses and Findings: Our objective is to have all graduates achieve at least a 2.5 GPA within the major. Fifteen graduates met the goal; one Horticulture and two Turf students did not (all of these had major GPA's > 2.3). The overall mean GPA in the major was 3.36 for graduating Horticulture students, 2.93 for graduating Turf Management students, and 3.78 for graduating Public Horticulture students.

Changes/Use of Results: Students appear to be motivated and generally are performing well in their majors. In an effort to further raise student quality, a 2.25 GPA has been required in the Major Requirements section of the option sheets (includes several non-HORT-prefix courses) starting with the 2000-2001 option sheets. These new sheets are phasing in as new students begin matriculation.

Assessment Method: Students participated in intercollegiate competitions.

Numbers Assessed: (Teams only) 3 and 7

Analyses and Findings:

- A team from our Horticulture Club participated in the Association of Collegiate Branches (ACB) Horticulture Judging Contest, held during the Southern Region, American Society for Horticultural Science (ASHS) meeting on 2-5 February 2002 in Orlando, Florida. Our team (2 PHRT majors, a HORT major, and one former minor in Horticulture) placed first overall; first in greenhouse floral and foliage plant judging; second in vegetable judging and in fruit and nut judging; and third in woody ornamentals judging. One HORT major was the highest overall individual and one PHRT major was the third highest overall individual. Two other HORT majors who participated as individual competitors earned individual awards in greenhouse floral and foliage plant judging.

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- Our Floriculture Crop Judging and Design Team participated with teams from ten other schools in the 61st Annual National Intercollegiate Floral Crop Quality Evaluation and Design Competition, held on 3-5 April 2002 at the University of Wisconsin - River Falls. Our team placed seventh overall in judging. Four students each won individual awards in specific floral arrangement categories (one first, one third, one fourth, and one fifth).

Changes/Use of Results: The faculty member who coaches the Floriculture Crop Judging and Design Team also teaches our Floral Design courses. He has used his knowledge of team strengths and weaknesses to adjust his curricula as appropriate. The Horticulture Club judging team showed strength in multiple horticultural crops.

Assessment Method: Five students graduating in 2002 participated in an exit interview process. The HORT and TURF options were represented.

Numbers Assessed: 5

Analyses and Findings: The students rated their OSU education in their major as follows: 2-above average, 3-excellent. Suggestions for improvement included more turf-specific classes and more hands-on experience in labs. All five students felt that our faculty were helpful and the quality of teaching was good. Advising ratings were: 1-above average, 4-excellent.

Changes/Use of Results: A new course called "Turfgrass Integrated Pest Management" (PLP 3663) was developed and added as a requirement for the Turf Management degree starting with the 2001-2002 option sheets. Several students are taking advantage of HRT 1163, "Bilingual Horticultural Communications", which is now being offered on the Stillwater campus via distance education from OSU-Oklahoma City.

Assessment Method: All Horticulture, Turf Management, and Public Horticulture students are required to participate in HORT 2010, Internship, for three credits (480 hours of work experience). Outcomes were assessed through student and employer evaluations, student seminars, and a specific departmental internship assessment seminar.

Numbers Assessed: 18

Analyses and Findings; Changes/Use of Results: See appended notes from the annual Departmental Internship Assessment Seminar; these notes were distributed to all Horticulture teaching faculty.

COMMENTS

The overall Horticulture and Turf Management curricula appear to be meeting the needs of students and employers. The Public Horticulture curriculum is relatively new and is just beginning to produce graduates. Possible program improvements identified during the assessment process will be considered at an upcoming meeting of the Undergraduate Horticulture Teaching Committee. Assessment results also are an integral part of departmental strategic planning.

Notes from Annual Departmental Internship Assessment Seminar: 27 January 2003

Compiled by Brian A. Kahn, Program Outcomes Assessment Coordinator (POAC)
Horticulture, Turf Management, and Public Horticulture programs
Oklahoma State University, Stillwater

Six faculty members provided input, including all members of the Department Undergraduate Horticulture Teaching Committee (UHTC) and the POAC. There were 18 student interns in 2002 from the three options being assessed. Six of the students interned outside of Oklahoma, including one in Denmark.

Progress from 2001: 1) Cooperators and students had repeatedly expressed a need for training in Spanish in previous assessments. We now have a class from OSU-OKC called 'Bilingual Horticultural Communications' being offered at OSU-Stillwater by distance education. 2) Student attendance at internship seminar presentations has been increased by the creation of two distinct "seminar fests," one for students specializing in Turf Management and another for those in Horticulture and Public Horticulture. Both seminars were tied to meetings of the respective student clubs. Twenty students and five faculty members were present to hear eight student speakers at the HORT/PHRT seminar fest. 3) A new course, 'Turfgrass Integrated Pest Management', came on line in 2002, in part in response to cooperator input that more training was needed in this area.

Notes from 2002:

* Cooperators noted several areas where more student training would be desirable. Three cooperators mentioned the need for training in Spanish. At least three cooperators stated the students were well prepared with horticultural subject matter but needed to work on communication and “people skills”; this comment also appeared in 2001. Students wanted more training in pest management and in irrigation system maintenance. Action: Availability of the ‘Bilingual Horticultural Communications’ course has already been mentioned. It is difficult to acquire “people skills” in a classroom setting; this is one motivation for requiring students to do an internship. We are considering adding a personnel management/human relations course to our curriculum. Most of our students already take one course in Business Communications, but many have not completed this course before they do their internship. Three students specifically mentioned that they gained experience in personnel management and customer relations; one called this “the best part of my internship.” Students often have not completed all the pest management courses on their option sheets before doing the internship. A lecture on the certified pesticide applicator program has been added to Greenhouse Management (HORT 3113), which is a required core course for HORT and PHRT. The addition of the Turfgrass Integrated Pest Management course has already been mentioned. We are working with the Department of Biosystems and Agricultural Engineering to try to get more horticultural applications into the existing Irrigation Principles course. Some of the practical, hands-on skills that the students want need to be learned on the job; again, this is one reason we require students to do an internship.

Notes from Annual Departmental Internship Assessment Seminar: 27 January 2003

* At least two cooperators wanted an outline of what the intern was expected to learn. Action: We have had a golf internship task checklist available for several years. We now have a second checklist available for nursery/garden center internships. Both checklists were produced through joint student/faculty efforts. These should be available on line as well as in print in 2003.

* There were two complaints of lack of communication between faculty advisors and internship cooperators. Action: Most advisors call the cooperators; however, at times the cooperators are on the job and do not get to interact with the faculty member on the telephone. Site visits are common within Oklahoma (this is rarely possible with out-of-state cooperators). Advisors were encouraged to make an effort to communicate with cooperators.

* One Floriculture cooperator encouraged the use of field trips to floral wholesalers and growers in the curriculum. Action: Such field trips have been added to Greenhouse Management. Field trips also are part of Commercial Flower Production and Marketing (HORT 4313), which is being offered in 2003 (first time in several years due to a faculty vacancy).

* At least two students complained about the monthly reports. One cooperator also wanted a place on the monthly reports to document hours worked by the intern. Action: Originally, HORT 2010 required biweekly reports. A change was made to monthly reports largely to reduce paperwork for cooperators. Students are encouraged to keep a daily journal of their activities. One student wrote that the reports were a plus because they helped him to organize his thoughts. One cooperator actually wanted to return to biweekly reports. We anticipate no changes in the monthly reporting requirements. However, we will modify the monthly report form on a trial basis for 2003 to provide documentation of hours worked.

Positive comments were noted from students, cooperators, and faculty internship supervisors. Students reported that internships connected theory with practice and provided direction towards a specific career. At least two students indicated they expected to be offered permanent positions by their cooperators upon graduation. Cooperators generally felt that students were enthusiastic and well prepared, and several specifically noted that they wanted interns from our programs in 2003. Overall, the internship program continues to be a success.

Department of Horticulture and Landscape Architecture

Prepared by Jeff Anderson

Degree Program(s) Assessed	Assessment Methods	Number of Individuals Assessed
<i>M.Ag., M.S., Ph.D. (Crop Science, Plant Science, Food Science, Environmental Science)</i>	The Graduate Assessment Coordinator determines the number and outcome of comprehensive exams, and the number of theses, formal or informal reports, and creative components successfully completed by graduate students. In addition, the number of refereed journal articles, experiment station bulletins, professional papers, abstracts, professional presentations, and related scholarly activities by graduate students are tabulated. The Graduate Coordinator periodically meets with all graduate students to provide and receive information on program assessment. Students are asked to provide candid, mid-program impressions of their opportunities and progress toward educational goals, and to make suggestions to improve the assessment process and the degree program. Graduating students are requested to complete an exit interview. The Department participates in alumni surveys and periodically undergoes an external review by CSREES, a unit of the U.S. Department of Agriculture. .	8 (All graduate students in Horticulture)

Analysis and Findings:

<u>Activity</u>	<u>Number</u>
Exams	
Preliminary	0
Qualifying	0
Final	2
Degree Option Reports	
Thesis	3
Formal Report	0
Informal Report	0
Creative Component	0
Publications in Print	
Refereed Journal Articles	5 (5 more accepted, 3 in review)
Expt. Sta. Bulletins	0
Professional Papers	3
Abstracts	2
Other Forms of Scholarship	
Web Page Development	0
Field Day Reports	2

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<u>Activity</u>	<u>Number</u>
Professional Presentations	
Local	6
Regional	2
National	1
International	1
Exit Interviews	0
Student Awards, Scholarships, Fellowships, Honorary Societies	
Local	2
Regional	0
National	1

Uses of Assessment Results:

The Outcomes Assessment Program has contributed to an evolving philosophy in the graduate program. When necessary, graduate advisors are encouraging students to shift from an activity-based focus to an emphasis on quality outcomes. Instead of limiting goals to taking a class, or getting a certain grade in the class, students are encouraged to learn concepts that they can apply to solve problems important to their discipline. Coupled with sound examples of proper technique and work ethic, integrated learning will enable students to be successful in their graduate program and in their profession. A focus on comprehensive goals is accomplished, in part, by placing a strong emphasis on peer-reviewed outcomes such as refereed publications and effective presentation of graduate student research at professional meetings. The graduate faculty have made a commitment to program excellence, but additional steps will need to be taken. Additional resources will need to be committed to attract and retain highly qualified faculty and graduate students. Investment in infrastructure, including laboratory and support facilities, is also needed to achieve state-of-the art programs.

Department of Horticulture and Landscape Architecture
Landscape Architecture Programs

Prepared by Paul Hsu

Executive Summary (full report available upon request)

Degree Program (s) Assessed	Assessment Methods Used	Numbers of individuals assessed
Bachelor of Landscape Architecture BLA, Landscape Architecture Major	Records of student enrollment, graduation rate, and employment status from the past 2 to 3 years	105
	Records of visiting lecturers/critics	105
	Evaluation of design projects by professional jurors	50
	Records of senior student portfolio reviews	17
	Capstone course evaluation	17
	Student exit interviews	16
	Design competition	32
	Internship performance review	4
	Digital Portfolio for professional phase review	17
	Japan study abroad survey	14

Analyses and Findings

1. Student Performance

Student enrollment in Landscape Architecture (LA) showed a 10% increase last year. Total number of LA students increased from 90 to 105 in academic year 2002-03. 16 LA students graduated in the 02-03 academic year. Student employment indicated that students went into private practice and design and build practices with five in private and two in design/build with remaining students actively seeking employment in this economic down time.

2. Records Of Visiting Lecturers/Critics

56 jurors including speakers were arranged throughout the 2002-03 academic year.

3. Records Of Senior Students' Portfolio Review

17 senior students were involved in the review. The results of this review are graded from medium to high.

4. Evaluation Of Design Projects By Professional Jurors

The design evaluation was conducted on junior and senior students' Design I, II, III, IV, V, Seminar II, Land Use and Community Planning, and Recreational Planning projects by outside jurors. Overall, the juror's comments were very positive. They thought that all the projects, either live or hypothetical, are a practical learning experience, and the students presented medium to high quality work.

5. Evaluation of Capstone Course

The project was appropriate and it included adequately complex socio-economic, environmental and landscape architectural, planning and urban design issues. The course instructor and the professional jurors determined that approximately fifty per cent of the class of 17 performed above the national average, and thirty-five per cent performed at the national level. The performance of 15% per cent of the class was below the national average.

6. Responses Of Student Exit Interviews

An exit interview survey form was sent to 17 undergraduate LA students who graduated Spring 2003.7 students replied with above average rating for quality of department and many positive comments for improvement. Student comments were reviewed by faculty and they are being addressed.

7. Digital Portfolio for Professional Phase Review

In Spring 2003 we implemented portfolio reviews to third years students who are applying for 4th year professional phase of Landscape Architecture Program. Students are required to compose their portfolio digitally with final output in both digital and print formats. A rubric form is developed to evaluate students' portfolios. Most of the students did excellent work on their portfolio and the rest of students did satisfactory work also. Scores of this evaluation are used along with other application material to select qualified students to be admitted into professional phase of the program.

8. Field Day and Design Competition

Four LA students along with Five LC students entered 2003 annual ALCA field day competition. Our students did satisfactory. OSU ranked 28th overall out of 51 competing schools. Among 671 students participated in the events, our students ranked from 23rd to the mid range. Three students were recognized in the ASLA national student design competition 2002 "Special Commendation". There were six entries to New York City Broadway Bloom Design Competition from the planting design class; one entry was selected for display in New York. It shows our student quality and faculty dedication. This year our students also entered the international IFLA design competition and Charles E. Peterson Prize for Historic Measured Drawings Competition, result is still pending. We also have Peruvian students visited our program and interacted with our Design IV students.

9. Study Abroad Program Survey

13 students participated in this survey. A few questions such as the time frame of the project, the sketchbook project, and what experience they gained from the study abroad and culture exchange programs were ranked very high. This survey is certainly a reflection of the essence of Japan Study Abroad Program and will be used for future program planning and improvement.

10. Internships Performance Review

The internship program is designed to enrich the education of landscape architecture students through meaningful off-campus work experiences. Students are evaluated through bi-weekly reports, employer's evaluation, and the students' oral and written reports. 4 students participated in this program last year and their ratings were among high to medium.

Instructional changes and future planning as a result of outcomes assessment:

The department has been monitoring the student outcomes very closely. Based on the outcomes assessment result of the last few years, we have implemented the following changes or modification.

- Project screening Because of professional jurors' positive responses, more careful screening of real world projects are being made to insure all design courses carry good, realistic, and practical projects. More hands on project will be planned to facilitate experiential learning. Invite professional to simulate an office like charette in studios.

- Computer training Graphic sketches and scanning, digital camera, and presentation software are integrated into graphic courses. Desktop publishing and slide presentation also became part of the design presentation process. Students also are required to publish their portfolio in digital format for performance review.

- Portfolio review Landscape Architecture program continue to apply portfolio review process to maintain the higher quality of students entering professional phase. Second year in a row we went all digital and students adapted to this format very well.

- Internship We maintain good contacts with professionals and employers and assist students with securing internships. Students actively participated in this off-campus educational opportunity. It is critical to maintain contact with professionals in the field and monitor our students' performance as a reference to our curriculum quality.

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- Study Abroad
Based on the Japan study abroad program survey, many improvement such as host family exchange, culture workshop, urban landscape professional office visit, and citizen interaction, and studio exchange with Kyoto University of Art and Design were implemented on our Japan Study Abroad Program 2002 and 2003. Peruvian students visited our program and interacted with Design IV students.
- Design Charette
based on student exit interviews and design course evaluations, we invited major professional office to conduct several design charette and/or workshops. Students got the benefit of real world intense but creative design processes. Program Outcomes Assessment Annual report, 2003

Department of Horticulture and Landscape Architecture

Prepared by Lou Anella

Degree Program(s) Assessed	Assessment Methods	Number of Individuals Assessed
<i>B.S. Landscape Contracting</i>	<ul style="list-style-type: none"> • Graduation rates • Exit interviews • Internship reports • Internship cooperator reviews • External reviews • Student Career Days 	<p>54 0 2 2 0 9</p>

Analysis and Findings:

Graduation Rates

During the 2002-2003 academic year 54 students declared Landscape Contracting as their major. Five students graduated from the program during that time and eleven either dropped from the program or transferred to a different program resulting in a graduation retention rate of 80%.

Exit Interviews

We only had five Landscape Contracting students graduate this year and none of them opted to complete and exit interview form or to have a personal exit interview with the Department Head. Although we would prefer to have students fill out exit interview forms to get their impressions of the Landscape Contracting program, we do hope that no news is good news.

Internship Reports

This year there were only two Landscape Contracting students who did internships but the internship program was rated highly by each student. The internship students gave their cooperators ratings of excellent or very good. One student suggested that students should do internships, “away from home, outside their comfort-zone.” The internship was a valuable experience for this student and he has since graduated and has taken a full-time position with the same company.

Each student was required to write an internship report and to present an internship seminar to their fellow students and the faculty. Internship reports outlined the work experience gained and seminars gave the students a chance to practice their public speaking. Many students presented computer generated Power Point seminars. Seminars were attended by the director of the Landscape Contracting program, the Landscape Contracting assessment coordinator, and various faculty.

The internship was a positive experience for both students; each one said they would recommend an internship with their cooperator, and thought college credit was appropriate for the internship. Overall, the internship was regarded as one of their best academic experiences.

Internship Cooperator Reviews

Internship cooperators also found the internship program to be valuable. Cooperators gave students ratings of excellent or very good and one student received excellent for each characteristic evaluated. One cooperator thought the student was “fairly well” prepared for the job but mentioned that courses are not offered teaching how to handle a crew. I’m not sure if he was suggesting that such courses should be offered or if he was just reflecting on how difficult it is to teach such skills in the classroom.

The other cooperator said he would not be willing to participate in the internship program because he wanted to keep the same intern employed! So both of the students who did internships this year were offered jobs

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when the internship was over: one a full-time position after graduation, and the other a part-time position while she finishes school. Offering our students jobs is perhaps the highest assessment we can receive.

Overall the cooperators were impressed with our students, with their willingness to work, ability to solve problems, and academic preparation.

External Review

An ALCA Accreditation Team visited the Landscape Contracting program at OSU in April of 1999. The team gave provisional accreditation at that time and presented the Department with a list of requirements for full accreditation. On May 31, 2002 we received a letter giving full accreditation for a seven-year period. The next accreditation visit is projected for 2006.

Student Career Days

In March of 2003 the OSU Associated Landscape Contractors of America (ALCA) Club attended the ALCA Student Career Days at Hinds Community College in Jackson, Mississippi. Nine OSU students and two faculty advisors attended with 51 other schools and approximately 1000 industry professionals. Bringing only nine students does not allow us to compete in all events so our ranking does not accurately reflect the success of the individuals who attended. Our ranking this year was 26th out of 51 schools, which is similar to last year's ranking of 25th out of 48 schools.

Six hundred seventy-one students competed this year and to be competitive for the top ranking, individuals must compete in five events. We had only two students compete in five events and they ranked in the top 5% while we had one student rank in the top 10% even though he competed in only four events. Our students competed in twenty events and ranked in the top third five times. One team of students ranked in the top third despite the fact that points were taken off their score for using "antiquated equipment." That tells us that we are competing effectively with other schools and that we need to update our equipment.

Most of the students from OSU were not graduating this year so we did not have students interviewing for full-time positions but we did have a few that were interested in internships. At least one student was offered an internship while attending the Career Days. The students also had the opportunity to interact with industry professionals and students from other schools on an informal basis.

Uses of Assessment Results:

Internship information was shared with faculty during the department's internship seminar where faculty gather to hear cooperator and student evaluations and discuss possible changes. Results of the ALCA Student Career Days have been shared during faculty meetings and with the Landscape Contracting Program Advisory Committee who helped train our students for the event.

Past student internship evaluations and comments from industry led to the requirement that all landscape contracting students complete an internship. Similarly, discussions are now taking place to decide if attending the ALCA Student Career Days should be mandatory. I made a point this year of asking our students if they thought Career Days was a valuable experience since we may require it in the future. Everyone said it was a valuable experience, well worth the financial and time commitment.

Although we have not yet made attendance at ALCA Student Career Days mandatory, we have committed to telling our advisees that we expect them to attend. Also, the student officers of the OSU ALCA club have committed to holding a membership drive next fall to recruit students for the ALCA Student Career Days.

This assessment report will be forwarded to: the Department Head, Landscape Contracting Program Director, Horticulture and Landscape Architecture advisors and faculty, and the Landscape Contracting Program Advisory Committee. Elements of this report will be used to make curriculum and program recommendations to the Department Head and the Program Director.

College of Agricultural Sciences and Natural Resources

Plant and Soil Sciences

Prepared by: Jonathan M. Shaver

Degree Program(s) Assessed	Assessment Methods Used*	Numbers of Individuals Assessed**
College of Agriculture and Natural Resources, Plant and Soil Sciences, BS	○ Entry level placement	○ 29 graduating seniors
0082 Business	○ Participation, leadership, awards in student organizations	○ Approximately 75 undergraduates
0083 Biotechnology	○ Regional and national academic competitions	
0084 Rangeland Ecology and Management	○ Student tracking	
0086 Agronomy	○	
0088 Crop Science	○	
0089 Soil Science	○	

* Please see #2 below for further explanation; ** Depends upon assessment method

1. **Department:** Plant and Soil Sciences, College of Agriculture and Natural Resources
Degree Programs Assessed: Plant and Soil Sciences BS (Option codes: 0082, 0083, 0084, 0086, 0088, 0089)

2. **Assessment Methods Used:**
 - a. Keeping records of entry level placement of all plant and soil sciences graduates.
 - b. Tracking student progress through the degree program (sources of students, retention, academic performance and graduation)
 - c. Summarizing participation, leadership positions, and awards in student organizations and in academic contests.
 - d. Summarizing the results of regional and national academic competitions by teams in crops, soils, weed science, and range management. This includes activities of graduating seniors and results of the current year participation.

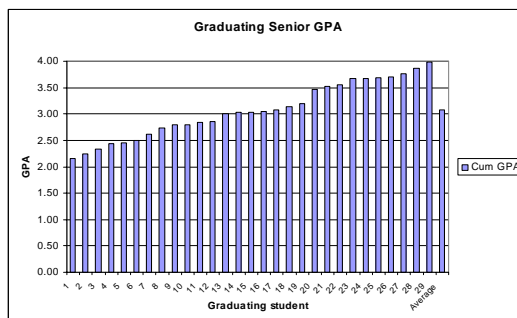
3. **Number of Individuals Assessed:** Twenty nine BS Graduates; (Fall '02 (13), Spring '03 (16)); (Options: Crop Science (7); Soil Science (7); Agronomy (10); Biotechnology (0); Business (0); and Rangeland Ecology and Management (5)). Average undergraduate enrollment (measured at beginning of each semester)—94 (Fall '02) and 73* (Spring '03). Seventy-three continuing students (Options: Agronomy (20); Biotechnology (5); Business (4); Crop Sciences (10); Rangeland Ecology and Management (17) and Soil Science (17)). Male (61), Female (12); 61 are from Oklahoma, 6 are from out of state, 6 are international.
 * Does not include 6 students who had not enrolled, but have not withdrawn from OSU.

4. **Analysis and Findings:**
 - a. Initial placements of the 29 BS graduates were to private industry (3), farming or family business (5), continuing for graduate education (11; 8 at OSU and 3 elsewhere), state and federal organizations (7 (5 at NRCS, 1 at USDA, 1 at US Forest Service) Undergraduate Assessment Coordinator), self-employed (1). Two are employed outside of their area of study.

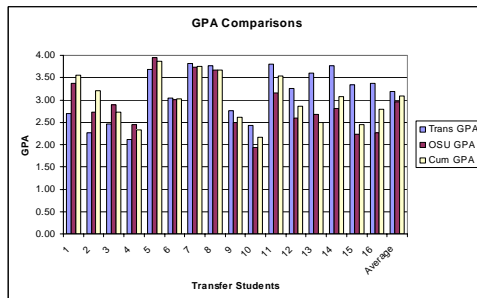
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- b. The average GPA of the 29 students was 3.08 (compared to 2.84 in '01-'02; 2.85 in 00-01; 3.00 in 99-00 and 3.14 in 98-99), with seventeen at 3.0 or above, including 9 with 3.5 or above. GPA's ranged from 2.16 to 3.98 with an average GPA of 3.08 (see figure below), compared to 2.87 this past year.

c.



Of the 29 BS graduates in 2002-'03, eighteen transferred to OSU; 4 of the 16 from out of state and zero from out of the country. Sixteen of these students transferred more than 50 hours to OSU, while the remaining two transferred at least twenty hours. The cumulative GPA for 16 transfer students (20+ hours transfer) averaged 3.01 compared with an OSU-only GPA of 3.16. Upon comparison of the transfer-institution GPA and these students' OSU-GPA, we find that performance is generally consistent for the individual transfer students between the two institutions. Four students had a full letter grade drop at OSU compared to their transfer institution. Only one student had an OSU-GPA below 2.0. The group average dropped from 3.14 to 2.87. This pattern compares similarly to the last two years' graduating classes of transfer students. The following table shows individual comparisons. Students are ordered based upon differences between transfer- and OSU-institution GPAs.



Of the ten students completing all of their hours at OSU, two graduated in 8 semesters; 3 in 9 semesters and the other 5 in ten or semesters. The average time to completion for transfer students bringing in at least 60 hours (~half of the total credits required to graduate) is 5.14 semesters. Three transfer students finished their OSU hours in 4 semesters. Therefore, we should advise transfer students that even if they transfer from in-state schools they will most likely require 2.5 years to complete their degree.

Over the past three years we have tracked the progress and retention of our students. This information is summarized in the following table. Of significance, most students take more than four years to complete a degree in our major. Also, we can expect an attrition of 30-50% of our incoming freshman before graduation. As indicated by our ability to maintain total enrollment, this loss of freshman is balanced, however, with transfer students from other institutions or from other departments within OSU. We are attempting to track the number of students who transfer from other departments within OSU.

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Year entered OSU	Graduated	Still in PASS	Left PASS	Left OSU	Total
1997	18	1	1		20
1998	14	2	7	3	26
1999	16	8	7	5	36
2000	10	16	6	1	33
2001	0	18	7	2	27
2002	0	18	1	0	19

- d. Of the 29 BS graduates, 16 were members of at least one of the two departmental clubs (Agronomy Club or Soil and Water Conservation Club). Twelve of the 16 club members served as local club officers for one or more years. Two of the club members took the opportunity to attend at least one national or regional professional meeting during their undergraduate careers. Eight of the graduating seniors had participated in national academic contests as part of the American Society of Agronomy Student Activities Subdivision. Two of these students placed in the top 3 in the manuscript contest, and the papers were published in the Journal of Natural Resources and Life Sciences Education. Another two students placed in the top 3 in the nation in the visual presentation contest. Participation in national contests is highly encouraged by the faculty. One graduated student also presented two undergraduate research papers at the ASA meetings. Placement of the students in these contests at the national level is indicative of the high quality of these students.

Student clubs and teams considered an important co-educational opportunity that is meant to complement classroom learning and also introduces students to other professionals in their chosen discipline. Additionally, participation in student clubs is an important social activity that allows for development of support groups that can aid in retention of students. Although slightly better than last year, participation by incoming freshman was very poor. Of the 10 freshman in 2002, only four students participated in a student club. The Agronomy Club had approximately 20 active members which is about 25% of our students. The Soil and Water Conservation Club had about 15 active members which is about 20 % of our students. Seven students are members of both clubs.

- e. Five of the graduating seniors were members of the Crops Judging or Soils Judging teams, participating in one or more regional and/or national contests for at least two years. Three seniors were on the Soils Team, which placed 1st out of 8 schools in the regional contest in 2002. As individuals, they placed 2nd, 4th and 10th. The two students on the Crops Judging team did not place at the regional level and did not compete nationally.

During 2002, seven students attended the regional crops judging team in Manhattan, KS including one freshman and 3 sophomores, 1 senior and 2 students from out of the department. The team placed second out of 6 teams. The senior student and one non-departmental student participated in the national crops judging contest in Kansas City, MO and Chicago, IL. The student from our department placed 7th and 8th overall, respectively, out of 40 students.

Five students including 3 seniors, 1 junior and a student not in the department, placed 1st in the regional Soils Judging Contest in College Station, TX. Eight schools from the Southern Region participated. As individuals, team members placed 1st, 2nd, 4th and 10th out of 32 contestants. The team members traveled to the National Soils Judging Contest also at College Station, TX. The team placed 11th out of 22 schools at the national contest. Individuals placed 17th, 18th, 30th and 36th out of 85 students.

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Eight students participated in national contests of Student Activity Subdivision of the American Society of Agronomy at Indianapolis, IN; two in multiple contests. Students submitted 3 manuscripts, one receiving 3rd. The third place article will be published in a peer-reviewed journal. Three (six at the local contest) students participated in the visual presentation contest for which 2 third place awards were earned. Four students participated in the Student Research Symposium Contest, for which one 3rd place was received for a poster entry. As a student organization, the Agronomy Club enters several contests. The student club was named the top agronomy club in the nation for the 14th consecutive year, receiving three 1st places and three 2nd place award in the various contests. Two students served as national committee chairs.

We did not participate in the Range Management Contest or the NACTA Agronomy contest this year. However, 3 students did travel to the Society for Range Management meetings in Wyoming.

5. Changes due to assessment:

Utilizing data collected for this annual report, a seminar was given on March 24, 2003 to the faculty members of Plant and Soil Sciences. We have used this opportunity to identify potential strengths and weaknesses that will guide us in our future activities and in the strategic planning effort taking place in the OSU system. Relevant highlights of that presentation are given below.

Enrollment goals Four years prior, an enrollment goal of 100 students had been set. During this time, we averaged 92.5 students (high 97). At the time of this seminar (and for this assessment), our enrollment was 73 students. This did not yet include new

	F	T	O	Total
Business	1	2	1	4
Biotechnology	2	3	0	5
Agronomy	14	5	1	20
Rangeland Ecology and Management	11	3	3	17
Crop Science	3	6	1	10
Soil Science	3	10	4	17

freshman and transfers students who will enter OSU in Fall 2003. A discussion was initiated as to why we have enrollment goals. Suggestions were given that included: administrative goals from above; critical mass is required to justify resources; the desire to share our knowledge; gives us strength relative to other programs; to serve the industry needs; to serve our public citizens so as to make our state more successful, and because a large enrollment demonstrates our currency and relevancy to society's needs and interests. A separate discussion was raised regarding whether these objectives are met with a large number of majors or with a large number of students in service-courses. This is a question to be considered as we examine utilization of teaching resources.

Recruitment and retention As shown in the table at right, 34 of our current 73 students began as freshmen (F), 29 began as transfers (T) and 10 transferred from other departments within OSU (O). Additionally, this table shows the option that was chosen by students in each of these three groups. Although, 4 of the 6 options have similar enrollment, Agronomy and Rangeland Ecology are the options most often chosen by freshmen, tending to demonstrate that when freshmen students identify with our program, they 'see' Agronomy and Rangeland Ecology and Management. Transfer students appear to be more aware of the broad selection of options within the program. There are no trends regarding the majors from which the O-students have transferred.

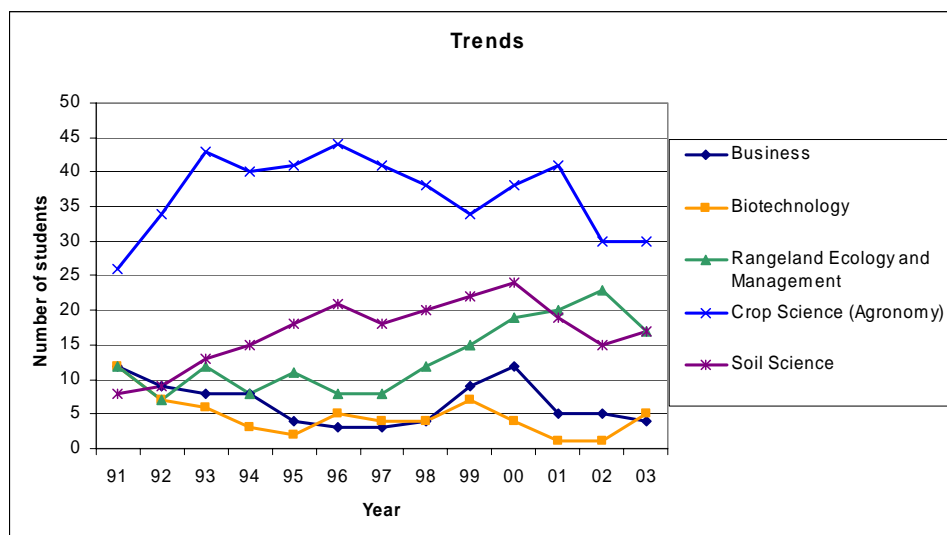
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Our assessment data indicate that our freshman retention rate is 50- 70%. In the past three years, 20 of our students have left OSU and 32 have left our program to another at OSU. The following table summarizes the options from which those students left and the number currently enrolled in

	# left in past 3 years	# currently enrolled
Business	5	4
Biotechnology	4	5
Agronomy	1	20
Rangeland Ecology and Management	11	17
Crop Science	8	10
Soil Science	3	17

each. The list of other departments to which students have left (not shown) does not necessarily indicate the movement is to escape the rigor of our program. Although the number of students currently enrolled in the Agronomy and Rangeland Ecology and Management are near equal and predominant in the department, it appears as if Rangeland Ecology and Management is the most dynamic option and the Agronomy option is the most stable.

Trends The 12 year trends in enrollment among our department options are shown below. (The newer Agronomy option is taking the place of the older version of the Crop Science option. They are therefore shown together.) The combined enrollment in these two options is dipping slightly, but relatively strong. Soil Science remains a common choice among transfer students and is one to which students change, likely due to the associated career opportunities. Enrollment in Rangeland Ecology and Management has grown in the past 5 years. The Biotechnology option is one that is growing only slightly and has great room for growth.



Our traditional student clientele are students who are familiar with production agriculture. These students are the ones who most often choose the Agronomy option, which consistently remains our most popular. However, the number of Oklahoma farmers is not increasing, and based upon national trends, the desire of many of their children to go into production agriculture per se is declining. Our enrollment in this option is in line with the national trend.

Meeting future needs A more important assessment in determining our future needs is to determine who the students are that, based upon their interests, goals and needs, would benefit from what we have to teach in our department. Given the valuable diversity of research and teaching areas within our department, it is often difficult for an incoming freshman to really understand what all of the opportunities for study are within our program and what principles tie us together as a program. The first goal must be for us to develop a recognizable image that captures and ties together the diversity of activity in our program.

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One commonality we have within the department is that of land management. Each faculty member's activities within the department revolve around one of three land uses—cropland, pastureland or rangeland. (Together these land uses constitute 72% of the land in Oklahoma.) While each of these land uses may have somewhat different objectives, the components of these systems are the same—plants and soils. The tools and the intensity by which these land uses are managed may differ, but the basic scientific principles guiding our management decisions are still the same within each of these systems. There is no reason for these systems to be studied separately through out the entire curriculum. Indeed the argument can be extended to conclude that there is little reason for forestry or horticulture to be studied as separate land management issues.

We must strive to be relevant and to meet the needs of the population of the state. Land management for the purpose of food production is just one of the several major land uses in the state. The growing of food and fiber continues to be a primary economic factor for the state and a primary interest among a specific portion of the state's population. This group of producers has traditionally been our dominant clientele in the department. The population which we are serving in this manner is no less important, but is becoming smaller.

As society in general is becoming more aware of the food and fiber production system; as rural and urban land uses conflicts increase and as the public becomes more environmentally conscientious, agriculture as an industry is becoming less capable of being socially and geographically isolated. The activities that once took place without much outside scrutiny and which often fulfilled just a single purpose, must now conform to local and global societal pressures and with fewer resources must continue to fulfill the purpose of food production, and also fulfill new objectives such as improvement of soil quality or the maintenance of wildlife habitat. We must serve those that are on the land so that they may fulfill these new objectives, and we must also serve the non-farming clientele of the state in order to meet their needs and desires.

We are well suited as a department to lead the state in a land management program. We must learn and teach the management of our state's plant and soil resources so they may be utilized to fulfill the needs and desires of the producers in the state, the small land owner and even of the urban population who are not on the land but have a vested interest in its proper use. Given that the primary land management activities exist in a fragmented mixture in the state and that these applied ecosystems fulfill similar functions, they should not be studied separately. Nor should the primary components of these ecosystems, plants, animals, soil, water and climate be studied in isolation. This systems approach to studying plant and soil systems has become a central theme in our curriculum discussions.

An integrated curriculum. A faculty retreat was held on May 27th and 28th to discuss and create a curriculum based upon the new vision. The theme of the curriculum discussions and modifications has been integration and interaction.

- Land management has been chosen as a general descriptor that can be used to capture and integrate all areas of study that take place within our department and may even be expanded to capture activities in or not in other departments. The definition of land currently consists of the soil and of the plants and microbes that live in it. Management is the study of how the components of the land interact to give rise to the structure and function of the ecosystem.
- Courses will build upon one another. We will enforce prerequisites when they are given. Course content will also be integrated laterally so that reference can be made to classes that may be taken subsequently or in close proximity.
- Students in the department should not be separated into sub-disciplines. In this way they can more easily see the commonalities and understand the issues of other land use systems.
- All students who study land management should have a comprehensive background in the processes that give rise to the functions of soils and of plants. Specifically, these topics include in soils: Soil chemistry, soil physics, soil taxonomy, and in plants: plant physiology, plant genetics, plant taxonomy.

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- The study of ecosystems is to study the interaction of ecosystem-components that give rise to the function of the ecosystem. We will stress this skill of studying functional interactions with a series of courses to highlight component interactions within plant and soil ecosystems. These courses include: plant-soil interactions, plant-plant interactions, plant-climate interactions, soil water interactions and soil-microbe interactions. More such 'interdisciplinary' courses may be created or available as desired or needed.
- Within the current department, our focus is on the management of plants and soils to produce food and/or increase wildlife habitat. Our perspective needs to broaden to include other functions and qualities of the land.
- The manipulation of plants and soils to fulfill specific purposes is studied only at an advanced level after a strong understanding of principles is gained.
- Given the highly fragmented landscape of Oklahoma, students must study how the interaction of the various ecosystems impacts the function and structure of the landscape and region.

While we are currently building the details of our curriculum and working on the restructuring of our courses, some concrete changes have already taken place. The core courses of our program (PLNT1213, PLNT2013, SOIL2124, RLEM2913) are now required courses for all students in Plant and Soil Sciences. Additionally, the content of these courses has been modified to emphasize a systems-based approach to studying plant and soil sciences; to increase lateral integration of information and to increase the relevancy to the students' needs and interests. As the curriculum modifications are completed, they will be communicated by way of the department curriculum committee to the other programs and committees.

We look forward to the changes that are taking place within our program. The information that we have gathered as part of the assessment activities has been valuable in providing the impetus to initiate these changes.

This report has been submitted to the faculty of the Department of Plant and Soil Sciences and the administration of the College of Agricultural Sciences and Natural Resources.

Department of Art

Prepared by Nick Bormann

Executive Summary (full report available upon request)**Degree Programs Assessed**

	Degree Program	Assessment Methods	Numbers of Individuals Assessed
1044	BA, Art History	Art History Symposium	6
1052	BFA, Graphic Design	Portfolio Review by outside evaluator, fall '02	12
1052	BFA, Graphic Design	Portfolio Review by outside evaluator, spring '03	15
1053	BFA, Studio Art	Portfolio Review by outside evaluator, spring '03	3

Assessment Methods

Under the current degree requirements for a BFA in Studio Art, students must submit a request for a senior exhibition of their work. A subsequent invitation to exhibit requires a successful review by the studio art faculty. This spring semester, studio art faculty selected six students to exhibit their work. The Studio Art faculty are currently in the planning stages of revamping the BFA Studio Art degree to include a mandatory senior exhibition for each BFA candidate as part of the curriculum requirements. For students seeking a BFA in Graphic Design, requirements are already in place for a mandatory exhibition of their work. ART 4493/Portfolio Capstone, taken during the last semester of their program, prepares them for a required exhibition of their body of work that is to be the essence of their design/illustration portfolio. As of the 2001-02 degree plan, students majoring in Art History will be taking ART 4800/Writing Methods concurrently with upper-division Art History courses. During their senior year they will be required to present a paper as part of a Departmental Art History Presentation to be held during the Annual Juried Student Exhibition. It is not the intention of the Department to wait until 2005-06 to implement this, but rather to encourage seniors to comply with this newer degree plan requirement since it does not delay their graduation because of a need for additional hours. The symposium that would provide the forum for these presentations was held for the first time on Saturday, April 26. Six art history majors presented papers and were reviewed by Dr. Eric Lee of the University of Oklahoma, Department of Art History.

An Annual Juried Student Exhibition is also part of the assessment process for all students in the Art Department. Each spring semester, students are given the opportunity to submit up to five works from any of the art classes for the academic year. Two or three jurors who are professionals in the areas to be judged, are contracted as consultants to select the works that will be included in the annual exhibition. This year, graphic design was judged by Scott Miller, a graphic designer in Atlanta, GA.. The juror of studio art was Kellogg Johnson, a three dimensional artist working in the area of ceramics. Kellogg has a working studio in Santa Fe, NM. The resulting exhibition included 65 accepted works of 157 submitted by studio art majors, and 63 accepted works of 150 studio and graphic design works submitted by graphic design majors.

In addition to selecting the student works for the annual exhibition, each juror provided portfolio reviews and interviews with graduating senior students. Students were asked to provide a statement of purpose and resume.

Assessments by Jurors of the Annual Juried Student Exhibition and Assessor for the Annual Art History Symposium

"The students impressed me with their seriousness, intelligence, and thorough training in art history received from the faculty of the Department of Art. The students compare favorably with the art history students of the University of Oklahoma. Some of the OSU students would like to attend graduate school in art history, and I believe that they would do well in many of the strongest departments."

██████████
Director
Fred Jones Jr. Museum of Art
The University of Oklahoma

The jurors for the Annual Juried Student Exhibition failed, unfortunately, to submit a juror's statement summarizing their impressions of the student submissions. These are generally included in the publication that lists participants and award winners for the exhibition. Both did however, verbally express opinions which reflected favorably on the quality of the student work from all media disciplines.

Additional Assessment Methods

Other methods of assessment include local, regional, and national competitions in which students participate. Each year graphic design students participate in a regional competition, Brass Rings.

The DaVinci Institute is a higher education partnership whose goal is to impact the Arts and Arts Education in Oklahoma. Two students in Jewelry/Metals had their designs selected in a design competition for a pin to be used to raise funds for the DaVinci Scholars Program.

Students presented papers at the 1st Annual Art History Symposium held on Saturday, April 26, 2003, and were subsequently reviewed by ██████████, Director of the Fred Jones Jr. Museum of Art, The University of Oklahoma.

The inclusion of this symposium as a method of assessing the art history students and program is a resounding success thanks to the efforts of the art history faculty and the aid of assessment funds that allow for the utilization of an outside reviewer/assessor.

Curriculum Changes

The most significant curriculum changes that have recently been the addition of a new course that will allow for Writing Methods to be taken concurrently with upper-division art history courses, and the addition of ART 4933/Art in Context, a new capstone course for art history majors. The Department is currently working to enhance the BFA Studio Art Degree by adding studio media courses at the sophomore level with the intention of aiding students with their choice of media focus earlier in their curriculum. Unfortunately, this change will require either the shifting of faculty from multiple sections of entry level drawing or the addition of more faculty. There are also plans for requiring a review for students after they have completed the sophomore courses, and requiring a senior exhibition as part of the BFA Studio Art Degree plan.

Survey Results

An exit survey is also conducted at the time of the student portfolio review. Students are asked to respond to their quality of university and departmental experience while a student at OSU. Student evaluation of Art Faculty continues to be the highest evaluation given. Most often mentioned as weaknesses were general support by the University of facilities and equipment needed for certain programs in the Art Department. Comments with regard to needed improvements to the computer labs are less this year, however, there are more students requesting that the open hours of the labs be increased. One item in the senior survey continues to identify "art related activities (field trips, etc.) with a low assessment. The Department does involve certain classes in limited extracurricular activities and field trips, however, the graphic design faculty encourages majors to attend monthly professional meetings with the American Institute of Graphic Arts in Oklahoma City or the Tulsa Art Directors Club in Tulsa. These are not "department sponsored field trips" by definition, but rather requires a personal commitment by the student to participate in these meaningful opportunities. Some responsibility for "educational experiences" must be assumed by the students.

Senior Portfolio Review: Department of Art

Oklahoma State University

Fall, 2002

*Average for Students Participating in the Review
rated 1 - 5 (high)*

*Graphic Design (12)
fall '02*

Quality of presentation.....	4.4
Communication Skills, direct, articulate.....	4.1
Ability to accept criticism.....	4.5
Innate sense of design, high sense of aesthetics.....	4.5
Creativity, originality.....	4.4
Composition and layout skills	4.7
Media skills	4.3
Color sensitivity.....	4.6
Production skills, accuracy and precision.....	4.5

Senior Survey: Department of Art

Oklahoma State University

Fall, '02 / Spring'03

Averages for Students Completing Survey Graphic Design

(12 / 15)

University Experience: rated 1 - 5 (high)

2002

distribution of course requirements.....	3.6 / 3.5
math and science course requirements.....	3.6 / 3.5
humanity course requirements	3.7 / 3.6
foreign language course requirements	2.3 / 2.4
electives outside the department	3.8 / 3.7
general faculty.....	4.0 / 3.9
general advising.....	2.9 / 3.0
campus facilities.....	3.4 / 3.5

Art Department Experience:

distribution of art course requirements	4.2 / 4.1
foundation art courses	3.6 / 3.8
upper-division art courses.....	4.4 / 4.3
art faculty	4.5 / 4.4
art advising.....	3.5 / 3.4
art facilities	3.3 / 3.2
gallery exhibitions	4.1 / 3.8
student exhibitions	4.3 / 4.2
art related activities (field trips, design week, etc.)	2.8 / 2.6
senior portfolio review	4.5 / 4.6

Department of Botany
Prepared by Becky Johnson

Degree Programs Assessed	Assessment Methods	Number of Individuals Assessed
B.S. Botany	National standardized exams	2
B.S. Biological Sciences	Focus groups	14
M.S. Botany	Satisfaction surveys	0
Ph.D. Plant Sciences	Track grades in required Upper division courses	20
	Alumni Surveys	181 sent/13 returned
	Presentations at seminars	6

Direct Assessment

Standardized national exams: Two of our graduating seniors had their GRE scores sent to us. One student, with a GPA of 2.44 had scores of 500 verbal and 520 quantitative. Another with a GPA of 3.78 had a verbal of 260 and quantitative of 570. The low verbal score of the second student is not surprising since the student is a Japanese national. The scores of our students and their GPAs appear to be similar to those we see for non-OSU students applying for graduate school here.

Indirect Assessment

Focus groups: One focus group was held with graduate and undergraduate botany majors. Fourteen students attended. They reported a high level of satisfaction with their experience here at OSU. Six of the students were enrolled in the plant evolution seminar that was offered in response to an interest expressed in last year's focus group. They indicated that they found the seminar a valuable addition to their curriculum.

Student satisfaction surveys: Surveys were given out to seniors by their advisor, but none were returned.

Alumni surveys: One survey was returned by an individual who got her Ph.D. here in 1997. She had been teaching at a private college on a part time basis and has now been offered a full time position.

Tracking of grades in required upper division courses:

- Thirteen botany majors and eight randomly selected biology majors were tracked with respect to the grades they received in required upper division biology and botany courses. Of the grades received by botany majors in 47 courses, 19 were A's, 17 were B's, 10 were C's and one was a D. The student with the lowest grades (one D and 3 C's) is a transfer student from another Oklahoma institution.
- Of seven grades received by the eight biology majors, one was an A, two were B's, one was a C, one was a D, and there were two F's.

Tracking of employment success

- One Ph.D. from our program left academia for a position in the biotechnology industry a little over a year ago. The company that he went to has since gone bankrupt. We have not heard if he has gained other employment. Most of our graduates with Ph.D.s take positions in academia and all who were employed last year remain employed this year.

Graduate Programs

Direct: Thesis Defense: One student completed her M.S. degree this year and she successfully passed her thesis defense.

Seminar presented as part of the departmental seminar: Six graduate students presented seminars on their thesis research. All were able to answer questions asked by faculty and other students after their presentations. All exhibited the ability to present results of their work in the format used at professional scientific meetings.

Track scholarly work:

- One Ph.D. candidate was a finalist for the Phoenix Award for Outstanding Ph.D. candidate. He also was awarded an OSU Distinguished Graduate Student Fellowship. He has authored or submitted three publications and given six presentations on his research at state, regional or national meetings this year.
- One of our M.S. candidates made four presentations at professional meetings this year. She also made two invited presentations and has one publication. She was awarded the College of Arts and Sciences Outstanding Teaching Assistant Award as well as being a finalist for the Phoenix award.

How assessment results will be used in curriculum planning and program development:

In the course of the Plant Evolution seminar it was noted that the text we used was largely a descriptive chronology of what plants occurred when and where throughout the earth's history, but there was little discussion of mechanisms of evolution. We plan to do a "Plant Evolution II: Mechanisms" seminar next spring.

Department of Chemistry

Prepared by Dr. Neil Purdie

1. Department of Chemistry, Oklahoma State University.

Degree Programs Assessed: BS, MS, PhD

2. Assessment Methods Used:

1. Survey of Alumni
2. Exit Interviews (oral, students' written remarks on file)
3. Graduate Student Research Symposia
4. Input from Colleges served by the Department of Chemistry.
5. Research Reports from Capstone Course (CHEM 4990). In 2002-2003 academic year 6 students were enrolled in the Capstone Course.

3. Number of Individuals Assessed: For all degree programs for the 2002-2003 academic year 23 students assessed. This number consisted of only current majors and graduate students.

Degree Program	Assessment Methods Used	Numbers of Individuals
Assessed	Assessed	
BS	2,3,4, and 5	6
MS	2,3, and 4	3
PhD	1,2,3, and 4	8

Analyses Findings: Conclusions derived from the analyses of the various categories listed in the 2001-2002 report are that the decisions that were made to improve and enhance upon the values of our undergraduate classroom and laboratory teaching are working. For the graduate program things are moving more slowly because of the continuing shift in the composition of the student body and limited enrolment figures which determine the frequency with which course offerings can be scheduled.

Investments of Student Technology Fees and lab fees have brought laboratory course contents to more contemporary levels. The laboratory experience has also been expanded and enhanced through better and more efficient use of the multi-user equipment permanently housed in the Undergraduate Teaching Laboratory (UTL). Service and maintenance of these instruments, and other major scientific instrumentation in the Department as a whole, has improved by having available competent line positions for A&P staff specialists whose primary roles are in managing nuclear magnetic resonance (NMR), mass spectrometry (MS) and general analytical laboratory facilities. The expenditure of student lab fees for this purpose will be continued and a point should never be reached where improvements can't still be made. It is still a goal to tackle the more major issue of funding an undergraduate laboratory in experimental Physical Chemistry. The prevailing concept among the faculty is that a more meaningful approach is to broaden the description to Inorganic/Materials/Physical Chemistry laboratories because as technology continues its rapid development the classical divisions between these sub-disciplines becomes less and less clear. One requirement needed to reach that goal is to find adequate funding from Federal Agencies, but more importantly to hire young faculty with the skills and commitment to make it succeed.

A laboratory/instructional concept that has achieved immense success and national publicity is the Hypothesis Based Learning (HBL) paradigm. The imaginative concept behind the program is a radical approach to scientific learning moving away from rote memorization to the challenge of how to apply scientific logic in understanding the observations of the physical and chemical world. From a presentation made to a Congressional committee in the Department of Education at Washington DC a very real likelihood of a multi-million dollar investment to develop the program for use for other states in the Union is expected within the next year. The State of Maryland has committed to a pilot study in the K-12 school systems for the next academic year.

By comparison the anticipated innovative developments in undergraduate classroom instruction is moving more slowly, or appears to be moving more slowly because changes are not tangible and therefore less apparent than the changes in laboratory offerings. A positive feeling still prevails among the faculty that students are better prepared than they were some 5 years ago.

Contrarily, at the graduate level, students are less well prepared than before. They are also fewer in number because there is a national trend of disenchantment with graduate programs in the sciences meaning that major schools are "poaching" on recruiting territories that once were conceived to be ours. As a result the proportion that are international student has increased dramatically. Part of the problem there is that while international students have a good concept of theory, with so few modern laboratory facilities, they are comparatively ill prepared for research. A consequence of this is that the rigor of the course contents is diluted. A second problem stems from the decision made by the faculty to remove the requirement of entrance examinations, replacing them with "foundation courses" that would give yield graduate credit for remedial work. The consensus is that we cease teaching foundation courses and return to placement examinations in all areas.

I will reiterate that we are still uncomfortable with the constraints placed upon our making improvements in our undergraduate program by the rules imposed on us by the Committee for Professional Training of the American Chemical Society that oversees compliance with the ACS approved degree plan. Some prestigious schools are opting out of the option of an ACS approved degree. At OSU loyalty of some faculty to the ACS, and the thought that not providing such an option, while other local schools do, would make us less competitive in student recruiting. All this in spite still of the fact that fewer than 20% of recent graduates opted for ACS approved plan. There is no statistical evidence that supports the implication that an employer has a preference based upon the details of the plan of study for the Bachelor's degree.

Once again the introduction of the specialized General Chemistry one semester course offering for Engineering majors, CHEM 1414, was frustrated by circumstances beyond our control. THE COURSE IS SCHEDULED FOR THE FALL SEMESTER OF 2002 and will be taught. Enrolment is underway and is being better controlled with respect to preferred enrolment by students in Engineering disciplines other than Chemical Engineering.

We have not been able to accomplish the goal described in last year's Changes Planned section, to upgrade the Physical Chemistry laboratory experience. The anticipated cost would be greater than the sum of the costs to upgrade all the other laboratory courses. This will remain a long term goal for the Department. In the meantime students who express interests in experimental experiences are given opportunities to work in research laboratories with instructors of their choice.

4. Changes Planned:

(a) New Honors class.

The first offering of an Honors Section of CHEM 1314 is scheduled for the Fall 2002 semester. Together with CHEM 1515H this will complete a one-year General Chemistry Honors program option. It has been requested by the Honors College for a number of years and we are pleased to be in a position where we can provide it.

(b) Specialty courses for Other Disciplines.

Now that the problems with introducing specialty course for the Engineering College has been accomplished, our desire is to accomplish similar goals for students in the Colleges of Agriculture and Human Environmental Sciences. The experiences we have had with the Engineering course should guarantee earlier introductions of these analogous courses into the class schedule.

(c) Team teaching

Scientific research is not as compartmentalized as before. The immense steps made in technological developments have succeeded in many cases by scientists crossing conventional scientific barriers to find themselves collaborating with biologists, engineers, physicians, etc. A fundamental plan for cross-training at the graduate level needs to be put in place. More and more often we are seeing students and advisers working together to construct specialized Plans of Study that incorporate elements from more than just one area or discipline. A rigorous set of policies and procedures for developing cross-discipline training need to be prepared.

A unanimous decision on the proposal to introduce team teaching to graduate offerings (mentioned in the last Assessment Report) has still not been reached although the opposition appears to be yielding some ground. Offerings of Special Topics courses does continue, and the enrolments testify to the acceptance and the success of these endeavors, since the numbers of student enrolled is 2-3 times greater than enrolments in classes that are strictly advanced chemistry classes.

(d) Undergraduate Majors.

Over the time between assessments, the number of undergraduate majors has remained steady. I reiterate the value of [REDACTED] has shown as a dedicated adviser sufficient that he was recognized and honored with a campus-wide award. He is developing recruitment strategies that will be evaluated over the next two years.

Department of Communication Sciences and Disorders

Prepared by Randolph E. Deal

Degree Program Assessed	Assessment Methods	Number of Individuals Assessed
BS in Communication Sciences and Disorders	Capstone course performance; course evaluations; senior surveys; alumni surveys	7-28 depending on assessment method
MS in Communication Sciences and Disorders	Alumni survey; National Examination in Speech-Language Pathology; portfolios, comprehensive examinations, thesis; reviews of externships; CDIS 5210 Clinical Practicum performance; graduation exit interviews; annual program re-accreditation by the American Speech-Language-Hearing Association	8-22 depending on assessment method

BS Degree in Communication Sciences and Disorders**Analysis and Findings:**

1. Capstone Courses--

Two courses are considered capstone courses for undergraduates. CDIS 4022 (Clinical Methods) requires students to complete successfully clinical projects and course work examinations. The therapy materials project/presentation and the clinical assistant project/presentation prepare students for future direct supervised work with patients. In the clinical assistant project, each undergraduate student is paired with a graduate clinician and clinical supervisor and participates in the development and delivery of treatment for a patient in the OSU Speech-Language-Hearing Clinic. In the Spring 2003 semester, 28 students took the course; 20 earned A, 7 earned B, 1 withdrew.

The second capstone course is CDIS 4010 (Clinical Practicum). A cumulative grade point average in the major of 3.25 and advisor consent are required for enrollment. In this course, qualified undergraduate students, under the supervision of faculty, are responsible for the development and delivery of patient treatment in the OSU Speech-Language-Hearing Clinic. Fall and Spring enrollments yielded a total of 16 students; 15 earned A, 1 earned B. This course has received excellent reviews from students who appreciate the opportunity to increase their understanding of clinical services during their preprofessional training and prior to their first clinical rotation in graduate school.

2. May 2003 Graduating Senior Survey--

These data are currently unavailable because no surveys were completed due to the departure of the assessment coordinator. The May 2002 survey was reported previously. Beginning May 2004, this survey will be annual.

3. 2002 OSU Survey of Alumni of Undergraduate Programs--

This survey targeted alumni who received a BS degree in 1996 or 2000. The CDIS response rate was 34.3%, or a total of 23 respondents out of 67 graduates. For the 2000 graduates, only 8 responded out of 24 graduates. Of the 1996 graduates, 80% completed the master's degree in the field and 75% of the 2000 graduates were currently enrolled (the master's degree is the minimum entry level requirement to practice in Speech-Language Pathology and Audiology). One hundred percent of both groups said the undergraduate program at OSU prepared them either adequately or very well for graduate school. They rated program strengths as child language and articulation. Weaknesses were small faculty, not enough clinical experiences, not enough adult and neurogenic classes, and faculty needed to be more approachable. One hundred percent of both groups rated their undergraduate preparation in a) basic speech development, b) basic language development, c) basic hearing development, d) basic anatomy and physiology, e) child language disorders, and f) child speech disorders as either somewhat prepared or well prepared.

4. Other indicators--

Students complete course and instructor evaluations on each undergraduate course. The Department Head and the individual instructor review the evaluations. Instructors determine if any changes should be implemented. For instance, textbooks or testing methods may be changed based on student comments.

Use of assessment results:

To free resources for enhancing clinical opportunities through increased clinical supervision, the content of several courses were incorporated into other courses. The course content so incorporated included: CDIS 4031 Clinical Observation; CDIS 4222 Language Analysis; and CDIS 4253 Diagnostic Procedures in Communication Disorders. New hires to date include a Department Head and two Ph.D. level faculty. It is the departmental aim for all faculty to be approachable and to provide enhanced clinical opportunities and instruction.

MS Degree in Communication Sciences and Disorders

Analysis and Findings:

1. 2003 OSU Survey of Alumni of Graduate Program--
The 2001 survey was reported previously. At the time of this report, the 2003 data were not yet available.
2. PRAXIS Examination (National Examination in Speech-Language Pathology and Audiology)--
Passing this examination is part of the requirements for certification as a speech-language pathologist by the American Speech-Language-Hearing Association. The examination is comprehensive and assesses the "mastery of knowledge of professional concepts and issues to which the applicant has been exposed throughout professional education and clinical practicum" (ASHA, 2000). Thus, it is a direct reflection of the success of the graduate program's academic course work and clinical teaching. Not all students take the exam prior to graduation and not all choose to have their scores reported to OSU, but they must report scores to ASHA to obtain certification. Per ASHA report, dated December 15, 2002, for the academic year 1999-2000, 22 took the exam and 22 passed; for the academic year 2000-2001, 13 took the exam and 13 passed. Additionally for those students reporting to OSU at the time of this report (6/9/03), and who graduated May 2003, 9 took the exam and 8 passed.
3. Portfolio, Comprehensive Exams, and/or Thesis--
Graduate students complete a portfolio and take comprehensive examinations to complete the creative component requirements of the graduate program, or they complete a portion of the portfolio and a thesis. Eleven individuals graduated in May, 2003 and two will graduate in July, 2003. The 11 May graduates have successfully completed the portfolio and passed comprehensive exams.
4. Reviews of Externships--
Graduate students typically complete two, eight-week externships before graduation. Externships are done in hospitals, nursing homes, rehabilitation facilities, community clinics and schools. These may be in Stillwater, Oklahoma City, Tulsa, or in other Oklahoma locations. Occasionally, placements can be made out of state or even out of country. The students provide feedback to the department on their externship experience. This includes information on the supervisor, amount of supervision, professional involvement, population served, type of therapy, length and frequency of therapy, work schedule, individual site requirements, total practicum hours obtained, tests and materials used, and the strengths and weaknesses of the facility and supervisor. These reviews are read and analyzed by the Clinic Coordinator and Clinic Committee. Based on the reviews, specific recommendations may be made about the appropriateness of the site and the professional opportunities available to the students.

Additionally, externship supervisors are asked to comment on students' strengths and weakness and address what they believe the OSU training program could do to improve the students' abilities in areas of concern.

Ratings of students for the Spring 2003 externships were uniformly high. Students also reported being pleased with their externship sites and the clinical experiences they had. Suggestions for the training program included: increase experience with different assessment instruments; increase experience in patient evaluation; provide more experience with documentation procedures used in the various clinical and school settings.

5. Re-accreditation by the American Speech-Language-Hearing Association--
In 2001, the department was re-accredited for an eight-year period. Annual reports are required and are submitted in late June.
6. Other indicators--
Students complete course and instructor evaluations for each graduate course. The Department Head and the individual instructor review the evaluations. The instructor determines if modifications in the course should be made.

CDIS 5210 Clinical Practicum requires student participation in the diagnosis and treatment of patients both within and external to the OSU Speech-Language-Hearing Clinic. Student clinical competencies are reviewed and rated by the clinical supervisor both at mid-term and end-term. In the Fall 2002, 22 students enrolled; 21 earned A; 1 earned B. In the Spring 2003, 21 enrolled; 18 earned A; 3 earned B.

Students complete written program evaluations upon graduation. Comments are generally positive about the graduate program. Recent feedback indicated a need for more work in Craniofacial Anomalies, information on paperwork requirements in other professional settings, more in depth content at the graduate level, improved off campus clinical experiences during externships. Students uniformly expressed appreciation for the accessibility of faculty and their willingness to work with students on multiple issues.

Use of Assessment Results

Because of the addition of three new Ph.D. level faculty, a graduate curriculum revision has taken place designed to not only deepen the content of existing course work, but also to broaden the course offerings to achieve a better theoretical and clinical exposure. Specifically, required course work has been added in Clinical Instrumentation, Fluency Disorders, and Craniofacial Anomalies. Additionally, a pilot clinical program is being initiated this summer in Tulsa with the OSU College of Osteopathic Medicine to establish a formal clinical relationship with the medical school and to provide expanded externship opportunities to graduate clinicians.

Computer Science
Prepared by *Terri Blevins*

Degree Program(s) Assessed	Assessment Methods	Number of Individuals Assessed
<i>BS Computer Science</i>	<i>Graduating Senior Survey</i>	55
	<i>Alumni Survey</i>	6
	<i>Internship Employer Evaluations</i>	9
	<i>Regional Competitions</i>	20
	<i>Student coursework</i>	292
<i>MS Computer Science</i>	<i>National Research Presentations</i>	9
	<i>Thesis</i>	18
<i>PhD Computer Science</i>	<i>Dissertation Presentation</i>	1
	<i>National Research Presentation</i>	9

Analysis and Findings:

- 55 Students returned the Graduating Senior Survey. According to their rating, the strengths of the Computer Science Department are Advising, Availability of instructors, and the computer science knowledge of instructors. Weaknesses appeared to be not enough course offerings in a semester and quality of instructions. Students also noted that lack of programming experience was a hindrance to success in the program.
- 20 recent graduates were sent an alumni survey. 6 students responded to this survey. 67% of those responding were working in a field related to Computer Science. 100 % of those working in the field reported that the Computer Science content prepared them extremely or fairly well for their current position. They also rated the quality of instruction at OSU as adequate. The biggest weakness identified by the alumni was the lack of preparation for the daily “office rhetoric” and lack of web-related technology. Those not working in Computer Science indicated that they had not been able to find a job in that field.
- 9 Computer Science students participated in an Internship with a variety of companies, from the University of Texas at Austin to Ford Motor Company to the Red Cross. Employers evaluated the students on their technical knowledge, the quality of their work, their initiative, their attitude, their professionalism, their communication skills, and their ability to work with others. In every single category, the majority of students were evaluated as exceeding expectations. Students received very high evaluations from all employers, with more than half of the students receiving an overall “excellent” rating.
- 20 Computer Science students competed departmentally for a chance to participate in a Regional programming competition. The Computer Science department sent 2 teams of 4 students to Baton Rouge for the Southwest Regional competition. The teams are given 6 problems, and teams are judged how many programs they can finish in the least amount of time. Both teams finished in the upper half, with the first team finishing seventh overall.
- Students are required to take a Social Issues class, as well as the more technical Computer Science Classes. The ethics class, CS 4883, emphasizes the moral and ethical responsibility of the computing professional. The more technical classes, CS 3443, 4323, and 4343 teach the fundamentals of computer systems and operating systems.
- 9 MS and PhD students submitted research papers for presentations at national conferences and were accepted. Papers were presented at the ABC conference in Orlando and the BIS conference in Colorado Springs.

- 36 students submitted and defended a thesis and received their MS degrees in Computer Science.
- 1 student successfully defended his dissertation and received a PhD

Uses of Assessment Results:

- As a result of the graduating senior survey and the alumni survey, the department will consider changes in the social issues class to include a career component. This section will emphasize job search strategies, and office procedure and management techniques.
- The Computer Science department has also added an additional programming language class to the degree requirements. Previously, this class, CS 2432, has been an elective, but was added to address the lack of programming experience in undergraduate students, and to better prepare students for industry.
- Faculty will continue to assess and review curriculum, student needs, and make program revisions based on their needs assessment.
- Computer Science continues to hire new faculty as funds permit, in order to address the need for more course offerings in a semester.

Department of English

Prepared by Ravi Sheorey

The following table shows the assessment methods used and numbers of individuals assessed for the degree programs in the Department of English:

Degree Program Assessed	Assessment Methods	Number of Individuals Assessed
M.A. & Ph.D.	Admission & graduation rates	All
	Student research, publications, and awards	All
	Graduate student evaluations by faculty	All
	Alumni survey (OSU-Tulsa)	21

ABSTRACTED ANALYSIS AND FINDINGS:

During the academic year 2002-2003, the English Department admitted a total of 42 students to its graduate program. Five students completed their master's degree and two students were awarded the Ph.D. degree during the past academic year. During the year, nearly 95% of the English Department graduate faculty submitted evaluation reports on the students enrolled in each of their graduate courses to the office of English Graduate. These reports, which can be read by the students and their advisers, are intended to help students track their academic progress and obtain academic assistance as needed.

Information collected from the graduate students regarding their scholarly and creative activities during the past academic year indicated that 37 English graduate students taken together were involved in nearly 92 such activities, which included publication of papers in scholarly journals; presentation of papers at regional, national, and international conferences; writing of technical reports; and publication of poems, short stories, and other creative works in literary journals and magazines; and chapters in edited volumes. In addition, graduate student in the department won 37 departmental and other honors and awards for their academic achievements. One of the graduating Ph.D. students was awarded the Graduate College Research Excellence Award for his dissertation during the last academic year.

The focus of past year's outcomes assessment was on the graduate program we offer at OSU-Tulsa campus. For the first time since its inception in 1992, the graduate program in Teaching English as a Second Language (TESL), offered at the OSU-Tulsa campus, was assessed by means of an alumni survey of the graduates of the classes of 1998 through 2002. Results of this survey revealed the various strengths and weaknesses of the TESL Program as judged by our alumni. Of the 21 alumni whose addresses were available, 12 responded to the survey, yielding a return rate of 57%. The *OSU-Tulsa TESL Program Alumni Survey* is designed to assess perceptions of the graduated students of following aspects of their degree program experience: Overall quality of the degree program; strengths and weaknesses of the English curriculum (especially the "core" courses); strengths and weaknesses of instruction and advising; strengths and weaknesses in the instructional aspects of the program; and interactions with the TESL faculty. Of the 12 alumni who returned the survey 11 (92%) percent indicated TESL as their major area of interest, while one alumnus/alumna was interested in linguistics.

Overall, the reactions of TESL alumni to most of the learning outcomes (as a result of their educational experiences at OSU-Tulsa) were generally positive. The results of the survey indicated that the "overall educational experience of the OSU-Tulsa TESL program" was rated as "very positive" or "positive" by 91% of the surveyed alumni. About 83% of the alumni were either employed at the time the survey was conducted (May-June, 2003), or were pursuing further graduate course work. However, nearly 66% of the respondents mentioned that the positions they held were *not* related to their preparation as TESL majors. Consequently, 57% of the alumni indicated that their graduate studies did not prepare them specifically for the positions in which they served. Of the employed alumni, all but one was employed full time, with annual salaries ranging from \$25,000 to "over 45,000". Finally, two alumni, who were enrolled in graduate or professional studies, indicated that their graduate studies at OSU-Tulsa had prepared them well for the post-MA work they were pursuing.

The most positive aspects of the TESL graduate program, as perceived by the alumni, on a scale of 1 (= least valuable) to 5 (= most valuable), were interactions with the TESL faculty (M = 4.16); some of the specific courses like "Studies in English Grammar" (M = 4.41), "TESL Internship" (M = 4.16), "Descriptive Linguistics" (M = 3.91), and "ESL Testing" (M = 4.08). The surveyed participants also reported that during their studies in the program, they had gained "knowledge of the broad field of TESL" (M = 4.58), improved their presentation skills (M = 4.33), and increased their understanding of how "the English language works" (M = 4.33). On the scale of 1 (= dissatisfied) to 5 (= very satisfied), the alumni gave a mean rating of 4.58 to academic advising and 4.66 to classroom instruction in the TESL "core" courses. Some of the positive comments made by the alumni include the following: "I thought it was well rounded, and it gave me an opportunity to pursue some of my own interests, as well;" "All of the classes were helpful in different ways;" "Good program. Great advisor. Flexibility in dealing with students who are working;" "Small size builds bonds between students and students or instructor and students;" "Internship opportunities;" "Availability in Tulsa very helpful;" "Rigorous academics".

Among the weaknesses pointed out were the comprehensive examinations, special-topic courses, non-TESL electives, [the alleged lack of relevance of] some of the "core" courses, and insufficient preparation in identifying and analyzing the linguistic problems of non-native speakers. Some of the specific negative comments made by the participating alumni included the following: "The comps experience was difficult. I feel that students were sometimes treated as though they were children rather than adults"; "My doctoral program has been a much more positive experience than my TESL Masters program, mainly because of positive interaction from professors and a spirit of cooperation, collaboration, and community rather than a "dog-eat-dog" atmosphere that I sometimes sensed;" "There could have been more support for comps.;" "More focus on this [elementary and secondary schools] in the core classes would be helpful, since we're not all going to be in the [college] teaching settings."

Comments regarding suggestions for improvement centered on improving the structure of the comprehensive examinations by making them more focused, more TESL-specific course offerings in Tulsa, and more interaction with the faculty [other than the advisor].

USES OF ASSESSMENT RESULTS:

This is the first time that the English Department has conducted outcomes assessment for its graduate program in Tulsa. Overall, the alumni expressed a fair degree of satisfaction with the program offered on the Tulsa campus, and we are pleased to report that the program continues to attract students who wish to major in TESL.

- The results of the alumni survey will be shared with the Department Head and TESL and other graduate faculty of the department at the beginning of the Fall semester, 2003, and will be used individually and collectively in improving the quality and effectiveness of the degree program .
- The TESL faculty will address alumni's concerns about the comprehensive examinations and make recommendations for changes, if any are warranted. [Some changes to the exams have already been made.]
- The Department will continue to make requests to the OSU administration to hire additional TESL faculty members specifically for the Tulsa campus, so we can offer more graduate courses.
- Course offerings will continue to be examined to ensure that students have as many choices as possible and that critically important 'core' courses are offered with greater frequency in Tulsa than at present.

Department of Geography
Prepared by Jonathan C. Comer

Degree Program(s) Assessed	Assessment Methods	Number of Individuals Assessed
<i>Bachelor of Arts</i> <i>Bachelor of Science</i> <i>Bachelor of Science*</i> * (resource mgmt. option)	Written Exit Interview	14
	Oral Exit Interview	14
	Written Exit Exam	6
	2002 Alumni Survey	12

Analysis and Findings:

Overview: The primary internal assessment tool currently in use by the Department of Geography is the Exit Interview, which has written and oral components. The written interview is distributed to graduation candidates mid-semester, and they are asked to return the completed interview and allot 15-20 minutes for the oral portion. The oral interview gives the Assessment Coordinator an opportunity to probe more deeply into certain answers given on the written interview, as well as to give the student an open forum to air any concerns that are not explicitly drawn out on the written interview.

Every year, an overall analysis of the interviews reveals that geography graduates are very happy with their degrees, their experiences in the department, and the treatment they receive by the faculty/instructors. This year was no exception, with just one student exhibiting a modest level of dissatisfaction with the program. This result is clear, despite the fact that a couple of students said that they did not intend to pursue geographic-related jobs upon graduation (see Exit Interview item 5 below).

The exit exam, however, is very uninformative and is being discontinued. Various problems with the exam, in conjunction with a recommendation (in 2001) by the Assessment Council that the department clearly identify expected learning outcomes, will result in a new undergraduate assessment plan being submitted to the Council this summer (2003). We hope to implement the new plan this summer so that the 2003-2004 report will encompass an entire year of new assessment results within the department.

The revision of the undergraduate plan will focus on identifying and describing the department's expected learning outcomes, then adopting new and revising existing methods that will allow for meaningful direct and indirect assessment of these outcomes. A component of this plan will be the inclusion of the OSU Undergraduate Program Alumni Survey, which is conducted every other year by the Office of University Assessment. The most recent alumni survey was conducted in 2002, and the results are included in this report due to their value as an additional assessment tool.

Exit Interviews: The written interview uses fifteen open-ended questions to assess five broad areas of the geography undergraduate curriculum. These five areas are listed below with an aggregate analysis of the comments for each area:

1. *Are student expectations being met, both in terms of the skills and marketability of the degree as well as the overall focus area of the major?*

Despite several responses from students that they chose the major because of a general, pre-college interest in geography, the majority of students again indicated that the primary reason for choosing the major was an experience in an introductory-level course such as GEOG 1113 (Cultural Geography), 1114 (Physical Geography), or 2253 (World Regional Geography). The department has always recognized this point of entry for new majors, and emphasizes excellence in teaching at all levels of the curriculum. In both the fall 2002 and spring 2003 semesters, six of twelve faculty members were teaching lower-division courses, and over the course of the year ten of twelve faculty members taught at least one introductory course.

Despite the growing awareness and marketability of Geographic Information Systems (GIS) in the private sector, a majority of interviewees indicated that they found the cultural and regional aspect of the major to be the most interesting, with GIS tallying the second-most responses. This is very important, because most geographers view GIS as a tool, rather than as a topical area in the major and discipline. This could be considered an important, though currently implicit, learning outcome, because it indicates that our curriculum transmits this philosophy to our students.

Another implicit learning outcome is the desire to make geography graduates aware of both how broad the discipline is, as well as its links to other fields. In several places on the interview (Question 1, why they chose geography, Question 2, most interesting aspect, Question 3, how geography was different from expectations, Question 4, most useful skills learned, and Question 12, how geography differs from other social sciences), multiple students indicated that the holistic and inter/cross-disciplinary aspect was important and desirable. Only one student ultimately concluded that geography was different enough from expectations that he probably would not choose it again as a major. This indicates that most students, through their experiences in introductory classes and consultations with the Undergraduate Advisor prior to declaring geography, are presented with good information that allows them to make an informed decision. Though presently undocumented, the Undergraduate Advisor feels that the number of students changing their major away from geography has declined steeply over the past few years. Tracking major retention and time to graduation is an intended new, though secondary and indirect, assessment tool that will be part of the new plan.

Finally, nearly all respondents cited GIS, assorted computer applications (database and spreadsheets), and cultural awareness as the most important skills. Given that this department emphasizes cultural geography, data handling tools related to GIS, and a dependence on modern technology in the discipline, it appears that students clearly recognize and grasp the skills and tools that they will need in the workplace.

2. *Are students satisfied with the overall environment of the department (faculty and facilities)?*

Nearly every student assessed (ten of fourteen) commented on the friendliness, informality, and availability of the faculty on Question 6 (What did you like most?), all of which facilitate a comfortable environment conducive to learning. Only one negative comment, about a single faculty member, was recorded.

Some contradictory comments included the convenience/inconvenience of our location in Scott Hall and our range of course offerings. While a few students commented positively on the variety of courses in the major, several lamented the fact that many interesting courses in the catalog were never taught.

Unfortunately (as indicated in our 2001-2002 report), it will be very difficult to expand course offerings without more faculty members. The department already teaches about 40 different courses and 60 different course sections. With the department ranking near the top of the College of Arts & Sciences for both total credit hour production as well as per instructor credit hour production, combined with a one-course faculty teaching load reduction due to the implementation of our new Ph.D. program, the faculty are already carrying heavy student-credit hour loads. Due to the present state budget crisis, geography has only been able to modestly expand its number of Ph.D.-level graduate teaching associates to make up for the faculty teaching load reduction. However, the teaching load reduction is being phased in over several years to minimize the impact on undergraduate course offerings.

3. *Do students find course requirements useful, interesting, and relevant?*

Questions 14 and 15 on the interview pertain to two specific courses that all majors must complete: Spatial Analysis (3333) and Computer Cartography (4323). Though Spatial Analysis is considered one of the most difficult courses in the department, the expected learning outcomes are met because the primary uses of Spatial Analysis are reported as: use and application of statistics in geography, analysis of human patterns on the landscape, and overall introduction to the quantitative side of geography.

Computer Cartography remains a very important and desirable course, and all geography majors acknowledge the need for mapping skills if they intend to pursue any sort of geographic career as well as the links the course provides to GIS. Most interesting and positive in the results, the highest student-reported skill was a better awareness and appreciation for design and aesthetics in mapping, rather than more vocational issues such as learning a specific software package. This matches the instructor's stated learning goals for the course.

Individual students cited specific courses in their responses that they felt were very beneficial to them, but there were only two observable patterns in these responses: they valued the GIS curriculum (including the GIS Certificate), and they are very satisfied with most of the courses they take. Nearly every course was mentioned by at least one student as being very useful to them during their career at OSU.

4. *What are the basic concepts of geography? How does geography as a discipline fit into the broader academy of natural and social sciences?*

Graduating geography majors were weak in their ability to synthesize the overall concepts and foci of geography. Their responses tended to be formulated by a few specific course-related experiences, rather than exhibiting a clear idea of the five main themes (regions, interaction, environment, landscape, and location) or three main instructional divisions (regional, topical, technical) that are generally recognized by the discipline. Generally they mentioned a mixture of areas that they experienced without recognizing the broad themes that typically permeate geography courses.

On the positive side, most respondents understood and acknowledged the integrative and interdisciplinary aspects of geography at the interface between physical and human studies. Students clearly recognized the broadness of geography and its ties to related disciplines. Nearly half the students commented on the importance of recognizing, analyzing, and explaining spatial patterns. While this is a very important aspect of geography, the Assessment Coordinator feels that this answer occurred in part because he is also the instructor of Spatial Analysis, which heavily emphasizes spatial pattern on the landscape, and students were telling him what they thought he wanted to hear. However, it does seem that learner outcomes are being met in that course, at least for students who take that course in their final semester.

In summary, graduates are better educated about the interrelationships of geography to related disciplines, but less clear on the specific themes or paths that geographers have recognized in order to maintain a clear identity for the discipline. This remains an area of concern, and the new assessment plan will be formulated with this in mind.

5. *What job or career enhancement opportunities are students pursuing?*

Of sixteen graduation candidates during in 2002-2003, fifteen received degrees, and fourteen completed the interview process with the following post-graduation plans:

<u>Current or imminent activity</u>	<u>No. of students</u>
Graduate school in geography:	2
Graduate school in related area:	1 (planetary science)
Graduate school in unrelated area:	1 (dietetics)
Employment in geographic technology:	2
Employment in related area:	2 (state environmental offices)
Employment in unrelated area:	2 (police academy, pharmaceuticals)
Uncertain/pursuing employment:	4

The three respondents who are pursuing graduate school or employment in unrelated areas all indicated happiness with their geography experiences, but they have decided to pursue different job opportunities at this time. One of the four students in the final category indicated that he wished he had stayed in his first major; however, this student is chronic graduation candidate due to having a GPA below the minimum in both the major (2.5) and overall (2.0), so that may influence his answer.

Exit Exam: The exit exam is used to assess student retention of important concepts of the various areas within geography. About ten multiple choice questions per geography course are on this exam, and students are tested on the relevant areas indicated on their transcripts. Because geography is so broad and the major core consists of just five or six courses, no two students ever end up with the same collection of courses in their major and so the exam must be tailored to each student. Annually, most students do relatively poorly on this exam. The mean is typically in the 50-60% range. This year, scores ranged from 20% to 75%, with a mean of 55%, for six students.

This result may occur due to poor retention of major concepts, as students tend to forget material quickly after a course is over, but is primarily due to a general unwillingness to study for an exam that (a) will not affect their grades, (b) will not affect their graduation, and (c) usually is administered near the end of the term. Furthermore, the Assessment Coordinator feels that several other factors reduce the informational content of these results, including: (a) this exam was first developed in 1994-5 without modification since, (b) it is very difficult to coerce students into showing up for the exam, resulting in only six participants this year out of sixteen graduating students, and (c) the results seem to provide more information about the "get done and get out" mentality of graduating seniors than actual learning and retention, due to the previously-mentioned three issues.

The department is discontinuing the use of this exam with the new assessment plan to be submitted this summer. Alternative methods for assessing student learning outcomes are being reviewed including analysis of grades in required courses, faculty evaluation of seniors or instructor evaluation of geography majors in their courses, and the idea of a capstone course. The Assessment Coordinator feels this last idea has merit, but with funding and scheduling issues it will be very difficult to implement a new course.

Alumni Survey: In February 2002, the OSU Bureau for Social Research conducted the 2002 OSU Undergraduate Program Alumni Survey for the Office of University Assessment. This survey targeted 1996 and 2000 graduates. In geography, five out of twelve 1996 graduates and seven out of twenty-three 2000 graduates responded. The survey consists of seventeen common questions and sixteen department-specific questions developed by the Undergraduate Committee. Full numerical results are available elsewhere; overall trends are summarized here in order document three main areas of interest: employability after graduation, educational satisfaction after graduation, and use and value of geographic skills obtained during undergraduate education.

1. *Post-graduation employment in geography or geographic-related fields:*

Of the twelve total respondents from the 1996 and 2000 graduate pools, eleven were employed and the twelfth was not seeking employment. Common Question 3 (CQ3) indicates that the employed alumni were evenly distributed between private and public jobs, with no clustering at a given size of corporation or level of government. Employment was even between geographic-related and non-related positions (CQ5), and all but one respondent said that their undergraduate studies prepared them for their job adequately or very well (CQ6). Of interest, sixty percent of the 1996 pool earned or was pursuing an advanced degree versus 14.3% of the 2000 pool (CQ8).

2. *Post-graduation satisfaction with undergraduate experience and education:*

On the educational satisfaction common questions (CQ10 through CQ13), none of the twelve respondents indicated any dissatisfaction with the quality of instruction, advising, and preparation they received as geography undergraduates at OSU. This is a very significant outcome for the department, indicating that despite the sparseness of truly geographic jobs, the current job market, and the effort required to track down such jobs, our alumni feel that the department and OSU have provided them with a very good education and background in geography.

These results are bolstered by open-ended responses to a departmental question (GEOG15) that stated “Not enough jobs in a concentrated area, jobs are sparse” and “There weren’t a lot of jobs with a geography bachelor’s degree”. While the department strives to provide the most up-to-date training and education in geography, we have very little control over the job market for geography majors. This includes the availability of internships; two respondents indicated a desire for a more comprehensive internship program (GEOG 14 and GEOG 15). Few internships exist that are targeted at geography majors, with the National Geographic Society being the most notable. Annually, about two geography majors per year secure an internship, usually through their own search and identification process.

3. *Use and value of geographic skills in the workplace:*

The first eight department-specific questions on the survey (GEOG1 through GEOG8) ask alumni about the use of strongly geographic or geographic-related techniques in their current positions. The results indicate that global positioning systems (GPS), remote sensing, and field techniques skills are the least used, while geographic information systems (GIS), computer mapping, database management, and statistical analysis are more commonly used.

These results are not so clear-cut, however. Much of the data used in GIS come from remote sensing and/or field work in conjunction with GPS; it may just be that these particular individuals are doing more of the back-end GIS work and are not involved with the data gathering. Thus, despite their lack of use of these skills, someone is performing these tasks, and hopefully these individuals have a good background from their undergraduate education in understanding and interpreting the results and data they are using in their jobs.

Most of the core requirements of the three bachelor’s degrees in geography involve these technological data and computer skills, and it is important to note that all of these skills are being used to various degrees by some of our graduates. The results of these eight questions provide good evidence that our core course requirements provide a solid common experience for geography graduates entering the workforce.

Departmental questions GEOG9 through GEOG13 reference the use of ancillary skills such as writing and communication, design, and computer skills, and nearly every response given was in the “somewhat important” or “very important” category.

Uses of Assessment Results:

The information gathered via assessment is used annually to improve undergraduate instruction. The Undergraduate Committee uses assessment as one of its primary means of gauging student satisfaction with the program, reporting to the faculty as a whole, and making and implementing recommended changes. The Undergraduate Advisor is also the Assessment Coordinator, so there is strong integration of these two related activities.

One major and two minor trends appeared in the interview responses and will be studied and reported to the faculty at large. The major trend, which has been reported earlier in the Analysis and Findings section, is that students read the course offerings in the University Catalog and often base their decision to major in geography, in part, on the courses described therein. They are subsequently disappointed when some of these classes are not offered during their OSU career. Of the forty undergraduate, non-independent study geography courses listed in the 2002-2003 catalog, eight courses (GEOG 3243, 3773, 4043, 4113, 4123, 4133, 4153, and 4243) have not been taught in the last two years, though five have been taught at least once in the last eight years.

Each year, in response to both student assessment results as well as inquiries from the Dean’s office, we review inactive courses for deletion or possible revival. As a result of this regular review, GEOG 3773 has been deleted, its content reintegrated with GEOG 3743, and GEOG 3743 will be taught next year after a short hiatus. GEOG 4043 and 4133 are being deleted. This leaves just five inactive courses, each of which has a faculty member who presently does not want to delete the course because (a) they hope to offer it sometime in the future, and (b) the bureaucracy of creating courses on this campus is a deterrent to deleting a course and then later wanting to revive it.

The two minor trends were detected, both of which have been observed in recent years and which have been previously discussed by the faculty. First, some students wish for more in-class discussion opportunities and praised the courses that were more discussion oriented. Since all geography courses follow a lecture or laboratory format, in-lecture discussion can greatly reduce the available time for the presentation of new material. Thus, the mix of lecture and discussion is a very personal matter for each instructor and is reflective of both their style and subject matter, and it is difficult to envision how the department could make a concerted push for more in-class discussion across the board. However, this concern will be reported to the faculty for continued evaluation, at least to inform faculty that students feel their learning is enhanced with more participation.

Second, a few students felt that more field trips or field work experience would enhance the learning experience. Four courses in the department have defined field trips. For many courses a field trip is either unfeasible or not applicable. However, some courses could have field trips but do not, primarily because of the headaches (logistical, financial, and behavioral) that are associated with trying to take a group of college students away from campus. The potential legal and ethical pitfalls of this issue alone discourage more than one faculty member from bothering with field trips. However, the Assessment Coordinator will again report on this student response to the faculty as another reminder of the outcomes of departmental assessment and student desires.

To summarize the overall impressions of the Outcomes Assessment process, the department is serving its students well in all major areas, areas of concern are recurring but difficult to address (desire for more courses, more in-class discussion, and more field trips), but new assessment methods are needed to better gauge student satisfaction and learning outcomes. Thus, the faculty in the department will be queried on the following issues preparatory to formulating and submitting a new plan for 2003-2004:

1. What are the expected learning outcomes for graduating geography majors?
2. What are the expected learning outcomes for the core courses?
3. Are the faculty willing to provide the Assessment Coordinator with short evaluations of geography majors in their classes, or of evaluations of student performance in required classes (beyond simple grade reporting)?
4. Would a capstone course be valuable to the department and its graduates? If valuable, (a) what would be the content, (b) who would teach it, and (c) how would we fit it into the departmental teaching schedule/rotation?

School of Geology

Prepared by the School of Geology Assessment Committee:
 Dr. Stanley T. Paxton, Chair, Dr. Todd Halihan, and Dr. James Puckette
Executive Summary (full report available upon request)

The following table shows the assessment methods used and numbers of individuals assessed for the degree programs in the OSU School of Geology for the period July 2002 through June 2003. This report is consistent with the Outcomes Assessment Plan we developed in Fall 2001 with goals, measures of student performance, and procedures for how this information will be used to support existing strengths and respond to shortcomings.

Degree Program(s) Assessed	Assessment Methods	Number of Individuals Assessed
B.S.	Student Performance in Capstone Course: Field Geology	9
B.S.	Performance on Area Concentration Achievement Test (ACAT) in Geology	5
B.S., M.S.	School of Geology, 2003 Student Exit Survey	Delayed
B.S., M.S.	Time to Graduation and Retention Rates	61, 59
B.S., M.S.	Job Placement Survey	61, 59
B.S.	Office of University Assessment, 2002 Survey of Alumni - Undergraduate Programs	6
M.S.	Office of University Assessment, 2001 Survey of Alumni - Graduate Programs	14
M.S.	Office of University Assessment, 2003 Survey of Alumni - Graduate Programs	Update available next reporting year.
M.S.	Thesis Defense Outcome	13

Analysis and Findings:Student Performance in Capstone Course: Field Geology

All of our majors in Geology are required to enroll in Geol 3546, a five-week long Field Geology course. Students from geology programs at other universities also enroll for our course. This course represents a capstone course in that students are expected to demonstrate the knowledge of basic concepts and techniques (field and computer) in geology and apply them to achieve the following objectives:

- 1) Develop a good understanding of the geology in an area they have not worked before;
- 2) Interpret sedimentary environments based on field observations;
- 3) Solve stratigraphic and structural problems encountered in the field
- 4) Produce a correct and meaningful geologic map;
- 5) Interpret their own map and maps produced by others;
- 6) Write meaningful reports either from their own individual work or from data gathered by a team;
and
- 7) Work in harmony with their peers.

In the summer 2002 course, 9 OSU Geology majors enrolled in the course. Two OSU students earned a grade of A and six earned a grade of B. One OSU student received a C. Eighteen students from other universities enrolled for field geology, 5 of whom earned a grade of A and 13 a grade of B. For the second year in a row, OSU students were slightly out-performed by students from other universities. The overall performance of the OSU students suggests that our majors are learning basic mapping skills but that we have room for improvement.

2003 ACAT in Geology

The Area Concentration Achievement Test (ACAT) in Geology was administered to five graduating seniors in May 2003. We are waiting on return of the test results. We will summarize the findings in the 2004 Assessment Report. Similar to last year, the Geology faculty will meet in Fall 2003 to discuss the results of the ACAT and to decide what changes to our curriculum, if any, are necessary.

Below are the results and comments presented in the 2002 Assessment Report.

The Area Concentration Achievement Test (ACAT) in Geology was administered to six graduating seniors in May 2002. Of the six students, three are female and three are male; two are transfer students and four completed their entire program at OSU; four plan to pursue graduate studies and two do not. The scores are compared to a nationwide sample by using standardized scores with a mean score of 500 and a standard deviation of 100. These overall standard scores are based on a comparison of this year's scores with a five-year cumulative sample for each content area and for overall performance.

Area Tested	Standard Score	Percentile	Comparison Group Size
Geomorphology	466	37	102
Historical Geology	494	48	132
Paleontology	442	28	115
Mineralogy	545	67	144
Petrology	536	64	174
Physical Geology	541	66	121
Stratigraphy	552	70	161
Structural Geology	503	51	155
Oceanography	487	45	102
OVERALL SCORE	496	48	102

The results show that our students performed better than 48% (range: 10% to 87%) of those who took the exam around the country. In terms of standard scores by subject area, the students performed from best to worst as follows: stratigraphy, mineralogy, physical geology, petrology, structural geology, historical geology, oceanography, geomorphology, paleontology. Among the subject areas, the only statistically significant correlation (at $p = 0.05$) between the student's scores and their GPA in Geology was in the subject area of petrology. The correlation between the overall score and GPA was also statistically significant. These scores could indicate: 1) we need to improve teaching in the subject areas where students scored the lowest; and/or 2) the exam does not test student's knowledge of concepts that we believe are most important in those subject areas. One student commented that the paleontology section covered a lot of material on vertebrate paleontology and dinosaurs...material that is not emphasized in OSU classes. Also, some of the questions were very specific about one or two certain few fossils and not those covered in classes (e.g., trilobites or brachiopods). Students also commented that the structural geology section tested material that was not covered in their classes. It is interesting that our students performed fairly well on the oceanography section even though we do not teach a class in that subject area at OSU.

2003 Student Exit Survey

Due to poor response rate, we are changing the procedure by which we conduct our Student Exit Survey. As a result, administration and evaluation of our Undergraduate and Graduate Student Exit Surveys has been delayed. When the results of this year's survey arrive, the data will be inspected and the results scrutinized by the School of Geology faculty. As necessary, we will begin discussion about changes to course content at faculty meetings. The survey results and our action plans will be summarized and discussed in our 2004 report.

Time to Graduation and Retention Rates

Since the Fall Semester of 1993, 61 students have completed their B.S. degree in Geology at OSU and 59 students have completed their M.S. degree in Geology. The average time for completion of the B.S. degree was 2.4 years for transfer students (n = 19) and 5.1 years for those who entered OSU as freshmen (n = 37) (this estimate taken from 2002 report). Inspection of the data reveals that the average time for completion of the M.S. degree was 3.0 years (range: 1-8 years). These trends are consistent with general trends at OSU.

During the 2002-2003 academic year, 11 new students declared geology their major field of study. Five students left the Geology program; two withdrew from OSU, one student left school due to academic suspension, and two students were placed on academic probation.

2003 Job Placement Survey

Since the Fall of 1993, 61 students have completed their B.S. degree in Geology at OSU and 59 students have completed their M.S. degree in Geology. Immediately after graduation, these students were placed as follows:

Placement after Graduation	Received B.S. in Geology	Received M.S. in Geology
Employed by oil & gas industry	12	30
Employed by environmental consulting firm	0	7
Employed in government as geologist	2	5
Entered military	2	0
Continued education at OSU	23	n/a
Continued education elsewhere	12	9
Teaching	0	1
Unknown	10	7
TOTAL	61	59

The placement of our graduating students reflects the tradition of the OSU School of Geology and the strong ties with the oil and gas industry developed by faculty over time. As the environmental geology focus continues to develop, we expect a larger portion of our students to gain employment in that sector. It is noteworthy that a large portion of students graduating with a B.S. in geology decides to remain at OSU for advanced studies. However, the lack of a doctoral program causes the 18% of our M.S. students who seek a doctoral degree to look elsewhere. Similar to last year, the Geology faculty will meet in Fall 2003 to discuss the results of the job placement survey and to decide what changes to the curriculum, if any, are necessary.

Thesis Defense Outcome

All thirteen students successfully defended their thesis before a committee comprised of their advisor and at least two other faculty members. Revisions were required in all cases. Some students had major revisions but in most cases, revisions were minor. No student failed his/her thesis defense.

Uses of Assessment Results:

The following changes were implemented in the 2001-02 academic year in response to the 2001 Geology Assessment Outcomes Report:

- 1) Graduate students elected a representative who attended all Geology faculty meetings (except those involving personnel matters) in a non-voting capacity and was allowed to bring any grievances to the direct attention of all faculty.
- 2) The Graduate Committee in the School of Geology revised our brochure prepared for graduate students. Procedures and requirements were clarified.
- 3) Geology faculty strongly encouraged graduate students to attend professional meetings (e.g., regional GSA and AAPG meetings) and to present papers/posters of their thesis research. When appropriate, the Geology van was used to transport students to regional meetings. Grants and contracts were used to pay for student travel to more distant meetings.

- 4) The School of Geology encouraged graduate students to organize fall and spring off-campus social events.
- 5) Faculty encouraged all graduate students to attend the Fall Geology Colloquium.
- 6) Individual faculty were assigned to supervise TAs for our large introductory courses, Geol 1014 and Geol 1114.
- 7) The School of Geology enjoys great success in placing our graduating students in business, industry, government, as well as in advanced degree programs. We will continue to invite potential employers from business, industry, and government to visit our department, specifically to meet and interview students.

The School of Geology is responding to the results of our 2003 Outcomes Assessment Report (and previous years' reports) in the following manner:

- 1) Greater attempt will be made to incorporate and practice field-based techniques in the Sedimentology and Stratigraphy (GEOL 3034) class. GEOL 3034 class is an important prerequisite for Field Geology (GEOL 3546). In this way, OSU student performance at field camp may begin to equal or exceed the performance of students from other universities who attend the OSU field camp.
- 2) The dissatisfaction of students with academic advising has been noted in the past. As stated in last year's report, we have installed new academic advisors for both the graduate and undergraduate programs. We sense that academic advising has improved.
- 3) The School of Geology, with the help of the alumni, the OSU Foundation, and the Dean of the College of Arts and Sciences, [REDACTED], has added the Pickens Chair in Geophysics to the faculty of the School of Geology. [REDACTED] has been hired to fill the Pickens Chair. Current students, faculty, and alumni of our B.S. and M.S. degree programs have recognized the long-standing need for geophysics at OSU. We are very proud of this accomplishment.
- 4) Both undergraduate and graduate students recognize the importance of scholarships in attracting them to OSU and retaining them as geology majors. The School of Geology has established five four-year T. Boone Pickens Scholarship at \$5000/year for undergraduate majors beginning in Fall 2001. We will continue to offer a number of scholarships and fellowships for graduate students to supplement the TA/RA positions. We clearly need to raise the stipend for TAs to be consistent with other departments on campus.
- 5) The School of Geology wishes to increase resources available to graduate students for conducting research. We also wish to increase the funding support for graduate students. Faculty funded-research projects increased dramatically for some of the new faculty during the 2002-2003 academic year. In the coming year we anticipate that this increase in research funding will translate into a greater number of graduate students supported at a half time rather than quarter time assistantship rate (FTE).
- 6) In an inquiry from the Dean of the College of Arts and Sciences about funding priorities from college-level fund-raising, we identified increased funding support of graduate students as one priority. Others priorities include support for undergraduate students to attend field camp and improving teaching collections (e.g., rocks, minerals, fossils). Toward this end, Arthur Cleaves' family established the Cleaves Field Camp Scholarship in his honor. Each field camp season, two of our undergraduate students benefit from this endowment. We continue to evaluate options for the means to improve the teaching collections.
- 7) With the exception of our shortcoming in Geophysics, past students appear to be satisfied with the curriculum. As mentioned in #1 above, the situation has been remedied with the establishment of the Pickens Chair and the hiring of [REDACTED].

School of Journalism & Broadcasting

(Advertising & Sales, Broadcast Journalism,
News-Editorial and Public Relations)

Prepared by Paul Smeyak

Executive Summary (full report available upon request)

Degree Program Assesses	Assessment Methods	Number of Individuals Assessed
BA/BS Journalism/Broadcasting	1. Course Evaluations	891
	2. Fresh/Soph Language Exam	205
	3. Terminal Course Performance	159
	4. Internship Evaluations	114
	5. Honors Thesis	5

Analysis and Findings:

- 1. Course Evaluations:** This method is used to gather information on student satisfaction with courses and instruction in the School of Journalism and Broadcasting. The information is used by individual instructors to improve and revise courses and effectively meet the instructional needs of students.

1a. A total of 500 undergraduate students pursuing the Bachelor of Arts or Bachelor of Science degree were enrolled in the four Journalism/Broadcasting sequences (Advertising & Sales, Broadcasting, News-Editorial and Public Relations) for the Fall 2002 semester, and a total of 511 undergraduate students were similarly enrolled for the Spring 2003 semester. Due to evaluations performed in multiple classes, a total of 891 course evaluations were completed on the Stillwater and Tulsa campuses in the fall. As of this report, spring evaluations have been completed, but are currently not available for review.

There are 52 undergraduate students enrolled at the Tulsa campus, 29 declared Public Relations students, 15 declared Advertising students and 8 undecided

On both campuses, generally, most teachers and courses in the School of Journalism and Broadcasting are rated above average. Many courses and faculty members are rated as substantially above average.

- 2. Freshman/Sophomore Language Evaluation:** A grammar/language skill test is administered each semester to students enrolled in JB 2003 – Media Style and Structure. Students are given a diagnostic test at the beginning of the semester to measure pre-existing grammar proficiency. Following several weeks of intense study of grammar, spelling and punctuation rules, a follow-up evaluation is given. The post-test showed substantial improvement in grammar skills both semesters. The second language exam is also used as a screening device to make sure the students meet an acceptable standard of proficiency in grammar usage before being allowed to continue pursuing their SJB degree.

Fall 2002: The pre-test was administered to 97 students and the average score was 43.6 percent. The post-test was administered to 99 students and the average score was 80.6 percent. The improvement between the pre-test average and post-test average was +36.2

Spring 2003: During the spring the pre-test was administered to 102 students and the average score was 45.0 percent. The post-test was administered to 99 students and the average score was 80.7 percent.

The improvement between the pre-test average and post-test average was +35.1.

More details regarding the grammar/language skills exam are included in the supplemental information section of this report.

- 3. Terminal Course Performance:** Advertising, Broadcast Journalism, News-Editorial and Public Relations students take capstone courses in their respective sequences and are evaluated by faculty and industry professionals for professional knowledge and competence. Most senior students are evaluated very positively. Subsequent internship evaluations and job placement statistics support faculty evaluations. Some of the terminal courses are coordinated to prepare students to participate in national and regional competitions with other schools. The department selects projects and competitions that offer an appropriate mix of both academic and practical knowledge.

The American Advertising Federation sponsors a national advertising competition each year in which students from across the country work to prepare a comprehensive campaign for a single national client. In conjunction with the Advertising capstone course, "Campaigns," a group of SJB students participated in a regional competition in Little Rock, Ark., in the spring. The OSU team placed second out of thirteen teams, ranking above last year's national winner, Southern Methodist University. Placing second in the 10th AAF District qualified the team to compete for a single "wild card" spot in the national competition. The OSU team placed second in the competition for that wild card position behind St. John's University. More details regarding the terminal course performance measurement are included in the supplemental information section.

- 4. Internships:** Many students in all options perform professional internships in their related field before they graduate. Written evaluations by their professional supervisors and weekly student-faculty discussions provide feedback on the preparation of SJB students for entry-level positions in the fields of mass communications. Discussions with the interns' supervisors indicates that the SJB students from OSU are perceived as being professionally qualified and prepared for entry level paid positions. They show an excellent work ethic and show up with an open mind, willing and eager to learn. Supervisors say they consider this a refreshing change from some interns they receive from other schools who sometimes tend to act as though they already have all the information they need to do the supervisor's job, much less their own.

In Summer of 2002, a total of 49 students were enrolled for an internship, 34 in the print sequence and 15 in the broadcast sequence. A total of 36 students were enrolled for credit for an internship for the 2002 Fall semester; 26 of those students were print majors and 10 broadcast. In Spring of 2003, 29 students enrolled for an internship, 21 in the print sequence and 8 in the broadcast sequence.

- 5. Honors Program:** Four students completed an honors thesis during the fall semester. They are [REDACTED], [REDACTED], [REDACTED] and [REDACTED]. [REDACTED] completed an honors thesis during the spring semester.

Uses of Assessment Results

- ◆ Based on previous course evaluations and enrollment statistics from previous years, it was decided that additional sections of both "Media Style and Structure" and "Reporting" were needed to fulfill student demand. As a result, an additional section of "Media Style and Structure" will be added beginning in the fall of 2003.
- ◆ More information related to the Internet and Web design is being integrated into all sequences, including news, advertising, public relations and video.
- ◆ Based on course evaluations and faculty discussion regarding the amount of information covered in "Advertising Copy and Layout," it was determined that the course should be split into two separate elements. Therefore, beginning with the fall 2003 semester, each element will be taught in a separate course: "Advertising Copy Writing," and "Advertising Layout and Design."
- ◆ The unit administrator discusses teaching performance and course organization with every faculty member annually. The director tries to assist faculty members who are having problems. The School of Journalism and Broadcasting has also established a formal mentoring program conducted by senior faculty members who make up the Personnel Committee. Where appropriate, faculty members are referred to various teacher effectiveness programs on campus.
- ◆ In student surveys and interviews, Tulsa graduate students expressed a need to communicate with the graduate director on a regular basis. Beginning Fall 2002, the graduate director was available to students during weekly office hours at the Tulsa campus.

School of Journalism & Broadcasting

Prepared by Paul Smeyak

Executive Summary (full report available upon request)

Degree Programs Assessed	Assessment Methods	Number of Individuals Assessed
MS/Mass Communications	1. Course Evaluations – Stillwater and Tulsa	23
	2. Graduates	8
	3. Creative Component	4
	4. Thesis/Dissertation	4

Analysis and Findings:

1. Course evaluation forms were used to gather information on student satisfaction with graduate courses in Mass Communications master's degree program. A total of 23 course evaluations were collected among graduate students. The written comments indicate overall satisfaction with the program.

One primary concern emerged from course evaluations at the Tulsa campus was course rotation. Even though many graduate students on an urban campus such as Tulsa take longer to complete their degree work (as much as four years in many cases) they are concerned that not every course they need is offered every semester, and therefore complicates their scheduling. Efforts are being made to address this issue, but low enrollments at the Tulsa campus preclude the scheduling of graduate courses every semester.

2. Eight students earned the MS degree in Mass Communication during the 2002-2003 school year. Three students completed the program during the fall semester and graduated in December; five students graduated in May. All eight students who graduated plan to utilize their degree in the immediate future. Three of students are professionals who worked full-time while earning their degree and plan to move up in their respective companies. Three of the graduates have been accepted into Ph.D. programs. One of the students accepted a job with the Legislature, and one student is planning to teach.
3. Four students completed the Creative Component sequence during the school year.
4. Four students defended their theses during the school year.

Uses of assessment Results:

- ◆ Graduate students are mentored and encouraged to submit articles and make formal presentations on their research to state, regional and national mass media journals and conferences. During this school year, one Mass Communication master's student presented a paper at the annual Southeast Regional Colloquium of students and faculty of mass communication.
- ◆ A limited amount of funding is provided in order to assist students in attending such conferences, and to encourage others to do so in the future.
- ◆ The one-hour course MC 5651 "Intro to Mass Communications" was taught at both the Stillwater and Tulsa campuses simultaneously. The instructor held class at the Stillwater campus and broadcasted to students at the Tulsa campus. Students at both locations could ask questions and make comments by speaking into a microphone so that everyone could hear. Based on student evaluations, OSU Tulsa students were dissatisfied with the course being presented this way. They expressed a desire to have more face-to-face communication with the instructor. As a result, beginning the 2003 fall semester the instructor will alternate campuses each week, teaching in Stillwater one week and Tulsa the next.

- ◆ Following an assessment of the time management habits of students, a Graduate Advising Agreement has been created. This agreement includes a detailed timeline to help keep students on track for completing all the steps of their master's degree in a smooth and timely sequence. The timeline will be established for each individual student, based on the total amount of time the student expects to require, depending on outside employment and other similar variables. The agreement will outline the expectations for both students and faculty in terms of timeliness of work performed and frequency of counseling during each stage of the sequence.
- ◆ Students preparing for teaching careers in higher education expressed a strong interest in the development of structured programs to provide supervised teaching experiences. Such practical experience is now required of graduate students contemplating a teaching career, and three students received such supervised experience during the 2002-2003 school year.
- ◆ The Graduate Faculty regularly conducts an on-going curriculum review. No curriculum changes took place during this school year.

Mathematics Department

Prepared by Dennis Bertholf

Degree Programs Assessed	Assessment Methods	Number of Individuals Assessed
BS in Mathematics	Grades in Core Courses	9
	Exit Survey	1
Phd in Mathematics	Results of Comprehensive Examinations	4

Analysis and Findings:*For the BS degree:*

Exit survey:

The exit survey was sent to all nine graduates but was only returned by 1 student so no analysis was made of the results.

Grades in Core Courses:

In the two core courses Math 3613 and Math 4023 this years graduates had 6 A's, 8 B's and 4 C's and only two needed to repeat the courses. In our beginning masters level courses one student attempted Math 4143 and 4153 making 2 A's and another attempted 4 courses 4143,4153, 4613 and 5013 making 4 B's. The average grade for all mathematics courses above calculus for these graduates was 3.48 which is very good.

For the MS degree:

New assessment methods are being developed for the MS degree since Comprehensive Examinations are no longer required. Seven students received their MS degree this year.

For the PhD degree:

Comprehensive examinations were given in Real Analysis, Complex Analysis and Topology over the two examination periods. Real Analysis had 4 failures, Complex Analysis had 1 pass and 1 failure, and Topology had 1 pass. So for 7 attempts we had 2 passes for a 29% pass rate. We had two students complete the PhD degree this year.

Uses of Assessment Results:

Motivated by previous Graduate Student Satisfaction Surveys and results on the comprehensive examinations we made changes in the examination procedures for the PhD degree and added an applied option to the PhD degree. We also added a Mathematics Education option to the Masters degree program.

Department of Microbiology and Molecular GeneticsPrepared by the Departmental Assessment Committee and
Moses Vijayakumar

Degree Programs Assessed: BS in Microbiology
BS in Cell and Molecular Biology
BS in Medical Technology
MS and PhD in Microbiology and Cell and Molecular Biology

I.

Degree Program Assessed	Assessment Method	Number of Individuals Assessed
B.S. Microbiology	1. Exit Interviews	6
	2. Grades in Core Courses	53
	3. Alumni Survey	15

Analysis and Findings:

1. A total of 6 seniors participated in the exit interview. The main emphasis of the exit interview for graduating seniors was to ask questions related to 1) the courses (lecture and laboratory) in the department, 2) the faculty-student interactions in the department, 3) the advisor for the department, 4) the strengths and weaknesses of the department, and 5) their preparedness for a career in microbiology.

- The seniors were satisfied with all the lecture and laboratory courses, except for the Cell and Molecular Biology course.
- The seniors felt all faculty members were very approachable, and overall very satisfactory.
- The seniors felt the advisor was very helpful, but more explanation regarding degree requirements would be helpful.
- The seniors felt the primary strength of the department was the faculty dedication to students, laboratories, diversity of material taught, and teaching effort.
- The seniors felt the primary weakness of the department was unavailability of desired courses at preferred periods, and old laboratory equipment which made the experiments ineffective at times.
- The seniors felt they are well prepared to pursue a career in microbiology.

The exit interview also provided information regarding the future plans of the graduating seniors. Most of the seniors were planning on attending professional schools (i.e. Medical, Nursing) and the remaining were interested in graduate school or obtaining a laboratory technician position as a career.

The results of the exit interview support the goals of the department, as the department seeks to prepare students to enter the world of biotechnology, as well as faculty members maintaining a high standard of teaching and student involvement.

2. Institutional Research provided grade distributions for Microbiology majors in academic year 2002-2003. Students are enrolling at appropriate times within their curriculum and succeeding at a reasonable rate in Departmental courses. The problem area seems to be in BIOL 3024, General Genetics, which also shows up as a problem in grade distributions for other majors within our department.

Semester	Course #	Class	A	B	C	D	F	W
Fall '02	BIOL 3024	Jr.			1		1	
		Sr.			3	1		1
	MICR 3224	Jr.	1	4			1	
		Sr.	2	3	1			
Spring '03	BIOL 3024	Jr.	1	3				
		Sr.	1		3			
	MICR 3224	Jr.		2		1	2	1
		Sr.	1		4	1	1	1
	MICR 3224	Jr.	3	1	2	1	1	1
		Sr.	2					

3. Alumni Survey -- The survey was sent to 57 students from all majors in the department and 15 responded (26% response rate): 1 General Services (Clerical), 1 Law/Attorney, 1 Administrative/Business, 1 Technology/Technical, 4 (30%) Medical/HealthCare/Lab Tech, 4 (30%) Microbiologist, 1 Academic/Research

Over half the alumni respondents are employed in professional positions related to the major in which they graduated from the Microbiology Department. 4 respondents occupy positions of microbiologist and 4 are engaged in Medical technology related activities.

Uses of Assessment Results:

The department has formed a committee to reorganize the Cell and Molecular Biology course. The committee decided to establish both an Introductory Cell and Molecular Biology course and an Advanced Cell and Molecular Biology course, similar to the current microbiology courses.

II.

Degree Program Assessed	Assessment Methods	Number Of Individuals Assessed
<i>B.S. Cell and Molecular Biology</i>	1. Graduate Record Exam GRE B22 2. Alumni Survey 3. Grades in BIOL 3024, CLML3014, 4113 4. Exit Interviews	0 15 20 2

Analysis and Findings:

Five students graduated in Cell and Molecular Biology in the 2002-2003 year. Two students graduated in the Fall of 2002 and 3 in Spring 2003. No students graduated in the Summer of 2002.

1. Graduate Record Exam GRE B22 -- New assessment tool, no data available yet.

2. Alumni Survey -- The survey was sent to 57 students from all majors in the department and 15 responded (26% response rate): 1 General Services (Clerical), 1 Law/Attorney, 1 Administrative/Business, 1 Technology/Technical, 4 (30%) Medical/HealthCare/Lab Tech, 4 (30%) Microbiologist, 1 Academic/Research

Over half the alumni respondents are employed in professional positions related to the major in which they graduated from the Microbiology Department. 4 respondents occupy positions of microbiologist and 4 are engaged in Medical technology related activities.

3. Grades in Core Courses --

BIOL 3024 General Genetics Fall 2002: Juniors -- 1A, Seniors - None enrolled.

Spring 2003: Juniors -- 1W, Seniors -- 1B, 1F, 1W

CLML 3014 Cell & Molecular Biology Fall 2002: Juniors -- 2A's, 1 B, 1 C, Seniors - None enrolled. Spring 2003: Juniors -- 1 "I" (incomplete), Seniors - 1 C

CLML 4113 Advanced Cell & Molecular Biology Spring 2003: Juniors -- None enrolled. Seniors -- 4A's, 3B's, 1C, 1W

The grade survey data are from [REDACTED], OSU Institutional Research Office

4. Exit Interviews -- Two exit interviews are available.

- One of the respondents indicated that will continue higher education by attending the medical School at OU and the other has been accepted a job at Pfizer or Merck).
- Very satisfied with the quality of the courses offered in the Department
- Favorite courses listed are: Medical Mycology, Pathogenic Microbiology and Immunology
- Least favorite courses listed are: Cell Physiology and Introduction to Microbiology

Uses of Assessment Results:

Students have complained about the lack of identity (specialization) of the Cell and Molecular Biology degree program. In response we made several changes as follows:

1. We created new courses that are focused on eukaryotic molecular biology, which includes many of the health, related professions. New courses that have been implemented are:

CLML 4113 Advanced Cell & Molecular Biology

CLML 4253 Medical Genetics

CLML 6304 Eukaryotic Genetics

2. We improved the quality of the program by modifying the degree requirements as follows:

Increase in the number of core courses directly relevant to the field of specialization, along with a decrease in the number of elective hours. In the future we plan to offer specializations within the majors such as: Bioinformatics and Molecular Genetics.

III.

Degree Program Assessed	Assessment Methods	Number of Individuals Assessed
<i>Medical Technology</i>	1.Grades in Core Courses 2.Grades in Clinical Courses 3.Acceptance Rate for Internship 4.ASCP Exam	2 3 3/6 3

Analysis and Findings:

1. Only two Medical Technology students were enrolled in core courses BIOL 3024 (Genetics) and MICR 3254 (Immunology) during the '02/'03 academic year. For the Fall '02 semester these students earned a C and an F in BIOL 3024. These data represent a very small sample set but suggest a potential cause for concern.

2. Clinical course grades for those 3 students who performed the internship were as follows:

Clinical Microbiology - A, A-, B; Clinical Chemistry - B, A-, B; Clinical Chemistry II - B,A-B; Clinical Hematology - B,A,A; Clinical Immunology - B,A-,B; Topics in Medical Technology - A,A,A.

3. No students graduated in Medical Technology in the 2002-2003 year. However, 3 students graduated at the end of the previous year (August of 2002). Therefore, these students were analyzed for entry into internships, internship (clinical course) grades and performance on the ASCP certification exam. The 3 students accepted into hospital internship programs were out of a pool of 6 students who applied. Therefore the rate of acceptance was 50%.

4. ASCP Exam performance for the 3 student interns, August, 2002, are summarized in the following table:

Group	Chemistry	Hematology	Immunology	Microbiology	Urinalysis	Blood Banking	Average
OSU Students	573	449	555	512	452	498	500
All Students	466	482	502	491	483	484	477

Analysis of the above table suggests that OSU students out-performed other students nationally in Chemistry, Immunology and Microbiology. However, our 3 students trailed the national averages in Hematology and Urinalysis. It is interesting to note that our students excelled in Clinical areas related to basic chemical and biological coursework required in the Medical Technology degree plan prior to the internship, while performing less well in more specialized clinical areas which have no OSU course equivalent prior to the internship. This suggests that these basic chemistry and biology courses supplied students with information important to their clinical training. But also suggests that it would be helpful for our students if we could somehow better prepare them for later learning of Hematology and Urinalysis.

As mentioned above, no Medical Technology students graduated during the current academic year. Therefore, no exit interviews were performed and no data was available from students of previous years.

Uses of Assessment Results:

No OSU student has failed the ASCP exam in the last 10 years of the program even though the fail rate in Oklahoma as a whole is around 33%. This suggests that our students are very well prepared by their coursework in residence at OSU and during the hospital internship. However, the data gathered for this assessment evaluation will be distributed to faculty members and discussed in one or more faculty meetings. The major goals of these discussions will be to determine whether anything might be done to increase the number of Medical Technology majors, to improve the acceptance rate of our students into internships and whether the students could be better prepared to learn the clinical subjects of hematology and urine analysis during the internship.

IV.

Degree Program Assessed	Assessment Methods	Number of Individuals Assessed
<i>Graduate Program in Microbiology and Cell and Molecular Biology</i>	1. Annual Scholarly Report (survey of faculty and students for student achievements.	20
	2. Exit interview	1

Analysis and Findings:

The following data was gathered in a survey of faculty and their students in the Annual Scholarly Report.

Students completed:

- 8 publications
- 8 manuscripts
- 2 theses
- 0 dissertations
- 15 presentations
- 4 awards/fellowships/other

Publications, manuscript submissions, and completed theses/dissertations reflect the achievements of student research and serve as landmarks in the development of each student's scientific career. MS and PhD students are expected to publish at least one and two papers, respectively, during their studies in the program. Presentations and thesis/dissertation defenses allow students to demonstrate their ability to understand and discuss scientific research. Publications and presentations in the national forum indicate the program is competitive with other programs at comparable universities. However, the lack of student fellowships and the low stipends for student support have hampered efforts to attract better students to the program.

Uses of Assessment Results:

Previous assessments indicated a shortage graduate of level course offerings. This issue is being addressed by the current policy of offering at least two graduate level courses each semester. Current assessments results will be provided to all faculty members as part of the Annual Scholarly Report and discussions regarding potential changes will follow. Some of the future goals of the program will be to increase student stipends and other financial support through the university and research grants, increase student productivity, and research competitiveness at the national level.

Music Department

Prepared by Julia Haley

Degree Program(s) Assessed	Assessment Method Used	Number of Individuals Assessed
Bachelor of Music In Education	Student Teaching Evaluations	7
	Oklahoma Subject Area Test	4
	Oklahoma Professional Teaching Exam	4
Bachelor of Music In Education In Performance In Business	Senior Recitals	??
	Vocal juried auditions	??
	Instrumental juried auditions	??
	Keyboard juried auditions (majors)	30
	National Association of Teachers of Singing – District Auditions	??
	Music Department Exit Survey	5

Analysis and Findings:Music Education

Seven music education majors successfully completed their student teaching practicum; two in the fall semester and five in the spring semester. The students were evaluated by their cooperating teachers with an instrument containing a Likert-type rating scale. The group received an average rating of ?? on a 7-point scale. Four students sat for the Oklahoma Subject Area Test (OSAT) and all 4 (100%) received passing scores. Four students took the Oklahoma Professional Teacher Exam (OPTE) and all 4 (100%) passed.

Music Performance and Music Education

**** seniors (****%) successfully passed their recital juries and completed their recital performances in good standing. Juried auditions of Fall 2002 and Spring 2003 adjudicated by music faculty indicated ****% pass rates in all three areas: vocal, instrumental, and keyboard. ***** students competed in the annual Oklahoma District NATS (National Association of Teachers of Singing) auditions in Norman, OK. ***** advanced from the preliminary to the final rounds. *** student placed *** among freshmen men in the state, *** placed *** in the adult category, and *** placed *** among senior women.

Combined Degrees

Five students completed the Music Department Exit Survey in the spring semester. The survey provided data to 1) identify curriculum strengths and areas for improvement, 2) assess students' perceived level of preparedness regarding knowledge and skills for their profession, and 3) accomplish the State Regent's mandate for assessing student satisfaction. [REDACTED], the departmental assessment coordinator, compiled the survey responses, analyzed the data, and prepared the executive summary of the results:

- Preparedness in music curriculum. One hundred percent of respondents reported the highest level of preparedness in basic music theory, and studio lessons. 60% reported the highest level of preparedness in music history, and 80% in ensembles. 80% reported a very high level of preparedness in advanced literature/analysis. These ratings show a dramatic improvement from last year in every area except ensembles.
- Opportunities for performance. One hundred percent of respondents reported they had adequate opportunities to perform in large ensembles (conducted), small ensembles (non-conducted), and in solo performance, while 60% reported adequate opportunities to perform in staged ensemble productions (opera). These figures show an increase compared to last year in the areas of small ensemble and staged performing opportunities.

- Influence of performance opportunities on musical development. One hundred percent of respondents reported that a tremendous influence on their musical development was performance in large ensemble, 40% in small ensemble, 80% in solos, and 20% in staged ensemble. These ratings show a marked improvement from last year in every area.
- Importance of factors in decision to attend Oklahoma State University. Sixty percent of respondents reported a high level of importance in location, 60% in cost of tuition, 40% in recommendation of a teacher/acquaintance, 40% in assistantship/ scholarship, 60% in quality of general education, 60% in reputation of the department of music, 80% in presence of a particular faculty member, 100% in reputation of performing ensembles, and 40% in the variety of course offerings.
- Overall satisfaction. Sixty percent of respondents reported they were “very satisfied” with their experiences in the Music Department at OSU, while 40 percent reported they were “satisfied.”

Uses of Assessment Results:

All assessment measures indicate that this was a very positive year for the Department of Music and that the overall program is working very well. Areas of concern identified in past years through external assessments by NCATE and OCTP as well as internal assessments such as student course evaluations and exit surveys continue to be addressed. This year, for example, a few more revisions to the music education degree were implemented. A new instrumental methods course was brought on line, and plans were made to delete an education course which is no longer needed in order to offer a new World Music course. This Assessment Report will be distributed to members of the music faculty via e-mail. Faculty members will be encouraged to draw conclusions and make recommendations to the department head as part of a continuing improvement process. Additional program revisions may result from this data analysis.

Department of Philosophy

Prepared by Doren Recker

Executive Summary (full report available upon request)

<u>Degree Program</u>	<u>Method</u>	<u>Number Assessed</u>
Undergraduate, B.A.	Various, cf. below	(a) <u>Exit Questionnaires</u> : 7/10 Graduating Majors & Double-Majors graduating in Spring, 2003 (b) <u>Assessment of Oral Com- munication Skills</u> (Phil 4991. SP, 03, 11 Students)

Data: (a) *Exit Questionnaire...cf* summary of data below (following **Analysis Section**)

(b) *Assessment of Oral Communication in Phil 4991...* While all philosophy classes involve discussion, and some involve group reports, Phil 4991 was explicitly designed as a capstone course for Philosophy majors (following the advice of our last external program review, 1997). Each faculty member chooses an example of recent research in Philosophy (either their own work, or an example from professional journals), which are distributed to all students at the beginning of the semester, and then leads the discussion on the work they chose. This is to familiarize students with some of the major journals, as well as with how research is conducted in the field. It also provides examples of recent contributions in a wide variety of philosophical areas.

During the 2nd half of the semester, the students lead the discussion on articles that *they* have chosen (copies provided, again, for each student...at least a week before each presentation). These consist of at least a 10-15 minute oral report by each student, as well as 10-15 minutes of questions from other students and faculty.

The Department Head is the Instructor of Record for Phil. 4991, collects faculty and student articles and makes them available to other participants, and attends *each* class. Other faculty members attend *at least* their own presentation session, and frequently others as well. Graduate students also frequently attend several sessions.

So, each faculty member can assess the quality of the group discussion for at least one session, and most attend many others, if not every session. The Department Head attends all sessions, and, can assess the overall level of discussion, as well as each student's oral presentation. In consultation with other faculty who attended multiple sessions, he/she will provide a qualitative assessment each year. {cf. below, **Analysis Section**} Faculty members may also comment on the overall quality of the discussions and presentations, and students, of course, submit written evaluations of the course.

The latter have been consistently positive, and have improved even more since parts of the course were modified due to previous comments. For example, at least one class Session is now set aside for round-table discussions between students and faculty concerning applying to graduate schools, etc. Besides having recently revised the undergraduate curriculum to better match other B.A. Programs across the country (based on suggestions made by our last External Reviewers, 1997), feedback from the 4991 course provides one of our most useful barometers for how the undergraduate program is working (for majors and double majors).

Analysis: (a) *Assessment of Oral Communication in Phil 4991...* There were 11 students enrolled in 4991 during the Spring, 2003 semester. All were juniors or seniors, and about 4 were scheduled to graduate during SP, 2003. Discussions were lively, both during the faculty presentations and during the subsequent student reports. The level of discussion varied from student to student,...some were *very* articulate and conversant with the history of philosophy as well as some of the themes covered, others had a harder time expressing their views. I would rank overall oral performance as about Average, better than some of the earlier, weaker groups (numbers and quality were down in the beginning), but *not* as good as the two preceding groups [The 2002 group was *exceptionally* good, and graduates from that group (graduating in 2002, and 2003) have gone on to law schools, and to Ph.D. programs at Kansas, Emory, OU, and Duke Divinity school.]

(b) *Assessment of Student Questionnaires...* [summary of results immediately follows on next 3 pp]

Overall, the responses were obviously positive, I think we need to slightly revise the questionnaire, to better reflect the new assessment guidelines we had approved last year. We need more, and more specific, questions concerning communication skills, critical reasoning, etc., so that responses on the questionnaire's are more easily compared to our (now) explicit goals. On the present forms these are covered very briefly in items 6 and 7 of Section III, and were both rated fairly highly. I think we can replace some of the 'general' questions about the program with more of these, *and* include sections on both in Section III (the 'open-ended' questions). We will want to maintain the general 'What were 'best' and worst' aspects of program' questions, in order to catch any strengths or weaknesses that we haven't thought to explicitly include. Overall, however, many of the questions could be more 'outcomes' specific, without changing the entire format of this particular assessment tool. I will work on that before we distribute the questionnaires next year.

This, with some other possibilities discussed below, may help us elicit more *specific* goal-oriented information from each year's assessment.

Results of Student Questionnaires Follow
... (full report available upon request)...

Overall Analysis: This is the first year we have organized our assessment activities round our recently approved Outcomes Assessment Document. We still need to learn to better coordinate the various parts of assessment, in order to be able to meaningfully draw conclusions, compare data across different years, or use the data to indicate what parts of the program to strengthen, etc.

Currently, the informal data from the 4991 Capstone course, and our revamping of our undergraduate requirements are our best indications that the department is successfully moving towards accomplishing the listed goals. Both of these changes were responses to suggestions made by our last external review team, in 1997. Over the following 5 years, we have implemented most of what has been suggested (most of the suggestions not yet in place involved garnering greater resources). The changes make our BA Program much more competitive with other Programs across the country. The Department feels that these were moves in the right direction, and preliminary results (students placed in law schools, graduate schools, faculty assessments of quality of class writings, etc.) are encouraging. Research is also up *by* the faculty, with unprecedented levels of papers accepted for publication and presentation over the last 4 years. In fact, we have won the A&S Outstanding Junior Faculty Award the last two years in a row! We have also won two Regents Distinguished Teaching Awards and One Phoenix Graduate Teaching Award during the last two years. There are *many* indications that the department is becoming more active and more dynamic. Now, how do we model and assess what is otherwise rather obvious to everyone?

All of this is consistent w/ the specific goals listed in our outcomes assessment plan. [REDACTED] and I met several times to hash out the needs of this specific department, and to determine how we might translate our goals and activities into some sort of assessment model. Previous department heads didn't need to address this issue, so it is pretty much unprecedented. The goals try to reflect the fact that our Undergraduate Program has obvious goals for majors, etc., BUT...that most of our undergraduate teaching is for Gen Ed. So, writing and critical thinking skills loom large across *both* of these missions, and are heavily reflected in our assessment goals. This isn't *enough* for us to determine how we're doing, but it is *consistent* with doing so (and better reflects our Gen Ed mission than merely emphasizing how we compare in terms of training professional philosophers). Now we must learn to tie all of this together into something meaningful.

Continuing using data from the capstone course seems to be relevant here. Revising the exit questionnaires to more directly reflect specific goals such as critical thinking skills and writing skills will also help. Having now worked on University portfolios of writing samples, I am also wondering whether the Department might not be able to include something similar, on a smaller scale, in our assessment tools. Done properly, it might allow us to directly assess writing skills, and compare 1000 – 4000 level courses, majors/non-majors, etc.,...so we might actually have a rough *measure* of whether or not such skills have *improved* by students being involved in our program. We *might*, though this is rather different, *also* be able to get some sense of the *philosophical* merit of the writing samples, which might be *very* useful for us in determining required courses, etc. as time goes on. I plan to discuss this w/ [REDACTED], and see if something along these lines would be workable. If so, we will include some such data in next year's assessment.

We should also try to have another External Review before long (by 2005-2006, anyway), but will need some funding in order to do this.

By combining these changes, I think we very well might be able to better compare outcome goals and outcome results in a meaningful way, for cross-year comparisons, *and* to be better able to determine where we might need to strengthen our efforts.

Overall,...we're *beginning* to feel our way towards better assessment reports, as we've begun to better understand what is *possible* in this regard for a small, increasingly professionally active, but traditionally very heavily teaching-oriented department (where MOST of our student are *not* major and minors).

I confess this is the *first* time I've been able to think about the whole process as anything more than another administrative hoop that needs to be jumped through as painlessly as possible. I suppose that's an important first step!

Department of Physics

Prepared by J. W. Mintmire

Degree Programs Assessed	Assessment Methods	Number of Individuals Assessed
B.S. (Physics)	Exit Interview Reports Student Course Evaluations Alumni Survey (informal)	2
M.S. (Physics)	Exit Interview Reports Student Course Evaluations Alumni Survey (informal)	3
Ph.D. (Physics)	Exit Interview Reports Student Course Evaluations Alumni Survey (informal)	1

Analysis and Findings:

We received voluntary exit interview reports from two of the five B.S. students who graduated over the review period. The reports indicated that the students agreed that they had received adequate preparation to find employment in physics or to enter an acceptable graduate program. The students also indicated that the courses in Physics met their academic needs, but suggested the Physics Department do a better job in outreach to undergraduate students. One particularly detailed exit interview discussed the need for additional courses in Physics for the undergraduate majors. Course evaluations by graduating seniors overall indicated a positive class experience.

Four graduate students returned exit interview reports. All of the exit interviews for graduate students indicated that they had received adequate preparation for their degree, and in general the department had met their needs and satisfied their intellectual curiosities. One student indicated concerns with excessive focus on theory compared to application in the graduate level course work.

Our exit interviews and informal surveys also indicate that all of our graduates are finding appropriate job or continuing graduate education opportunities available to them.

Uses of Assessment Results:

We have several actions planned based on our outcomes assessment process as well as on other assessments of Department needs made over the past year.

- Over the past year the Physics Department Curriculum Committee began a review of the organization and offering schedule of our complete graduate and undergraduate curriculum. We also began work on developing a Department recommendation for the form of the syllabi and course contents for our introductory Physics service courses, a process done in conjunction with CEAT efforts for ABET recertification.
- Given the relatively small number of Physics undergraduate majors, we are expanding our current exit interview to an annual written survey of undergraduate progress and evaluation of the undergraduate program beginning with the 2003-04 academic year.
- Assessment results by the Physics Department and CEAT have led to a realignment of how the Department will teach PHYS 3313 (Modern Physics for Engineers), a service course offered by the Department of Physics for several undergraduate major programs in CEAT.
- The Department also plans to review our assessment plan and submit an updated assessment plan to the University over the next year. This review will be made in conjunction with the Department's overall strategic planning process underway.

Department of Political Science

Prepared by Vincent Burke

Degree Program(s) Assessed	Assessment Methods	Number Assessed
<i>Bachelor Arts and Sciences</i>	Exit Survey	35
	Student Interviews	20
	Law School Admission Test	15
	Graduate Record Exam	9
	Internship Evaluations	6

Analysis and Findings:**Exit Interview**

Each year we make an effort to allow each of our graduating students to express their opinions, observations and experiences as undergraduates in the Political Science Department. During the Fall of 2002, Spring and Summer of 2003 we had a total of 72 graduates, 35 of whom responded to our exit survey.

The portion of the survey most relevant to our assessment objectives were a series of questions regarding abilities and skills that would be important in students plans after graduation, the impact that the Department of Political Science played in the development of those skills, and the level of satisfaction the student had with the contribution of the Department in the development of those skills. The table below is a summation of their responses. Clearly our greatest weakness at present lies in the development of skills in the quantitative area; in terms of ensuring that students understand the relevance of these skills and in our course offerings. Our students recognize the importance of their communication skills in their future, but feel we are only offering moderate impact to the development of their writing skills, and only a small impact to their oral abilities.

In response to other questions a majority of students 51% indicated that they felt as though they were a part of the Political Science Department; 67% identified their OSU Political Science experience to be positive; and 70% indicated that if they had their choice to make over, they would still choose Political Science as their major.

Table 1. How important is this skill to your future plans; how much impact did the Political Science Department have on the development of that skill; and how satisfied were you with the departments impact on your development of that skill.

Ability / Skill	Importance In Future	Department Impact	Satisfaction with impact
Writing Effectively	90%	Moderate	Mostly
Speaking Effectively	86%	Small	Somewhat
Critically analyzing written information	53%	Moderate	Somewhat
Defining and solving problems	72%	Moderate	Mostly
Working and/or learning independently	43%	Moderate	Somewhat
Working in a group	53%	Moderate	Mostly
Understanding and applying scientific methods and principles	16%	Small	Somewhat
Understanding and applying quantitative methods and principles	16%	Small	Somewhat
Working effectively with technology, especially computers	30%	Small	Little
Locating information needed to help make decisions or solve problems	23%	Moderate	Somewhat
Using the knowledge, ideas, or perspectives gained from your major field	50%	Strong	Mostly
Using management /leadership capabilities	60%	Moderate	Mostly

Student Interviews

Student interviews were completed during Fall 2002. They indicated that students were mostly pleased with the upper-division courses that they were taking. The most common positive from students was that they found the subject matter of the course highly relevant and the instructors very interesting. One of the more surprising results of the evaluations was the number of students indicating a preference for more opportunities for sustained writing. In other words, they would like to have seen more writing projects with continuing critiques instead of one long term paper. This coincides with our exit survey responses regarding the departmental impact on the development of their writing skills. In addition, 35% would like to see more class presentations. This also is consistent with our exit survey results concerning the development of oral communication skills. Twenty percent indicated that they thought the workload excessive for a three-credit course. One of the continuing trends in our assessment was the enthusiasm for the Applied Politics Program. The Applied Politics Area is a more hands-on experience for our students who are interested in either running for political office someday, or looking for employment in the political arena as campaign managers or staff. Students were also very pleased with the Public Law component of our program. This is consistent with previous findings and also consistent with our last Alumni Survey, which indicated that students thought that their experiences in Public Law were a large part of their success in law school.

Law School Admission Test (LSAT)

Of the 15 Political Science majors who were verified as having taken the LSAT test, their average score was 148. The national average is 151. The scores ranged from a low of 130 to a high of 170. While most of our students are attending law school in the state of Oklahoma, one student will be attending Howard University Law School and another will be attending University of North Carolina.

Graduate Record Exam

A total of nine students took the Graduate record exam with a low score of 980 and a high of 1325, with most students achieving their highest scores on the verbal component and their low scores on the quantitative area.

Internship Evaluations:

All students who seek academic credit for an internship, must gain departmental approval prior to their enrolling in POLS 3100: Political Science Internship. After completing their internship, their on-site internship supervisor, files an evaluation of the student with the department. These internships range from the County District Attorney's Office to national and state legislators. While the tenor of most of these evaluations are highly complimentary towards the intern, four of the six returned discussed the need of the student to work on their writing ability and skills and three of six indicated a need for student gain a basic understanding of statistics.

Uses of Assessment Results:

Our findings this academic year are consistent with findings from previous years in respect to our impact on the development of student's communication skills both oral and written. In response, several of our faculty members have worked to limit their enrollment in upper-division courses in order to offer a more intense writing criteria and the ability to allow more in class presentations.

In regards to our further need to help students develop their analytical and quantitative skills, the department has put into our regular course offerings POLS 4003, Political Analysis. This course has in the past been offered on an infrequent and ad hoc schedule. This course is designed to teach students "logic and techniques of modern political analysis, including the logic of political analysis, the collection and analysis of political information, and data processing and computer applications to the study of politics." While this course has not yet had a large enrollment, we have seen the numbers move in a positive fashion. In addition one of our faculty members also teaches STAT 2053: Elementary Statistics for the Social Sciences, a course we currently encourage our students to take in order to meet either College of Arts and Sciences or University General Education requirements.

Our current growth in majors makes this a delicate problem to resolve, in that we must offer a full opportunity for students to complete their academic program, while acknowledging the need for smaller sections to answer these deficiencies. In addition, two-thirds of our faculty members will teach at least one section of American Government each semester. The average American Government section is 90 students. At present we are trying to reduce that number by preparing graduate students to teach. Our Graduate Teaching Mentor program would allow us relieve a substantial number of our faculty from having to teach American Government each semester, thereby allowing us to offer multiple sections of classes with a larger demand, or to offer additional upper-division courses.

These finding have also lead to the idea of revamping our current degree sheet to require these courses. Ironically, STAT 2013 or STAT 2023, POLS 4003 (or another methods course) and ENGL 3323 or SPCH 3733 were all at one time requirements on the degree sheet. By placing these courses back as requirements we would reintroduce rigor into those areas which students themselves have identified as being deficient, standardized test scores, LSAT and GRE area scores, also show needed improvement, and professionals in the field, internship supervisors, have identified in over half of our participating students as needing further development. These and other considerations are at present under discussion. Any additional program changes implemented will be identified on the next Assessment Plan. These results will be made available to all faculty members at the earliest fall departmental meeting.

Department of Political Science

Prepared by Patricia Hipsher

Degree Program Assessed	Assessment Method	Number Assessed
Master of Arts	Exit Interview	4
	Comprehensive Exams	10
	Methods Courses	11
	Thesis/Creative Component Defense	4
	Surveys of Students' Committee Chairs	4
	Presentation of Research	0
	Student Evaluations of Courses	0

Outcomes Assessment from previous year:

As the Outcomes Assessment Office was dissatisfied with the Political Science Graduate Program Outcomes Assessment Plan last year, [REDACTED] indicated that we should not submit an assessment for that year. Instead, she asked that the department concentrate on developing a new Outcomes Assessment Plan to measure the department's performance. We complied with her request and spent the summer of 2002 developing an acceptable Outcomes Assessment Plan.

The methods that the department chose to assess the program include student enrollment in research methods courses, student performance in thesis/creative component defense, surveys of student performance on theses/creative components by committee chairs, performance on comprehensive examinations, presentations of research by graduate students at conferences, exit interviews with graduating students, biennial survey of alumni of graduate program, and student evaluations of courses.

Analysis and Findings:

The Graduate Coordinator interviewed graduating M.A. students in May. Additionally, informal discussions were held with graduate students when they visited the Graduate Coordinator to discuss their Plans of Study, select courses, or address other issues associated with their graduate education. The questions were aimed at gaining a better understanding of what the graduate program currently was doing well, what was problematic, and what the department could do to improve students' graduate educational experiences. The students all indicated that they enjoyed the classes that they took and the faculty. Three areas of weakness that were commented upon and that will receive serious attention in the upcoming assessment period are the lack of structure in the Masters program (too few required courses), causing uncertainty among students regarding which classes they should take, classes frequently being cancelled because of low levels of enrollment, and unclear expectations about comprehensive exams on the part of students.

Students did well at completing their theses and creative components on schedule, and all received high marks from their committee chairs on the quality of the work and their performance during the students' defense of their work. Related to this, our students are reported to do well utilizing what they have learned in their research methods courses to construct solid research plans for their theses and creative components.

An area of some weakness in the graduate program this year has been performance on comprehensive exams. Three students of 10 failed one of their comprehensive exams on the first try. Two have since passed; one more will re-take the failed exam this summer.

Exit Interviews: This year we had four students graduating from the M.A. program in the spring. These four students constitute the sample population. The exit interview was designed to assess student perceptions in several areas: their departmental experiences, what classes were the most useful, what they liked most about the program, what they liked least about the program, and what could be done to improve the student's graduate educational experiences.

When asked what classes were most helpful, most students admitted that they found classes in research methods to be very useful. Among students in Public Administration and Public Policy, classes that emphasized practical hands-on experience were favored. Among students in Comparative and International Relations, the Seminar in International Political Economy, and the Graduate Seminar in International Relations were favored.

With regard to aspects of the program that need improvement or were not liked by students, two dominated. One was in regard to course offerings. Students complained that courses were cancelled on too frequent a basis because of low enrollment, and asked that the department do something about this problem. Another issue was regarding comprehensive exams. Some students commented that they were uncertain as to what the professors were expecting from students on the exams, that they were not certain what material they needed to be familiar with, and that the material covered was too broad.

Comprehensive Exams: In the fall 2002, four students each took one comprehensive exam, for a total of four comprehensive exams taken. Of these four exams, two were passed and two were failed. In the spring 2003, four students took a total of six comprehensive exams, with two students taking two exams each, and two students taking one exam each. Of these six exams, five were passed and one was failed. Overall, the program had a 70% rate of passage of comprehensive exams.

The two students who failed a comprehensive exam in the fall 2002 passed the exam when they retook it in the spring 2003. The student who failed a comprehensive exam in the spring 2003 is scheduled to retake the exam in the summer 2003.

Methods Courses: All students in the M.A. program are required to complete two courses in research methods, of which one must be in POLS 5013, Quantitative Methods. The purpose of this requirement is to introduce students to research methodology; so that they will be prepared to develop a research design for their theses and creative components and for future research endeavors. Six students enrolled in and completed POLS 5013; five students enrolled in and completed other research methods courses. Two students completed REMS 5013, Research Design and Methodology, and three students completed SOC 5273, Qualitative Research Methods.

Thesis/Creative Component Defense and Surveys: All four of the graduating M.A. students chose to do a creative component. All four successfully defended their creative components and earned an "A" for their projects. The surveys of the students' committee chairs indicate that all committee chairs were highly satisfied with their experiences working with the students and with the quality of work produced. Committee chairs referred to their students as hard working and self-directed; one committee chair indicated that the student had "worked hard to produce a well-polished, articulate final document."

Presentation of Research: None of the department's M.A. students presented research at professional conferences.

Evaluations of Courses: Due to serious budget constraints the department was not able to do student evaluations of courses and instructors.

Uses of Assessment Results:

The assessment results as well as the department's own learning experiences this past year or so are being used in three principal ways: First, to make reforms in the comprehensive exam policies and procedures, and to clarify department expectations of students on comprehensive examinations; Second, to provide more comprehensive information to incoming graduate students regarding the program's policies and procedures; Third, to make broad reforms in the M.A. program, with the goals being a broader range of graduate course offerings, higher levels of enrollment in graduate courses, a more focused and structured program, and a program that works with the department's existing strengths and resources. Copies of the Assessment Results will be made available to all faculty members at the earliest fall faculty meeting.

1. To address uncertainty and confusion among students and faculty members concerning the policies and procedures applicable to comprehensive examinations, the Graduate Faculty Committee has written two reforms to the Comprehensive Examination Policies and Procedures. The Committee will recommend that the department adopt the reforms, and the department will take action on the proposed reforms at the earliest fall faculty meeting. The Committee also has met to provide its interpretation of certain parts of existing Policies and Procedures to clarify the meaning of the Policies and Procedures for future students.
2. To provide incoming students with more explicit information concerning the Political Science M.A. program, the Graduate Coordinator has written a comprehensive document providing information to incoming graduate students. The document details the requirements of the program, including graduation requirements, expectations of faculty members with regards to comprehensive exams and which courses students should take to be adequately prepared for comprehensive exams, and program policies and procedures.
3. Members of the Graduate Committee have met three times and have communicated by email multiple times to engage in a thorough discussion of the direction of the graduate program. We discussed such issues as: What should our direction be in the M.A. program? What are ways to maximize our strengths, particularly given the size of the department and its resources, and its current weaknesses?

On the basis of these discussions and a November 2002 report to the faculty, the Graduate Committee was directed to develop a reform of the graduate program that was more structured than the existing program and that built upon the existing resources and strengths of the department in International Relations, Comparative Politics, Public Administration, and Public Policy. The Graduate Committee has developed this reform and will present it to the department in early-fall 2003 for full discussion and a vote by the department. If approved, this reformed program will likely be put in place in the fall of 2005.

4. As one of the department's objectives is to prepare students to disseminate research findings to appropriate audiences and none of our M.A. students did so this past year, the department must find ways of encouraging student research presentation. One suggestion offered by a graduating M.A. student was to have a faculty/graduate student research colloquium. This is something that has been tried in the past with minimal success, but should be tried again.

Department of Psychology
Prepared by Susan Weir

Degree Programs Assessed	Assessment Methods	Number of Individuals Assessed
B.A., Psychology B.S., Psychology	1. Web-based survey completed by undergraduate students graduating in May, August, or December 2003 2. Telephone survey (coordinated by OUA) of students who graduated in 1996 and 2000	1. 64 (52%) 2. 68 (29%)

Analysis and Findings:

Summary

In April 2003, the Department of Psychology utilized a web-based student survey to assess the following:

1. Student satisfaction with the curriculum in the department
2. Student satisfaction with academic advising in the department
3. Student use and satisfaction with information posted to the departmental web site
4. Student satisfaction with Psychology Club activities
5. Learning outcomes in seven key areas relevant to the discipline of psychology
6. Students' plans for graduate education and current admission status
7. Student recommendations for additional programs and services in the department

In 2002, the Office of University Assessment conducted a telephone survey of students who graduated from the Department of Psychology in 1996 or 2000. This survey included questions regarding employment status, continued education, usefulness of psychology course work, helpfulness of Psychology Club activities, suggestions for program improvements, and overall satisfaction with OSU.

Survey results suggest that the Department of Psychology is achieving its primary objectives regarding student satisfaction with the curriculum, programs, and services, as well as learning outcomes. Results are generally consistent with those collected in recent years. A detailed discussion of each assessment goal and the department's attainment of that goal is provided below. Recommendations for program improvement are included.

Discussion

1. Student satisfaction with the curriculum

Both current students and alumni were asked to select the courses that were most useful to them. Courses rated as most useful included Abnormal Psychology, Developmental Psychology, Quantitative Methods, Experimental Psychology, Psychology of Memory, Conflict Resolution, Personality and Special Problems. Students were given the opportunity to explain, in an open-ended response format, why they deemed specific courses to be useful to them. The open-ended responses indicated that students understand and appreciate the purpose and value of required course work. Current students indicated that their course work has assisted them in preparation for future course work, graduate study in psychology or related fields, and prospective future careers. Alumni cited a wide variety of courses as useful to them in their current professional position or graduate program.

2. Student satisfaction with academic advising

The departmental academic advisor helps undergraduates learn and understand degree requirements; assists them with academic and career planning; facilitates the resolution of personal or academic difficulties; and assists them in planning for graduate study. When asked to rate the quality of academic advising in the department, 73% of current students rated the advising they received as excellent, and about 18% rated the advising they received as above average. Ninety-two percent of the respondents stated that the advising they received met their expectations. When asked to comment on the quality of advising received, the open-ended responses provided by current students were generally very positive. Some of the alumni expressed a slightly lower level of satisfaction with advising, but overall satisfaction with advising did improve from 1996 to 2000, and has improved since 2000.

3. Student use and satisfaction with the departmental web site

The Department of Psychology web site offers links to course syllabi, graduate school preparation information, career information, faculty research links, Psychology Club news, advising information, and other items that can be helpful to undergraduate students. Although the web site is not meant to substitute for personal interaction with faculty members or the advisor, current and prospective students can utilize the web site as a convenient and detailed resource for departmental information and related resources. Most of our survey respondents indicated that they visited the departmental web site at least once, and some indicated they visited the web site over 100 times. When asked what type of information was most helpful to them, popular responses were course syllabi (75%), faculty information (65%), Psyc 4990 information (51%), degree requirements (51%), and graduate school preparation information (37%). Web site use was not addressed in the alumni survey.

4. Student satisfaction with Psychology Club activities

Psychology Club is a large undergraduate student organization that sponsors workshops concerning careers and graduate study in psychology, encourages community service and volunteerism, and facilitates interaction among faculty and students. Student participation in Psychology Club events promotes the mission of the department by facilitating learning, mentoring, leadership opportunities, and career exploration. Events that current students found most helpful were graduate school workshops (50%), careers workshops (35%), GRE preparation workshop (44%), and community service activities (27%). Alumni response patterns to items concerning satisfaction with psychology club activities were very similar to those of current students. Suggestions for activities not currently offered included more career workshops, more guest speakers, an ongoing film series, and a study pool.

5. Learning outcomes

The department identified seven learning outcomes relevant to the discipline of psychology. Students were asked to rate their skills in each of the following areas: 1) evaluating existing research; 2) designing original research; 3) using APA style; 4) interpreting statistics; 5) understanding individual differences; 6) understanding ethical principles; and 7) writing effectively. The same items appeared on our 2001 student survey, and the current pattern of responses is similar to those of two years ago. The majority of students (at least 78%) stated that they perform adequately or better in six of the seven skill areas. However, only 57% of students stated that they perform adequately or better in the design of original research, in comparison with 96% two years ago. This outcome was unexpected given the fact that no degree requirement changes or curricular changes have occurred in the past two years. Learning outcomes were not addressed in the alumni survey.

6. Students' plans for graduate study and admission status

Preparing interested students for graduate study in psychology and related disciplines is an important goal of the department. Fifty-five of our 64 respondents indicated that they intend to pursue graduate study, and the majority of those had applied to multiple programs for the upcoming academic year. Ten of those students had already accepted offers of admission. Twelve had not yet heard back regarding the status of their applications at the time the survey was completed, and 33 students had not yet submitted applications.

Of the alumni who graduated from OSU in 1996, approximately 43% had completed a graduate or professional degree program at the time the survey was conducted, 11% were currently enrolled, and 46% had not pursued graduate study. Of the year 2000 graduates, 6% had completed a graduate or professional degree program, 49% were currently enrolled, and 45% had not pursued graduate study. These data suggest a respectable rate of advanced degree pursuit and completion that is consistent with departmental goals.

7. Students' recommendations for additional programs and services

Students recommended several additions to our program such as internships for credit, industrial/organizational psychology courses, and more career and graduate school preparation workshops. These suggestions will be addressed under Program Improvements.

Uses of Assessment Results

The results of this year's assessment activity did not warrant any immediate changes to the existing curriculum or services offered. Overall, the survey results suggest that the department is meeting its objectives for the undergraduate program. However, student comments did suggest certain areas that could be improved, and those improvements will be carried out as departmental resources allow.

Program Improvements

The Department of Psychology utilizes several methods for outcomes assessment. The student satisfaction survey (indirect measure) and an analysis of GRE Psychology Subject Test scores (direct measure) are conducted in alternating years. Additionally, the Office of University Assessment conducts periodic alumni surveys and shares those results with the department. The department examines results of all of these assessments and strives to incorporate those results into ongoing program improvements, when feasible.

1. Student satisfaction with the curriculum

Current and former students are generally satisfied with the curriculum and believe the courses taken meet their expectations and prepare them to pursue their future goals. No changes are warranted at this time.

2. Student satisfaction with academic advising

Alumni survey results indicated that 63% of students who graduated in 1996 were somewhat satisfied or very satisfied with the advising they received. For students graduating in 2000, that figure rose to 88%. The survey of current students in 2003 indicated that 91% felt the advising they received was above average or excellent. In 2001, open-ended responses suggested a need for improved advising services for transfer students. Since then improvements have been made in this area, and this year, no comments indicating dissatisfaction among transfer students were present. An examination of this year's open-ended responses revealed a pattern of very positive comments and extremely few, unrelated complaints. Thus, no changes in the delivery of advising services is warranted at this time.

3. Student use and satisfaction with the departmental web site

In 2001, survey results suggested room for improvement regarding student utilization of the department's web-based resources. Student use of the departmental web site has increased since the 2001 survey and is satisfactory. No changes are warranted at this time.

4. Student satisfaction with Psychology Club activities

Survey results suggest that students utilize Psychology Club opportunities and find most of them useful. The Club will consider the suggestions included in this year's survey as they plan activities for the coming year.

5. Learning outcomes

As in 2001, this year's survey assessed student perceptions of their performance in seven skill areas relevant to the field of psychology. Results were positive and consistent with the 2001 results in six of the seven areas. However, in the area concerning the ability to design original research, the number of students who felt that they perform adequately or better in this area declined. This outcome is unexpected given that no degree requirement changes or curricular changes have been made over the past two years. The numbers of students electing to complete a senior thesis (both honors and non-honors) has remained consistent as well. The department will pay particular attention to this item in future surveys and take appropriate action should a significant trend become apparent.

6. Student plans for graduate study and admission status

The results in this area are consistent with previous years and are acceptable. No changes are warranted at this time.

7. Student recommendations for additional programs and services

Some student recommendations are consistent with previous years. Internships for credit remain a common request, however, given limited resources, as well as legal and ethical concerns regarding appropriate supervision, such internships are not likely to be feasible. Requests for more graduate school preparation and career workshops were also common, and this can be carried out by the Psychology Club beginning in the 2003-04 school year.

Department of Sociology

Prepared by Christina Myers and Dahlia G Molloy

Degree Program(s) Assessed	Assessment Methods	Number of Individuals Assessed
Undergraduate	<i>Exit Interviews</i>	5
	<i>Student Self-assessment of Sociological Skills and Knowledge Survey</i>	27
Masters PhD	<i>Comprehensive exam</i>	4
	<i>Preliminary exam</i>	7
	<i>Completion of PhD Dissertation</i>	3
	<i>Completion of Masters Thesis</i>	4

Analysis and Findings:*Exit Interviews:*

The exit interview was designed to assess student satisfaction and provide an indicator of where the department could work to improve student experience. Students consistently name helpful and caring staff and instructors as the department's greatest strength. Instructors are characterized as having great interest in student success. The department's greatest weakness is considered to be the timing and variety of courses available. Students often have a difficult time scheduling courses needed for graduation, however this often is related to late declaration of major and trying to fit required courses for the major into a very short time-frame. When asked what the department could do to improve their experience as a sociology major, students indicated that they would appreciate more information on jobs available to sociology majors. They suggest either more emphasis on this in the courses or the development of a course that focuses on this.

Student self-assessment of sociologically important skills and knowledge:

This instrument was developed and piloted this year in order to assess student perception of their abilities in core skills and knowledge essential to a sociology major. This skills and knowledge include general education objectives as well as objectives related to the major. The instrument can be refined and later used as a basis for designing direct assessment measures that can then be compared to student self-assessment. That information can then be used to help the department and its instructors clarify expectations of students and develop teaching methods that facilitate learning.

The instrument was administered in several classes and results and discussion of senior students' responses follow:

Mean scores of both skills- and knowledge-based items were in the average to strong range (see Appendix for items and means). Students reported slightly higher competencies in skills as compared to knowledge and intellectual abilities.

This instrument also included open-ended questions regarding student satisfaction-related issues. Once again, student respondents relate the biggest strength of the department is in its caring and knowledgeable staff and instructors. Its greatest weakness is in lack of variety of classes and perceived shortcomings in scheduling. Students also suggest that courses be more focused for majors rather than Gen Ed-based and repetitive, and request more emphasis be given to jobs available for students with a bachelors degree in sociology. Student naming of most valuable courses shows an important change from previous years when this same question was part of the exit interview. Nearly 41% of the senior students responding named Social Research Methods as the most valuable class they have taken as a Sociology major, whereas previously it had been one of the least favored classes. This change reflects a move toward making the course more hands-on and application/evaluation based. Students are able to see how research is done and how results impact their lives.

Preliminary and Comprehensive Exams:

Nine of the eleven students attempting exams successfully completed preliminary and comprehensive exams during the past year. This is a strong indicator that sociology graduate students receive the academic background in theory, methods and specialty areas necessary for their success as scholars in the field.

Completion of Dissertations and Theses:

7 students successfully defended their dissertations and theses during the past year. Successful defense is an indicator that students graduating with advanced degrees in sociology are able to perform independent research required of professionals in the field.

Other Assessment-Related Activities

Assessment practices of comparable sociology programs, including schools of the Big Twelve was undertaken this year. Best practices of sociology assessment techniques as suggested by the American Sociological Association were also reviewed. This information will be used to suggest updates to the department's educational objectives and the assessment activities used to measure them.

Uses of Assessment Results:

Special attention is being taken to insure that required courses are not offered at the same times. All required courses are offered every semester. In addition, the limit of 6 hours of Sociology 4990 special courses has been eliminated, thus allowing students to take as many of the special courses offered under this number. In addition, information regarding the A&S Career Services office is being provided to students. Plans are also under way to have short information sessions relating to careers available to Sociology majors.

Department of Statistics

Prepared by Brenda Masters

The following table shows the assessment methods used and numbers of individuals assessed for the degree programs offered by the Department of Statistics.

Degree Program(s) Assessed	Assessment Methods Used	Numbers of Individuals Assessed
Ph.D.	Comprehensive exams Oral exams	3
MS	Comprehensive exams Oral exams	6
BS	Interviews	25
Mid-Level	Data Analysis	>10,000

Analysis and Findings from program outcomes assessment:

The comprehensive written exam taken by all graduate students measures the four essential areas covered by the graduate programs in Statistics. The areas are probability, inference, models and design of experiments. Each of the four parts of the exam covers three or four program outcomes in each area. The questions are formed with a specific program outcome in mind. In addition to the written exams each completing student participates in an oral exam. Although the beginning portion of the oral exam concentrates on the student's area of research, the final portion of the exam emphasizes the program outcomes.

Part of the recent assessment effort in the Statistics Department has been to assess the assessment process. In an effort to construct a program outcome based assessment plan the statistics faculty have clarified the learner outcomes for both the undergraduate and the graduate degree programs. They identified specific courses that provide the learning opportunities for students to fulfill the stated learner outcomes.

For the second year the Department of Statistics has conducted casual interviews with undergraduates about their academic desires and objectives. Information about students' degree plans and goals was gathered from current statistics majors, prospective statistics majors and prospective statistics minors. The need for a general analytic minor, which does not depend on mathematics beyond the first calculus course and provides a substantial foundation for decision making in various fields has become obvious through the student conversations. Many majors across the University exist in which students take a beginning calculus course, but do not take more mathematics beyond that. Often though, these students need more full understanding of analytic decision-making processes than one or two statistics courses provide. Courses from the Statistics Department in addition to courses from across campus related to analytic decision making but that did not depend on mathematics beyond calculus one were identified. Course content was studied to determine if the course could make a significant contribution to a general analytic minor to accompany various majors.

Mid-level assessment continued in the Statistics Department with a further investigation of the relationship between the grade in STAT 2023 and the grade in college algebra, which is the prerequisite for the statistics course. A very large data set has been constructed in previous years with assessment funds that contains data for more than 10,000 students including their final letter grade in STAT 2023 and their past performance in freshman level mathematics courses. The question that was investigated recently focused on whether the effect on the STAT 2023 letter grade was different based on whether the college algebra grade was a transfer grade or one achieved at OSU. For example, if a student made an "A" in college algebra is the student more likely to make an "A" in STAT 2023 if the initial "A" was made at OSU, rather than being a transfer grade? In summary, the findings in the study indicate no significant difference in the effect on the grade in STAT 2023 from the two conditions, transfer versus native grade, for the letter grades of A, B, and C. That is, the probability of the various letter grades in STAT 2023 are not significantly different for the two groups of students, those who transfer a "C" in college algebra to OSU and those who make a "C" in college algebra at OSU. No difference was observed for those letter grade categories whether the transfer grade was from in state or out of state.

In the situation where the student has a “D” as the highest grade in the attempts at the college algebra there is a significant difference in whether the grade was a transfer or native grade on the resulting letter grade in STAT 2023. For the group of students who make a “D” in college algebra at OSU the probability of being in the “DFW” category in STAT 2023 is 65%. For the group of students who transfer a “D” in college algebra to OSU then take STAT 2023, there is about a 75% chance that they will be in the “DFW” category in STAT 2023. That a significant difference exists between the “DFW” rates in STAT 2023 for the two groups does not seem to be as important as the fact that the “DFW” rates for both groups were so high.

Instructional changes that have occurred or are planned as a result of outcomes assessment:

The departmental assessment plan has been rewritten based on a foundation of program outcomes. The plan states the learner outcomes for the degree plans. The courses that provide the opportunities for students to achieve the specific outcomes are identified. Assessment techniques that will be used to measure the level at which students achieve the learner outcomes are stated in the assessment plan. Through the departmental assessment process this plan should be refined and promoted in the department as a general guide for evaluating student skill level.

As a response to information gathered from assessment of undergraduates the Statistics Department has developed a minor called, “Analytic minor.” This minor will be administered through the Statistics Department, but includes course work that focuses on analytic decision making drawn from a variety of units on campus. The minor is specifically constructed for the student who has a major that uses analytic ability, but does not require mathematics past calculus one. It is a tool for undergraduate students to enhance their utilization of statistics without requiring extensive math preparation. The opportunity to enhance their analytic ability needs to be more widely available to students who do not study advanced mathematics, but will be using statistical processing and techniques in their career. The Department has obtained college approval for this minor and will be distributing information about it to undergraduates by fall 2003.

Mid-level assessment concerning the effect of the grade in college algebra on the grade in STAT 2023 has highlighted a possible instructional change. Students who make a “D” as their highest grade in college algebra have between a 65-75% DFW rate in STAT 2023 depending on whether the college algebra grade is a transfer or native grade. The institution should investigate further the negative effect that a poor grade in the prerequisite has on the resulting letter grade in the following course. The statistics faculty are considering increasing the grade required in the prerequisite for STAT 2023 to a “C” based on this assessment information.

Department of Theatre
Prepared By Bruce Brockman

The following table shows the assessment methods used and numbers of individuals assessed for the degree programs offered by the Department of Theatre.

Degree Program Assessed	Assessment Methods Used	Number of Individuals Assessed
BA Theatre	Semester Performance Juries and Portfolio	48
BFA Theatre	Production Adjudicators	60
MA Theatre	Internship and Grad School Placement	12
	Graduate Student Satisfaction Survey	7
	NAST Re-accreditation	

Analysis and findings:

Performance Juries and Portfolio reviews continue to serve as a cornerstone of our assessment activities. Both acting and design/tech jurors indicate that students continue making good progress. Juries and reviews were also used this year as the basis for admitting our first Bachelor of Fine Arts classes. In the future, BFA students will be required and graded on their participation in the Jury Process.

Four productions were reviewed by outside evaluators. The department began the year by entering its productions in the American College Theatre Festival as had been established in our assessment plan. We have found the quality of the evaluations on the first two productions to be so sub-standard that we have withdrawn further participation in ACTF and are using the assessment funds to bring our own respondents in. During the spring semester individuals from off campus reviewed both productions. Both of the reviewers had significant professional experience and found the quality to be much better. Both reviewers raised excellent points regarding various choices that student and faculty artists made regarding the productions. In general they were very complimentary of the over all quality and the performance work of the students. In turn the students found the critiques to be very helpful.

Internships and Graduate Student Placement rates continue to be good. Although summer placement was not quite as high we would like, due in part to the inability of students to get to unified auditions. All of our design tech students who choose to are gaining employment during the summer. Our first MA Thesis student has been admitted into the PhD program at the University of Minnesota Department of theatre. He is one of only three being admitted by UM this year. This student also won a Graduate Research Excellence award.

The Department has successfully secured Re-Accreditation from the National Association of Schools of Theatre. Both the MA and the BA have received five year accreditation and we have also been given plan approval by NAST for the Bachelor of Fine Arts Degree. Once we have had two students complete the program, we will be able to submit the degree for full accreditation. The accreditation visit and completion of our self-study occurred over the school year. The visitor's response document is available on request. Aside from some minor concerns there were no major issues raised. They have requested a follow up report on the impact of the BFA on the department's resources as well as a review of our current mission for the MA, which, they consider too general. (This is a topic of some confusion for us as the MA is a generalist degree.)

Instructional changes that have occurred or are planned as a result of outcomes assessment:

Having gone through substantive recent curriculum revisions, we are not planning any further modifications to the program until we have had ample time to assess the merits of our newly changed curriculum. We will initiate a review of our MA mission as requested by NAST. As we begin to implement the BFA degree, I am sure we will identify areas that need revision or adjustment, however, at this time, we don't anticipate any major changes nor have recent assessment activities indicated that any are required.

Zoology Department
Prepared by Margaret S. Ewing

The following table shows the assessment methods used and numbers of individuals assessed for the degree programs in the Zoology Department.

Degree Program Assessed	Assessment Methods	Number of Individuals Assessed
B.S. Biological Science, Physiology, Wildlife & Fisheries Ecology Zoology	1) Depth of seniors' understanding in key courses – survey	1) 7 faculty responding with respect to 368 student course performances
	2) Performance of seniors in key courses	2) Grade distributions for seniors in 7 courses (368 final grades)
	3) Performance of transfer and nontransfer students in key courses	3) Grade distributions for transfer and nontransfer juniors and seniors in 7 courses (508 final grades)
	4) Retention of declared majors	4) 209 students
	5) Exit interviews	5) 14 graduating seniors interviewed
M.S. and Ph.D Wildlife & Fisheries Ecology, Zoology	6) Performance in qualifying and final examinations	6) 11 faculty responding with respect to 28 student performances
	7) Presentations and awards	7) 11 faculty responding with respect to 79 student performances

Analysis and Findings

B.S. Programs: Data collected by assessment methods (Assessment Method 1– faculty survey) and (Assessment Method 2 – Institutional Research data) suggest that Senior Physiology majors appear to have very good to excellent understanding of animal regulatory systems (physiology) at both the organismal and cellular levels and adequate to very good understanding of the conceptual contexts of evolution, ecology and genetics. The faculty perceptions of their levels of understanding approximately match these majors' average grades in physiology and related courses. Faculty indicate that Senior Wildlife & Fisheries Ecology majors have adequate understanding of ecological concepts and wildlife management concepts as well as genetics. Levels of seniors' understanding as faculty perceive them tend to be slightly lower than average grades in courses key to this program. Zoology seniors are judged to have adequate to very good understanding of evolutionary concepts, genetics, and ecology although their ability to apply concepts is perceived as just adequate. Their understanding of regulatory systems (physiology) and cellular concepts is judged adequate to very good. Average grades in courses dealing with specific subsets of these topics are roughly comparable to faculty perceptions of understanding. In three of the seven courses examined, faculty judged students less able to apply conceptual knowledge than to understand it at a more basic level.

For 18 offerings (7 key courses) from Fall 2000 - Spring 2003 performance comparisons of students who had transferred in 45 or more credit hours (transfer students) and those who had transferred in 44 or fewer credit hours (nontransfer students) were made (Assessment Method 3 - Institutional Research data). Grade distributions among juniors and seniors in these two groups provided data for 20 comparisons in course offerings in which both transfer and nontransfer students were present and in which students were identified as Physiology, Wildlife & Fisheries Ecology, or Zoology majors. In 6 of these comparisons transfer students earned higher grade point means than did nontransfer students and in 14 comparisons, nontransfer students earned higher grade points than did transfer students. These data substantiate faculty perceptions that nontransfer students often earn higher grades than transfer students. That perception is reported as particularly true of Wildlife & Fisheries Ecology majors, and the comparison of grade distributions of those majors were consistent with the faculty view in the two courses surveyed as key to that major.

Retention of students in the majors (Assessment Method 4 – Institutional Research data) was addressed by examining the cohort of Fall 2000 juniors (≥ 60 hrs. completed) in declared Zoology Dept. majors and determining the proportion who earned bachelor's degrees by Spring 2003.

Program	F 2000 No. of Declared Majors (\geq Jr.)	Completed B.S. in a Departmental Program by Sp. 2003	Completed B.S. Other OSU Program. by Sp. 2003	No Degree by Sp. 2003 includes (2000 majors who are enrolled in F 2003)
Physiology	45	62%	11%	27% (7%)
Wildlife & Fisheries Ecology	61	64%	5%	31% (3%)
Zoology	103	68%	10%	22% (6%)

Of students who declared majors in departmental programs, 74% had completed a B.S. or B.A. three years later, 66% in the departmental majors listed and 3% in other life sciences. Among those who had not yet completed degrees in that period, 26% are still enrolled at OSU. Several Physiology majors without OSU degrees entered professional programs in the health sciences and a number of other departed majors are pursuing educational goals elsewhere. The primary reason offered for departures from the programs appears to be personal concerns. Percentages of students who finished the BS in a Zoology Dept. major are essentially the same as they were 2 years ago and percentages who finished a degree in another major are substantially higher than they were 2 years ago.

Exit interviews of 14 graduating seniors with Dr. Shaw (Assessment Method 5) explored reasons for choice of major at OSU, most and least effective courses, suggestions for improvement, quality of advisement, usefulness of extracurricular activities, and future plans. Reasons for choosing the major ranged from long-standing interest in the area or interest in animals to usefulness in preparing for a health profession. Comments about specific courses ranged widely and provide useful input for course revisions. Students mentioned more courses that they enthusiastically recommended than courses they would recommend avoiding. All but one student would recommend one of the majors offered by the department to a student with similar interests. Most interviewees were pleased with their advisor. Post-graduation plans included health professional schools, graduate programs, and jobs, mostly in areas allied with the students' majors.

Graduate Programs: In a survey, faculty evaluated Wildlife & Fisheries Ecology and Zoology graduate student achievement in terms of performance in qualifying and final examinations (assessment method 4). Faculty participated 14 times in final examinations of M.S. students and 64% were judged very good or excellent performances and 36% as adequate or good. Faculty participated 2 times in Ph.D. qualifying exams, rating performance in 50% as very good or excellent and 50% as adequate or good. Among 9 reports of faculty participation in final doctoral examinations, 100% were judged very good or excellent. Performance on final examinations at both the M.S. and Ph.D. levels was judged substantially better than in 2001.

Faculty also evaluated graduate student achievement in terms of quality of thesis or dissertation research (assessment method 5 -- survey). Among the research presentations, both local and at regional and national scientific meetings, of M.S. students witnessed by faculty members (33 reports), 82% of evaluations were ranked as very good or excellent, 18% as adequate or good. Among faculty assessments of such presentations of Ph.D. students (27 reports), 96% of evaluations were ranked as very good or excellent, and 4% as poor. Most of our graduate students have good skills in oral presentation of their research and faculty found higher percentages of very good or excellent than was true in 2001.

Success in the larger disciplinary arena was judged, in part, by awards presented by professional societies and external grants that students received. One M.S. student won an award for work that was externally judged as did 2 Ph.D. students. Four M.S. students obtained grants for support of their research as did 5 Ph.D. students. External judgement of our graduate students' research programs indicates that some have very good research skills and present their work equally well.

Uses of Assessment

Assessment data and analysis were distributed to the faculty for discussion. In addition to the assessment approaches summarized above, we revisited the results of the Zoology 2002 survey of a subset of the National Survey of Student Engagement (NSSE) items. The results of the OSU 2002 NSSE became available this spring for comparison with the Zoology Dept. data for 2002. For many of these items, students in Zoology majors' mean responses were significantly ($p < 0.001$) lower than means for College of Arts & Sciences students and for OSU students as a group. Perceptions of instruction by students in the Zoology survey indicate that departmental faculty should be emphasizing analysis, synthesis and application skills to a greater degree than we are at present. In light of our degree objectives, we should focus on this aspect of instruction and we are beginning to discuss this need as a faculty. In 2003-2004 we will refine our questionnaire and our approach to administering it as well as reassessing our instructional priorities in the curriculum. We also plan to invite a consultant/speaker to aid us in developing ways to engage students more effectively in learning tasks that are consistent with some of our departmental objectives. Focus is especially needed to facilitate their learning to analyze and apply conceptual knowledge.

College of Business Administration

Prepared by

School of Applied Health and Educational Psychology
Counseling Psychology
Ph.D. Program

Prepared by Marie L. Miville, Ph.D.

Degree Program(s) Assessed	Assessment Methods	Number of Individuals Assessed
Counseling Psychology, Ph.D.	<ul style="list-style-type: none"> - <i>Passing grades of relevant coursework</i> - <i>Passing grades on qualifying exams</i> - <i>Satisfactory evaluations in practica and internship</i> - <i>Annual student evaluations</i> - <i>Alumni feedback</i> - <i>Success rates in obtaining internship placements</i> - <i>Success rates in completing internship placements</i> - <i>Passing rates on national licensure exam for psychologists</i> - <i>Accreditation of program by American Psychological Association (APA)</i> 	<p>45</p> <p>16</p> <p>27</p> <p>45</p> <p>27</p> <p>5</p> <p>8</p> <p>27</p> <p>65</p>

Analysis and Findings:

Student grades on coursework: 100% of students had passing grades in relevant coursework.

Student grades on qualifying exams: 92% of students had passing grades in qualifying exams.

Practica and internship satisfaction: 93% of all CPSY students were rated in the average to excellent range by their practicum or internship supervisor at the completion of their practicum or internship, with the large majority of ratings being above average or better.

Annual student evaluations: 92% of all CPSY students received satisfactory to above satisfactory ratings on their annual evaluations.

Success rates in obtaining internship sites: 80% of CPSY students who applied for full-time internship during 2002-2003 were placed, a placement rate that matched the national average. 100% of placements were at professionally accredited sites.

Success rates in completing internship placements: 100% of students completed their internship placement.

Passing rates on national licensure exam for psychologists: In a recent alumni survey, of 27 respondents, 18 had taken the exam, 17 (94%) of whom had passed the national licensing exam.

Alumni feedback: A survey was recently sent to alumni who have graduated from our program since the last site visit. Of the 32 surveys mailed out, we received 27 back, a response rate of 84%. Demographic description of the sample was 17 females/10 males, with 7 Native American/19 Euro American/1 African American. In light of the program's goal to train entry-level professional psychologists who can function in a wide variety of settings (e.g., academic, community agencies, and private practice), respondents were asked the following:

- a. initial and current employment settings of our graduates;
- b. information regarding licensure and results on the licensure exam;
- c. research activities;
- d. membership in professional societies; and
- e. perceptions regarding their level of preparation in the program

Results of the survey are as follows:

- a. Data on the initial and current employment of our graduates indicated that students' initial job placements as well as current placements are quite varied. Graduates of our program in the last seven years indicate they have worked in university counseling centers, academic teaching positions, independent practice, community mental health centers, medical settings, the military, and correctional facilities. These data provide excellent evidence that we are indeed meeting the overall goal of our training program.
- b. Of the 27 respondents, 18 (69%) have taken the national licensing exam, 17 of whom passed (94%). 14 are currently licensed, and 13 are in progress of being licensed. These data provide further evidence that the program is adequately preparing students for professional practice. The program also has sought to improve exam passing rates by incorporating multiple-choice items in many of its courses. It is hoped that passing rates will continue to improve by preparing students for the testing conditions of the EPPP.
- c. The research activities of our graduates were assessed by their number of presentations at professional meetings, number of publications, and current research activity. Of the 27 respondents, 11 (42%) had presented papers/posters at state/regional professional meetings, and 17 (63%) had presented papers/posters at national/international professional meetings. Mean number of presentations at state/regional professional meetings was 3.5, while mean number of presentations at national/international professional meetings was 3.35. Of the 27 respondents, 19 (70%) had published articles, and the average number of articles published was 3.21 (highest number published by an alumni was 11). Eighteen alumni (67%) have been involved in research activities since graduation.
- d. Of the 27 respondents, 25 were members of professional societies. Five alumni (19%) had served as officer or chaired a committee in a professional organization.
- e. Graduates were asked to rate their level of preparation in the program on a Likert scale ranging from very well prepared to very unprepared. Over 90% of program graduates indicated they have been prepared well for internship. Program graduates felt best prepared in the area of individual counseling/psychotherapy and ethical decision-making. Graduates felt least prepared in the area of consultation. This last rating may be a function of formal coursework offered by SAHEP not being offered in a consistent manner, due to SAHEP faculty changes. This issue was recently rectified by an agreement of the Educational/School Psychology area to offer EPSY 6323 Psychological Consultation on a yearly basis. The program also is exploring other ways to better meet this competency area, for example, by adding consultation material to CPSY 6543 Clinical Supervision, beginning Fall 2004.

The results of the alumni survey clearly indicate program graduates are active in both the science and practice of professional psychology. Further, activities of our graduates demonstrate an integration of science and practice in their daily professional lives. Written comments by graduates further add to our belief that our program not only prepares students for the professional challenges of psychology, but provides a collegial atmosphere for positive learning and the development of the person of the professional:

- "My time gaining a PhD at OSU ranks as one of the most valuable experiences of my life...superior and well-rounded instruction and mentoring..."
- "Overall, I have been pleased with the education I received at OSU"
- "Compared to my peers at internship and post-doc, I felt very well prepared in significant areas. Also, faculty is supportive and nurturing...Overall an excellent program" (emphasis original)"
- "The more I talk with others about their experiences in their doctoral programs, the more grateful I am for my very positive experience, especially regarding my faculty's appreciation for multiculturalism"

Accreditation: The Counseling Psychology program continues to be accredited by its professional organization, the American Psychological Association.

Summary Information:

The doctoral program in Counseling Psychology is doing well with respect to the outcome data presented here. Students are being retained in the program and have maintained above average to superior grades. Practicum and internship supervisors consistently gave CPSY students above average to superior ratings. Indeed, CPSY students were successful in obtaining competitive national internship placements. As well, students generally obtained positive annual evaluations from program faculty. Further data regarding the program also was reported, further demonstrating the effectiveness of our training program via current employment, student satisfaction ratings, and licensure rates. Improvements based on alumni feedback centered on consultation experiences. Curriculum changes have been incorporated as a result of this feedback. The Counseling Psychology program has been successful in maintaining appropriate accreditation, an excellent external review of program quality.

Uses of Assessment Results:

Assessment results were used to prepare the annual report to the American Psychological Association. The Counseling Psychology program is being reviewed for re-accreditation by the American Psychological Association in 2003, and assessment information gathered in 2002-2003 was used to facilitate this process. Faculty had the opportunity to review assessment results via the current report as well as the self-study report prepared for APA. Meetings with both faculty and students regarding assessment and re-accreditation issues were held this year, with the result of several changes made to our program requirements (e.g., program requirements for applying to internship, "lock-stepping" coursework for first and second years of the program, and improving assessment and consultation training experiences). Overall, faculty and students felt positively about the program's efforts to achieve its primary goal.

School of Applied Health and Educational Psychology
School Counseling, Community Counseling
M.S. Program in Counseling and Student Personnel
Prepared by Camille DeBell

Goals of the Degree Program

The M.S. Program in Counseling and Student Personnel was founded to prepare professional counselors who are knowledgeable in counseling theories and techniques, who can translate counseling theory into effective counseling practice, who are committed to respecting diversity among people, and who ascribe to the highest of ethical standards and practice. The Program incorporates teaching in psychological, pedagogical, and counseling theory, research, and practice into a practitioner-based training program that allows graduates to apply knowledge in these areas to their practice in school and mental health settings in the community. Consistent with the land-grant tradition of Oklahoma State University, the Program is committed to the outreach and training of students from Oklahoma and elsewhere who represent diversity in gender, race, ethnicity, sexual orientation, culture, rural or urban backgrounds, socioeconomic status, religious affiliation, and disability status.

N = approximately 47 students in the program, Tulsa & Stillwater campuses

Students in this program will gain knowledge and understanding of:

Outcome	Method	Time-table	Outcome- Met?
Professional identity, including history of the profession, roles of counselors, organizational structures, ethics, standards, credentialing, public policy, advocacy, and emerging issues in the profession	Grade of B or better in CPSY 5493	yearly	MET
	Grade of B or better on paper assignment on roles and values of counseling professionals	yearly	MET
	Review of student progress	yearly	47 current students were reviewed in Spring 2002. Of these, 2 were evaluated as making exemplary progress, and 41 were evaluated as making satisfactory progress. Some concerns about progress were found with 4 students, for whom remediation plans were developed by the student and their advisors.
Social & cultural diversity, including multicultural trends, counseling strategies, theories, competencies, and contextual factors for working with diverse populations, and counselors' roles in social justice and advocacy.	Grade of B or better in CPSY 5503	yearly	MET
	Documentation of acceptable performance on class presentation in CPSY 5503	yearly	MET
Human Growth and learning, development, and transition, both normal and abnormal, for individuals and families across the lifespan	Grade of B or better in EPSY 5103, CPSY 5563.	yearly	1 grade of C across all sections of EPSY 5103; OTHERWISE, MET
Career and lifestyle development, including theories, models, assessment and counseling strategies, information resources, program planning and administration, and emerging issues in a changing world of work	Grade of B or better in CPSY 5453	yearly	MET
	Grade of B or better on final exam case study assignment in CPSY 5453	yearly	MET
Helping Relationships, including counselor and consultant characteristics, and counseling, consulting, and systems theory, processes, and skills for working with families, children, and adults	Grade of B or better in CPSY 5553, CPSY 5473, CPSY 6553, EPSY 6323 and clinical sequence (CPSY 5593, CPSY 5686)	yearly	MET; EPSY 6323 requirement begins summer '03.
	Passing grade on videotaped counseling session in CPSY 5473.	yearly	MET

Outcome	Method	Time-table	Outcome- Met?
Group Work, including group development, group dynamics, and group counseling theories, methods, and skills	Grade of B or better in CPSY 5583	yearly	MET
	Grade of B or better on formal self-assessment paper assignment in CPSY 5583	yearly	MET
Assessment, including basic principles of testing and assessment, case conceptualization, diagnosis, diversity factors related to assessment, and individual and group approaches to assessment and evaluation	Grade of B or better in one of the following: CPSY 5523, EPSY 5783, or REMS 5373	yearly	MET
Research and program evaluation, including research methods, basic statistics, needs assessment, and program evaluation	Grade of B or better in REMS 5013, EPSY 6323	yearly	MET; EPSY 6323 requirement begins summer '03.
Effective leadership skills to plan, implement, and evaluate a comprehensive, developmental guidance and counseling program to address the needs of all students	Grade of B or better in CPSY 5513	yearly	MET
	Grade of B or better on paper assignment on evaluation of comprehensive counseling programs in CPSY 5513.	yearly	MET

Additional competencies for school counselors- Students in the school counseling option will gain knowledge and understanding of:

Outcome	Method	Time-table	Outcome- Met?
Guidance and counseling services that address the needs and concerns of students and that help students develop skills to use in future situation	Grade of B or better in CPSY 5533	yearly	MET
	Passing grade on videotape of counseling skills in CPSY 5473	yearly	MET
Human development in order to provide a comprehensive, developmental guidance and counseling program	Grade of B or better in EPSY 5103	yearly	1 grade of C across all sections.
Effective leadership skills to plan, implement, and evaluate a comprehensive, developmental guidance and counseling program to address the needs of all students.	Grade of B or better in CPSY 5513	yearly	MET
	Grade of B or better on paper assignment on evaluation of comprehensive counseling programs in CPSY 5513.	yearly	MET
Effective leadership skills to plan, implement, and evaluate a comprehensive, developmental guidance and counseling program to address the needs of all students	Grade of B or better in CPSY 5513	yearly	MET
	Grade of B or better on paper assignment on evaluation of comprehensive counseling programs in CPSY 5513.	yearly	MET
How to facilitate the education and career development of individual students to help all achieve success	Grade of B or better in CPSY 5453	yearly	MET
Formal and informal assessment to provide information about and to students, to monitor student progress and to recommend changes to the student's educational environment	Grade of B or better in CPSY 5686	yearly	MET

Outcome	Method	Time-table	Outcome- Met?
Consultation processes with parents and school personnel, how to provide professional expertise and establish collaborative relationships that foster a support system for students, parents, and the community	Grade of B or better in EPSY 6323	yearly	EPSY 6323 requirement begins summer '03
Human diversity as it applies to providing equitable guidance counseling services for all students and promoting a climate of mutual respect that helps students value themselves and others	Grade of B or better in CPSY 5503	yearly	MET
The need for strong and positive ties with the home and the community to promote students' growth in school and beyond the school setting.	Grade of B or better in EPSY 6323	yearly	MET
Professional ethical codes, the importance of professional development and the need to work with colleagues to advance the profession	Grade of B or better in CPSY 5493	yearly	MET
The impact of environmental influences on students' developmental achievement, to help students develop strategies to reason and cope with situations that may hinder learning	Grade of B or better in CPSY 5103	yearly	1 grade of C across all sections.

Additional Learning Outcomes for All Students

Students in the M.S. Program in Counseling and Student Personnel will:

Outcome	Method	Time-table	Outcome- Met?
Be generally satisfied with the perceived usefulness of courses completed	end-of-semester course evaluations survey of current student satisfaction	collected yearly; compiled every three years every three years	Using a sample of all of the 276 course evaluations that were collected in CPSY master's level courses in 2002, faculty received an overall mean rating of 3.51 (<i>sd</i> = .60; 4 = "very high."). The 19 courses on which these evaluations were based received an overall mean rating of 3.59 (<i>sd</i> = .47; 4 = "definitely yes" ["this was a good course"]) Full results are available on request. In 2002, the Graduate College of OSU surveyed current students in the program. The mean rating of overall satisfaction with the program was 3.6 (4 = satisfied/agree and 1 = dissatisfied/disagree; <i>SD</i> not available; <i>N</i> = 14). This is compared to an overall OSU mean rating of satisfaction of graduate students of 3.3. Complete results are available on request.

Outcome	Method	Time-table	Outcome- Met?
	survey of alumni satisfaction	every three years	In Fall, 2002, a survey was conducted with recent graduates (i.e., graduates from the past three years) of the program. Data were collected through the early Spring semester, 2003. A total of 51 surveys were sent; 13 were completed (25% response rate). The mean rating by respondents of the overall program faculty was 4.3 (5 = very satisfied; SD = 1.18, N = 13). The overall mean rating of the program was 3.85 (SD = 1.29, N = 13). The full results are available on request.
Be perceived by clinical site supervisors and employers as being adequately trained, ethical, and responsive practitioners	satisfaction survey of site supervisorS and employerS	every three years	In Fall, 2002, a survey was conducted with clinical site supervisors and employers of program graduates. Data were collected through the early Spring semester, 2003. A total of 56 surveys were sent, and a "second request" was sent to all who didn't respond. This resulted in 23 surveys returned (41% response rate). The overall mean rating of OSU graduates was 3.9 (5 = far above average; SD = .56, N = 20). The overall mean rating of the quality of our master's program, in comparison to other programs, was 3.95 (SD = .62, N = 19). The full results are available on request.
While in the program, behave professionally and ethically and make timely progress towards degree completion	review of student progress	yearly	47 current students were reviewed in Spring 2002. Of these, 2 were evaluated as making exemplary progress, and 41 were evaluated as making satisfactory progress. Some concerns about progress were found with 4 students, for whom remediation plans were developed by the student and their advisors.

Additional Methods used to evaluate student outcomes:

Method	Timetable	RESULTS
1. Rates of "pass" on LPC Exam	every three years	Between March 2002 and March 2003, 17 OSU graduates took the LPC exam and 16 passed (94% pass rate). Earlier data unavailable.
2. Rates of "pass" on the Certification Exam for Oklahoma Educators (CEOE), specifically, the Oklahoma Subject Area Test (OSAT) in School Counseling.	every three years	Data compiled by the College of Education indicate a 100% pass rate on this exam over the past three years.
3. Successful completion of portfolios (school counseling)	biannually	no portfolios in 2002-03

How Assessment Results will be Integrated into Curriculum Planning and Program Improvement

Most of these assessment results have been shared with program faculty at meetings during spring semester, 2003. Most of these assessment results were shared with our Advisory Committee at our annual meeting with them in April, 2003. The results have been used to identify areas of curricular strength and areas in need of improvement. (For example, we revised our student conduct policy based on these assessment results.). These data are also part of our self-study documentation as we seek accreditation from the Council for Accreditation of Counseling and Related Programs (CACREP).

School of Applied Health and Educational Psychology
Educational Psychology MS Program
 Prepared by Kay S. Bull

Degree Program(s) Assessed	Assessment Methods	Number of Individuals Assessed
MS in Educational Psychology	<ul style="list-style-type: none"> • Faculty evaluation and approval of competency domain portfolios (at end of program in lieu of comprehensive examinations) • Feedback from students on the accomplishment of domain tasks as the tasks are approved by faculty • Determination of rates of program completion • Determination of numbers successfully completing the competency domain portfolios • Determine numbers of students successfully completing thesis, creative component or report. 	<p style="text-align: center;">0</p> <p style="text-align: center;">0</p> <p style="text-align: center;">0</p> <p style="text-align: center;">0</p> <p style="text-align: center;">0</p>

Analysis and Findings:

No students completed the program this year.

Uses of Assessment Results:

Assessment results and portfolio outcomes are used to judge the effectiveness of coursework and field work which shapes the development of graduates. All members of the area evaluate all of the portfolio information and these data are used to modify coursework.

School of Applied Health and Educational Psychology
Educational Psychology, Ph.D. Program
 Prepared by Kay S. Bull

Degree Program(s) Assessed	Assessment Methods	Number of Individuals Assessed
Ph.D. Program in Educational Psychology	• Effective Instruction: Qualifying Experience	3
	• Theoretical Knowledge: Qualifying Experience.	3
	• Inquiry and Research Skills: Qualifying Experiences and Qualifying Products	3
	• Professionalism and Ethical Decision-Making: Qualifying Experiences	3
	• Scholarly Production : Qualifying Products	3
	• Intra/Inter Personal Skills: Qualifying Experiences and Qualifying Products	3
	• Written and Oral Communication Skills: Domain Portfolio and Qualifying Experiences	3
	• Dissertations completed	3
	• Exit Interviews Conducted	3
	• Count Students Graduating	3

Analysis and Findings:

Portfolio data were collected and examined by faculty on students committees. Two students attempted and were passed successfully and asserted that they had learned to competencies which they desired at the beginning of their programs.

Feedback was collect from students informally during the individual reviews of the portfolios and both students were satisfied that they had accomplished the learning needed to meet their program goals.

Exit interviews were conducted by the area coordinator. Students were generally satisfied with their programs and were applying for jobs appropriate with their level of training.

Uses of Assessment Results:

Assessment results and portfolio outcomes are used to judge the effectiveness of coursework, internship experiences, teaching experiences and field work which shapes the development of graduates. No changes were made as the result of this year's assessment

School of Applied Health and Educational Psychology
School Psychology Programs, Ph.D. and Ed.S. programs
 Prepared by Terry A. Stinnett

Degree Program(s) Assessed	Assessment Methods	Number of Individuals Assessed
Ph.D. ,Ed.S.	Annual Program Faculty Evaluation of Student Progress	13, 12
	Plan of Study progress, time to degree	13, 12
	Student self-evaluation	12, 10
	Advisor evaluation	13, 12
	Portfolio Assessment	12, 12
	Grades in program course work	18, 16
	Practicum Logs	12, 8
	Practicum Evaluation Forms	12, 8
	Progress toward internship	2, 2
	Internship Logs and Evaluation Forms	2, 2
	Professional organization memberships	18, 7
	Licensure, certification progress	2, 5
	Research Team Advisor Evaluation	17, 5
	Teaching Assistantship evaluations	10, 2
	Graduate Assistant Evaluation	14, 5
Progress toward Postdoctoral experience/ Employment	2, 1	
Ph.D.	Comprehensive Exam	4, 2
	Dissertation Progress	18
	Research presentations and publications	18

Analysis and Findings:

Student outcomes listed above were used to assess student progress through the program, satisfactory completion of course work, practica and research components of the program. Additionally, professional development in areas such as involvement with organizations, attendance at conferences, and teaching were evaluated. Students performed at an outstanding level, with the majority presenting at national conferences and performing above average in their course work. All of these data sources are additionally reported to our accrediting body, the American Psychological Association. Our annual report to the APA provides additional accountability for our program. The student self-evaluation form is particularly useful to gauge student perspective of their progress and also any suggestions for program modifications.

Uses of Assessment Results:

Annual assessment data are compiled by the program faculty and shared with the students individually by their advisors and by the whole faculty during the annual student evaluation reviews which occur in the fall semester. Students return feedback to the faculty in that meeting. The student group has established a formal School Psychology Graduate Association (SPGO) and there are two SPGO representatives to the faculty. The SPGO representatives attend the biweekly program meetings and express concerns or suggestions for program modification to the faculty in that venue. Feedback from the SPGO has resulted in consideration of curriculum modification in the area of biological bases of behavior, social bases of behavior, and the educational foundations area. Also feedback from the students has resulted in revision and modification of the numerous rating forms with an effort being made to consolidate and simplify the forms (in progress).

Feedback from practicum and internship supervisors has been summarized and used to improve instruction of skill in the area of professional practice. For example this year a shadow practicum was added (EPSY 5210) so that 2nd year students could be exposed to field based experiences earlier in their program.

The school psychology faculty conducted weekly program planning meetings. The various sources of assessment data are considered and program modifications are agreed upon after discussion in the program meetings. SPGO also has two student representatives who attend this meeting to give student input and to take faculty questions back to the student group. This reciprocal flow of information has enhanced program modification. An example was to begin to use the PRAXIS II exam as part of the students' comprehensive exam protocol. The students wanted us to include the PRAXIS exam because they could also use their score on the test for application for the National Certification in School Psychology.

STUDENT OUTCOMES ASSESSMENT SUMMARY TABLE

Assessment Method	# students assessed	Area assessed	Outcome		Summary
			Positive	Needs Improvement	
Annual Program Faculty Eval	25	All	24	1	The school psychology faculty committee met with each student in the fall semester and all performance rating forms were reviewed. The advisor for each student completed a summary form. Only one student was given feedback to improve performance related to dissertation progress. The faculty were satisfied that all students were progressing toward meeting the program objectives.
Plan of Study progress, time to degree	25	All	25		Plans of Study were reviewed by the advisors and all students are meeting the graduate college requirements for timely submission of the POS. All but 3 students are progressing toward a timely completion of the degree. The plans of study all fulfilled the degree requirements and the coursework specified to our national learned societies, APA and NASP
Student self-evaluation	22	All	22	0	Student self-evaluations were reviewed by the school psychology faculty committee during the annual student reviews. Discussion of any modifications in the students' long-range goals occurred. Examples of use of the data included advisement of individual students centered on appropriate internship sites, elective coursework that would match the students' goals and research activity that would facilitate the accomplishment of these dimensions of the students' training.
Advisor evaluation	25	All	25	0	Advisor's evaluations were completed and used in the annual student review process. All students were appropriately advised and are in the correct sequence of training.
Portfolio Assessment	24	All	24	0	The school psychology program portfolio scoring rubric was used to score each students portfolio in the fall semester. Portfolios were presented to the faculty as part of the annual student review and were scored by each student's advisor immediately after the student reviews were completed. Suggestions for improvement are given to each student by the advisor and the portfolios are evaluated yearly to assess the improvements and mastery of program objectives. The rubric allows for scores from 1-5 across each of the program objective areas which are required to be represented in the portfolio with 5 representing superior.
Comprehensive Exam	6	All	6	0	Comprehensive exams were administered to doctoral students by the faculty and were scored as pass or fail. All doctoral students who took the comps passed. The specialist students are now required to take the ETS Praxis II school psychology exam. A passing score of 660 is required for the NCSP credential and this score is the cut point for the program as well. Scores from the exam are now being submitted to the program. To date 4 specialist students have taken the exam the scores have averaged 770.
Grades in program course work	34	All	34	0	Student grade reports are examined each semester by the advisor. No grades below B were obtained by any of the students.

College of Education

Assessment Method	# students assessed	Area assessed	Outcome		Summary
			Positive	Needs Improvement	
Practicum Logs	20	Professional Practice	20	0	Practicum logs were evaluated biweekly by the university practicum supervisor and entered into the practicum experiences database for each student. The practicum field supervisors signed each practicum log verifying the student completed the time and activity indicated on the log. A year end summary of hours and activities was printed for each student. These summaries are included in the student portfolios.
Practicum Evaluation Forms	20	Professional Practice	20	0	Field supervisors submitted practicum evaluations for each student 3 times during the academic year. The evaluation forms use the metric AE – above expectation, PW – progressing well, ES – emerging skill, NI – needs improvement, and NO – no opportunity. All students were rated as progressing well or Above Expectation in all areas.
Progress toward internship	4	Prof Practice, life-long learning	4	0	2 doctoral and 2 specialist students were applying for internship placements. Students were advised toward sites which were a good match for their goals by the advisors in individual meetings and by the faculty committee during the annual student review. 100% of the students who applied were placed in their first or second choice. Doctoral student applied, competed for, and were awarded APA/APPIC internships across the nation.
Internship Logs and Evaluation Forms	4	Professional Practice	4	0	Internship Field supervisors submitted evaluations for each student 3 times during the academic year. The evaluation forms use the metric AE – above expectation, PW – progressing well, ES – emerging skill, NI – needs improvement, and NO – no opportunity. All students were rated as progressing well or Above Expectation in all areas.
Professional organization memberships	25	Professional Identity	25	9	Student membership and activity in state and national school psychology associations was monitored by the faculty committee and reviewed in the annual student evaluation. Nine students were not involved because of financial constraints (they could not afford the membership fees).
Licensure, certification progress	7	Professional Identity /Practice	7	0	Graduates were surveyed with the school psychology program graduate survey. All program graduates were employed as school psychologist in various settings. All were certified school psychologists through the State Department of Education. The doctoral students were obtaining post doctoral supervision to fulfill the criteria for licensure through the Board of Examiners of Psychologists.
Dissertation Progress	18	Research	15	3	All students were assessed for progress on the dissertation during the annual student review. 8 students proposed dissertations in the spring 2003 semester, 1 defended, 6 are in the process of data collection. Three students needed improvement. 1 was inactive; two were not yet ready to propose. Feedback was given to each student by the advisor and by the faculty as a whole in the annual student evaluation meeting.
Research Team Advisor Evaluation	22	Research	22	0	All research team evaluations were reviewed during the annual student evaluation meeting. All students were rated to be Above Expectation or Progressing Well.
Research presentations and publications	18	Research	18	0	See above. Student vitas were in the portfolios. 80% of students on research teams have presented at NASP, APA, OSPA, or the Graduate Student Research Symposium. Those who had not presented or published were preparing submissions.
Teaching Assistantship evaluations	12	Teaching	11	1	Faculty reviewed teaching evaluations at the end of each semester. Only one student had evaluations below 3.0 on the OSU course evaluations. A remedial plan for the student was developed by the faculty teaching supervisor.

Assessment Method	# students assessed	Area assessed	Outcome		Summary
			Positive	Needs Improvement	
Graduate Assistant Evaluation	19	assistantship	18	1	See above cell.
Progress toward Postdoctoral experience/employment	3	Prof identity, specialty area, Practice	3	0	Graduates were surveyed with the school psychology program graduate survey. All program graduates were employed as school psychologist in various settings. All were certified school psychologists through the State Department of Education. The doctoral students were obtaining post doctoral supervision to fulfill the criteria for licensure through the Board of Examiners of Psychologists.

School of Applied Health and Educational Psychology
Health and Human Performance – Athletic Training
 Prepared by Tona Palmer

Degree Program(s) Assessed	Assessment Methods	Number of Individuals Assessed
Athletic Training	1. Student Clinical Education Experience and Portfolio 2. NATABOC Examination	1. 24 2. 7

Analysis and Findings:

1. *Student Clinical Education Experience and Portfolio*

Twenty-four students completed at least two internships during the assessment period. Each student also completed a portfolio as part of the requirements for the clinical experience. Supervisor evaluations indicated students at all levels improved in their ability to develop and apply classroom instruction in a practical setting. Furthermore, the evaluations indicated that most students improved on their communication with patients and other healthcare clinicians, development and administration of therapeutic measures and exhibition of professional demeanor. However, the report also indicated that while improvement was noted in all levels the level one and level two students were still below what is considered effective for their respective level. Faculty and supervisors also observed students' oral and communications skills through their formal evaluations of proficiencies completed during these internships. This process helped determine that students still need more interaction with medical personal and more experience communicating with other allied health care professionals. (Outcomes A, B, C, D, E, F, G)

2. *NATABOC Examination*

Athletic training is improving on preparing students for the NATABOC certification exam, graduating, and placing athletic training students. The 2002 individual school results from the NATABOC exam shows that OSU athletic training student's performance is on the rise. During this testing period seven first time candidates took the exam with three passing all three parts on the first attempt for a 42.86% first time pass rate. This is very close to the national average (43.55%) for curriculum programs and much higher than the 27.31% average of internship candidates. This number is specifically impressive as the seven OSU students taking the exam started as internship students until OSU received accreditation and recognition as an accredited program in July of 2002. While these reports are encouraging, these findings also reported that our students scored below the average curriculum student on the written and written simulation portions of the exam. Based on this knowledge adjustments to testing procedures in all athletic training courses will be made in an attempt to improve these areas of weakness. (Outcomes A, B, C, E, F)

Uses of Assessment Results:

The results from this year's assessment activities were shared with all individuals teaching or supervising in the athletic training education program during a summer workshop. This group used this information to make changes in courses, specifically the addition of new courses in athletic training procedures and general medical conditions based on the feedback from students and scoring on the NATABOC examination. The group also used the results to review the content of each course and made changes as needed to ensure content presented and testing procedures were meeting all objectives of the athletic training education program.

**School of Applied Health and Educational Psychology
Health Promotion**

Prepared by Betty Edgley/Erin Floyd-Bann

Degree Program(s) Assessed	Assessment Methods	Number of Individuals Assessed
Bachelor of Science in Health Promotion	Senior Capstone Course	29/29
	Completion of Internships	27/28
	Internship exit interviews	27/27
	Alumni Survey	16
	Certification Exams	31
	Projects in Program Design	40
	Number of Students Placed in the Field	17/27
	Number of Students Graduating	27

Analysis and Findings:

Students participating in the pre internship experience presented power point presentation to the class regarding potential internship sites. This experience gave the students an opportunity to research a variety of internship sites both in and out of state. Students also developed portfolio's that included such areas as philosophies, professional goals, and mock interviews that later will be expanded in their internship experience.

Twenty seven of twenty eight students successfully completed a 520 hour internship with at least a passing grade of 80%. Fourteen of the 27 students chose internships out of state, while 13 stayed in Oklahoma for this experience. Students returned back to campus for an exit interview, an oral presentation, submitted the completed portfolio which included an assessment of the site, and completed an assessment survey regarding the health promotion program. This experience afforded them an opportunity to work as a health promotion professional for a period of approximately 13 weeks.

All twenty seven students successfully completing the internship experience participated in an exit interview with the health promotion faculty. Students discussed both the positive aspects of the program and those areas that they felt needed some improvement. Students felt that they were well prepared for the internship and the learning goals were helpful in giving them direction throughout the internship experience. Redundancy in several courses was cited as a concern and students needed more hands on experience in laboratory skills such as body fat and blood pressure measures.

The results of the 2002 alumni survey stressed the importance and need for students gaining certifications in the health field. These certifications would enhance student's opportunities for future employment. The addition of a sports nutrition class was also cited as a need in the program.

Certification exams (CPR and First Aid) are required for the internship in health promotion so all 27 students received both of these certifications. In addition four students participated in the ACSM Health and Fitness Instructor workshop and sat for the certification exam. Results of this exam are pending. Certifications are an important aspect of the health promotion field and students are encouraged to gain certifications in areas such as American College of Sports Medicine, Certified Health Education Specialist, National Strength and Conditioning Association and American Council on Exercise.

Information gathered from the groups in informal discussions, as well as the formal instructor evaluations indicated the need for increasing opportunities for such projects in order to provide practical applications for classroom learning. Such projects will be implemented for the next year.

The number of students gaining employment in the health field included seventeen students. Four students have been or in the process of being accepted into a health professional school and four are in graduate school. Two students are employed in an unrelated field.

The number of students graduating this past year was twenty seven. Enrollment continues to remain stable. We are in the process of establishing an undergraduate health promotion program in Tulsa-OSU. Currently there are four HHP majors in OSU-Tulsa and approximately fourteen students that are completing prerequisites at Tulsa Community College. As of August we will have a full time faculty at OSU-Tulsa working in the area of health promotion.

Application of Assessment Results:

As a result of researching potential internship sites, students are able to discern excellent, good and poor sites. They have more insight for out of state and in state possibilities for internships and future employment. The portfolios have been helpful in expanding the students understanding of the internship and eventually a framework for developing a job portfolio.

The completing of the intern process has allowed the student an invaluable opportunity to see first hand the duties and responsibilities of a health related setting. Students may decide that is not the setting that they prefer and look into further possibilities, however many of the interns have secured jobs at the site of their internship. Next year students will display internship posters related to their internship experience in a public forum so students and faculty can become more knowledgeable regarding the field of health promotion.

As a result of the feedback gleaned from the exit exams, the health promotion faculty addressed the issue of course redundancy and revised both the HHP 4503 course and the HHP 4533 course to better meet the needs of the students. Also the NSCI Sports nutrition class will be available as an option nutrition course. Assessment results will be shared with faculty on a regular basis during regularly scheduled faculty meetings.

One of the suggestions cited in the alumni survey was to modernize the laboratory and physiology equipment. A large amount of equipment has been purchased for the new physiology lab that will be completed in May 2004. A physiology lab and new equipment will be available at OSU-Tulsa in fall of 2003.

Certification exams will continue to be stressed in the health promotion curriculum. The results of the exams will be assessed to analyze areas that demonstrate both strong and weak skills.

Information gathered from the groups informal discussions, as well as the formal instructor evaluation, indicated the need for increasing opportunities for small group projects in order to provide practical applications for classroom learning. Such projects will be implemented for the next year.

The job database will continue to be updated to better inform students of job opportunities. The alumni health promotion student list has been updated and revised to better track our former students.

Faculty will continue to provide the knowledge, skills and guidance to health promotion students so they will be prepared to successfully graduate, pursue jobs in health promotion, and attend graduate school or professional school.

School of Applied Health and Educational Psychology
Physical Education
 Prepared by Dr.Sarah Price

Degree Program(s) Assessed	Assessment Methods	Number of Individuals Assessed
Bachelor of Science in Physical Education	Portfolio Submission I	20
	Portfolio Submission II	15
	Portfolio Submission III	11
	Professional Exams	34+
	Physical Education Exit Interviews	14
	NASPE/NCATE	Program Assessment Every Five Years (all students) approximately 100 students directly or indirectly assessed with program
	College of Education Assessment of Portfolio	46 (three different levels)

Analysis and Findings:

Portfolio:

Submission I Nineteen of twenty students are meeting desired outcomes and are beginning to become professionally active in the discipline. Students are developing a philosophy of professionalism in physical education and demonstrating behaviors that model an understanding of desired outcomes. In the event that desired outcomes are not being accomplished students are counseled and appropriate remedial recommendations are required.

Submission II Submitted during the semester of student teaching, prior to initial field experience. During the second step in the sequence of this development model students (15 of 15) are meeting desired outcomes. **When students are not meeting desired outcomes they are counseled and appropriate remedial assignments are required as needed. Students who have not completed submission II are not permitted to begin student teaching.** While maintaining and expanding on outcomes addressed in portfolio submission I, students are successfully developing an understanding of curriculum and integration processes. With supervision, students are able to conduct self-critiques and make modifications as needed. Students are demonstrating an understanding of core concepts as developed in the College of Education Professional Education Unit.

Submission III Submission III is the cumulating experience of the degree requirements for a B.S in physical education/recommendation for licensure. Submission III is following the completion of student teaching. While maintaining and expanding on outcomes addressed in portfolio submission I and II, students are successfully developing an understanding of curriculum and integration processes and applying combined competencies in a supervised teaching situation at the elementary and secondary level. By the completion of submission III, students are required to demonstrate an understanding of each of the outcomes listed above and meet all competencies as required by local, state and national accrediting entities (NASPE/NCATE). During the third and final step in the portfolio sequence 11/15 met the desired outcomes. Based on results from submission III students are recommended for licensure in physical education/health/safety.

Professional Exams:

Professional Exams including Oklahoma General Education Test, Pre-Professional Skills Tests, Oklahoma Subject Area Test, and Oklahoma Professional Teaching Examination. Overall physical education majors are passing standardized exams with above 100% pass rate. When physical education institutional means for subject area test compared with statewide means, Oklahoma State University physical education majors are above the statewide mean in 21/21 sub-areas. Students are maintaining 100% pass rate.

Exit Interview:

Physical education exit interview following student teaching written & oral – program changes are implemented as needed based on feedback from students. Curriculum changes are under investigation as a partial result of the exit interviews

NASPE/NCATE Accreditation:

National Council for Accreditation on Teacher Education (NCATE) reviews teacher preparation programs at Oklahoma State University every five years. NCATE's learned society—national Association of Sport and Physical Education (NASPE) provides competencies that must be clearly addressed within the degreed program. NASPE/AAHPERD folio is provided for assessment. A copy of the portfolio is kept in the program coordinator's office.

College of Education Portfolio Assessment:

Following student teaching the COE Portfolio Specialist administers a Portfolio Assessment Survey to professional education majors who have completed the portfolio requirement (not administered due to College modification Spring 2003)

Uses of Assessment Results:

Portfolio Submissions I, II, III – Information in portfolio **Submission I** is used to begin tracking student progress through the physical education degree option. Specific content is evaluated (goals, transcript, GPA, philosophy, initial field experience, interview...) for student to become fully admitted into the teacher education program.

Submission II is a continuation of the sequence used to monitor student's progress. Information is used to critique individual understanding of core concepts as developed in the College of Education Professional Education Unit. Assessment results are also used as a check point prior to students being allowed to begin student teaching. Students must demonstrate acceptable competence in their understanding and development in the following areas: Professional development, life-long learning, diversity, and professionalism.

Submission III assessment is used as the cumulating experience of the degree requirements for a B.S in physical education. By the completion of submission III, student's ability to demonstrate an understanding of each of the outcomes listed above and meets all competencies as required by local, state and national accrediting entities (NASPE/NCATE) are assessed. Based on results from submission III students are recommended for licensure in physical education/health/safety.

Professional Exams:

Professional exams are used as formal assessment tools utilized to assess student's competency in general education and physical education. Results are used for licensure and certification in physical education.

Exit Interview:

Physical education exit interviews are following student teaching and before graduation. Results are used to assess student overall opinion of the program, identify strengths and weaknesses in the program and make the necessary curriculum and other changes to improve the physical education program.

NASPE/NCATE Accreditation:

Accreditation results are utilized to strengthen the program and maintain sufficient rigor to maintain compatibility as compared with similar institutions.

College of Education Portfolio Assessment:

Results used by COE to monitor student opinion and strengthen the unit,

School of Applied Health and Educational Psychology
Health and Human Performance Program
 Prepared by Dr. Steve Edwards

Degree Program(s) Assessed	Assessment Methods	Number of Individuals Assessed
M.S. in Health and Human Performance	Retention and Graduation – 70% of all students admitted to the degree program will complete the degree. (Student status within the program will be entered into an ongoing assessment database)	57

Analysis and Findings:

The database from the College of Education graduate records office was used to gather entrance data for the M.S. students in HHP. Therefore, the actual data set used in the analysis here included students whose data appeared on the COE graduate database.

Total Number Admitted	57	Percent of Total Admitted
Total Number Active	21	37%
Total Number Graduated	17	30%
Total Admitted/Never Enrolled	3	5%
<i>Total Expected to Graduate</i>	<i>41</i>	<i>72%</i>

Uses of Assessment Results:

All faculty in the Health and Human Performance have been given a full and complete copy of the assessment report. These data have been used to help faculty schedule courses which will continue to allow M.S. students to graduate in a timely manner.

**School of Applied Health and Educational Psychology
Leisure Studies**

Prepared by Lowell Caneday

Degree Program(s) Assessed	Assessment Methods	Number of Individuals Assessed
<ul style="list-style-type: none"> • Bachelor of Science in Leisure Studies • Master of Science in HPER (emphasis in Leisure Studies) • Doctor of Education in Educational Studies (emphasis in Leisure Studies) 	<ul style="list-style-type: none"> • Number of students graduated • Number of students placed in the field • Number of students who passed national certification exams • Comparison of certification exam scores with regional and national data • Accreditation review • Departmental goals and objectives 	<ul style="list-style-type: none"> • 19 undergraduates: 8 in Leisure Service Management; 11 in Therapeutic Recreation • 4 Master of Science graduates • 2 Doctoral graduates

Analysis and Findings:

Undergraduate – Bachelor of Science

Outcome	Measurement	Finding
1. Employment of baccalaureate graduates.	<ul style="list-style-type: none"> • Graduates who desire employment in their respective fields can find a position within a reasonable time. • Seventy five percent of all students completing a Leisure Studies degree will find employment appropriate to their degree within the State of Oklahoma. 	<ul style="list-style-type: none"> ➤ All graduates are employed. Two graduates are in "related fields." One graduate is pursuing a graduate degree. ➤ 15 of the 19 graduates (80%) have found employment in Oklahoma.
2. Competencies gained by students in the baccalaureate program are in compliance with expectations in the profession.	<ul style="list-style-type: none"> • External review of preparation provided by the program through the Internship experience. • Ninety percent of all students completing a Leisure Studies degree will be rated excellent or above average by their respective internship supervisors. 	<ul style="list-style-type: none"> ➤ All graduates were rated above average or excellent on the overall evaluation by their respective internship supervisors.
3. Curriculum, faculty, students, support resources, and other aspects of the baccalaureate program are in compliance with peer practices and standards.	<ul style="list-style-type: none"> • Five-year accreditation review by the National Recreation and Park Association and the American Association for Leisure and Recreation. • Oklahoma State University will maintain accreditation under NRPA/AALR. 	<ul style="list-style-type: none"> ➤ In October 2000, NRPA/AALR granted continuing accreditation through 2005. ➤ The program has maintained annual filing of necessary forms.
4. Retention rate and graduation rate.	<ul style="list-style-type: none"> • Seventy five percent of all students declaring a Leisure Studies major will complete the degree. 	<ul style="list-style-type: none"> ➤ Current retention of declared majors to graduation is 93%.
5. Knowledge of, understanding of and ability to apply professional competencies.	<ul style="list-style-type: none"> • Professional certification examinations. • All graduates completing degrees in Leisure Studies will meet sitting requirements for the appropriate certification examinations. Further, ninety percent of all students completing a Leisure Studies degree will successfully complete (pass) their national certification examination on the first attempt. 	<ul style="list-style-type: none"> ➤ One graduate took and passed the CPRP exam. No report on TR students and the NCTRC exam. ➤ All graduates from the program meet sitting requirements for the respective certification examinations.

Uses of Assessment Results:

- Curricular changes were made during 2001 – 2002 and monitored during the past year.
- An “outdoor certificate” program was developed in conjunction with the COE Extension Office and Outdoor Adventure.
- Procedural changes in approval of internship sites have been implemented.
- All faculty meet weekly to discuss issues related to the program and assessment of the program. Information is shared among the faculty at those meetings.

Graduate – Master of Science and Doctoral Degrees

Outcome	Measurement	Finding
1. Knowledge and competency specified for a graduate from an NRPA/AALR accredited undergraduate program.	<ul style="list-style-type: none"> • Admission criterion based on alma mater and major with prerequisite courses for those students not meeting the expectation. 	➤ “Leveling” courses are necessary on individual plans of study since most applicants present other UG degrees.
2. Knowledge and credentials appropriate to the student’s interest and professional aspirations.	<ul style="list-style-type: none"> • NCTRC and CLP examinations, student resume or portfolio. 	➤ Individualized plans of study. No national examination results.
3. Masters level – Ability to integrate knowledge of Leisure Studies with another supporting discipline.	<ul style="list-style-type: none"> • Individual courses on plan of study and comprehensive examination. 	➤ One student failed repeated attempts on the written, comprehensive examination.
4. Masters level – Foundational knowledge of research design, methodology, analysis and application.	<ul style="list-style-type: none"> • Comprehensive examination (creative component) and research project (thesis). 	➤ Two students successfully completed theses. One thesis recognized for award by Group V Graduate faculty.
5. Masters level – Ability to design and implement research through replication of methodologies in the profession or through original research.	<ul style="list-style-type: none"> • Creative component or thesis. 	➤ Two students successfully completed theses. One thesis recognized for award by Group V Graduate faculty.
6. Doctoral level – Ability to integrate and disseminate an understanding of Leisure Studies and a supporting discipline.	<ul style="list-style-type: none"> • Comprehensive examination, publication and presentation in professional settings, teaching and seminars. 	➤ Three students have completed comprehensive examinations. Several have made presentations or taught courses.
7. Doctoral level – Competence in multiple research designs and methodologies with ability to analyze and interpret research disseminated in the profession.	<ul style="list-style-type: none"> • Comprehensive examination and research projects, including dissertation. 	➤ Two students presented at the Graduate College Research Symposium. Three students have defended dissertations. Two have completed colloquy.
8. Doctoral level – Ability to design and implement original research adding to professional knowledge and to disseminate that knowledge.	<ul style="list-style-type: none"> • Dissertation, research symposium, seminars, presentation and publication in professional settings. 	➤ In addition to the above, students in the program have presented papers at state and national meetings.
9. Doctoral level – Ability to design, develop and deliver course content in an academic setting.	<ul style="list-style-type: none"> • Teaching experiences, symposia and seminars. 	➤ One graduate is presently employed as a university faculty member. The other teaches and manages a university student service program.
10. Professional membership and activity appropriate to individual career goals.	<ul style="list-style-type: none"> • Student resume or portfolio. 	➤ All graduate students are members of professional organizations. Fourteen graduate students attended national professional meetings during the year.

Master of Science – Health, Physical Education and Leisure

- Assessment efforts in recent years led to the decision to discontinue this degree. The degree title and “generalist” nature of the degree did not meet professional expectations for graduates. The last students admitted to the program are matriculating to graduation.

Master of Science – Leisure Studies

- No graduates to assess. This is a new degree program.

Doctor of Education – Applied Educational Studies

- Assessment efforts in recent years led to the decision to discontinue this degree. The Doctor of Education degree and nondescript title did not meet the professional and academic needs of graduates. The last students admitted to the program are matriculating to graduation.

Doctor of Philosophy – Health, Leisure and Human Performance

- No graduates to assess. This is a new degree program.

Doctor of Philosophy – Environmental Science

- This program is assessed fully through the Graduate College as an interdisciplinary degree program.
- One student working with a major advisor in Leisure Studies graduated in fall 2002.

Uses of Assessment Results:

- Curricular changes were made during 2001 – 2002 and monitored during the past year.
- All faculty meet weekly to discuss issues related to the program and assessment of the program. Information is shared among the faculty at those meetings.

Analysis and Findings:**Bachelor of Science in Elementary, Secondary, and Technical and Industrial Education**

- (1) Performance on certification examinations for Oklahoma educators (Note: Each student may take more than one test and/or sub-areas of tests.) Tests measured pass rates of students during the July 2002 data through May 2003 period are reported.

The Oklahoma General Education Test (OGET) evaluates a) critical thinking skills in reading, communications, mathematics, writing; b) computation skills; c) liberal studies: science, art, and literature. The pass rate for OSU students (N=417) was 85%. The statewide pass rate was 79%.

The Oklahoma Subject Area Test (OSAT) evaluates content area competency of potential teachers for initial certification in elementary education, art education, foreign language education, English education, mathematics education, social studies education, and science education. The OSU pass and fail rates are as follows:

	<u>% OSU Pass Rate</u>	<u>% State Pass Rate</u>
Elementary Education (N=215)	95%	93%
Art (N=3)	100%	94%
Foreign Language (N=7)	86%	74%
English (N=39)	99%	89%
Mathematics (N=11)	82%	71%
Social Studies (N=35)	97%	82%
Science (N=43)	86%	74%
Psych/Soc (N=1)	100%	48%
Speech/Drama (N=1)	100%	88%

The OPTE (Oklahoma Professional Teaching Examination) evaluates each candidate's pedagogical knowledge.

	<u>% OSU Pass Rate</u>	<u>% State Pass Rate</u>
PK-8 (N=157)	97%	86%
6-12 (N=144)	93%	94%

The scores for OSU students on the OGET and OSAT exceeded the statewide average in each area. On the OPTE, students' performance exceeded the state average for PK-8 pre-service teachers and was within one percentage point of the state average for 6-12 pre-service teachers.

- (2) Performance on professional education portfolios

Students must demonstrate competencies related to the four core concepts of the OSU teacher preparation program (understanding of integration, diversity, professionalism, and lifelong learning) as well as the 16 Oklahoma General Competencies for Teachers. Each program requires an initial submission (Submission I), a pre-student teaching submission (Submission II), and a submission at the time of program completion (Submission III). Faculty and external reviewers, who were trained public school personnel, evaluated portfolios. Below, a summary of evaluations of Submission I for Spring 2003 is based on a scale as follows: 3=exceeds expectations, 2=meets expectations, and 1=needs improvement. Submission I requires students to write a philosophy of education essay and goals essay which discuss students' individualized ideas about their future teaching. Submission II and Submission III are also listed, and the same evaluative scale was utilized.

Elementary (N=67); Submission I	Percentage of Students By Scores		
Overall portfolio=2.41;	3-43%	2-55%	1-2%
Philosophy essay=2.15;	3-19%	2-78%	1-3%
Goals essay=2.27;	3-30%	2-69%	1-1%

Elementary (N=64); Submission II

Overall portfolio=2.75;	3-64%	2-34%	1-2%
Integration essay=2.33;	3-50%	2-36%	1-14%
Professionalism essay=2.29;	3-42%	2-41%	1-17%
Life-long Learning essay=2.29;	3-44%	2-38%	1-18%
Integration artifact=2.43;	3-47%	2-42%	1-11%
Diversity artifact=2.56;	3-53%	2-41%	1-6%
Professionalism artifact=2.42;	3-42%	2-52%	1-6%
Life-long artifact=2.38;	3-42%	2-48%	1-10%

Elementary (N=66); Submission III**(Note: See Appendix A for list of competencies, A-O.)**

Second philosophy=2.33;	3-23%	2-59%	1-18%
Artifact A=2.13;	3-39%	2-61%	1-0%
Artifact B=2.17;	3-26%	2-74%	1-0%
Artifact C=2.00;	3-41%	2-59%	1-0%
Artifact D=2.06;	3-39%	2-61%	1-0%
Artifact E=2.12;	3-33%	2-67%	1-0%
Artifact F=2.23;	3-21%	2-77%	1-2%
Artifact G=2.03;	3-6%	2-85%	1-9%
Artifact H=2.07;	3-6%	2-89%	1-5%
Artifact I=2.18;	3-21%	2-76%	1-3%
Artifact J=2.39;	3-39%	2-61%	1-0%
Artifact K=1.97;	3-2%	2-92%	1-6%
Artifact L=2.35;	3-35%	2-65%	1-0%
Artifact M=2.06;	3-6%	2-94%	1-0%
Artifact N=2.23;	3-24%	2-74%	1-2%
Artifact O=1.95;	3-3%	2-89%	1-8%

Secondary (N=38); Submission I

Overall Portfolio=2.65;	3-61%	2-39%	1-0%
Philosophy essay=1.56;	3-5%	2-63%	1-32%
Goals essay=1.78;	3-5%	2-74%	1-21%

Secondary (N=90); Submission II

Overall portfolio=2.33;	3-34%	2-61%	1-5%
Integration essay=2.13;	3-23%	2-61%	1-16%
Diversity essay=2.17;	3-24%	2-63%	1-12%
Professionalism essay=2;	3-19%	2-63%	1-18%
Life-long Learning essay=2.06;	3-28%	2-51%	1-21%
Integration artifact=2.12;	3-21%	2-63%	1-16%
Diversity artifact=2.23;	3-31%	2-53%	1-16%
Professionalism artifact=2.03;	3-18%	2-68%	1-14%
Life-long artifact=2.07;	3-20%	2-64%	1-16%

Secondary (N=84); Submission III**(Note: See Appendix A for list of competencies, A-O.)**

Second philosophy=2.13;	3-23%	2-68%	1-9%
Artifact A=2.36;	3-37%	2-62%	1-1%
Artifact B=2.23;	3-25%	2-61%	1-14%
Artifact C=2.30;	3-33%	2-63%	1-4%
Artifact D=2.32;	3-32%	2-68%	1-0%
Artifact E=2.29;	3-30%	2-69%	1-1%
Artifact F=2.12;	3-14%	2-83%	1-3%
Artifact G=2.07;	3-13%	2-81%	1-6%
Artifact H=2.06;	3-13%	2-80%	1-7%
Artifact I=2.23;	3-26%	2-70%	1-4%
Artifact J=2.17;	3-20%	2-76%	1-4%
Artifact K=2.06;	3-10%	2-87%	1-3%
Artifact L=2.26;	3-26%	2-74%	1-0%
Artifact M=2.06;	3-8%	2-89%	1-3%
Artifact N=2.12;	3-13%	2-86%	1-1%
Artifact O=2.00;	3-6%	2-88%	1-6%

Student achievement of program outcomes was clearly demonstrated in this review of comprehensive portfolios of program completers.

(3) Student assessment of professional education

A survey of 55 program completers evaluated various elements of their programs. Results of the survey included:

Eighty-seven percent of the respondents rated their specialty preparation as fairly well-prepared to exceptionally well-prepared. Thirteen percent rated their preparation as not very well or poor.

Ninety-eight percent of respondents rated their knowledge and understanding of subject matter as fairly well prepared to exceptionally well- prepared.

Respondents positively rated their programs on all survey items. According to this survey, areas of program strengths included a) using hands-on, experiential learning, b) understanding biases and attitudes, c) openness to new ideas, d) understanding how students learn, e) encouraging students' social skills and responsibilities, f) knowledge of current school and societal issues. Areas that received relatively less positive ratings included identification and instruction of children with special needs, instruction of children from different cultural and linguistic backgrounds, discipline techniques, and utilization of community resources.

Overall, the results of the survey indicate that students assessed their learning within professional education programs as significant in preparing them to enter the teaching profession although several areas of competence need to be better addressed in programs according to these students.

(4) Performance of student teachers evaluated by cooperating teachers and university supervisors

Using a scale of 1 (lowest) and 5 (highest), cooperating teachers (N=74) and university supervisors (N=74) at the **elementary level** assessed the competence of OSU student teachers as follows. This value represents the cooperating teacher and university supervisor's combined assessment.

Understanding content	AVG.
Demonstrates broad knowledge in liberal arts and sciences	4.52
Demonstrates in-depth knowledge in content areas	4.52
Uses variety of appropriate teaching/problem-solving strategies	4.63
Incorporates guidelines and standards in teaching	4.66
Demonstrates an understanding of legal and ethical aspects of teaching	4.71

Curricular connections	
Integrates subject matter across content areas	4.68
Uses materials, resources, and technology for best practices	4.68
Varies knowledge construction through developmentally appropriate experiences	4.64
Organization and management	
Uses best practices related to motivation and behavior	4.68
Exhibits an ability to foster active inquiry, collaboration, and supportive interaction	4.75
Practices appropriate classroom management behaviors	4.57
Plans for opportunities to organize and manage varied learning groups	4.52
Understanding child development and individual differences	
Recognizes stages of human development and learning	4.59
Provides learning opportunities that are developmentally appropriate	4.77
Plans learning opportunities that allow for individual differences	4.55
Interactions with others	
Communicates effectively in written form	4.8
Communicates effectively in oral form	4.75
Interacts positively with families, administrators, and others	4.79
Exhibits collegiality with other teachers	4.8
Meaningful assessment	
Designs/selects assessment appropriate to the development	4.64
Interprets and communicates assessment results ethically	4.73
Integrates information from assessments into instruction	4.63
Diversity issues	
Uses appropriate practices in working with special needs students	4.71
Exhibits an ability to identify the diversity in the classroom	4.79
Seeks out and creates diverse curriculum	4.66
Professionalism	
Evaluates effects of his/her choices and actions on others	4.73
Fosters positive interaction with colleagues, families, and others	4.8
Encourages students to be life-long learners	4.86

Using a scale of 1.0 as the lowest and 4.0 as the highest, (N=54) the **secondary level** assessed the competence of OSU student teachers as follows. This value represents the cooperating teacher's rating. Note that the scores represent Spring 2002; the spring semester is designated as the student teaching semester for secondary students.

Professional dispositions	AVG.
Shows initiative	3.57
Demonstrates genuine concern	3.72
Interacts professionally	3.63
Develops rapport	3.61
Communicates value and relevance	3.54
Uses clear grading pattern	3.54
Works effectively as team member	3.54
Attends in-service and other meetings	3.46
Confers with teacher	3.5
Expresses self using correct grammar	3.41
Shows evidence of personal organization	3.56
Maintains ethical standards	3.72
Diversity	
Encourages mutual respect	3.70
Understands individual difference	3.56
Helps students understand similarities and differences	3.48
Selects appropriate activities	3.52
Provides proper modifications	3.57
Uses variety of assessment strategies	3.61

Integration of knowledge, skills, and pedagogy

Plans instruction on goals	3.52
Uses long and short term goals	3.52
Uses experiences to make learning meaningful	3.54
Provides collaborative activities	3.52
Provides a variety of instructional techniques	3.39
Uses current education theories/practices	3.52
Varies activities/methods	3.48
Uses best practices	3.44
Fosters inquiry and active engagement	3.52
Stays knowledgeable on current information	3.54
Uses assessment to guide instruction	3.39
Uses various assessment techniques	3.44
Uses self-reflection	3.69

As indicated by data gathered from the individuals who monitor and evaluate the student teaching internship, OSU students in STCL programs demonstrate a high degree of competence in all areas of evaluation.

(5) Performance during first year of teaching

The state of Oklahoma supports a residency program for first-year teachers. Each first-year teacher's committee must include a higher education committee member who attends three committee meetings and completes at least three observations that focus on the resident teachers' abilities in the areas of human relations, teaching and assessment, classroom management, and professionalism. During 2002-2003, OSU faculty served on 252 residency year committees of OSU graduates in over 90 school districts. Ninety-nine percent of OSU entry year teachers successfully met the criteria. One percent (two teachers) was recommended for a second year in the residency program.

(6) Assessment of recently hired graduates by principals

A telephone survey of five administrators representing three area school districts was conducted to determine how well recently-hired OSU graduates have demonstrated the program and state's 16 General Competencies. (See appendix.) All rated OSU graduates as well prepared and generally gave high ratings on each of the general competencies. Areas for improvement of new teachers entering the profession included legal rights and responsibilities of teachers, students, and the community as well as including career knowledge within the curriculum.

This feedback, based on the perceptions of employers of our students, corroborates information presented elsewhere in this section that indicates a high degree of competence by graduates in STCL degree programs.

Master of Science in Teaching, Learning, and Leadership**(1) Performance on state certification examination (OSAT) for Oklahoma educators**

Students who want to qualify for reading specialist or special education certification must pass the Oklahoma Subject Area Test. Students performed as follows:

Reading Specialist (N = 12)

%OSU Pass Rate	%State Pass Rate
100%	100%

Special Education (N=12)

% OSU Pass Rate	% State Pass Rate
50%	61%

Students in the reading specialist program performed extremely well while those students in the special education program performed eleven percentage points below the state average.

(2) Performance on comprehensive examinations

Comprehensive examinations assess a students' knowledge about fields of specialization and professional education. It requires a synthesis of thinking and proficiency in communication skills.

During the academic year 2002-2003, fifty-nine students passed the comprehensive examinations and one failed. The one student who failed later took the test and passed.

These results demonstrated end-of-program competencies in each of their respective specialty areas.

(3) Student assessment of graduate program preparation

Upon completion of their programs of study, fall and spring master's students in STCL (N=57) evaluated the outcomes of the program. The results are listed below.

Ninety-five percent of respondents agreed or strongly agreed that the program improved their general level of education.

Eighty-eight percent agreed or strongly agreed that the program was effective in improving the skills needed for a professional career.

Ninety-five percent rated their programs and classes as strong or very strong, and ninety-five percent rated STCL classes and its professors as strong or very strong.

(4) Performance on theses or creative component project

The purpose of a thesis or creative component is to demonstrate competence in the field by completing original research or project. During the academic year under review, master's students in STCL successfully completed 45 theses or creative components.

Doctor of Philosophy in Education

Note: The Ph.D. program has three options: 1) Professional Education, 2) Occupational Studies, and 3) Curriculum and Social Foundations. Given that the third option spans two schools, this program area compiles a separate assessment report. In addition, most students discussed in this report are Ed.D. students because the Ph.D. option has been available only since last fall.

(1) Performance on qualifying examinations

Qualifying examinations are designed to present a rigorous and thorough examination of a doctoral student's progress. During the academic year under review, eleven students successfully completed qualifying examinations.

(2) Student assessment of graduate program

Upon completion of their programs, fall and spring doctoral students in STCL were invited to evaluate the outcomes of the program. The survey results (N=3) are as follows:

All agreed that the program improved their general level of education, and one strongly disagreed with this statement.

All agreed that the program was effective in improving the skills needed for a professional career, and one strongly disagreed with this statement.

All students highly rated classes and professors in SCTL.

In addition, a focus group interview was held with three doctoral students at the conclusion of their programs to ascertain competencies gained from their programs as well as to understand aspects of the program that could be strengthened to provide additional competencies. Competencies gained from STCL doctoral programs included: knowledge of strategic planning, understanding and using research methodologies, ability to evaluate multiple perspectives, and improved writing skills. The students considered the following as areas to be addressed: more information about the process of the doctoral program, increased structures in the program to facilitate peer and faculty support, and more emphasis on working with different cultures.

(3) Dissertations completed

Each dissertation should demonstrate the ability to conduct original research and special expertise in the field of study. During the academic year under review, eleven dissertations were successfully completed by doctoral students in STCL.

Uses of Assessment Results:

The assessment report was disseminated and discussed at a STCL program coordinators' meeting in the Fall 2002 semester. Program coordinators then met with area faculty to discuss specific information contained in the report. From these activities, the following changes were made:

1. When the assessment report was circulated, several program coordinators were not aware of their students' performance on state examinations. Therefore, an immediate change was made to initiate a clear process of sharing results of the examinations with faculty. Once this process was in place, program coordinators have more meaningfully used the results with their program area faculty and advisory committees. They also found some errors in the state-reported data.
2. This year, each certification area chair began compiling assessment data for accreditation reports that are due February 2004. Each of the 12 STCL certification programs must meet their respective specialty association's standards at the state and national levels. Test reports from the OGET, OPTE, and OSAT were used by program faculty to evaluate specific areas in which student learning can be strengthened. In addition, the use of other assessment report data, especially portfolio data, has been used in making modifications in some programs. Examples of modifications include the following:

Secondary-level student teacher observation forms were modified to better focus on evaluating competencies of pre-service teachers. These changes will support secondary programs' ability to demonstrate if standards are met.

Special Education faculty members are working to significantly revise their program including improved connections to other program areas in the college to strengthen certain areas of their program.

Elementary Education is developing a significant component in their program to offer students advanced preparation in working with diverse populations.

English Education made significant changes to its degree program in order to enhance students' content knowledge and writing skills.

Reading Education developed rubrics to evaluate student work for each certification course.

3. The portfolio process at the undergraduate and graduate levels continues to be revised to better integrate portfolio requirements in coursework, that is, students better understand how to use artifacts developed in classes and field experiences in the development of the portfolio. Further,

programs are meeting aspects of accreditation requirements by the use of external portfolio reviewers.

4. In response to concerns expressed by graduate students, the School will have a Graduate Student Handbook available by Fall 2003.
5. In order to address core goals for two, common master's courses (Curriculum Issues and Educational Advocacy and Leadership), faculty who teach those courses presented at a faculty meeting to review their syllabi including course objectives, content, and evaluation. A common understanding about core courses will underpin use of comprehensive examinations as an effective student assessment tool.
6. A focus-group exit interview was initiated with doctoral students in order to gain more information from students about the program.
7. To improve our abilities in assessing students' knowledge, skills, and disposition, a unit-wide assessment system is being developed. This system will significantly enhance our abilities to evaluate student competencies in all certification areas.

**School of Educational Studies
Aviation and Space**

Prepared by Steven K. Marks And Susannah Lyon

The following table shows the assessment methods used and numbers of individuals assessed for the degree programs in Aviation and Space.

Degree Program(s) Assessed	Assessment Methods	Number of Individuals Assessed	
Aviation and Space I. BS II. MS III. Ed.D.	I. The BS is assessed by graduation checks.	BS	72
	II. The MS is assessed by the faculty reviewing the creative component.	MS	6
	III. The Ed.D. is assessed by looking at the comprehensive examinations and reviewing the responses of the students. Each student is given eight questions to answer over a two-day period.	Ed.D.	5

Analysis and Findings:

The following information demonstrates a breakdown of students in the various aviation degree options. This information was useful in determining the need or for more Aviation Management classes because of the high number of students graduating with this option.

Bachelor of Science in Aviation Science Degree

	Professional Pilot	Aviation Management	Technical Services	Total
Male	21	45	6	72

A total of 72 BS degrees were used for spring, summer and fall 2002 data.

MS - All MS students defended their creative components. Students demonstrated proficiency in their research design and objectives. The committee members for all students accepted the creative components.

Ed.D. - All the students passed the comprehensive examinations. No students had to rewrite questions.

Uses of Assessment Results:

A review of the needs of the aviation industry, recent Aviation graduates, advancements in technology, and program objectives demonstrated the need for changes in course curriculum. The following chart shows proposed revision for Aviation Education curriculum.

BS/MS - Aviation Education Curriculum

New Courses:	Courses Deleted:	Course Title Changes:
AVED 2513 Aviation Career Planning & Development AVED 3453 Aviation Security AVED 3433 Aviation Ethics AVED 3543 Aviation Organizational Communications (replaces BCOMM 3233) *AVED 4353 Cockpit Automation AVED 4663 Aviation Leadership *AVED 4963 Airport Design	AVED 1503 History of Manned Space Flight AVED 2203 Impact of Aviation and Space Exploration on Society AVED 2633 Air Traffic Control and the National Airspace System AVED 3441 Aerobatic Flight Lab AVED 3553 General Aviation Management (Combined with *AVED 4953 Corporate Aviation Management) New Title: *AVED 4953 Corporate and General Aviation Management *AVED 4213 Trends & Issues in Aviation Replaced by *AVED 4653 International Aviation Issues	*AVED 3443 Aviation Law to *AVED 3443 Aviation Legal & Regulatory Issues AVED 3513 Aviation Management to AVED 3513 Aviation Management Principles *AVED 3663 Air Transportation: The Industry to *AVED 3663 Air Carrier Industry Course Title & Content Changes: *AVED 4953 Corporate Aviation Management to *AVED 4953 Corporate & General Aviation Management (<i>Combines AVED 3553 General Aviation Management with AVED 4953 Corporate Aviation Management</i>) *Approved for Graduate Credit

MS - Creative Components need to be assigned to a more specific class. AVED faculty is currently reviewing the criteria for completion and submission of the Creative Component and determining if modification is necessary. The Aviation and Space Program Outcome Assessment Model is currently being revised to include the graduate programs.

Ed.D. - The comprehensive examinations brought out the knowledge of the students. The students were able to demonstrate the key concepts learned and mastered in the Ed.D. classes. At this time, no students are currently able to enroll in the Ed.D. Program.

School of Educational Studies
Educational Leadership
 Prepared by Judith Mathers

Degree Program(s) Assessed	Assessment Methods	Number of Individuals Assessed
<i>EdD in School Administration</i>	Qualitative data were gathered at the end of the Fall 02 and Spring 03 semesters using a series of open ended questions. Responses were either returned in hardcopy during class or by email.	28

Analysis and Findings:

Purpose

These data were gathered in an effort to gain a sense of student perceptions and experiences within the cohort system begun in the Fall of 2002. Organizing EDLE doctoral students into cohorts is designed to facilitate student learning and improve the efficiency of course scheduling.

Method

A series of open-ended questions were asked of current doctoral students in School Administration. Two separate cohorts were included in the survey. The OSU-Stillwater cohort has 16 students and the OSU-Tulsa cohort has 12 students, for a total of 28 students surveyed. Students were surveyed both at the end of the Fall 2002 semester and at the end of the Spring 2004 semester. Responses were accepted both in hardcopy form and by email. Data were transcribed with the assistance of the office staff of the School of Educational Studies. There were a total of 37 responses from the two data collection periods.

Findings

Analysis of the data indicated that students felt positive about the following:

- Support from other students
- Closeness to or bonding with classmates
- Opportunity to form professional networks
- A sense of trust between cohort members and faculty
- Value of the learning atmosphere created by the cohort model

The data analysis showed two areas common to cohorts that were perceived as negative by students. First, very often a cohort will have one student with a forceful personality who tends to dominate class discussion and activities. One of the cohorts reported this phenomenon while the other did not. Second, students in both cohorts reported a sense of frustration with lack of information on the processes and procedures for moving through doctoral study. This has generally been found to be a product of "group think," experiencing an close, supportive environment characterized by open communication between students, fails to establish a close bond with the program assigned advisor, and instead relies on information that is presented to the group.

Uses of Assessment Results:

The positive and negative aspects of the use of the cohort model in doctoral study identified in the data analysis may be found in the cohort research literature. While none are surprising, the positive perceptions must continue to be supported by all faculty delivering courses and the negative perceptions must be attended to with improvement to or changes within the program.

Recommendations

- This type of assessment should be extended to the Higher Education doctoral cohorts.
- Separate survey instruments should be created for gathering data at the following points:
 - End of first year of study
 - End of second year of study
 - Before the qualifying examination is taken
 - After defense of proposal
 - Upon successful defense of the dissertation
- A student handbook should be designed specifically for EDLE doctoral cohorts.
- Better communication must be established between each students and their advisor/chair.

School of Educational Studies
Human Resource Development/Adult Education Program
 Prepared by Robert Nolan

Degree Program Assessed	Assessment Methods used	Number of Individuals assessed
Master of Science in HRAE Ed.D. in HRAE/OAED	<p>**Surveyed 34 graduates who graduated from Dec. 2001 to Spring, 2003 by means of a web-based survey send by email with a link</p> <p>**Two focus groups on April 18 and 24, 2003</p>	<p>34 graduates were contacted by email; 18 responded to the web-based survey.</p> <p>7 individuals participated in the focus groups.</p>

Findings and Analysis of the Outcomes Assessment

Mission of the program (revised January, 2003): To provide graduate courses and mentoring to qualified students in order to prepare them to be professionals in the field of Human Resource Development and Adult Education. Graduates of this program will be able to design and conduct effective educational programs for adult learners in both formal and informal organizations.

Goal 1, Objective 1: Graduates will be able to assess and present material to diverse audiences as well as facilitate the learning of self-directed adults.

Measure: Graduates were surveyed by means of a web-based questionnaire. In answer to the question, how did the program help you meet the demands of your professional career?

Meet the demands of your current professional role	
A great deal	14
Somewhat	3
Not at all	2

Goal 1, Objective 2: Students will be able to demonstrate basic and current knowledge in the professional fields of adult education and human resource development.

Measure: Graduates were surveyed by means of a web-based questionnaire. In answer to the question whether courses provided them with current, up to date information, they responded:

Courses Provided Up-to-date Information in Adult Ed and Human Resource Dev.	
The latest ideas	13
Somewhat dated Ideas	5
Old ideas	1

Goal 1, Objective 4 Students apply knowledge from the classroom in creative ways in program settings or in research. Six of 19 graduates presented a total of 10 papers to professional groups outside their classroom activities. However, one respondent who presented 3 papers noted that the papers were not in the field of adult education or human resource development.

Presented Papers at Regional, National or Local Professional Conferences	
Yes	6
No	13

Goal 1, Objective 4 (continued). Three students won awards for their research. At the Doctoral level [REDACTED] won the Group V award for excellence in dissertation research. [REDACTED] won the Group V award for excellence in Master's thesis research and [REDACTED] won the AARP national Andrus Foundation award for her Master's thesis research.

Goal 1, Objective 5: The HRAE program will develop a 'research culture'. (See responses to Objective 4 above.

Goal 2: Students and Graduates will be satisfied with their graduate experience and will be able to apply their knowledge and skills in a professional setting.

Objective 1: Students and graduates will belong to professional associations, present at scholarly conferences; co-present with faculty and co-author with faculty.

Presentations and articles co-authored with faculty	
National presentations	4
Local presentations	2
Journal Articles	4

Goal 2, Students and graduates will express satisfaction with the program.

The web-based survey asked three open-ended questions:

What Graduates Liked best about the Program	
Professors were great, because they tried to meet the needs of the students	4
Learned more in Master's degree program than I ever imagined	
Liked evening and weekend classes for working adults	
Encouragement with research, help with research	3
Able to incorporate projects directly related to my work	2
Flexibility to pursue specific areas of interest within coursework	
██████'s cohort group	
Professionalism of professors and advisers	2

What Graduates Liked Least about the Program	
Freezing of the Doctoral program	3
Professor did not give a student credit in a book for which student did research	
Curriculum—each course was similar.	
Never opened a book for one professor's class, yet received an 'A'	
Lack of evenness or equality among course demands	
The muddled thinking and verbal abuse of another professor	
Some of required readings were outdated	
The difficulty in trying to get the Chair of one's committee removed	
The amount of time spent on non-academic activities	
Non-HRAE required courses offered only during daytime (working hours)	
Narrow courses to choose from	
The complicated process of having a plan-of-study approved.	

Recommendations for improvement	
Reopen the doctoral program	
Encourage research and presentation of papers at conferences	
Revamp the rigor of the program	
Take student evaluations seriously	

Program Changes Planned as a Result of the Assessment

1. HRAE faculty will work on the overall program design including a review of the doctoral core; the design of new courses and the course rotation.
2. More attention will be given to paper work between the Tulsa and Stillwater campuses.
3. Faculty will have a discussion about course loads.
4. Faculty will give more attention to initial advisement and orientation. Faculty will discuss the feasibility of having all incoming students begin in the Fall semester with the Doctoral Seminar I.
5. Faculty will give more advisement in Tulsa
6. Priority will be given to lifting the freeze on admissions to the doctoral program.

School of Educational Studies
Research, Evaluation, Measurement, and Statistics (REMS)
 Prepared by Laura L. B. Barnes

Degree Program(s) Assessed	Assessment methods	Number of Individuals Assessed
Educational Psychology Ph.D. Emphasis in REMS	14 REMS and former ABSED Research and Evaluation alumni were emailed a link to an internet-based survey. Eight alumni responded.	7 Ph.D. Students
Educational Psychology M.S. Degree Emphasis in Educational Research and Evaluation		1 masters student

Method and Findings:

Method: Email addresses were obtained for 14 out of 15 REMS and former ABSED-Research and Evaluation alumni who graduated since 1990. These REMS alumni were emailed a request to respond to an electronic survey; a link to the survey was included in the email. The survey, which is attached to this report, asked them to provide ratings for skills that the program identified as desired outcomes for REMS students and which are reflected in the REMS assessment plan. The survey sought ratings for 17 skills plus 12 specific research methods. Alumni were asked to provide three ratings for each skill: (1) the relevance of that skill to them professionally, (2) their current level of skill development, and (3) the emphasis given that skill while they were students in the REMS/ABSED program. The rating scale for each item was Low, Medium, and High. This year's alumni assessment survey differs from the previous survey (see 2000-2001 Outcomes Assessment Report) in that the current survey focuses on the relevance, emphasis, and current development of very specific skill outcomes.

Findings: Eight out of 14 students responded to the survey (7 doctoral recipients and 1 masters recipient). This represented overall a 57% response rate. Of the 17 skills and 12 methods, respondents identified eight skills and 4 methods as having high relevance to them professionally. If more than half the respondents rated an item as high relevance, it was categorized as having high relevance. These are listed in Table 1 below. Two items were classified as Low Relevance items because they received no high relevance ratings and several low relevance ratings. These were Qualitative Research and Generalizability Theory.

Table1. REMS Alumni Skill Acquisition for Highest Relevancy Skills: Frequency Count by Category of Skill Development and Program Emphasis (Total N=8)

High Relevance Items	Current Skill Development			Emphasis by REMS Program		
	High	Medium	Low	High	Medium	Low
Plan and carry out research	6	2	0	4	4	0
Teach research methods	5	3	0	0	7	1
Provide research consultation to others	4	4	0	1	4	3
Develop research instruments	5	3	0	4	3	1
Evaluate research instruments	5	3	0	3	5	0
Conduct appropriate statistical analyses	7	1	0	6	2	0
Use computers for statistical analyses	7	1	0	1	6	1
Develop personal research agenda	6	2	0	0	4	4
ANOVA	7	1	0	7	1	0
Regression	7	1	0	7	1	0
Multivariate Techniques	6	2	0	6	2	0
Exploratory Factor Analysis	4	3	1	4	na	na

Table 1 shows the level of current skill development and the reported REMS program emphasis for each of the high relevance items. Students reported possessing a generally high level of current skill development for most of the high relevance items. Lower ratings were given to “providing research consultation to others” and “exploratory factor analysis.” Alumni reported that the REMS/ABSED program emphasized skills in “conducting statistical analysis”, specifically ANOVA, Regression, and Multivariate analysis. *However, a number of skills that these respondents identified as highly relevant were not emphasized in their REMS program.* These were “teach research methods”, “provide research consultation to others”, “evaluate research instruments”, “use computers for statistical analysis”, and “develop a personal research agenda.” That many reported a high level of skill development in areas that were only moderately emphasized in their programs (e.g., develop a personal research agenda and use computers for statistical analysis) indicates that alumni have continued to develop professionally since graduation. The one alumnus who gave “use computers” a low emphasis rating graduated in 1990; the one who gave this item a high emphasis rating graduated in 2002, which is consistent with an increased emphasis on this skill in the REMS program.

Alumni were also asked to identify the three most important skills they acquired while in the REMS/ABSED program and to identify three skills they wish they would have acquired but did not while in the REMS/ABSED program. For both these categories, the skills broke into three areas: (1) data analysis techniques, (2) conceptual understandings, and (3) practical hands-on skills. As shown in Table 2, in addition to multivariate analysis, several former students listed psychometric theory and factor analysis as important skills. They also valued their conceptual understandings as well as practical hands-on applications, including the dissertation experience. Table 3 shows that alumni identified computer applications, several advanced research techniques, qualitative methods, and more practical experience as things they wish they had had in the REMS program.

Table 2. Alumni Most Valued Skills Learned in REMS program

Data Analysis Techniques	Conceptual Understanding	Practical Hands-on
Factor Analysis (2)	Statistics as system for understanding error	Contacting professionals for permission to use instruments
Multivariate Analysis (3)	Critical thinking and conceptual background in REMS (2)	Doing major relevant class projects
Psychometric Theory (3)	Understand scientific method	Working on large research project
General Linear Model		Dissertation
Identify research procedures/design (2)		

Table 3. Alumni Wish List of Skills for REMS program

Data Analysis Techniques	Conceptual Understanding	Practical Hands-on
Monte Carlo studies using SPSS	Philosophy of Science	Work with large datasets
Training Evaluation (Kirkpatrick’s model & ROI)	Put statistics together in broad overview	Consulting contracts
Statistical Computing Packages		More application to the real world and business applications
Structural Equation Modeling		Project management issues and managing research teams
Advanced Research Design		
Qualitative Methods (2)		
Generalizability Theory (2)		
Hierarchical Linear Modeling (2)		
Categorical Data Analysis		

Uses of Assessment Results: These results, together with past assessment results and other sources of student input, suggest some specific curriculum issues to be addressed within the REMS program. There is clearly a need to continue to incorporate more practical hands-on computer-based work with real data. Alumni have learned computer applications but suggest that these were not emphasized sufficiently in the REMS program. Mentoring regarding the development of a personal research agenda is something that would benefit students according to these results. These issues can be addressed through coursework and through ensuring that all REMS students experience student-faculty research collaboration. Specific content that alumni have identified as needing greater emphasis, are factor analysis and methods for evaluating instrument quality. The need for additional work in factor analysis has been recognized and a factor analysis course is being offered this summer. Though skill in qualitative methods and generalizability theory were rated as low relevance skills, two alumni included them in their wish list. Qualitative methods are required in the new REMS degree options. Though REMS no longer has undergraduate courses to specifically provide teaching opportunities for students, many of our doctoral students are faculty at regional universities and develop teaching skills without it being emphasized in the REMS program. Opportunities for developing consulting skills should be expanded within our program. The REMS faculty are currently discussing the development of a research consultation center within the College of Education that would provide REMS students with opportunities to develop many of the skills addressed in this survey.

Next Steps: A Blackboard website has been created for communication among REMS students, faculty, and alumni. This was initially developed to facilitate constituent input into the SWOT analysis and was to be included with these assessment results. Due to a technologically induced miscommunication, the student input into the SWOT analysis is not yet available for this report. Nevertheless, we envision the Blackboard site as a permanent source of continued communication among current and former students and faculty and should be a valuable mechanism for on-going program monitoring.

School of Architecture

Prepared by Eric Connell

Degree Programs Assessed	Assessment Methods Used	Numbers of Individuals Assessed
Bachelor of Architecture & Bachelor of Architectural Engineering	Survey of professionals who served on student presentation juries.	37 from ARCH 5119
	Exit Interviews	30
	Portfolios of cumulative student work	10

Population of Students Assessed:

Populations surveyed vary with the assessment protocol utilized. For most assessments each year's entire graduating class is selected as the population for study. The year's assessment of the capstone studio course evaluated 30 students (19-BArch and 11-BArchEngr), for whom all passed with a grade of C or better, qualifying them to graduate upon satisfactory completion of other courses. The population assessed by external accreditation review by the National Architecture Accrediting Board is assumed to be all undergraduate students in the Bachelor of Architecture Program.

Analysis of Findings for 2002–2003:

Survey of professional capstone course jurors:

Surveys were mailed to 64 participant jurors at the middle of the spring semester 2003; we sent two surveys to each juror and asked them to fill out either one or both and we had 37 surveys returned. Some returned both and others only one, so an accurate percentage would be hard to determine accurately. However for those returned the results were improved over last years survey. Surveys used a scale of 1–7 in which the assessment by the jurors was from (1) not at all to (7) very well. Results indicate that the program continues to successfully instill the intended attitudes and commitment to the profession in the students in the capstone course. The professional respondents found overall students understanding to be above average (3.0 or higher) or higher in all knowledge areas, with students understanding most areas judged as "very well" (6.0 or higher) Out of 960 possible responses, only 22 responded with a below average score, or less than 3% of the overall scores. Of the below average scores only all were a score of 2, and there were no (0%) scores of 1. On the other end of the spectrum, 173 of a possible 960 responses were given a score of 7, that is 18% of responses were assesses as excellent.

Portfolios of cumulative student work:

High-quality color laser copies are made of available student portfolios from selected students graduating each semester. Portfolios are regularly reviewed at each meeting of the school's Professional Advisory Council (the school's principal external advisory body), and no concerns were raised this year.

Masters candidates:

No graduated Masters students this year.

Exit Interviews:

The Head of the School of Architecture interviewed graduating students from Architectural Engineering and Architecture at the ends of the Fall 2002 and Spring 2003 semesters. The results of those interviews were presented and reviewed by faculty. Implications on the teaching and curriculum at the School of Architecture will be discussed at the initial annual planning meeting in August 2003.

College of Engineering, Architecture, and Technology

AE Course Outcome Assessment Form:

Faculty identified which of the EC 2000 criteria were met in each required course. The information from the assessment is distributed to the faculty for consideration in the 2003–2004 academic year.

Instructional Changes:

Curriculum modifications:

Several changes were implemented into the curriculum based on the data gathered from the Outcomes Assessment and the school's Professional Advisory Council. Additionally, changes will be proposed based on each year's new data if it is deemed significant.

Assessment modifications:

Survey of professional capstone course jurors:

Forms were modified to distinguish the Architectural Engineering and Architectural student evaluation criteria with the user of color paper sent to jurors.. The jurors were given the opportunity to evaluate both Architecture and Architectural Engineering criteria. or in their area of expertise. 24 surveys returned for Architecture students and 13 for Architectural Engineering. Some jurors indicated they did not know the difference during the review process and would appreciate a method of identifying the different students during their presentations.

Appendix:

The majority of graduating students have secured good jobs in the profession. These opportunities are in both large and small architectural and architectural engineering firms in Oklahoma and throughout the nation. However, due to a current tight market, some graduates remain active in seeking employment in their respective fields. This condition continues from last year.

**School of Chemical Engineering
Undergraduates**

Prepared by R. Russell Rhinehart, School Head

The following table shows the assessment methods used and numbers of individuals assessed for the BS degree programs offered by the School of Chemical Engineering.

Degree Program Assessed	Assessment Methods Used	Numbers of Individuals Assessed
Bachelor's Of Science in Chemical Engineering	Fundamentals of Engineering Exam	68 (5-years)
	Senior Survey in the fall semester	29
	Exit interview fall and spring	12
	End of course survey – student response to objectives	7x25
	End of course evaluation by the faculty	7x25
	Course evaluations	10x25
	Feedback by Celanese visitors on student design problem	1x25
	External academic contests and scholarships	8
	Student activity in School's activities	100
	AIChE National Data	Many
	Semi Structured Alumni Phone Interviews	25 (97 and 99)
	Industrial feedback (IAC and recruiters)	20
	OSU Alumni Survey	28 (96 and 00)
	Employer Survey of Communications	24

Following is a table of contents for attachments revealing assessment activities throughout the year and supporting the following summary:

Item	Page
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Accreditation

The Accreditation Board for Engineering and Technology (ABET) requires a continuous improvement process for engineering education programs. In preparation, during the past five years (and substantially in the past three) the School has explicitly defined Educational Objectives (what we expect graduates to be able to do/have done by two years after graduation); and, from those, Program Outcomes (skills and assets that students have upon graduation), and the topics and skills that define the essence of chemical engineering. We developed a continuous assessment process, and for the past two years, closed the feedback loop. Most of our efforts for the University Assessment of Instruction are within the ABET activities.

This year ABET will visit to inspect our CQI process in detail.

Assessment Overview

Feedback from both our internal alumni phone interview, OSU Alumni phone interview, and our own survey of employers indicates that our program prepared the alumni well for practically all aspects in their diverse careers. An industry survey indicates that our graduates perform as well or better than those from other schools. Feedback suggests better preparation in computer programming, dealing with ambiguity, integration of business economics, and better preparation for team effectiveness.

While we do an excellent job preparing students for formal oral and written presentations, communication is much broader. Industrial feedback indicates that new employees generally lack listening skill. In addition, since email is the primary communication tool, we need to help students understand that it is neither informal nor personal. Since it forms a public and permanent record, proper English, and carefully considered words are important. Since practically all industrial communication is action-oriented students should be trained to connect technical analysis to recommended action within an enterprise situation.

Employers and graduate advisors are generally well pleased with OSU ChE graduates. This is a continuing finding.

Analysis of performance on the Fundamentals of Engineering Exam indicates that OSU ChE student test-takers are significantly better prepared in the science and engineering fundamentals than the average national student test-taker. We have sustained a 94% pass rate, compared to a national pass rate of 82% for the past ten years. In the last 2.5 years, our students had a 100% pass rate. Only in one category, mathematics, do we frequently test lower (marginally significant) than the national average. This is a continuing finding.

Our students and alumni have a strong utilitarian value, and rate the importance of courses to their perceived or actual utility to a professional's life (career as well as personal). This is a very "engineering" characteristic. Alumni and students generally volunteer that ENGL3233 (Technical Writing) is redundant and inferior to the writing instruction we provide in the CHE 4001/4112 and 4124/4224 courses. Starting in AY04 ENGL3233 will convert from being the required second English course to an option to Composition II.

Also very high on the list of least useful classes was STAT4033 (probability and statistics). Primarily, the problems are the lack of connection to practical application, inability to cover all course topics, no required homework, and several barriers to students obtaining help from the instructor.

Students also had significant complaints about ENSC2613 (Circuits), because of poor teaching.

In the past students, faculty, and alumni in graduate school feel that the mathematics ability of our undergraduates needs to be improved. The students want more "practical math" ability; not math theory. They want engineering analysis skill. The alumni in industry do not suggest additional math training, but recommend that we develop better computer programming skill – a subset of practical math. Along with better computer programming skill, IAC members would like BS engineering graduates in general (not necessarily OSU) to have better ability to apply probability and statistics to design and analysis, and to be better able to judge the veracity of computer output. Our interpretation is that students do not need better math skill in order to perform employment tasks, but that they need greater comfort in the application and interpretation of math-related skills to understand ChE fundamentals, to analyze ChE phenomena, and to design ChE processes. Faculty has accepted the challenge of integrating such experiences into their classes. This is the first year that senior students have not complained about insufficient skill in practical math.

Students, alumni, and IAC members encourage us to replace FORTRAN with VB and prepare students to use Macros in Excel. Because of the inconvenience of access to FORTRAN software, student rarely use it. However, all have Excel, which permits programming in VB macros. Accordingly, we are introducing the mechanics of VB programming in CHE2033 and the ChE section of ENGR1352.

Freshmen and sophomore students are disengaged from both chemical engineering and the School. The math, science, and ENSC courses misdirect any understanding of ChE, and the joy that awaits them if they stick to the plan. Seniors suggest that seniors talk to Pre-Professional School Students (PPSS), that PPSS tour UOL while it is in session, and that PPSS take field trips to ChE sites.

College of Engineering, Architecture, and Technology

Computing facilities have improved each year. However, facilities, software, and user instruction on software and hardware are inadequate. There are too few computers, in inconvenient locations. Class use of the "open" labs blocks student use, and is very frustrating. Students need instruction on system and software operation to be proficient. We added a lab section to CHE2033 and have a ChE instructor teaching a lab in ENGR1352 for software training. We need sufficient tabletop workspace in the labs. Software products are limited, and some of primitive version. In spite of substantial improvements in computer facilities in each of the past several years, we are still far behind. Our expectations and desired software products expand, as fast as we improve the facilities. Students want 24-hr access to EN labs where the reference books are located, and where encounters with professors are likely. Being in the labs for long hours, students would like a coffee/snack shop in Cordell. This is the first time students did not have a dozen types of complaints about the technical inadequacy of the computers. These are continuing findings.

We started using a single ChE advisor this academic year. The academic advising process requires experienced advisors to interpret and locate the convoluted rules and conditions. Students cannot effectively advise themselves because the degree requirements are not clearly stated. This is exacerbated for transfer students because credit amount and category of transfer courses often requires interpretation, with multiple OSU departments claiming authority. As a result engaging the entire faculty in advising was inefficient. The single advisor system creates expertise and uniformity. However, as students progress from pre-professional school to professional school, advising shifts from CEAT Student Services to the CHE Faculty, whereupon interpretation of the degree requirements changes. Advisors within any one group give conflicting direction. While this is a continuing finding, the frequency and severity of complaints seem to have lessened.

Students struggle with certain prerequisite material when they enter subsequent courses. Key prerequisite topics that pose subsequent difficulty are computer programming, differential equations, material balances with recycle, and statistical analysis of data. This is a continuing finding.

We need more automation, and larger-scale experiments, piping craft, and safe human space in the Unit Operations Laboratory to make it reflect industrial practice. This is a continuing finding. However, this year, the addition of an industrially fabricated, integrated, multi-heat exchanger unit makes substantial progress. We have redone piping on several experiments to represent craft, and are now seeking industrial help to upgrade the fluid flow experiment.

ChE enrollment cycles with a 13-year period, and all US schools are in phase. We have been in the downward trend of matriculation, but each of the last two year's data showed a slight rise. As indicated by the rate of scholarship applications this year, the freshman ChE class should be about 25-50% larger than last year. In the past low portion of the cycles, freshman matriculation had dropped to about 30. Anticipating, the coming drop, we revised recruiting materials and procedures, and this cycle the freshman class only dropped to about 60.

Instructional changes that have occurred or are planned because of outcomes assessment

We are working well beyond "instructional" changes. This discussion includes all changes.

We have an active EC2000 Accreditation Committee of three faculty members which acts as a steering committee, digesting data, and preparing for semi-annual faculty meetings and annual IAC meetings for curriculum improvement decisions. As a School, we now have formalized criteria to use in exit interviews and end-of-course assessment, and meet each semester to review assessment data and direct curriculum improvement.

Welcome letters to new matriculates, recruiting letters, response to enrollment inquiries, and the Head's address at the first AIChE Student Chapter meeting address the intensity of the curriculum, the need for commitment, and the importance of extra curricular activities in the development of the entire person. It is important to shape the person's perspective to ensure success within the new environment.

We are making greater use of multi media in teaching.

We are making greater use of simulators and CAD packages for student home assignments. CFX was extended to the reaction class this year. We added a discussion section to CHE2033 for instruction on software (MathCAD, Excel, and ChemCAD) use.

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VB is introduced in ENGR1352 and CHE2033.

Starting in the spring of 2002, CHE course instructors have been actively looking for ways to integrate “practical math” into the student activities of their courses. Now three semesters later, graduating students are not complaining about practical math skill. The transition from theoretical MATH to its practical application is difficult. Wherever we introduce it the CHE curriculum, students seem to struggle and instructors complain about lack of prerequisite ability. But, the complaints disappear in subsequent courses. This year, transient material and energy balances, leading to ODEs, were covered in CHE2033.

ChE is represented on the CEAT Statistics Oversight Committee which continues to seek a solution to improve course effectiveness.

ENGL3233 was changed from a required to an option as the second ENGL course.

We added an integrated heat-exchanger unit (from industrial donations), re-piped several units, and renovated Unit Operations Lab space to improve safety and functionality. We added two computers to the UOL for student use (there are now 9), with 7 units computer monitored, of which 4 are computer controlled.

Advising materials continue to be carefully edited to provide clear and non-conflicting advice to students. We are considering changing the ChE advising from a shared responsibility to a single person assignment within ChE.

School of Civil and Environmental Engineering

Prepared by Gregory G. Wilber

Degree Program(s) Assessed	Assessment Methods	Number of Individuals Assessed
BS - Civil Engineering	<i>Exit Interviews</i> <i>Fundamental of Engineering Exam</i> <i>Board of Visitors</i> <i>Employer Survey</i> <i>Student Advisory Committee</i> <i>OUA Undergraduate Program Alumni Survey</i> <i>Faculty and Professional Evaluations</i>	26 30 * 18 8 22 26
MS - Civil Engineering	<i>Exit Interviews</i> <i>Theses/Report Defense (Committee Evaluation)</i> <i>OUA Graduate Program Alumni Survey</i> <i>Board of Visitors</i>	12 12 0 *
MS - Environmental Engineering	<i>Exit Interviews</i> <i>Theses/Report Defense (Committee Evaluation)</i> <i>OUA Graduate Program Alumni Survey</i> <i>Board of Visitors</i>	7 7 0 *
PhD - Civil and Environmental Engineering	<i>Exit Interviews</i> <i>Theses/Report Defense (Committee Evaluation)</i>	0 0

* The Board of Visitors evaluates program components (curriculum, students, faculty, facilities, etc.) While they do speak to individual students, they do not formally assess specific individuals.

A variety of assessment tools are in use by the School of Civil and Environmental Engineering, for the purpose of monitoring and improving the program. The School also uses these tools as part of the assessment process required for maintaining accreditation by the Accrediting Board for Engineering and Technology.

Analysis and Findings:Employer Survey

The 2002 Employer Survey was performed in July 2002. The survey was sent to 22 employers, and 18 responses were received. These employers were selected to represent a cross section of those who have employed our graduates from the past five years. Participants included public institutions at all levels (federal (US Army Corps of Engineers), state (Oklahoma Department of Transportation) and local (City of Tulsa Public Works)), industry (Koch and Hilti), large consulting firms (Atkins America), and a few small specialty firms. It is felt that these employers hire a representative group of our graduates in terms of ability, specialization, and demographics. In the case of employers that hire a large number of our graduates (such as the Corps of Engineers or the OK Department of Transportation), the survey was distributed to more than one supervisor with direct contact with employees from our program. The survey included a variety of questions aimed at determining the employers' assessment of the quality of our graduates, with particular attention paid to achievement of most of our Program Educational Objectives and Program Outcomes. In general, a high level of satisfaction was expressed by the employers of our recent graduates. Two areas did receive some negative comments, with three of the 18 respondents stating their OSU-degreed employee did not meet their expectations. These areas were in planning and scheduling of projects and in written communication. These findings have been passed on to the School's Curriculum Committee, which is investigating possible curricular responses.

Exit Interviews

Beginning December 2001, the exit interviews administered to all graduating seniors by the School Head were altered to be more focused. Each student is now asked to fill out a two-page survey form asking his or her views of the program, particularly the degree to which the program accomplished certain types of learning. The interviews begin with a scan of the student's written responses and any comments that the student might have to amplify on his or her responses. The interviews usually last about fifteen minutes, although some last longer.

Without exception the students--for the past three years at least--have been extremely positive about their educational experience at OSU. An analysis of the data for spring 2003 illustrates this conclusion. Interviews were conducted with all 16 graduating seniors. All 16 had taken the FE exam, and 14 had passed it. Two had not yet received word regarding their success on the exam. These 16 students each responded to 8 multiple-choice questions, meaning that there were 128 multiple-choice responses. Of these 128 responses all but 3 were in the first three categories ("very well," "well," and "adequately"). In particular, 34.3% of the responses were "very well," 53.1% were "well," and 10.3% were "adequate." Thus, 97.7% were adequate or better.

The question addressing students' teamwork experiences provide a current example of the quality control process. Noting the relatively low student assessments on teamwork experiences, the Head followed up on the team work issue during the open-ended part of the interviews. The result is that he learned that we do not provide our students with as many teamwork experiences as he had thought. The result is that two things will occur beginning in the fall semester, 2003. One is that teamwork will be increased in the Senior Seminar course (CIVE 4042 - Engineering Practice). Two, the faculty will discuss this issue at its annual retreat in August and will be asked to identify courses in which teamwork will be added or expanded.

Fundamentals of Engineering Exam

This is a national, standardized exam administered twice each year. It is the first step to professional registration and passing it is necessary for most entry-level jobs in civil and environmental engineering. All CIVE students are encouraged to take the exam, and approximately 80% of all CIVE graduates have done so before graduation. The vast majority of those students who do not take it are international students who plan to return to their home countries.

Data detailing the performance of CIVE students on the exam are made available to the Associate Dean of Engineering each semester. These data do not give results for individual students but rather composite scores for groups of students, categorized according to the discipline listed on their application. All examinees take the same morning 'general' exam. Students then have a choice of taking either another 'general' exam in the afternoon, or a discipline specific afternoon exam. The vast majority of CIVE students elect to take the 'civil engineering' afternoon section. As such, results are sent to the Dean's office categorized by the specific exam taken by a given group of examinees. A detailed statistical analysis of these results is prepared twice each year by an assessment specialist in the College of Engineering, Architecture, and Technology.

As an example of the way these results are used, focusing on the 1997 - 2002 summaries for the morning and afternoon exams, the following conclusions were recently drawn:

- 1) During this period, CIVE students performed significantly above the national average on the following topic areas:
chemistry, dynamics, electrical circuits, materials science, mechanics of materials, statics, and thermodynamics.
- 2) CIVE students performed significantly below the national average on the following topic areas:
computers (general exam) and computer and numerical methods (civil exam).
- 3) For the past two years' results, CIVE students performed above the national average on at least one occasion on the following topic areas:
thermodynamics and dynamics.
- 4) Also in the past two years, CIVE students performed below the national average, on at least one occasion, on the following topic areas:
mathematics, computers (general exam), computer and numerical methods (civil exam), hydraulics and structural design.

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Note that a 'significant difference' here is defined as 'greater than one standard deviation' from the mean value of the national test scores. The significance of the above information is of course open to debate. As mentioned above, the two sections in which CIVE students have consistently performed below the national averages over the past five years are computers (from the general exam) and computers and numerical methods (from the afternoon civil exam). The School's Curriculum Committee is currently investigating ways in which to address this situation. Among the issues under review are the timing of the exam (i.e. students taking the exam too early in their programs), the prevailing attitude about the exam (i.e. students viewing the exam as something to take more than once, the first time "just to see what it's like"), as well as specific course content that may be addressed toward specific deficiencies (i.e. incorporation of more spreadsheet skills within courses).

Board of Visitors

The Board of Visitors, which consists of eight civil and environmental engineering professionals, many of whom are alumni of our programs and/or employers of our graduates, met twice this academic year. They met with faculty, students, and administrators and reviewed curricula, programs, and departmental resources. In general, they expressed a high level of satisfaction with the program and the direction it is moving. In particular, they are enthusiastic about the capital campaign underway that will eventually lead to great improvements in the department's labs. They expressed concern about the enrollment in the program. They encouraged the department to maintain the curriculum as it is, covering a broad range of CIVE topic areas and not allowing excessive specialization. They cited the 5-year FE results study as support of this position.

Undergraduate Program Alumni Survey

The OSU Office of University Assessment performs a wide variety of assessments aimed at meeting the requirements for the university-level accreditation of the Higher Learning Commission, as well as those set by the regents of the university system. Among the assessment tools used is the Undergraduate Program Alumni Survey, which is performed on a three-year cycle. It focuses on alumni of undergraduate programs who graduated approximately two and five years before the time of the survey. In the most recent survey, performed in January 2002, graduates of the BSCE degree program in 1996 and 2000 were contacted. Questions asked of all alumnus center on the graduate's satisfaction with their experiences at OSU, as well as his or her current employment status. However, individual programs have the opportunity to ask additional questions of their graduates specifically. These questions have been tailored to assist in determining our program's achievement of its Educational Objectives and Program Outcomes. Overall, these graduates expressed satisfaction with their OSU educations and experiences. They also indicated a high level of continuing education and professional advancement. They also provided some additional insight into specific aspects of their civil engineering education that have been particularly useful in their professions.

Student Advisory Committee

This committee consists of eight student leaders who represent student concerns to the departmental leadership. They meet with the department head periodically. In general, this group expresses satisfaction with the program. Concerns that do arise routinely include the sub-standard educational technology in Engineering South classrooms, the sub-standard lab facilities for the department, and the lack of a common area for CIVE students to congregate. These last two, in particular, have been addressed, as discussed below.

Faculty and Professional Evaluations

Each student takes at least one "capstone" design course. This generally occurs in the student's final year. In these courses, group design projects are completed, the products of which (reports, design work, and presentations) are presented to faculty (in addition to the course instructor) and to participating professionals. These individuals evaluate these products and present the evaluation to the students and course instructor. In all cases available for review, the practitioners reported satisfaction with the work performed. They offered suggestions for the improving the projects themselves but felt the curriculum had prepared the students adequately for the work.

Graduate Theses Defenses

The examination committee for each candidate assesses the candidate's academic record as well as the product of his/her graduate research (creative component report or thesis). As required, the examining committee found all students who passed this examination satisfactory.

Uses of Assessment Results:

A number of program changes have been implemented as a result of the various assessment results.

Curriculum Review

In response to several of the assessment results cited above, a review of the program curriculum is planned for Fall 2003. Among the issues to be addressed are writing in the CIVE professional school curriculum, integrating more spreadsheet applications in upper-level courses, and the way the FE Exam is managed. In addition, emerging issues, such as pressure to lower the overall credit hour requirements and the potential impact of the American Society of Civil Engineers' endorsement of the master's degree as the first professional degree will be addressed.

Revision of the Engineering Statistics from STAT 4033 to STAT 4910

In response to comments from both students and faculty (collected in student surveys and solicited faculty input), a change was made to the statistics course requirement for civil engineering students. A new course, STAT 4910 Engineering Statistics, was developed to meet the specific needs of engineering students. This course is focused more on engineering analysis and less on statistical theory. It was taught for the first time in the Spring 2003 semester.

Content of CIVE 4273 Construction Engineering and Management

CIVE 4273 Construction Planning and Scheduling previously was a required course for all Civil and Environmental students that focused primarily on the critical path method. It also served as the entry course in the graduate program in Construction Engineering and Project Management. To expand the exposure of construction to undergraduate students and to provide a common base of knowledge for entry into the graduate program, CIVE 4273 was changed in title and content. The new title is Construction Engineering and Management. The new course content includes the topics of project planning, development of cost estimates and project schedules, construction methods and fundamental terminology used in the engineering and construction industry. This course revision provides a broader exposure to undergraduate students and forms the foundation for graduate courses that contain more in-depth coverage of the topics covered in this course. With the revised CIVE 4273 course title and content, the subsequent graduate level courses in construction management were also modified. These courses are eligible as electives to undergraduate students.

Content of CIVE 4042 Engineering Practice

Over the years the Board of Visitors has offered many suggestions to the Head. The most recent recommendation was two years ago when the Board recommended that public finance be included in the curriculum. The past two years this subject matter has been included in the Senior Seminar as a result of the Board recommendation. Student feedback has also produced course changes. We added a segment discussing how to run meetings, and another on listening skills. We used the class as a committee to decide what topics to add to the course. We also expanded the coverage of contemporary issues by discussing the BS as a professional degree and ASCE Proposition 465.

Initial implementation of CIVE 3623 - Engineering Materials Lab

In response to both student demand and discussions with alumni and employers, CIVE 3623 is being introduced into the curriculum this fall semester. The course will address basic construction materials including Portland cement concrete, asphalt concrete, aggregates, metals and composite materials. It will also include behavioral characteristics, use and quality control of these materials, as well as basic statistical procedures used for material specifications. Laboratory sessions will provide "hands on" experience in performing standard tests. This course will initially be offered as an elective, but it is anticipated that it will eventually be integrated into the required curriculum.

Non-Curricular Improvements

Some of the assessment tools in place may also identify opportunities to improve the program in ways outside the curriculum. One such example occurred when the Student Advisory Committee identified a need among CIVE students for a gathering place within Engineering South (the location of the School offices and a majority of the professional school courses). A lounge for CIVE students had previously existed in the basement of Engineering South but had been consumed in the expansion of the computer labs the previous year. Another room in the basement was identified as underused and, with the School Head's approval, the room was painted and furnished for use as the Civil Engineering Student Lounge. The room serves as a study area for students with breaks between classes in Engineering South and is also used for ASCE officer meetings and for groups to meet to work on group projects.

Furthermore, the capital campaign to raise the funding necessary to dramatically improve the laboratory situation in the department is continuing. Groundbreaking for the new structures lab took place in March 2002. Renovations of the geotechnical and hydraulics labs, and new space for the environmental labs in the Advanced Technology Research Center are also planned. This will address the concerns about the lab space expressed in several recent assessments.

Electrical and Computer Engineering

Prepared by Alan Chevillie

Degree Program(s) Assessed	Assessment Methods	Number of Individuals Assessed	
Bachelor of Science in Electrical Engineering Bachelor of Science in Electrical Engineering, Computer Option	Fundamentals of Engineering Exam	Fundamentals of Engineering Exam	31
	Senior Exit Survey	Senior Exit Survey	~80
	Course Content Surveys	Course Content Surveys	~450
	Alumni Survey (OSU Assessment Office)	Alumni Survey (OSU Assessment Office)	34 (alumni)
	Instructor Survey	Instructor Survey	22 (faculty)
	Area of Specialization Reports	Area of Specialization Reports	NA
	IEEE and HKN Report	IEEE and HKN Report	NA
	Design II Written Reports (Consultants)	Design II Written Reports (Consultants)	~80
	Design II Oral Reports (Consultants)	Design II Oral Reports (Consultants)	~80
	Course Matrix	Course Matrix	NA
	Evaluation of Final Exams	Evaluation of Final Exams	~120
	Board of Visitors annual report	Board of Visitors annual report	NA

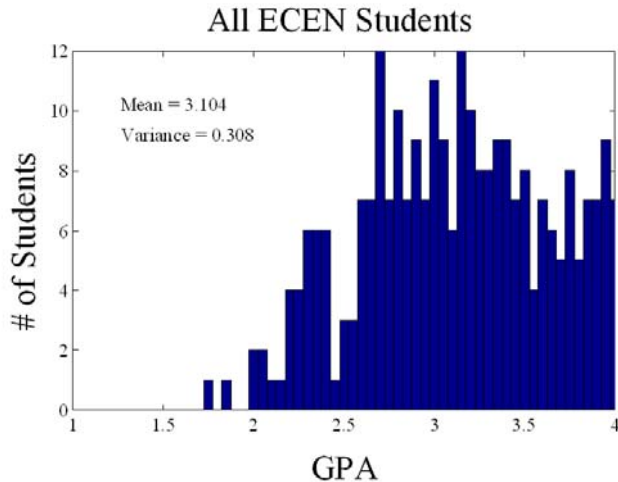
Analysis and Findings:

ECEN uses a variety of metrics both to evaluate student progress and evaluate the program which directly impacts students. We present summary data from each of our assessment metrics below then give an overall evaluation of the assessment data:

FE Exam

The FE exam measures a specific subset of students. To verify that this subset represents the student population as a whole we compare the overall GPA of all ECEN juniors and seniors with those that took the FE Exam in 2002, the only year this data is available.

Overall, ECEN students have an average GPA of 3.10, shown below. Those who took the FE exam in 2002 have a mean GPA of 3.08 with a variance of 0.167. We conclude that the students who took the FE exam in Spring 2002 are representative of ECEN students.



College of Engineering, Architecture, and Technology

Summary of 2002 Exam Results (spring and fall semesters)

ECEN students who took the FE Exam in 2002 did significantly better than the national average in: fluid mechanics and mechanics of materials. ECEN students did significantly worse than average on the general exam in: ethics and electrical circuits. On the PM subject exam students performed below the national average in: computer software engineering, computer hardware engineering, network analysis, and instrumentation

Scores deviating 2 or three standard deviations from national average from FE Exam

Semester	F97	S98	F98	S99	F99	S00	F01	S02	F02
# Taking	2	3	1	3	3	2	3	21	10
# Passing	2	3	1	2	3	2	3	16	7
% Pass	100.0%	100.0%	100.0%	66.7%	100.0%	100.0%	100.0%	76.2%	70.0%

	Deviation from National Score (2 or 3 st. dev.)								
AM Subject (1 Point Each)									
CHEMISTRY		++							
COMPUTERS									
DYNAMICS		+++						+++	
ELECTRICAL CIRCUITS									---
ENGINEERING ECON									
ETHICS								---	
FLUID MECHANICS	+++						+++	++	
MAT SCI/STR MATTER									
MATHEMATICS	++					---			
MECH OF MATERIALS		++			+++		+++		
STATICS									
THERMODYNAMICS									
PM Subject (2 Points Each)									
ANALOG ELEC CIRCUITS									
CONT SYS THEORY ANAL				---					
COMP HARDWR ENGINRNG		++			++	++			
COMP & NUM METHODS									
COMP SOFTWR ENGINRNG									---
COMM THEORY				+++					
DIGITAL SYSTEMS							+++		
ELECTRO THEORY & APP			++						
INSTRUMENTATION									
NETWORK ANALYSIS							--		
POWER SYSTEMS									
SIGNAL PROCESSING									
SOLID ST ELEC & DEV			--						

No clear trends are yet evident in this data, but ECEN is carefully watching scores in computer software engineering, computer hardware engineering, and basic circuits which may be problem areas in the curriculum.

Senior Exit Survey

From spring semester, 2000, students have been asked to fill out an exit survey evaluating their preparation and the quality of instruction and facilities in many area of ECEN as well as the core curriculum using a Likert scale. On one survey form students are asked about their educational outcomes by rating their ability and the perceived importance of a variety of topics. On a second form students are asked to rate aspects of their educational experience at OSU.

In analyzing data on educational outcomes we have looked for values of perceived ability, perceived importance or the ability/importance ratio which show long-term trends over several semesters. We also look for values which fall far outside the mean response for all questions. The data on educational experience are analyzed similarly. Overall there are few areas that raise concerns, most measurements remain fairly constant with time and within reasonable ratings of student satisfaction of experience, ability, or perceived importance. This report only highlights areas which data indicates are potential concerns.

The main concern is in computer science. Students rating of ability/importance has fallen from 1.0 to 0.7 in three semesters. Student ratings of computer science instructors and TA's are significantly lower than their ratings of instructors or TA's in any other subject. Overall ECEN faculty are rated 3.5, TA's at 3.1.

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Other areas of concern are students' ratings of their ability to understand the environmental aspects of engineering (ability/importance 0.5 to 0.8). This is significantly below the mean ability/importance ratio of approximately 0.8. Similarly low ability/importance ratios are found on the question asking students about their understanding of the relation of engineering to society.

Within ECEN there has been a recent precipitous drop in the student rating of laboratory facilities for the senior design laboratories. Note that these laboratories have *never* received a rating above 3.0 (average). Smaller drops have occurred for ECEN computer facilities and other laboratories. Since the senior design capstone course is a critical component of the ECEN degree program the facilities issue should be addressed immediately.

Course Content Surveys (coverage and ability surveys)

The coverage and ability surveys are aids to individual faculty members and areas to better evaluate data in their courses and area. In every course this metric surveys faculty and students on the coverage and student ability on specific topics each semester. Results are tabulated for the department as a whole and for each area of specialization. Each instructor or area is asked for a list of topics taught each semester in each course. The faculty supplied topics are used as the basis for survey questions in each course. Faculty were asked to rate the depth of coverage of topics in a given course and their perception of student abilities. Ratings are on a scale from 1 (least coverage/ability) to 3 (most coverage/ability). For each course, students are asked both to rate the coverage of topics as well as their perceived abilities on the same one to three scale.

The data from each course is presented as a table. Values that vary by one standard deviation from the course mean are in boldface to aid each instructor in evaluating his/her course. Results from individual courses are supplied to instructors and area coordinators. They are not made public and will be provided on request.

Summary of coverage vs. ability surveys, Fall 2002

Course	STUDENT COURSE SURVEY RESULTS					Faculty:Student Ratios	
	Coverage		Ability		A/C	Student Coverage	Student Ability
	Mean	Variance	Mean	Variance		Faculty Coverage	Faculty Ability
ECEN3031*	2.00	0.61	1.61	0.51	0.81	0.81	0.69
ECEN3233*	2.46	0.29	1.60	0.39	0.66	0.86	0.74
ECEN3513*	2.39	0.42	1.67	0.50	0.71	2.03	
ECEN3613*	2.38	0.33	1.75	0.55	0.75	0.99	0.96
ECEN3713*	2.65	0.28	1.87	0.29	0.71	0.92	
ECEN3723*	2.37	0.32	1.79	0.49	0.79	0.96	0.90
ECEN3813	2.49	0.38	1.79	0.45	0.73	1.32	1.00
ECEN4133	2.36	0.38	2.06	0.55	0.92	2.20	2.20
ECEN4413	2.61	0.30	1.67	0.26	0.64	0.91	0.65
ECEN4503*	2.38	0.38	1.69	0.48	0.75	1.21	1.17
ECEN4523	2.52	0.37	1.71	0.34	0.68	2.45	3.00
ECEN4613	2.43	0.23	1.81	0.45	0.86	1.09	1.24
ECEN4763	2.47	0.40	1.80	0.40	0.74	1.10	0.83

All ECEN:							
Mean	2.42	0.36	1.75	0.44	0.75	1.30	1.22
Variance	0.024	0.009	0.015	0.009	0.006	0.310	0.535

Req. ECEN							
Mean	2.38	0.37	1.71	0.46	0.74	1.11	0.89
Variance	0.037	0.013	0.010	0.008	0.003	0.181	0.037

The data collected by the survey is used by individual faculty and areas for program improvement. This is the primary mechanism by which ECEN assures curricular content and coverage remain constant over time.

Alumni Survey

To evaluate whether students who successfully complete the ECEN degree requirements achieve the program objectives, ECEN uses responses from an alumni survey. ECEN has analyzed two separate alumni surveys performed by the Office of University Assessment. The undergraduate alumni survey consists of common questions specific to the College of Engineering, Architecture, and Technology, and discipline specific questions submitted by ECEN. We have given special weight to the open ended questions, looking for trends in the data or groups of responses. There were 14 responses from the class of 1996, and 20 responses from the class of 2000. The evaluation and raw data from the alumni survey results are attached as appendix 2.C.

We have analyzed the survey in two different ways. We first analyze the results to see what data supports or refutes students meeting the program objectives. Next, we analyze the data, especially the open-ended questions, to evaluate specific strengths and weaknesses in our program which may lead to program actions.

In this summary we have not included data on specific program objectives, it is available on request. The responses to open ended questions are more pertinent. In analyzing data from the alumni surveys we have looked for broad trends, specifically in the open-ended questions. Some unintentional interpretation of responses may be possible due to the brief nature (one sentence or less) of the data collected from the alumni office.

The strongest opinions of alumni on open-ended questions of strengths, weaknesses, and possible improvements of the ECEN program had to do with design courses. In rating weaknesses and areas to improve the ECEN curriculum the top response was to improve or increase design courses. In rating ECEN strengths, the second largest response was the benefit of design courses. In these categories 21% of respondents stated the design courses were the strongest part of the ECEN curriculum, 38% thought the weakest part of the curriculum was insufficient, non-relevant, or not up-to-date design courses. 42% of respondents thought the program could best be improved by focusing on labs or design experiences. While these are somewhat contradictory, analyzing the individual responses shows that alumni feel design courses are extremely important but are somewhat dissatisfied with the quality, content, or facilities of design courses.

18% of alumni surveyed thought the ECEN faculty or instruction was the strongest part of the program. 18% thought faculty or instruction was the major weakness. Positive comments were generally about the quality of the faculty while negative comments were about the lack of sufficient faculty or quality of TAs.

24% of alumni surveyed felt that a primary strength was the breadth of the ECEN program. Specific positive comments were on breadth of ECEN courses and the sound theoretical and mathematical background. 8% commented that improving math background would be the best way to improve the ECEN program. However, 18% of alumni criticized the breadth, though well over half of these criticisms were directed toward the CEAT engineering science core curriculum rather than ECEN courses.

18% of alumni surveyed thought a primary weakness was lack of courses reflecting current areas of importance in electrical engineering or lack of sufficient advanced courses. Many of these mentioned a specific topic, probably related to the respondent's job. When asked the best way to improve the ECEN program, 15% suggested more advanced topics or adding specific topics. No respondents mentioned advanced topics as a primary strength of the program although on a five point scale graduates rated their preparation in advanced topics at a 3.6 (near mean).

Instructor Survey

Each semester instructors are asked to identify up to three areas in which students have poor preparation, and three areas in which students are well prepared for their course. These items listed by faculty are tabulated in appendix 3.1.A.

Faculty listed a total of 25 topics in which students lacked sufficient preparation in Fall, 2002; approximately 50% of the topics listed cited difficulties in mathematics at various levels. Of the other responses, the next largest (12%) was problem solving ability and a lack of understanding of basic physics and chemistry (8%). Of the fifteen responses indicating areas students had good preparation, two listed basic calculus and one a more advanced math topic. The other responses varied widely.

Capstone Design Written Reports

Written project reports from the capstone design course are given to an independent panel of faculty and graduate students from the OSU technical writing department. The reports are evaluated using a rubric with a Likert (1-5) scale. ECEN has set a goal that all student teams will achieve a score of three or greater for the capstone design report. As of the date of this report we have received evaluation of one semester, evaluating ten student teams. While the mean score for all teams was 2.98, six teams scored between 2 and 3, three teams were between 3 and 4, and one team scored over 4.

This demonstrates that teams need to place more emphasis on the written communication portion of the design laboratory. The written report is 10% of the grade, which may lead to some teams not putting forth sufficient effort on this portion of the project.

Capstone Design Oral Reports

Oral communications in the capstone design course have been evaluated by members of the OSU Speech department. Evaluators attended required oral presentations in the ECEN capstone design course (ECEN 4023). Teams were evaluated on their overall presentation as well as organization, credibility, visual aids, eye contact, and elocution on a 1-5 scale using a rubric. Overall, nine teams are an average score of 2.47 with organization averaging 3.13, credibility of 2.97, visual aid of 3.44, eye contact of 2.56, and elocution of 2.41. The evaluators' recommendations focused mainly on elocution, eye contact, and presenting material in a dynamic manner. These skills are gained with practice, which other ECEN courses do not generally provide. The evaluators also stressed teaching students how to better structure presentations. Since the course outcome matrix indicates only 3.2% (unnormalized) or 0.9% (normalized) of the curriculum is spent on oral communication, there is room to improve this skill.

Course Matrix

To ensure that all students are given sufficient skills in the ECEN curriculum such that they are able to meet all objectives, ECEN has tabulated required and elective courses for each program objective. To determine the numerical rating of each course faculty are surveyed (or CEAT assessment documents are used for core engineering classes). Data is analyzed using two methods to ensure adequate measurement of coverage of each of the program objectives. Only required ECEN courses are discussed in this analysis to ensure that we account only for the subset of courses taken by all students. Students are guaranteed to exceed these scores at graduation having taken seven additional ECEN and technical electives.

Of the five major ECEN objectives, ECEN objective #1 is covered extremely well with the exception of advanced discipline specific topics which are covered in elective courses and are therefore not included in the overall total. The total reported coverage of the sub-outcomes in ECEN courses is 68%/52% of the curriculum devoted to objective #1. Similarly ECEN objective #2 is extremely well covered; this objective amounts to approximately 17%/27% of the ECEN curriculum. Of the remaining 15%/20%, about 3%/6.5% is devoted to ECEN objective #3, 1%/3.3% to ECEN objective #4, and 11%/11% to all topics which make up ECEN objective #5. This analysis shows that ECEN needs to address the final three objectives directly, especially objective #4. ECEN program objectives are available on request.

Evaluation of Final Exams

Starting in Spring 2003, a team of faculty from each area of specialization analyze specific exam problems from each course at the end of each semester using a rubric. Example problems are analyzed as a group to set a consistent rating scale, then each faculty member evaluates specific examination problems in his/her area. The faculty team then compares evaluations and decides on an overall integer score. Problems are evaluated from five students in each course – one each from high and low grade ranges, and three from near the class mean. Three courses are being evaluated currently. ECEN3713, the basic electrical networks course, ECEN3613, the introductory electromagnetic fields course, and ECEN4503, an advanced course in random signals and noise. We feel these courses are a good representation of students at the beginning of the ECEN program, near the mid-point, and at the end of the program.

Results from each of these courses is available on request, but not included in this evaluation since trends are not yet visible in the data. Future assessment will establish a baseline to use to determine if curriculum changes increase or decrease student skills in solving examination problems. We also set as a criterion that the scores will increase between the sophomore and senior year, indicating increase in student problem solving abilities.

Board of Visitors, Area of Specialization Reports, IEEE and HKN Report

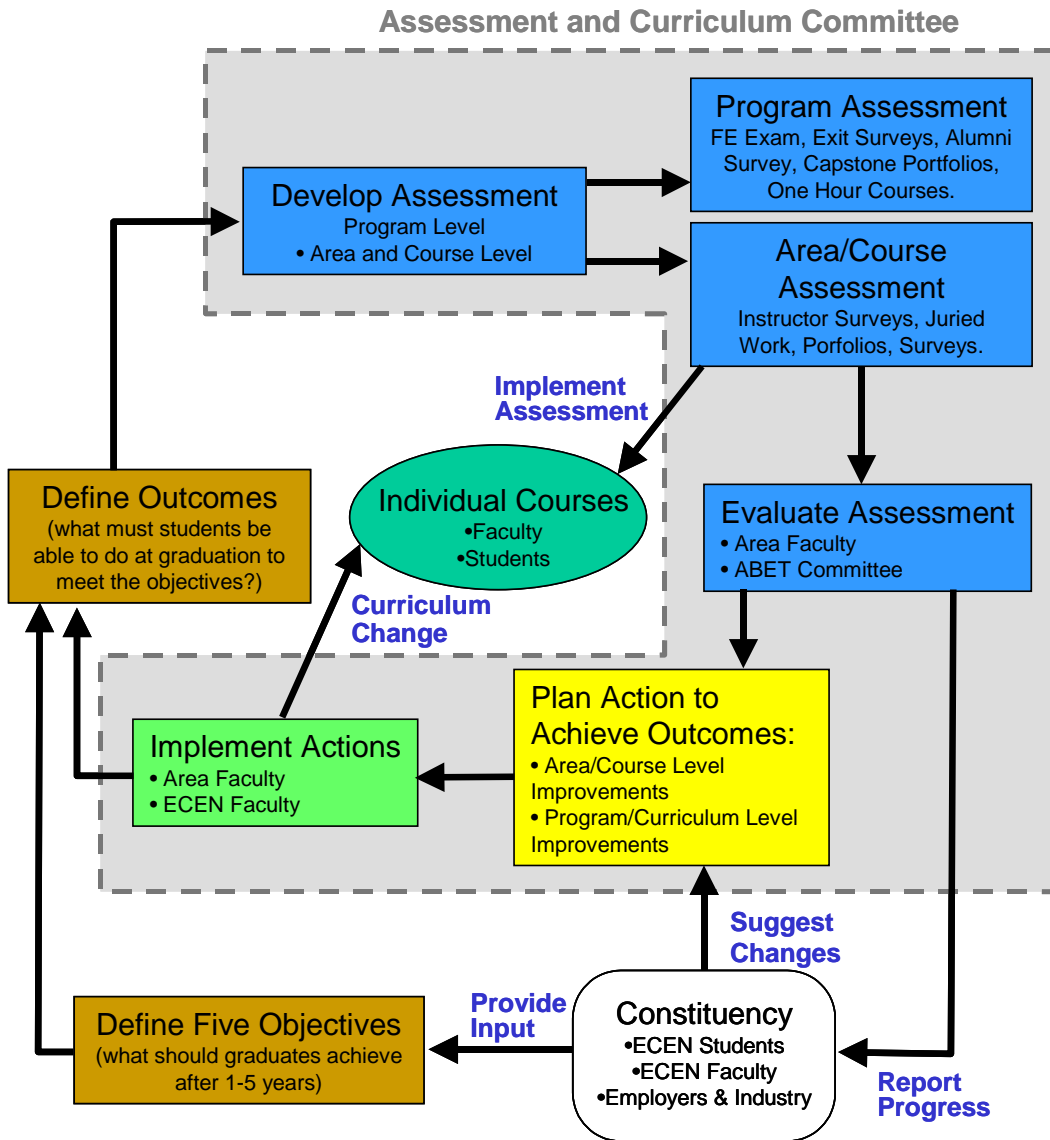
ECEN additionally uses reports from its external advisory board, reports from each individual area of specialization, and reports from student professional societies to evaluate its program. Since these do not directly measure student achievement or the program they are not included in this report, but are available on request.

Use of Assessment Results:

Description of Assessment Process

This section outlines the process by which ECEN assesses and acts to improve achievement of objectives and outcomes. This process is outlined in the figure below. This section outlines the process as envisioned.

The evaluation and assessment process, the process of acting on the assessment to plan curriculum change, and the process of implementing proposed changes all fall under the aegis of the ECEN Curriculum and Assessment Committee (C&AC). The C&AC is divided into three working groups corresponding to the three aforementioned processes. The Assessment Working Group (AWG) is responsible for course and program evaluation, represented by the blue boxes. The AWG communicates the results of program assessment evaluation along with recommended actions to the C&AC for discussion. A summary of the assessment metrics and a list of general recommended actions are given to the Curriculum Working Group (CWG). The CWG is represented by the yellow box in the diagram below. The CWG is responsible for planning course, curriculum, and program changes to improve the ECEN undergraduate program and to address recommendations from the assessment group. Proposed actions are evaluated and implemented by the Implementation Working Group (IWG). The IWG is represented by the green box in the diagram below. The IWG is responsible for ensuring course, curriculum, and program changes get implemented in a timely fashion into the ECEN program.



The assessment loop is closed annually. Each summer the ECEN C&AC and each Area of Specialization will generate a short report in a standardized format that is used as archival evidence. These reports contain results from assessment, document all areas of concern in the curriculum, and propose specific curricular changes. A faculty meeting, held annually, will be used as the forum to present these reports and discuss specific actions.

Assessment Driven Curricular Change

First, we summarize, in general, the conclusions of our assessment process. The following recommendations are drawn from the full assessment reports summarized above. All these recommendations have a high priority and indicate areas assessment has indicated immediate action needs to be taken to improve the ECEN program and help meet ABET objectives and outcomes. These recommendations are given in no particular order.

- Data on course coverage, the FE exam, and ad hoc input from faculty indicate the program needs to directly address ethics. One hour courses are being planned to achieve this.
- ECEN needs to re-examine the number of hours in the sophomore year, primarily the engineering core curriculum. Data from the alumni survey indicates that graduates feel too much time is spent on these core courses. Data from the FE exam indicates our students do significantly better than the national average in general engineering compared to other electrical engineering students nationwide (with the exception of electrical circuits). These changes require a change of policy at the college level to be able to implement.

College of Engineering, Architecture, and Technology

- ECEN should examine structure and content of design courses and review the content of current design courses. Funding must be obtained to upgrade and support development of more design courses in the curriculum and bring laboratories up to standard. ECEN should re-examine the methods courses and the two senior design courses to see if they provide sufficient design experience. This is underway.
- ECEN should seek to offer a larger number of advanced courses at the undergraduate level. Alumni feel that offering more courses in advanced electrical engineering topics will benefit the program. This is the responsibility of faculty in each area of specialization. The implementation of areas of specialization will help by giving more flexibility to faculty.
- ECEN should guarantee students meet objectives for softer outcomes such as ethics, social impact of engineering and environmental issues. Senior exit survey results indicate students do not feel prepared in environmental or social aspects of engineering. One hour courses are being implemented to achieve this.
- ECEN should re-examine course offerings in computer science due to declining student satisfaction with instructors and TA's. Additionally ECEN should examine whether we should offer or require more courses on computer hardware and software engineering for ECEN students. Scores on the FE exam indicate ECEN students are not competitive with other electrical engineering students nationwide. This has not yet been addressed.

Changes Implemented or Planned in Specific Courses:

- ECEN has been negotiating with the Physics department to modify the contents of the Modern Physics course. After a number of meetings, the modern physics course content will change to emphasize rigorous solid-state physics and will be less of a survey of modern physics.
- ECEN making changes to improve the experience in our Experimental Methods Labs (ECEN 2011, ECEN 3021 and ECEN 3031). In the past, these laboratories have been independent of any course, and this has made it hard to coordinate the coverage of the analytical background needed for understanding of laboratory assignments. Significant student feedback has been received on this subject, and a committee was formed to study the issue. Based on the results of this study, starting in the fall of 2003, ECEN 3021 will be taught by the same instructor as ECEN 3713, and ECEN 3031 will be taught by the same instructor as ECEN 3313.
- ECEN has made several changes to improve our Systems I course (ECEN/MAE 3723). Starting in the Fall 2003 semester, each section of 3723 will consist of half electrical engineering students and half mechanical engineering students.
- ECEN has significantly redesigned the capstone design course, ECEN 4023. This will produce a more consistent design experience for all students, and will involve the entire faculty. This redesign will address deficiencies highlighted by written and oral communication assessments.

Programmatic Changes Implemented or Planned:

- The most significant change that we have introduced to strengthen the ability of students to explore topics in depth is the introduction of Areas of Specialization, which is a major program rearrangement. Each student now will be offered carefully selected curriculum plans that facilitate limited specialization in one of several topical areas.
- ECEN has begun the potentially lengthy process of implementing one-hour courses to ensure life-long learning, social and environmental aspects of engineering, and ethics are covered directly by the curriculum and is not ad-hoc. To free up time in the curriculum for these courses, ECEN has requested that ECEN students no longer take ENGR1342, Engineering Design with CAD, part of the CEAT engineering science core curriculum. The two hours saved in the curriculum were to be used for the implementation of two new one-hour courses in the sophomore and junior years with the curriculum described in appendix 3.3.A. After ECEN proposed this idea to CEAT administration, the Dean requested ECEN take the lead on establishing a new format for ENGR1342 which will incorporate into a two hour course the items planned for the two one-hour courses. While not in line with the original plan this potentially addresses concerns about faculty workload compensation. Additionally, during the Fall semester of 2003, we will be bringing in industrial speakers to our Senior Design I course (ECEN 4013). These speakers will address the importance of professionalism and ethics in the workplace.

School of Industrial Engineering and Management (IE&M)

Prepared by W. Kolarik

Assessment Methods

Assessment methods included capstone design project reviews, thesis and dissertation proposals and defenses, TA/RA performance evaluations, Fundamentals of Engineering Exam results, and a review by our Industrial Advisory Board of student work and IE&M activities and plans. Other methods included, exit surveys/interviews, advisory group inputs, course outcome assessments, class grade summaries, and teaching evaluations.

Degree Programs Assessed	Assessment Methods Used	Number of Individuals Assessed
B.S.	Industrial Advisory Board (review of work and activities)	14*
	Fundamentals of Engineering Exam results (national in scope)	14
	Undergraduate Student Advisory Council	6**
	Senior exit surveys/interviews	17
	Capstone projects (with outside clients)	25
	Alumni survey (2002, former undergraduates)	14
	Class grades	All
	Course outcome evaluations	All
M.S., M.I.E., M.M.S.E., and Ph.D.	Industrial Advisory Board	14*
	Graduate Student Advisory Council	6**
	Graduate exit surveys/interviews	11
	Graduate TA/RA performance evaluations (Fall 2002)	24
	Graduate TA/RA performance evaluations (Spring 2003)	29
	Thesis and dissertation proposals	All
	Thesis and dissertation defenses	All
	Class grades	All
Course outcome evaluations	All	

*Number of board members.

** Number of advisory group members.

Analysis and Findings

During the past year IE&M continued to refine its approaches to the Engineering Accreditation Commission/Accreditation Board for Engineering and Technology (EAC/ABET) criteria in preparation for a re-accreditation visit this coming September (2003). The focus of this work is at the undergraduate level. The undergraduate program received the most attention this past year. In the two previous years the graduate program was redesigned and the redesign was implemented. Both programs share the same Industrial Advisory Board and the same faculty and facilities. Hence, many of the approaches described below apply either directly or indirectly to both programs.

IE&M collected information from basic constituencies, which included alumni and employers, students, and faculty members. The Industrial Advisory Board (IAB) represents alumni and employers while student advisory councils represent the students. Survey information was collected on how well students perceive they meet the IE&M program objectives.

IE&M Educational Objectives

The educational program emphasizes the application of technologies and tools in the short term, and the ability to discover, acquire, and adapt new knowledge and skills in the long term, such that our graduates are prepared:

- i.* To define, analyze, and solve complex problems within and between enterprises.
- ii.* To discover, understand, and incorporate appropriate new technologies in the design and operation of enterprises.
- iii.* To lead/manage design, development, and improvement efforts that benefit customers, employees, and stakeholders

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iv. To function in culturally diverse teams, communicate in a professional manner, and uphold the ethical standards of the engineering profession.

Graduating students were asked to rate their abilities and their preparation regarding each objective. Results containing averages and ranges from the spring 2003 and fall 2002 exit surveys of BS and MS graduates provided the following information.

Undergraduates (Spring 2003, n=9)

<i>i.</i> Ability = 2.78 (range = 1)	Preparation = 2.67 (range = 1)
<i>ii.</i> Ability = 2.33 (range = 1)	Preparation = 2.22 (range = 2)
<i>iii.</i> Ability = 2.44 (range = 1)	Preparation = 2.33 (range = 1)
<i>iv.</i> Ability = 3.22 (range = 1)	Preparation = 2.78 (range = 1)

Graduates ((Spring 2003, n=6)

<i>i.</i> Ability = 2.50 (range = 1)	Preparation = 2.67 (range = 1)
<i>ii.</i> Ability = 2.17 (range = 1)	Preparation = 2.67 (range = 1)
<i>iii.</i> Ability = 2.33 (range = 2)	Preparation = 2.83 (range = 2)
<i>iv.</i> Ability = 3.17 (range = 2)	Preparation = 2.67 (range = 3)

Scale: 0 = poor; 1 = marginal; 2 = good; 3 = very good; 4 = mastery/outstanding

Undergraduates (Fall 2002, n=8)

<i>i.</i> Ability = 2.25 (range = 2)	Preparation = 2.12 (range = 2)
<i>ii.</i> Ability = 2.38 (range = 2)	Preparation = 1.62 (range = 3)
<i>iii.</i> Ability = 2.75 (range = 2)	Preparation = 2.00 (range = 3)
<i>iv.</i> Ability = 2.62 (range = 3)	Preparation = 2.25 (range = 3)

Graduates (Fall 2002, n=5)

<i>i.</i> Ability = 2.00 (range = 2)	Preparation = 1.80 (range = 1)
<i>ii.</i> Ability = 1.80 (range = 2)	Preparation = 1.60 (range = 3)
<i>iii.</i> Ability = 2.60 (range = 1)	Preparation = 2.60 (range = 3)
<i>iv.</i> Ability = 2.60 (range = 1)	Preparation = 3.20 (range = 2)

Scale: 0 = poor; 1 = marginal; 2 = good; 3 = very good; 4 = mastery/outstanding

Responses from the previous year (for comparative purposes) for undergraduates are shown below:

<i>i.</i> Ability = 2.72	Preparation = 2.56
<i>ii.</i> Ability = 2.28	Preparation = 2.28
<i>iii.</i> Ability = 2.56	Preparation = 2.41
<i>iv.</i> Ability = 3.09	Preparation = 2.69

Scale: 0 = poor; 1 = marginal; 2 = good; 3 = very good; 4 = mastery/outstanding

IE&M's target is a "good" rating or above, with minimal variation. In the fall statistics, objective *ii* dipped below our target, but recovered in the spring statistics. We will continue to make improvements in order to move our performance to higher levels. Several improvements are listed in the next section.

College of Engineering, Architecture, and Technology

We had 14 students sit for the Fundamentals of Engineering (FE) Exam this past year. The display below summarizes our FE exam results since 1998.

Exam Date	Number of Students (IE&M)	Number of IE Students (National)	IE&M Pass Rate	National Pass Rate
1998-2002 (AM section)	52	2,291	87%	70%
1998-2002 (PM section - general)	7	162	86%	60%
1998-2002 (PM section - IE)	45	2,129	87%	71%
April 1999 (AM and PM)	3	216	100%	75%
Oct 1999 (AM and PM)	11	175	100%	75%
April 2000 (AM and PM)	2	300	100%	69%
Oct 2000 (AM and PM)	6	160	83%	74%
April 2001 (AM and PM)	5	291	80%	65%
Oct 2001 (AM and PM)	4	181	75%	70%
April 2002 (AM and PM)	5	327	60%	67%
Oct 2002 (AM and PM)	9	223	78%	69%

About 25% of IE&M students complete the FE exam. These students (semester in and semester out) tend to represent a cross-section of our students in terms of academic achievement and gender. Demonstrated performance typically exceeds our expectations/target of being above the national average – April 2002 was one exception in a number of years. We are unable to explain this data point, but think it was likely a lack of student preparation on the part of a couple of our students.

Although results may vary somewhat from semester to semester on the exam, overall our students appear to be nationally competitive in the FE. In addition to FE examination results which typically fall above the national average, results in general indicate that the current program is solid. For example, ██████████, a 2002 graduate, won the National IIE Student Paper Competition in 2002 with her (team) capstone design work, as presented in Orlando, Florida. ██████████, a 2003 graduate, won the 2003 IIE Student Award for Excellence (first place in national competition, Portland, Oregon). Over the last three years, more than 10 students have been successful in national-level scholarship competition. For example, in 2003 ██████████, an IE&M junior, won the United Parcel Service Scholarship for Minority Students and was recognized for the same at the IIE National Conference in Portland, Oregon. These facts add further evidence that our academic program is solid and meeting professional engineering expectations

Our faculty continues to win numerous educational awards. For example, ██████████ won the College Advising Award for his work in integrating personal attention and database technology within the advising processes. ██████████, and ██████████, together, won over 15 teaching awards of significance within the last three years. In addition, over one-third of our faculty are Fellows within their respective professional societies.

All in all, IE&M contends that our students meet our stated program objectives and outcomes. Nevertheless, we constantly strive to improve in educating our students for professional practice. Our old traditional engineering education approach always yielded several changes and improvements per year. Our new outcome-related approach is helping us locate parts of our program faster and reduce our improvement cycle time, as well as provide a more sound basis for verifying that the changes are indeed improvements. A number of program and course-related improvements have been implemented (or are in the process of implementation). The lists below highlight the most significant programmatic improvements made in the past three years.

Uses of Assessment Results

We collect information at more detailed levels than that reflected in the overall survey and FE exam statistics above. We use open-ended questions on surveys and use the student advisory councils as sources for detailed information. Instructor evaluations of course outcome attainment and suggested improvements regarding the same are collected. This information helps us to locate specific issues and ideas. This information is fed back into the faculty at faculty meetings or at the two work sessions (one full day in the fall and one-half day in the spring) and to the IAB during their semi-annual on-site visits. Improvements are put in place for the next term or after proper approval from the University is obtained. For example, major course/curricular changes require several levels of approval and require at least one year to implement, whereas smaller improvements in a course or the curriculum can be implemented before the next term begins.

We continue to introduce significant changes in the program, courses, and physical resources. Program and course foci have been expanded and sharpened in all areas. A major program redesign project, in collaboration with the Industrial Advisory Board, is in midstream. This redesign is in response to shifts in professional practice as well as internal program assessment.

In general improvements fall in three categories: (1) process, (2) program, and (3) courses. The lists below are a summary of major changes undertaken in IE&M as a result of program and course assessments over the past three years:

Process-related improvements:

- The explicit naming and involvement of constituencies –
 - the reestablishment of the IAB.
 - the formation of the Student Advisory Councils.
- Development of vision, mission, core values, objectives, and outcome statements.
- The Alumni Survey and its alignment with the program objectives statements.
- The Exit Survey and its alignment with the program objectives and outcomes.
- Better student-faculty communications.

Program-related improvements:

- The redesign of the undergraduate curriculum (under way).
- The redesign of the student advisory system.
- The development of course portfolios, course outcomes, and formal instructor evaluations and the sharing of the information therein.
- Major upgrades of student laboratories (under way, and described in the Facilities Section).
- Upgraded presentation support with dedicated color printers for IE&M students.
- Restructuring of the course offerings prior to entry into senior projects (IEM 4913).
- Strengthen project management skills across the curriculum (need identified Fall 2002 and Spring 2003, improvement in progress).
- More student-friendly IE&M Web site.

Course-related improvements:

- Outcome-based course structures and performance surveys (and the improvement of our capabilities in writing course outcomes and assessing the same, related to program outcomes).
- Course topic mappings to program outcomes and objectives.
- Restructuring and coordination of IEM 4913.
- Coordination and action to make STAT 4033 more effective for IE&M students.
- Addition of a research methods course for undergraduates (IEM 4010).
- Numerous course-level improvements.
- Better coordination of Web-based educational materials.

One brief example of a significant change completed this year deals with our capstone design experience. Once we formed our IAB, one of their tasks was to review several of our IEM 4913 senior projects (our capstone design experience). Their findings were that the reports were sound, but could be strengthened with more direct executive summaries and in expanding the students perspectives of the overall impact that the project would likely make in the client's operations. In addition to these detailed comments, the IAB explained that project management was critical to their operations, and that new IEs would likely be working along project lines from day one.

College of Engineering, Architecture, and Technology

Information collected from the exit surveys (open-ended questions) over the course of one or two semesters indicated that the graduates struggled with time/project management of their capstone projects. For example, they indicated that a time crunch was occurring towards the end of the semester and that their work was not as good as it could be if this time crunch could be avoided. Faculty mentors (one for each project team) also weighted in on the issue. Their contention was that students had difficulty managing their projects and lost time picking up the skills in mid-course.

This information was put on the table in our fall 2002 work session. The result was a redesign for IEM 4913. The new design called for a program manager (one faculty position) and one technical mentor (faculty member) for each project team (of three students). In addition, the IEM 4913 stated outcomes were realigned to address all issues described above. The spring 2003 section worked under this new model, with a mid-term assessment and adjustments. The result was a more level load, more project skills gained earlier, and excellent reception by clients. Results collected from IEM 4913 our capstone design experience (spring 2003) indicate that our students are accomplishing our stated course/program outcomes. Composite ratings (provided by our faculty) on a scale of 0 to 5 (0 – did not satisfy requirements; 5 – satisfied all requirements) run in the 3 to 5 range across the categories of evaluation. Current targets are set at 2.5.

In summary, this improvement was the result of using a number of assessment tools and resources to redesign our most significant undergraduate course. The course will continue to evolve and improve through continuous improvement.

Resources are traditionally tight, however, we have made significant upgrades to our facilities in response to information we gained from our constituents. We have upgraded our office area to accommodate student needs in specialized software and hardware access for project work and communications work. We have converted our primary classroom to a multimedia presentation room. Plans are in the implementation stage to add full-scale CAD/CAM equipment to our manufacturing laboratory, as well as upgrade equipment in our work analysis and ergonomics laboratory. Hence, we are (and will be) better able to provide more hands-on opportunities to our students. Primary characteristics of our graduates are hands-on attitudes and abilities.

Note: The tools and techniques that we are using in our assessment processes were gained in collaboration with the Office of University Assessment. Their work in Alumni surveys (and other surveys) has been helpful in gaining perspectives that are beyond our departmental resource base. Much of the data reported in the first section was gained with their support.

**Construction Management Technology
Division of Engineering Technology**

Prepared by: Charles A. Rich

Executive Summary (full report available upon request)

The following table shows the assessment methods used and numbers of individuals assessed for the degree programs offered by the Department of Construction Management Technology.

Assessment Methods Used	Number
Exit surveys of graduates for F02 (11) & S03 (18) semesters	29
Course evaluations for F02 semester; S03 data not available	297
Employer reviews of student performance in internships, Sum 02	40
AIC Graduate Placement Surveys for F02 & S03 semesters	28
National CQE Level I for F02 semester; S03 data not available	15
ASC/AGC and NAHB Student Competitions, S03	24
Alumni Telephone Survey by OUA, S02 (1996 & 2000 grads)	25

Analyses and Findings from program outcomes assessment:

Current graduates feel well prepared in most areas. Areas of weakness were noted.

Course evaluations are excellent, indicating general satisfaction with the curriculum.

Employers of graduates and student interns are very pleased with their attitudes, work ethic and job performance.

Placement is excellent and starting salaries are consistent with the national average.

CQEI scores are below national averages. Areas of weakness were noted. Also, an exit survey indicated areas in which the students felt most and least prepared and whether they thought the exam was a fair measure of what entry-level Constructors should know.

Competition teams were again successful in our region – one team placed 1st, one placed 3rd, one placed 4th and one team placed 9th. One student placed 1st, one placed 2nd and one placed 3rd in the individual presenter categories. The 1st place team (Heavy-Civil) placed 2nd in the National Competition.

Recent graduates are satisfied with the preparation they received. Some graduates felt less than adequately prepared in a few areas.

Instructional changes that have occurred or are planned as a result of outcomes assessment:

Created a course in Construction Safety (CMT 4443)

Combined Mechanical and Electrical Systems courses (CMT 3463) and added laboratory component

Added a course containing an Advanced Surveying Module, an Equipment Management Module and a Scheduling Module (CMT 4783)

Increased requirements for developing oral, written and graphic communication skills

Created a Capstone Course (CMT 4293) with elements from the entire curriculum; continue to add emphasis in areas of deficiency as noted through our assessment program

Added ACCT 2103 as an approved Business Elective for students on the older programs

Continued revision of the Computer Estimating course (CMT 4273)

Course Actions Recently Approved: (these changes will be reflected in the Degree Requirements for freshmen entering the program in Fall 2001 and later)

ACCT 2103 is now a required course.

CMT will add an "in-house" construction scheduling course.

Many prerequisites have been modified to insure students have adequate preparation for the advanced courses.

College of Engineering, Architecture, and Technology

Several courses will be modified to avoid duplication of content with other courses and to include topics felt to be lacking in the current courses.

Structural design courses (Timber, Formwork, Steel, Concrete) will be combined and modified to include construction emphasis.

Two internships are now required for all students on curriculum sheets dated Spring 2001 or later.

A new soils course, CMT 3734 – Soils in Construction Technology, covering topics of primary interest to construction professionals, was taught for the second time in Spring 2003, by a member of the CMT faculty. This course will be phased out next year, and selected topics will be included in CMT 3433 (see below).

A new course, CMT 3433 – Site Development, is being developed to alleviate some of the duplication noted in previous assessment efforts, and to introduce some new environmental topics that have recently become important to the construction industry.

Electrical Engineering Technology
Division of Engineering Technology
 Prepared by T. G. Bertenshaw

Degree Program(s) Assessed	Assessment Methods	Number of Individuals Assessed
<i>BSET – Electronics, or Computer Technology, or Telecommunications Technology</i>	<ul style="list-style-type: none"> • Portions of the national Fundamentals of Engineering exam administered in Senior Projects (EET4833). • Exit surveys from graduating seniors • Feed back from alumni. • Employer surveys. • Employment statistics. • Feedback from EET industrial advisory board. 	<p>31</p> <p>0</p> <p>0</p> <p>0</p> <p>0</p> <p>0</p> <p>5</p>

Analysis and Findings:

The Assessment Methods are those identified in our recently overhauled Outcomes Assessment Plan. They target the gathering of data required to satisfy our accreditation agency. Not all of the methods delineated above have been implemented as yet . Because our accreditation agency, TAC/ABET, has initiated sweeping reforms of the information required for accreditation (heavy emphasis on program outcomes) we are in process of developing the procedures, processes and tools of complying. Most, or all, of those tools will be in place by 2004 and the fall out will include a very enhanced ability to assess both our educational and program outcomes.

The FE (Fundamentals of Engineering) exam is a national level instrument required of all who wish to eventually attain registered status as a Professional Engineer – it is the first step. The test is broad in scope exercising a student’s mastery of the field of knowledge offered in his/her degree program. Within the curriculum, a truncated version focused on electronics is required of all seniors. From the examination results it can be seen that EET students perform well in the areas of:

- a) Ethics
- b) Equivalent resistances
- c) Basic ac/dc circuit analysis w/o dependent sources
- d) Simple op-amp circuits
- e) Number systems
- f) Digital systems
- g) Microprocessor/Computer applications

However, the following areas of weakness have been identified and will be addressed in the faculty curriculum review meeting for 2003:

- a) Applications of diodes in rectification circuits (ac to dc conversion)
- b) Circuit analysis with dependent sources
- c) Transformer circuits (reflection of load resistances and induced currents)
- d) Transistor circuits
- e) Thevenin Voltages
- f) RMS v.s. Peak-to-Peak voltages
- g) Mixed voltages (DC and AC combinations)
- h) Capacitor and Inductor energy storage w/integral equations

The examination was administered at Stillwater, and both of our off-campus sites at Oklahoma City and Tulsa. The range of exam averages for these locations is 3.16 to 3.67 on a 4.0 scale, indicating that our students are generally quite knowledgeable in the fundamentals of their major.

Uses of Assessment Results:

In the past results of department specific surveys (which included feedback from alumni) were used to by the faculty and the Industrial Advisory Council to adjust curriculum emphasis when/where needed. However for this year, we have had zero funds to allay the costs of preparing and mailing surveys. Until those funds are restored our ability to generate information from that source aspect is extremely limited.

Fire Protection and Safety Technology
Division of Engineering Technology

Prepared by J.D. Brown

Degree Program(s) Assessed	Assessment Methods	Number of Individuals Assessed
Bachelor of Science, Engineering Technology, Fire Protection and Safety	Exit Interviews	33
	National Exams	6
	Alumni listserv	NA
	Portfolio	40

Analysis and Findings:

The assessment plan was revised in the spring of 2002. Some of the assessment methods will not yield meaningful results until data has been collected for a few years. For example, *portfolio data* was collected for the freshman class in FPST 1213. However that data will not be correlated with performance in other classes or yield meaningful insights until those students have taken subsequent FPST coursework. *Midlevel assessment* will begin in 2005. The enrollment management plan for the department was approved to begin with the freshman class of 2003. No *graduate survey* was performed during this period. A survey including graduates of the last 3 years will be undertaken in the late fall to assess the effects of recent curriculum changes.

National Exams

National exams are a broad assessment of the quality and depth of the student's preparation.

Three students took the Fundamentals of Engineering Exam (FE) and reported their impressions (scores not yet reported). Engineering technology students typically do not take this exam and may not be allowed to take the exam in many states. Success in this exam indicates exceptional preparation often through independent study.

One current student and three former students (recent graduates) took the Associate Safety Professional (ASP) exams and passed (scores not revealed).

The students taking the FE felt ill prepared in dynamics, thermodynamics.

The students taking the ASP felt generally well prepared and felt that their OSU education was sufficient in coursework and content in order for them to be successful in that exam. However they felt somewhat weak in some System Safety Techniques, particularly Fault Tree Analysis.

Listserv

Model code issues are frequently addressed, as are regulatory issues. Fire alarm questions are often basic questions that indicate a lack of adequate preparation. Issues regarding suppression system design are often related to interpretation of codes and are complex.

A significant amount of discussion concerns pursuing professional certification. Many still feel that certification and licensure should have been emphasized more in the curriculum.

Graduates feel the program should place increased emphasis on issues and techniques surrounding model fire and building codes.

Exit Interviews

- Seven (of 33) graduates commented the Industrial Hygiene (FPST 2344) and Industrial Hygiene Instrumentation (FPST 4133) were repetitive, contained the same material and assignments or similar.
- Seven graduates commented that labs and equipment require replacement, repair, or modernization.
- Four graduates commented that the program needs to emphasize and push the PE/FE exam and preparation for the exam.
- Three graduates commented that the internship program needs to be formalized and enhanced
- Three graduates recommended splitting the Fire Protection and Safety topics in the upper division to allow more specialization.
- Three graduates recommended increasing the amount of material on Fire Alarms and detection systems.

Uses of Assessment Results:

- Beginning in Fall 03 and continuing in Spring 04, new lab facilities are being brought on line, new equipment installed and all Lab courses being revised to use new facilities and equipment. This has been ongoing and was hampered by construction delays which have placed the building 1 year behind scheduled completion. The fire alarm laboratory will be a significant improvement over current facilities. This should enhance student experience in an area which has been consistently identified as a weakness.
- The department held a strategic planning session last fall to integrate the results of prior assessment periods into individual courses and build continuity throughout the curriculum
- FPST 3143 *Structural Design for Fire and Life Safety* was revised to include more material from the International Building Code.
- FPST 4333 *System Safety* will be revised during the next offering (Spring Semester) to include more detailed instruction in methodology of some techniques including fault tree analysis.
- Instructors have been given the results of the exit interviews and changes will be made in individual courses as appropriate.
- The department has developed an advising track through the curriculum that will better prepare those students who wish to pursue the FE/PE certifications as a career objective. This involves taking more rigorous alternatives for some courses.
- Students preparing for national exams were encouraged to utilize the College of Engineering's review sessions. This, coupled with course advisement tailored to student career objectives will benefit student success on these exams. Commencing Fall 03, Professional Engineering Exam preparation track is in place to prepare student for successful completion of the FE exam.
- Starting Fall 2003, FPST 4133 is no longer required for all students. Students may choose between Industrial Hygiene Instrumentation (FPST 4133) and Advanced Sprinklers (FPST 3113) allowing some specialization.
- Starting Fall 2003, the number of upper division controlled electives have been increased from 2 (6 hours) to 3 (9 hours) to allow more choice in areas of specialization.
- Internship program will be reviewed during the 2003-2004 academic year.
- Fire Alarm course material is in the process of being completely revised coupled with the anticipated delivery of 20 new Fire Alarm Panel workstations from Notifier. This is in conjunction with moving into the new lab facilities.
- All items will be reviewed during the faculty's next curriculum retreat in August 2003.

Mechanical Engineering Technology
Division of Engineering Technology

Prepared by: James E. Bose

Degree Program(s) Assessed	Assessment Methods	Number of Individuals Assessed
B. S. Mechanical Engineering Technology	Fluid Power Society	25
	Capstone Design Course	27
	Embedded Assessment	260
	Industrial Advisory Council Review	8
	Alumni Survey (OSU/OUA)	NA at this time
	Mini Baja Competition Car	8

Analysis of Findings:

External evaluators from project sponsors of our Capstone Design Course and paid jurors provided excellent input in regards to the technical content and the oral and written reports prepared by the students.

Videotapes were made of all the projects. The quality of both the written and oral reporting has been maintained. The paid jurors provided improved feedback that was lacking when only volunteer/peer review was used. The faculty assigned to this course for this time period has significant industrial experience and a history of successful design work.

The performance of students on embedded assessment consists of taking questions from the Fundamentals of Engineering exam and including them in regular testing exams. The number of students taking the FE remains small and consists of only the best students. The new procedure of using FE exam questions tests a majority of the MET student body and is much more representative. Testing which does not involve graduation implications has not been as successful such as the Fluid Power Certification test.

The Mini-Baja team competed in Provo, Utah and Troy, Idaho. Significant improvements were made on required reports submitted by the student team members. This competition is time consuming for the students and tests all activities from fund generation to testing and competition. There is continual concern over inadequate funding and the students spending too much time on this activity and performing poorly on their academic programs. Also, the competition is scheduled during finals week which is difficult for all parties involved.

In the Student Exit Interview, students were asked about the adequacy of the computer labs and software. The results were strongly positive with over 90 percent answering yes. Also, the students were asked about the appropriateness of the Math, Chemistry, and Physics sequence for their degree. Again, the response was strongly positive.

Fluid Power Society (FPS)

Twelve students took the job performance test (Hydraulic) on April 12, 2003, and all of them passed the test. Twelve students took the written test (Industrial Hydraulic Technician) on April 26, 2003, and four of them passed the test. Students need to pass both written and job performance tests in order to get certified. The low pass rate on the written test according to the professor in charge can be attributed to students prematurely taking the test and/or not taking advantage of the review sessions made available to them.

Fundamentals of Engineering Exam

Two professors continue taking questions from the FE and have reported that their students performed well on these exam questions. Performance of most students on the FE Exam questions was quite similar to their performance on the other test questions on the examinations. The specific courses were: GENT 3433 Basic Thermodynamics, GENT 4433 Heat Transfer, MET 3313 Applied Fluid Mechanics, and MET 4453 Applied Thermodynamics. Each test given in the 2002-2003 Academic Year in the courses listed above included four typical Fundamentals of Engineering Examination questions. In most cases, some small but significant fundamental calculation was needed to choose the most correct response. Each question involved the application of one or more fundamental essential concepts. Success rates of 75% have been reported.

In Fall 2001, MET 2103 Industrial Materials students (40 students) were given an exam with a total of 41 questions, 15 of which were from the Fundamentals of Engineering (FE) exam. Success of students on the FE questions correlated well with the student's success on the overall exam. The test score average was 73.6 and the FE score average on the 15 exam questions was 72.0. In Fall 2002, MET 2103 Industrial Materials students (53 students) were given comparable exam with a test score of 79.4 result. The average score on the FE questions was 66.4. In both semesters, students were mixed in their appraisal of which was harder, the FE questions or the instructor questions. From the distribution of the scores, there appears to be no significant problem with the performance of our students based on national norms.

Mini-Baja Competition Car

Student teams designed, fabricated and competed in two Mini-Baja off-road vehicle contests. Students are required to design and build a competition car and compete with other major universities. Students are required to schedule their activities, build the car, arrange transportation to the competition site and compete. Two races were competed with reasonable success. Reports are written and a senior faculty member supervises activities.

Capstone Design Course (MET 4123 Senior Design Projects)

(Fall 2002, 9 students, 4 project teams; Spring 2003, 18 students, 6 project teams)

In the senior design project or capstone course, students work in teams of two or three to develop a mechanical design, which integrates their knowledge and skills acquired in their previous courses. Each student asks local industrial contacts for potential projects, formulates a suitable problem with the industrial sponsor, develops a project proposal, and presents the proposal to the class. Students, with guidance from the instructor, form teams to work on a subset of available projects. Each team develops a design, writes a report, and gives an oral presentation of their design to an audience of industrial sponsors, faculty, and students. Feedback to the instructor from industrial sponsors and other faculty members verify that the technical content and creativity of the student designs are consistently at a baccalaureate level or higher.

Paid jurors were used in both the Fall 2002 and Spring 2003 presentations. Their specific comments included:

- Student projects should be narrower in scope with more definitive requirements detailed by the sponsor, the instructor and the team.
- There is a need for more departmental faculty involved in the student team projects. Calculations without units, spelling, etc. needs attention.
- Presentation mechanics were good. Presentations were well rehearsed and reports were available.
- Some formalized method of selection of the projects should be discussed.

Uses of Assessment Results:

Academic Program

Machine Design Curriculum Changes

CEAT Common Lab Concept

Provided ANSYS software

Students get better value on Lab Fees

FEA Course

Provides "New Technology Transfer" to MET students

Applied focus allows coverage of high-level analysis techniques industry needs

OSU-MET

Adequate student enrollment and faculty with proper skills to sustain regular offerings of two electives in each specialty area

Certification and State of the Art Technology

- AutoCAD, ProE, Rapid Prototyping, ANSYS
- Hydrasim, Designer, 3 or 4 Fluid Power Technician Certifications
- Strain Gage, MathCAD, Fast Fourier Transform
- MasterCAM, CMM, Injection Molding, Liquid Plastic Molding

Industrial Advisory Board

The Industrial Advisory Board was tasked to concentrate on those activities which support our TAC/ABET2K accreditation. Specifically, the following action items were identified:

1. Provide more input to them on the new ABET 2000 accreditation
2. Graph A-K for IAB to look at before the next meeting
3. Provide information on how IAB members can become ABET Evaluators
4. Develop objective statements for each course
5. Identify advisory board members that could be trained as TAC/ABET Evaluators

Results:

February 18, 2003 IAB meeting

██████████ of Halliburton Corporation attended a TAC/ABET Program Evaluator Training workshop in New Orleans. He stressed to the faculty that all course syllabi should have objectives and outcomes statements and demonstrate how A-K is covered in class. Also, we should have a file on each course with documentation of A-K.

ABET Assessment Workshop highlights presented to departmental faculty. Specific tools that can be used to measure expected accomplishments of the students are: 1). Employer feed back surveys – there is no need to do this every year, maybe every 2-3 years. 2). Videotaping students throughout their college career to show progress students are making, also having students keep a portfolio of their work.

May 14, 2003 IAB meeting

The IAB committee reviewed the program objectives and recommended changes be made. The Program Objectives were developed for review by the appropriate university administration.

The IAB reviewed course objectives submitted by the faculty and made the following recommendations:

- Faculty must have proof that they are doing what their course objectives state.
- Course objectives must not be too general so that measurements can be made.
- Coverage of A-K must be assured.

Tasks to be completed by the next IAB meeting include:

- 1). Course objectives for all courses should be completed.
- 2). Course matrix completed.
- 3). One sample per instructor of a course evaluation form should be prepared.
- 4). One sample per instructor of home-work/test/report – that document A-K.

OSU College of Human Environmental Sciences, CHES

Prepared by CHES Assessment Task Force

Lona Robertson, Assistant Dean

College/ Department	Degree Programs Assessed	Assessment Methods Used	# Assessed
CHES	Entering Undergraduates Entering Undergraduates Midlevel Undergraduates Midlevel Undergraduates Senior level	College Student Inventory Critical Thinking Disposition Inventory Critical Thinking Disposition Inventory Critical Thinking Skills Test Modified NSSE administered to 2003 graduating seniors	210 161 376 381 182
Design, Housing & Merchandising (DHM)	BS DHM	Academic and design portfolios Two advisory boards (ID: ADP & M) Internship employer survey – by major Modified NSSE administered to 2003 graduating seniors Embedded course projects	95 Overall program assessment & feedback 75 68 492
Human Development & Family Science (HDFS)	BS HDFS MS & PhD	2002 HDFS Senior Exit Survey: 60 college competencies and 40 departmental competencies were evaluated Early Childhood Education Portfolio OSU Alumni Survey Modified NSSE was administered in Spring 2003. Oklahoma Subject Area Test Oklahoma Professional Teaching Examination Development of a survey to assess MS student competencies is underway. Instrument is to be completed and administered in 2004 Annual Doctoral Review Informal assessment strategies including qualitative faculty observations of student performance over time, comparisons of the HDFS doctoral program with programs at peer institutions, and assessment of employability of doctoral graduates.	76 Fall 2002 70 Spring 2003 104 56 89 37 26 28
Hotel & Restaurant Administration (HRAD)	BS HRAD	Modified NSSE administered to 2003 graduating seniors 2002 Senior Exit Survey 2002 OSU Alumni Survey	28 23 20
Nutritional Sciences (NSCI)	BS NSCI MS – Nutritional Sciences	Registered Dietitians Exam: Graduates of the OSU dietetics program Registered Dietitians Exam Alumni of Dietetics Internship Program Modified NSSE administered to 2003 graduating seniors OSU Undergraduate Alumni Survey (graduated 1996 and 2000) Survey of Dietetic Internship Alumni (1995-2001) and First Time Employers Survey of Graduate School Alumni who graduated 1996 and 2000 – conducted Spring 2003	19 12 54 13 Dietetic Interns n=43 Employers n=22 .

Analysis and findings from program outcomes assessment:**College of Human Environmental Sciences**

Since implementing the Retention Management System with the College Student Inventory (CSI) in the fall of 1996, the College of Human Environmental Sciences has seen the retention of first year, new freshmen increase from 80.4% to 91.1%. Data for the HES 1111 students for Fall 2002 are presented below.

Scores	Dropout Proneness	Predicted Academic Difficulty	Educational Stress	Receptivity to Institutional Help
Low	47.1%	28.1%	33.3%	31.0%
Moderate	45.7%	60.9%	53.8%	52.4%
High	7.1%	10.9%	12.8%	16.7%

These data indicate a strong propensity for incoming freshman to complete an undergraduate degree program. A majority of these students also presented with moderate levels of predicated academic difficulty, educational stress and likelihood to utilize university support services. These results are being used to identify characteristics for early detection and intervention for students with high dropout proneness.

Since fall 2000 the **California Critical Thinking Disposition Inventory (CCTDI)** and the **California Critical Thinking Skills Test (CCTST)** have been a part of the HES Assessment Plan. The following is a summary of percentages of the seven disposition scales of the **CCTDI** for students in HES 1111 (fall 2002) and HES 3002 (summer 2002, fall 2002 and spring 2003). Persons who score below 40 have a weak disposition and persons who score above 50 are strong in that disposition. An overall score of less than 280 shows serious deficiency in disposition to think critically. An overall score of 280 or less is a marker of weak disposition for critical thinking while a score of 350 or higher is a solid indication of strong disposition across all scales.

CCTDI Subscale	HES 1111		HES 3002	
	< 40	> 50	< 40	> 50
Truth Seeking	78.9%	0.6%	66.2%	1.9%
Open-mindedness	36.0%	10.6%	22.3%	17.8%
Inquisitiveness	28.6%	28.0%	17.6%	31.9%
Systematicity	42.2%	12.4%	34.6%	12.5%
Maturity	28.6%	21.7%	17.3%	30.1%
Self-confidence	34.8%	18.6%	23.7%	20.5%
Analycity	31.1%	11.2%	16.0%	17.6%

	HES 1111		HES 3002	
	< 280	> 350	< 280	> 350
Total Score	35.4%	5.6%	77.1%	6.1%

One of the goals for collecting **CCTDI** scores from students enrolled in HES 1111 and 3002 is to examine changes in the seven sub-scales over time. As many of the freshmen initially tested in HES 1111 have now reached the upper division HES 3002, we have achieved 142 matched pairs for direct comparison of changes during their academic career. The data for HES 1111 and HES 3002 are provided below.

CCTDI Subscale	HES 1111			HES 3002		
	Mean \pm SD	< 40	> 50	Mean \pm SD	< 40	> 50
Truth Seeking	34.9 \pm 4.7	82.4%	0.0%	37.0 \pm 5.8	67.6%	1.4%
Open-mindedness	43.0 \pm 5.1	25.4%	8.5%	44.1 \pm 5.9	19.0%	17.6%
Inquisitiveness	43.6 \pm 6.6	24.6%	20.4%	45.2 \pm 6.8	17.6%	26.8%
Systematicity	41.4 \pm 6.5	40.1%	10.6%	43.1 \pm 6.9	32.4%	19.0%
Maturity	44.3 \pm 6.4	23.2%	21.8%	46.0 \pm 6.6	17.6%	30.3%
Self-confidence	41.7 \pm 6.2	35.9%	11.3%	43.2 \pm 6.9	24.6%	19.0%
Analycity	43.2 \pm 6.2	26.8%	15.5%	44.6 \pm 5.7	16.9%	16.9%

	HES 1111			HES 3002		
	Mean \pm SD	< 280	> 350	Mean \pm SD	< 280	> 350
Total Score	292 \pm 27	25.4%	0.7%	303 \pm 31	21.8%	5.6%

Significant increases were found in raw scores on each of the seven subscales and the cumulative total scores from administration of the CCTDI in HES 1111 to HES 3002. This is indicative of improvements in the dispositions for critical thinking. The greatest change in raw scores for a subscale was found in truth seeking; however, only 1.4% of students achieved a strong disposition (> 350) for truth seeking by HES 3002. The data also indicated significant decreases in the proportions of students with weak dispositions as well as significant increases in the proportion exhibiting strong dispositions on all other subscales. Data will continue to be collected and analyzed to increase the number of matched pairs. This will allow us to better identify characteristics related to persistence to graduation and academic success. Results will be shared with faculty for use in curriculum development.

The following **CCTST** sub-scale scores for students in HES 3002 in summer and fall 2001 semesters were summed and viewed as gross indicators of overall group strength and weakness:

CCTST Subscales	Mean \pm SD	Percentile
Analysis	4.24 \pm 1.47	>49 th
Evaluation	5.33 \pm 2.24	>52 nd
Inference	5.52 \pm 5.52	>37 th
Deductive	7.11 \pm 2.68	>47 th
Induction	6.33 \pm 2.24	>48 th
Total	15.09 \pm 4.49	>50th

Of the students assessed, the highest level of skills indicated on the CCTST was in the participant's ability to evaluate the logic and merit of various arguments. Data for the inference subscale presented the lowest percentile ranking at the >37th percentile. This area measures the skill of applying intuitive insight into conclusion development from various situations. Evaluation scores, which measure the ability to evaluate claims and arguments, ranked highest, representing scores greater than the 52nd percentile. This result appears to be in opposition to the truth seeking disposition as found in the CCTDI. Over the next year further analysis will examine the correlation between sub scores on the CCTDI and CCTST.

Select items from the NSSE (National Survey of Student Engagement) were extracted to serve in place of a senior exit survey this year. Questions and categories retained original content as to be compared to university-wide data; however, coordination with the office of University Assessment will not make the data unavailable for the current report due to processing and analysis time requirements. Results from the 2002-2003 senior exit survey will be shared with the CHES executive group and with faculty meetings by department when available.

Analysis and findings from program outcomes assessment:

Design, Housing and Merchandising

Academic and Design Portfolios

- Forty-eight (48) Interior Design majors participated in the portfolio review process at the sophomore level. The process involves a review by all interior design faculty of representative work from courses. Students receive written feedback and a score. In addition, the students participate in an 8-hour charrette to solve a design problem, and must generate graphic materials to communicate a recommended solution. Decisions were made regarding acceptance of students into the junior year of the program based upon these assessments. Of the 48 student who participated in the review, 36 students were accepted into the Stillwater campus upper division studio classes and 6 into the Tulsa upper division studio classes.
- Thirty-five (36) Stillwater campus and thirteen (13) Tulsa campus interior design students developed design portfolios and resumes while enrolled in DHM 3881, Pre-internship. The students presented portfolios to industry professionals during a mock interview process and received feedback from the interviewers regarding their interview skills and the portfolios. In addition, portfolios are graded and represent a portion of the DHM 3881 grade.
- Thirty-nine (39) merchandising and AD/P students developed portfolios while enrolled in DHM 4011, Post-Internship Seminar. The students presented portfolios to industry professionals during a mock interview process and received feedback from the interviewers regarding their interview skills and the portfolios. In addition, portfolios are graded and represent a portion of the DHM 4011 grade.

Advisory Boards

- The *Interior Design Advisory Board*, the interior design faculty and Janine James, the Chris Salmon Endowed Professor. met to discuss innovative approaches to facility and curriculum development. An ongoing dialogue during the coming year will continue to provide input and ideas as part of continuous improvement approach to the interior design curriculum. Board members served as interviewers to provide students feedback on interview and presentation skills, and other assistance.
- The *Apparel Design/Production and Merchandising Advisory Board* provided recommendations regarding curriculum updates, suggestions for selection of equipment and technology, and related assistance in preparation for the AAFA curriculum and facilities review. Individual board members serve as resource persons for faculty as needed.

Internship Employer/Supervisor Survey

- During summer 2002, 69 DHM students (35 ID; 26 M & 13 AD/P) completed internships. Each internship employer completed a survey. This is a 13% increase in the number of students completing internships over the previous year. Overall, the evaluations and comments from the employers were very positive. Many students returned to campus with offers for permanent employment following graduation.
- Summary of *Interior design* supervisors' assessment
 - ◆ 93% stated they would like to have another DHM ID student intern based on the performance of this student; 7% stated possibly or a qualified yes.
 - ◆ 76.7% of the interns received all evaluation ratings as above average (excellent or good) for the following areas:
 - Interest in the field: includes desires to acquire knowledge and experience, ...
 - Personal abilities: includes punctual, thorough, enthusiastic, follows instructions, ...
 - Skills, business and technical: includes drafting, computer use, client relations, ...
- Summary *apparel design/production* supervisors' assessment
 - ◆ 92.3% received an overall rating of 9 or 10 on a ten point scale. No intern received an overall rating below average.
 - ◆ 84.6% received all ratings above average (exceptional or commendable). For the following areas: ability to learn, reading/writing/computation skills, listening and oral communication skills, thinking and problem solving skills, professional and career development skills, interpersonal and teamwork skills, organizational effectiveness skills, basic work habits, character attributes.
 - ◆ In response to the question "If here were a job opening, would your company offer employment to this intern?" only 1 stated no.
- Summary *merchandising* supervisors' assessment
 - ◆ 76.9% received an overall rating of 9 or 10 on a ten point scale. No intern received an overall rating below average.

- ◆ 65.4% received all ratings above average (exceptional or commendable). For the following areas: ability to learn, reading/writing/computation skills, listening and oral communication skills, thinking and problem solving skills, professional and career development skills, interpersonal and teamwork skills, organizational effectiveness skills, basic work habits, character attributes.
- ◆ In response to the question "If here were a job opening, would your company offer employment to this intern?" only 1 stated no

HES Survey of Supervisors of 2001 and 2002 Interns (example findings)

- Most DHM employers rated DHM students as "more competent" than interns from other colleges/universities and as being "as competent" as interns from other colleges/universities.
- DHM employers were satisfied or very satisfied with interns' ability to use computers to complete work assignments.
- DHM employers were satisfied or very satisfied with interns' ability to function as a contributing member of a team.

Modified NSSE

The results of this survey will be reported in the 2003 - 04 assessment report.

Embedded Course Projects

- Multiple projects are routinely embedded within courses and designed to assess mastery of specific performance goals. Many of the performance goals assessed by projects are based on competencies set by external review requirements (FIDER and AAFA). This process was continued during the past academic year.

FIDER Review. External review by the Foundation for Interior Design Education and Research (FIDER) for renewal of accreditation was completed. A team of three reviewers conducted the site visit. The Interior Design Program received a six (6) year accreditation approval. The six year approval is the maximum granted by FIDER. Recommendations from the FIDER team are being discussed and appropriate action planned as part of the ongoing curriculum improvement discussion.

AAFA Review. **Self-evaluation documents were review by the Curriculum Evaluation Sub-committee of the American Apparel and Footwear Association (AAFA) for renewal of curriculum approval (accreditation). Approval was received for both the pre-production (design) and production management options in the apparel design/production (AD/P) major. The five year renewal of the curriculum approval is the maximum period possible. As a result of this approval, the AD/P program remains one of ten bachelor degree programs approved in North America. This elite group of schools receive scholarship and industry support that is not available to the schools without this approval**

Human Development and Family Science

Analysis of responses to the **open ended question** giving students an unstructured opportunity to write anything they wanted about the program yielded 84 comments that were organized into the following categories: Advising, Courses/Curriculum, Professors/Instruction, Internship and Other. A brief summary of responses follows:

- **Courses/Curriculum** attracted the most responses (41.7%). Of these responses several related to a desire to have courses offered more than one time per year and to a preference for small classes. Several respondents were desirous of more hands-on experiences. Other comments called attention to the need for less busy work, less homework, less repetition, and less lecture.
- A request for more help with career oriented information and decisions was expressed by three students. A plea for providing more accommodation (consideration) for non-traditional students was made by two students.
- The next most frequent number of responses (27.4%) were for the category labeled "**Other.**" Most of the responses in this area related to the need for more access to the computer lab and the need for better multi-media equipment in the classrooms. Several students used the "Other" category to offer praise for the department and to express appreciation for the opportunities afforded.

- Thirteen percent of the responses to the open questions related to **Professors/Instruction**. Concerns in this area reflected a desire for respect from professors, professional role models, more real-world experience, less spoon-feeding, fewer group projects, and more faculty to staff the Tulsa program.
- **Advising** was the subject of 14.3% of the open-end responses. Concerns related to the difficulty of making appointments, the need for more career counseling, advisors have more knowledge of the curriculum and degree plans, and advisors having a more favorable attitude toward advising.
- The **Professional Internship** was the subject of one student's comment. The nature of the comment was that "most students have to work and go to school and rely on summer to make money for school, but most internships are non-paid."

*Highlights of the responses to **closed-ended questions** on the 2002 CHES Senior Exit Survey are as follows:*

- Compared to other departments in the college, FRCD (now HDFS) seniors were more satisfied with their career choice; 69.7% would choose the same major compared to a CHES average of 61.9%.
- Responses to seven items regarding satisfaction with instruction, faculty, advising, policies, and student development again showed that the level of satisfaction was higher than students in the college as a whole. In only one instance did the FRCD level of satisfaction lag behind the college level. Specifically, 53.9% of FRCD seniors were somewhat or extremely satisfied with advisor's interest in student's academic success compared to 54.4% in the college as a whole.
- The question in this cluster that showed the greatest separation of FRCD students from seniors in the entire college was satisfaction with instruction in the major. FRCD seniors reported a satisfaction level of 80.3% compared to 65.9% for the college.
- Responses to a cluster of 20 items about the achievement of core college competencies showed that FRCD seniors expressed higher levels of achievement on 17 competencies in the cluster when compared to their peers in the college. Three areas where FRCD seniors lagged slightly behind the college average were "learning effectively on your own," "thinking critically and analytically," and "using computing and information technology." The questions for which FRCD seniors outscored their peers by 10 or more percentage points were: "high standards of honesty and integrity," "understanding people of diverse backgrounds," "maintaining confidentiality," "demonstrating responsible citizenship," and "writing clearly and effectively."

ECE Portfolio Assessments

For this academic year 100% of the early childhood education students satisfactorily completed the required portfolios submissions. Students enrolled in teacher education programs are required by the Oklahoma State University Office of Professional Education (as mandated by state law) to prepare portfolios that document their competencies at three stages during the academic career. The portfolios are extensive documentations of knowledge and skills the students have developed in the early childhood education program. During the 2002-2003 Fall semester, staff completed the evaluation of 28 Submission I, 28 Submission II, and 14 Submission III Portfolios. During the Spring 2003 semester 42 Submission I, 28 Submission II and 34 Submission III Portfolios were evaluated.

Students submitting their portfolio in fall 2002 received feedback from the evaluator in a very timely manner. The evaluator indicated that overall students had great content in their portfolios but there appeared to be confusion regarding the organization of materials. The ECE program was provided with a summary with each student's score and plan of improvement. Additionally, the evaluator provided the ECE program feedback concerning the process. Based on this feedback, students completing Submission III during the spring semester were provided with more detailed instruction for completing the portfolios.

Student submitting portfolios for the spring 2003 semester had fewer questions about Submission III of the portfolio. Students appeared to be more confident in completing the portfolio than the previous Submission III students. There is a great deal of work involved in completing student portfolios. It continues to be a work in progress as the ECE program uses this process to best support and encourage students through successful completion of their portfolios.

Teacher Certification Examinations

Over the past year graduates from HDFS with an option in Early Childhood Education participated in two state examinations. Thirty-seven graduates completed the Oklahoma Subject Area Test; 36 of the graduates received a passing score.

Twenty-six graduates completed the Oklahoma Professional Teaching Examination. Twenty-five of these graduates received a passing score.

Highlights of Results of Survey of Undergraduate Alumni from 1996 and 2000.

- In the spring of 2002, alumni who graduated in 1996 and 2000 were surveyed by telephone. A cluster of 14 questions assessed whether or not graduates felt their OSU education had prepared them with abilities to function well as a professional.
- Fifty-six HDFS graduates were surveyed using the same protocol as graduates from other departments in the college.
- The vast majority (80.5%) of HDFS undergraduate alumni reported that they were adequately or very well prepared for their current positions.
- The three items (abilities) for which HDFS graduates indicated they felt less well prepared were: “understanding and implementing guidelines for ethical practice,” “effectively managing time and resources,” and “identifying and using credible information.” The lowest percent for any of the items assessed by HDFS graduates indicated that 89.5% of the respondents felt that they were adequately or very well prepared.

Hotel and Restaurant Administration

The majority of HRAD graduates indicated that they are employed by corporations, full-time, and believe they have been adequately prepared by OSU. They report earning \$26,000 to \$55,000 annually with no continuing education. The majority are “somewhat satisfied” to “satisfied” with the quality of instruction in their major.

Nutritional Sciences

Assessment Method	Analysis and Findings
Registered Dietitian Exam: Alumni of Dietetics Program	84% (16/19) of the individuals who took the national registration exam to become a registered dietitian passed the exam. The 5 year pass rate is 92% (79/86).
Registered Dietitian Exam: Alumni of Dietetic Internship Program	92% (11/12) of the individuals who took the national registration exam to become a registered dietitian passed the exam. The 5 year pass rate is 90% (74/82).
Modified NSSE administered to 2003 graduating seniors	Data collected Spring 2003 semester: Results will be presented in next year’s report.
Survey of Graduate School Alumni who graduated 1996 and 2000 – conducted Spring 2003	Results will be presented in next year’s report.
Survey of Dietetic Internship Alumni (1996-1999) and First Time Employer	50% of first and current job positions are in clinical positions.
OSU Undergraduate Alumni Survey (graduated 1996 and 2000)	Of the 13 respondents, 86% or greater responded “adequate” or “very well prepared” on all questions asked. The 3 questions to which 85% responded “adequately” or “very well prepared” were: understand how external factors influence you and your profession; manage a team of individuals to meet goals; assess my abilities and make plans for professional development. When comparing 1996 graduates to 2000 graduates, the 1996 graduates were the ones that did not feel prepared in the 3 questions mentioned above. All 2000 graduates felt “adequately” or “very well prepared” in all competencies.

Instructional changes that have occurred or are planned as a result of outcomes assessment:

College of Human Environmental Sciences

- The College Student Inventory (CSI) was administered to entering HES students in the required HES 1111 orientation course. Results of the inventories were reviewed with students by the course instructors and then placed in students' records at the departmental level to be used by academic advisors. CSI scores were entered into an ongoing database that includes other background and academic information. Student enrollment status is also being collected. This information has been helpful in identifying predictors of persistence and withdrawal among incoming students in the college.
- The California Critical Thinking Disposition Inventory (CCTDI) and California Critical Thinking Skills Test (CCTST) were administered to assess the development of critical thinking among students in the college. The CCTDI was administered at both entry level and midlevel to determine student inclination toward thinking critically. The CCTST, administered at midlevel, assesses the ability of students to succeed as critical thinkers. A database has been developed that allows for tracking of scores longitudinally to assess trends in critical thinking disposition and skills. Changes in student's disposition to think critically are now being tracked.
- HES will examine the relationships that exist between the CCTST and CCTDI. Results will be examined as a whole and by department. It is believed that data by department will help departments with curriculum development.
- Results of all surveys were reviewed by the HES assessment committee and provided to departments for review and action. The information from last years' Senior Exit Survey was summarized for presentation to faculty and administration. ██████████ presented overall college findings to the HES E-Group and HES Assessment Committee in fall 2002.
- Results of the prospective employer survey were shared with HES faculty during the HES 2002 fall faculty retreat.
- HES Fall 2002 Faculty Retreat featured programming to help faculty incorporate active learning into their courses.
- In the coming year the college assessment committee will continue to focus on collection and analysis of data collected and resulting program recommendations.

Design, Housing and Merchandising

- Results of the 2002 senior survey will be shared with DHM faculty and discussed during an upcoming faculty meeting. Plans of action will be made based upon needs identified.
- ██████████, the first ██████████ Endowed Professor, joined the faculty as a visiting professor for selected periods during the fall and spring semesters. ██████████, a renowned NY interior designer and owner of The Moderns, worked with both students and faculty. Known for her innovative work related to using design as part of developing a brand and image, ██████████ is also active in the movement that promotes up cycling of all products, including interiors products. As a result of her influence, the ID faculty are evaluating the ID curriculum to incorporate the changes necessary to position this OSU program at the forefront of ID programs in the U.S.
- In addition to working with the ID program, ██████████ was a speaker in merchandising courses and apparel design courses because of her expertise that extends to branding, merchandising and marketing products and services. Her expertise and philosophy regarding up cycling was shared at a public lecture held at the Wes Watkins Center for International Trade Development. Despite a vicious February ice storm, over three hundred people attended.
- The Interior Design program at OSU-Tulsa had six students complete their degree requirements. These are the first graduates from the Tulsa program. The program continues to grow.
- As part of the evaluation component of an externally funded project to incorporate science principles into DHM 2573, Textiles, data were collected to evaluate laboratory teaching methods and materials. Data analyses indicate new methods and materials had a positive impact on student learning. A proposal to NSF to continue this course development is planned.
- Beginning with the 2002-2003 degree plan, the merchandising major and the AD/P major modified the natural science requirement to incorporate DHM 2573, Textiles, as a natural science/laboratory course. This change has been implemented.
- Increasing enrollments (see tables below) and the resulting stress on available resources has resulted in the adoption of a review process for AD/P majors that is similar to the review process used for ID majors prior to beginning upper division studio courses. The appropriate information about the review process

was incorporated into official documents, such as the *University Catalog*. Students beginning the first AD/P sequence course (DHM 1003) in fall 2003 will be reviewed for acceptance into the upper division AD/P courses (DHM 3013, 3023, 3153, 4243, and 4403). Documents to be used for advising and for student handouts have been completed and are available as needed. All students will receive the policies and procedures handouts each fall in DHM 1103.

- Increasing enrollments and limited resources will need to be discussed in relation to maintaining quality programs for all students and improving student satisfaction with instruction and advising. The following tables illustrate current enrollment trends that drive the need to assess methods to deliver excellence in instruction and advising.

Human Development and Family Science

Results from **Senior Exit Survey** open-ended questions fortified the college's plan to improve computer lab access, a project that was completed in the Summer of 2002. Subsequent scheduling of computer lab hours has increased opportunities for students. In regard to classroom technology, five new state of the art multimedia units were placed in high-use classrooms.

Summaries of the results of the Senior Exit Survey were shared with the faculty and department head who has reiterated selected findings with faculty at critical points throughout the year. Specific changes that have been made by professors to accommodate needs indicated by student responses are as follows:

- The senior capstone course utilized a comprehensive class project that engaged the whole class in a community project that required students to integrate knowledge and skills gained across the curriculum into one community-based problem.
- Another course provided the option of meeting requirements for the major class project as part of a three-member management team or independently.
- Several faculty planned class sessions that met in the computer lab in order to give students more access to computer applications significant to their discipline.
- The use of e-mail and Blackboard as a means of providing instructional assistance increased dramatically.
- One course introduced students to a presentation capturing system that utilized a digital camera and computer to enable students to demonstrate professional interviewing skills. Several professors incorporated more purposeful components requiring critical thinking into their courses.
- Other professors required additional writing and recitation exercises in order to help students develop in these areas. An example is the requirement that students listen to the State of the State and State of the Union addresses, summarize key points, and then suggest the implications of these addresses for the field of human services in the coming year.
- Several instructors have incorporated both peer and faculty evaluation of the productivity of students as members of project teams. This strategy attempts to avert the negative pull of some students who attempt to use the group as a "free ride" to a good grade. The strategy also provides more realistic monitoring of the contributions of peers in reaching desired outcomes.
- Results of this survey were used in curriculum planning in AY02 and AY03

Internships

Based on the results of a survey of employers in 2000-2001, the input from internship supervisors, and the outcomes of faculty review and collaboration, various changes were made in the professional internship program. Perhaps the greatest change was to increase the number of on site placement hours from 300 to 375 for 3-credit hours. Other changes included raising the level or quality of the internship, monitoring accountability, addressing work ethic questions, and increasing the expectations regarding reflection, self-evaluation, and renewal.

Another change in the internship program implemented in 2002-2003 is the new requirement that each intern must show evidence that he/she is covered by professional liability insurance. These changes are impacting the attitude of students entering the professional internship phase of the program. Students are accepting more responsibility for internship planning and placement and are developing a more professional perspective on the role of the professional in child and family services and early childhood education.

ECE Portfolio Assessments

Early childhood education faculty work together to review portfolio results and subsequently provide feedback to the professional education students. The great majority of the portfolios indicate that students have satisfactorily developed the competencies they are expected to have before placement. When it is clear that competencies have not been met, students are counseled and provided with alternative means of removing any deficiencies.

Undergraduate Student Engagement with Practicing Professionals

While it is difficult to determine the origin of change, e.g. whether faculty are responding to assessment results or to their own desires to improve their programs, there have been numerous changes in HDFS academic courses and student services over the past year. One such change is noted in increased opportunities for engagement provided by the departmental club. Among the benefits are more opportunities for contact with practicing professionals in the field, opportunities to develop leadership skills and more group participation in social service work in the community. Overall, the majority of the faculty has embraced pedagogies of engagement.

Survey of Undergraduate Alumni from 1996 and 2000.

Results of the Undergraduate Alumni Survey were shared with departmental faculty, in particular the departmental graduate committee. Of particular interest to the faculty was the indication that HDFS majors felt less well prepared for graduate or professional school than did their peers across the college (93.8% for HDFS compared to 96.2% for the college as a whole). The results were very useful in making changes through zero-based curriculum review.

Doctoral Program Review

Consistent with departmental policy, each major advisor carefully reviews the student's report and responds in writing. Responses usually make note of accomplishments and recommend areas of emphasis for the coming year. The formal faculty response also provides an opportunity to remind students of departmental and graduate college policies that become more and more important as the time to completion diminishes. Students have reported that they have benefited from the doctoral student review process by being more accountable for their time in program and by being encouraged to become more strategic planners. We are using aggregate information to help examine needs in graduate curriculum review

Hotel and Restaurant Administration

HRAD faculty meet bi-monthly and discuss results of survey information. The HRAD curriculum committee is currently evaluating the curriculum to incorporate needed changes relative to this data. Writing across the curriculum is currently being discussed. The 2003 NSSE surveys are currently being analyzed and will be incorporated into the 2004 assessment report.

Nutritional Sciences

- The faculty involved with teaching the sequence of courses in medical nutrition therapy met during spring semester 2003 to discuss issues impacting those courses. It was decided to try to collect data soon to see if students felt prepared in MNT. This still needs work.
- Another curriculum change that was implemented fall 2000, was an added course, NSCI 4573, Food Systems Administration. Data collection during the next two years should reflect the addition of this course.
- Another course that was implemented spring 2001 was a separate counseling and nutrition assessment course to meet the concerns of students and preceptors about counseling skills. The students' preparedness perception has increased in the area of counseling. Some courses may need to be added or a different directed elective list created for the Foods & Nutrition option.
- The information collect in Spring 2003 will be shared with the Department Head, and the NSCI faculty in August 2003 at the faculty retreat.