

# **PROGRAM OUTCOME ASSESSMENT MODEL**

Department of Agricultural Economics  
Oklahoma State University, Stillwater, OK

Originally Prepared by Assessment Program Committee for Agricultural Economics  
Joe Schatzer (Chairman), Francis Epplin, Shida Henneberry, Pat Norris, and Joe Williams

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The Department of Agricultural Economics offers course work leading to the following degrees: Doctor of Philosophy with a major in Agricultural Economics, Master of Science with a major in Agricultural Economics (3 options), Bachelor of Science in Agricultural Sciences and Natural Resources with a major in Agricultural Economics (11 options), and Bachelor of Science in Agricultural Sciences and Natural Resources with a major in Agribusiness.

The role and objectives of the Department of Agricultural Economics are defined in a document of the Department dated November, 1989. This document states: "*The Department's role is to develop and maintain recognized programs which develop and transmit knowledge to students, farm and ranch managers, other agribusiness managers, policy-makers, rural community leaders, and citizens who make decisions about the efficient uses of resources in agriculture and its related industries and the effects of those resource allocations on the well-being of society.*"<sup>1</sup> In the document, specific objectives are presented for research, university instruction, and extension. The specific objectives related to university instruction are:

- "A. *To provide students with a broad educational background which, in addition to emphasizing agricultural and social sciences, gives an appreciation of agriculture's role in generating economic growth and development and improving society.*
- B. *To prepare domestic and international students for careers as professional agricultural economists in research, teaching, extension, agricultural businesses, industries related to agriculture, and public agencies.*
- C. *To prepare people enrolled in agricultural economics courses to contribute to public policy formulation through their own personal development as informed citizens.*"<sup>2</sup>

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<sup>1</sup>Role and Objectives Department of Agricultural Economics Oklahoma State University November, 1989.

<sup>2</sup>Ibid.

These objectives must form the foundation for program outcome assessment in Agricultural Economics.

### **Undergraduate Program Objectives**

The major objective for Bachelor of Science in Agricultural Sciences and Natural Resources graduates with an Agricultural Economics major or Agribusiness major from the Department of Agricultural Economics is: graduates will have a broad educational background that, in addition to emphasizing agricultural and social sciences, (1) provides an appreciation of agriculture's role in generating economic growth and development and in improving society and (2) prepares them for one of many alternative careers as a professional Agricultural Economist or Agribusiness employee or for admission to a professional program or graduate program in their field. Specific objectives are:

- BS 1:** Students graduating from the Bachelor of Science program will receive a diverse education.
- BS 2:** Students graduating from the Bachelor of Science program will demonstrate an understanding of agricultural sciences.
- BS 3:** Students graduating from the Bachelor of Science program will demonstrate an understanding of economic concepts as applied to an agricultural issue.
- BS 4:** Students graduating from the Bachelor of Science program will demonstrate an understanding of the foundations of agricultural policy and policy analysis.
- BS 5:** Students graduating from the Bachelor of Science program will demonstrate an understanding of microeconomic concepts.
- BS 6:** Students graduating from the Bachelor of Science program will demonstrate an understanding of macroeconomic or monetary economic concepts.
- BS 7:** Students graduating from the Bachelor of Science program will be well prepared for either their first position in their field or for admission to a professional or graduate program in their field.
- BS 8:** Students graduating from the Bachelor of Science program will either find ready employment in their field or obtain admission to a professional or graduate program in their field.

### **Graduate Program Objectives**

The Department of Agricultural Economics graduate program policy statement contains one broad objective.<sup>3</sup> This document states "The objective of the Oklahoma State University Agricultural Economics Graduate Program is to graduate students who possess high minimum competence levels in a broad set of disciplinary areas." This objective is derived from the objectives of the Department related to University instruction. This objective should form the basis for assessment of the graduate programs.

The Department of Agricultural Economics participates in three graduate programs. The first program is the Master of Science with a major in Agricultural Economics. This program has three options. The second program is the Doctor of Philosophy with a major in Agricultural Economics. The last program we participate in is the Master of Agriculture with an emphasis in Farm Business Management. These three programs have distinct specific objectives related to the broad objective.

#### **Master of Science**

The major objective for Master of Science in Agriculture graduates with an Agricultural Economics major (3 options) is: graduates will be prepared for one of many alternative careers as a professional Agricultural Economist or Agribusiness employee or for admission to a professional program or Ph.D. program. Specific objectives are:

**MS 1:** Students graduating from the Master of Science program will demonstrate an understanding of the principles of agricultural economics, economics, and statistics.

**MS 2:** Students graduating from the Master of Science program will demonstrate an understanding of the applications of the principles of agricultural economics, economics, and statistics to problems in agricultural economics.

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<sup>3</sup>Internal Administrative Statement of Graduate Program Policy and Philosophy, Department of Agricultural Economics, approved by the Department on April 5, 1989.

- MS 3:** Students graduating from the Master of Science program will demonstrate an ability to analyze a specific agricultural economics related problem.
- MS 4:** Students graduating from the Master of Science program under the thesis plan will demonstrate an ability to write a professional report.
- MS 5:** Students graduating from the Master of Science program will be well prepared for either their first position in their field or for admission to a professional program or Ph.D. program in their field.
- MS 6:** Students graduating from the Master of Science program will either find ready employment in their field or obtain admission to a professional program or Ph.D. program in their field.

### **Doctor of Philosophy**

The major objective for Doctor of Philosophy graduates with an Agricultural Economics major is: graduates will be prepared for one of many alternative careers as a professional Ph.D.

Agricultural Economist. Specific objectives are:

- PHD 1:** Students graduating from the Doctor of Philosophy program will demonstrate an understanding of the principles of agricultural economics, economics, and statistics.
- PHD 2:** Students graduating from the Doctor of Philosophy program will demonstrate an ability to understand, integrate, and apply the various tools, concepts, and basic principles of microeconomics, macroeconomics, and quantitative methods to analyze and to develop solutions to economic problems in a clear and concise written form.
- PHD 3:** Students graduating from the Doctor of Philosophy program will demonstrate an ability to analyze a specific agricultural economics related problem.
- PHD 4:** Students graduating from the Doctor of Philosophy program will demonstrate an ability to write a professional report.
- PHD 5:** Students graduating from the Doctor of Philosophy program will demonstrate a "frontier" level competency and familiarity with the literature in the student's perceived specialty area.
- PHD 6:** Students graduating from the Doctor of Philosophy program will be well prepared for their first position in their field.

**PHD 7:** Students graduating from the Doctor of Philosophy program will find ready employment in their field.

### **Master of Agriculture**

The major objective for Master of Agriculture graduates with a Farm Business Management emphasis is: graduates will be prepared for one of many alternative careers which include or relate closely to production agriculture. Specific objectives are:

**MAG 1:** Students graduating from the Master of Agriculture program will demonstrate an understanding of current decision-aid tools used to solve problems routinely faced in farm and other agricultural businesses.

**MAG 2:** Students graduating from the Master of Agriculture program will demonstrate an understanding of the applications of the current decision-aid tools used to solve problems routinely faced by farm business or other agribusiness managers and advisors.

**MAG 3:** Students graduating from the Master of Agriculture program will demonstrate an ability to use the application skills.

**MAG 4:** Students graduating from the Master of Agriculture program will be well prepared for their first position in their field.

**MAG 5:** Students graduating from the Master of Agriculture program will find ready employment in their field.

### **Assessment Methods, Population, and Interpretation**

The Department of Agricultural Economics will assess the program objectives and outcomes each year. The department will assign a faculty member as assessment coordinator to do the annual assessment.<sup>4</sup> The assessment coordinator, with a staff assistant, can assess many of the program outcomes by analyzing the grade reports of graduates. The Department will use information from the University Student Satisfaction survey of graduates and will develop an alumni survey to survey graduates five years after they graduate to help assess student

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<sup>4</sup>The Department Head has assigned Dr. Raymond Joe Schatzer as the initial Assessment Coordinator for the Department of Agricultural Economics.

satisfaction with the Department's programs. Table 1 provides a list of proposed assessment methods with the objectives and outcomes to be evaluated and a time line for implementing the assessment method.

The assessment coordinator will use information from selected courses for assessing whether graduates of the undergraduate program obtain an appreciation of agriculture's role in society and obtain a broad educational background. Specific criteria and methods are:

- BS 1:** Seventy percent of the hours of courses graduates use to complete the University General Education requirements and thirty percent of the hours of courses used to meet graduation requirements will be outside the College of Agricultural Sciences and Natural Resources. The assessment coordinator will collect this information from students' final grade reports.
- BS 2:** Ninety percent of the graduates will complete at least seven hours and sixty percent of the graduates will complete at least twelve hours of courses in the College of Agricultural Sciences and Natural Resources outside the Department of Agricultural Economics. The assessment coordinator will collect this information from the students' final grade reports.
- BS 3:** Ninety percent of the graduates will complete a satisfactory term project in their capstone course or their senior seminar course. The instructor of these courses will provide the assessment coordinator with the distribution of grades for the term papers.
- BS 4:** Ninety percent of the graduates will pass Agricultural Economics 4703. The assessment coordinator only will consider whether the course is passed or not. The assessment coordinator will collect this information from the students' final grade reports. No additional information will be required from the course instructors.
- BS 5:** Ninety percent of the graduates will pass Intermediate Microeconomics (Economics 3113) or Managerial Economics (Economics 3023) with a grade of C or better. The assessment coordinator will collect this information from the students' final grade reports. No additional information will be required from the course instructors.
- BS 6:** Ninety percent of the graduates will pass Intermediate Macroeconomics (Economics 3123) or Money and Banking (Economics 3313) with a grade of C or better. The assessment coordinator will collect this information from the students' final grade reports. No additional information will be required from the course

instructors.

The assessment coordinator will use information from an exit interview, the Student Satisfaction Subcommittee's surveys of graduates and employers, external program reviews, and a Department of Agricultural Economics mail survey to assess the job preparation and employment objectives and outcomes for both undergraduate and graduate students. Specific criteria and methods are:

**BS 7, MS 5, PHD 6, and MAG 4:**

- a. Eighty-five percent of the graduates will check "satisfied" or "very satisfied" to the statement "Preparation you received for your current job" on the Student Satisfaction Subcommittee's survey of graduates. The assessment coordinator will obtain this information from the Student Satisfaction Subcommittee.
- b. The Department of Agricultural Economics will develop and implement an exit interview procedure for a random sample of graduating students, one in four of the graduates from the undergraduate program and all the graduates from the graduate programs. The exit interview will provide the students an opportunity to furnish a qualitative evaluation of their program. Results of these interviews will provide information on areas where the students feel the program curriculum needs improvement. The assessment coordinator will develop a set of core questions to be asked of each student.
- c. The Department of Agricultural Economics conducts a CSRS review approximately every five years. The review team provides feedback on the "rank" of the undergraduate and graduate programs relative to peer institutions across the nation. The programs will receive high marks from the review team.
- d. Seventy-five percent of the employers, professional programs, and graduate programs will indicate on the Student Satisfaction survey of employers of students that they are "satisfied" or "very satisfied" with the preparation of our graduates. The assessment coordinator will obtain this information from the Student Satisfaction Subcommittee.

**BS 8, MS 6, PHD 7, and MAG 5:** Ninety percent of the students will indicate on the Student Satisfaction survey either they have accepted a position or they plan to enroll in a graduate or professional program. The assessment coordinator will obtain this information from the Student Satisfaction Subcommittee.

The Department of Agricultural Economics will develop a mail survey instrument to



survey graduates five years after graduation. This survey will provide information on whether students were well prepared for career advancement. Potential questions include: Where are you employed? How many times have you changed jobs? How many times have you been promoted? Have you received increases in responsibilities? Did you require additional specialized training? How well did your degree program prepare you for your current job? What additional courses should your program have included? What courses should be deleted from the curriculum? Also, information on publication successes and other professional accomplishments or recognitions for the five years will be collected for Ph.D graduates. The assessment coordinator will develop criteria for the survey responses once the Department develops the survey.

The assessment coordinator will use information from selected courses, results of comprehensive examinations, and paper preparations for assessing whether graduates of the three graduate programs meet the rest of the graduate programs' objectives. Specific criteria and methods are:

**MS 1, PHD 1, and MAG 1:** Eighty percent of the graduates will complete the required core courses for their program with grades of B or better. The assessment coordinator will collect this information from students' final grade reports.

**MS 2, PHD 2, and MAG 2:** Written comprehensive examination will be use to assess the students' outcomes for these objectives. Ninety percent of the graduates will complete their written comprehensive examinations within two years for the two Master programs and within three years for the Ph.D. program. The assessment coordinator will collect this information from students' records kept in the department.

**MS 3, PHD 3, and MAG 3:** Successful completion of a thesis, formal report, or informal report for Master of Science students, a dissertation for Doctor of Philosophy students, and a professional internship for Master of Agriculture students will be used to assess students' outcomes for these objectives. Eighty percent of the graduates will complete their report or internship within two years for the Master programs and within three years for the Ph.D. program. The assessment coordinator will collect this information from students' records kept in the department.

**MS 4 and PHD 4:** Ninety percent of the Master of Science graduates in the thesis option and of the Doctor of Philosophy graduates will complete a professional publication based on their research suitable for submission as a referred Journal article, Experiment Station Research Bulletin, or contributed paper at a disciplinary professional society meeting. The assessment coordinator will collect this information from the students' major advisor.

**PHD 5:** Ninety percent of the Doctor of Philosophy graduates will demonstrate a "frontier" level competency and familiarity with the literature in the students' perceived specialty area by passing an oral qualifying examination within three years of entering the Ph.D. program. The assessment coordinator will collect this information from students' records kept in the department.

The Department of Agricultural Economics will relate program outcomes to measures of students' performance in the program. These measures of performance will help students judge their potential to complete the programs given their backgrounds and preparation. For B.S. graduates, the relationship between grades received in key program outcome courses and the students' pre-college performance will be analyzed by comparing grades received with ACT (or related exams) scores and high school grade point averages. For M.S., Ph.D., and M.AG. graduates, the linkage between performance in basic core courses and performance on written comprehensive exams will be analyzed by comparing grades received in core courses to grades received on written comprehensive examinations.

### **Assessment Feedback**

The assessment coordinator will provide the results of each year's assessment to the faculty with details to the Department Head and the Undergraduate and Graduate Committees in the Department of Agricultural Economics. These two committees are charged with recommending changes in instructional and curricular activities for the department. The Department Head and the two committees will help analyze the results of the assessment and consider the results in their recommendations for changes within the Department's programs. The Department Head and the two committees will recommend changes to the faculty in Agricultural Economics and the faculty then will have opportunity to provide input into proposed changes. While analysis of the assessment materials may suggest changes in the programs, the Department of Agricultural Economics faculty, Department Head, or both jointly will make the final decision on whether to pursue changes.

### **Time Line**

The outcome assessment for the Department of Agricultural Economics will begin during the summer of 1993. The beginning dates for implementation of each assessment method is shown in Table 1. The exit interview and alumni survey will be developed over the next two years. For the July 1993 report, the Department will use information from the CSRS review completed in 1992.

### **Associated Costs**

The exact costs of implementing the planned assessment model are difficult to project. Table 2 provides an estimated budget for implementing the assessment model. The major costs during the development of the assessment model are for faculty and staff time developing survey instruments, computer software to tabulate information from student records, and software to analyze the surveys. After development of the materials to be used in the assessment model, the major costs of the assessment program will be the salary of the assessment coordinator and salary of staff members to assist the coordinator.

### **Mini-grant Funds Application**

During the Fall of 1991, the Department of Agricultural Economics had 372 total students enrolled in its programs, 301 undergraduates, 37 M.S. students, and 34 Ph.D. students. The Department is requesting funding of \$5,580 from the mini-grant program to help develop and implement its assessment program. The detailed budget is provided in Table 2.

#### **Justification:**

The Department of Agricultural Economics is requesting the use of mini-grant funds for help in hiring part-time personnel and for the costs of printing, testing, distributing and analyzing an alumni survey and an exit interview. The part-time personnel will a) help develop the survey instrument, exit interview, and methods for evaluating the survey, interview, and student performance measures, or b) do part of the current work of the faculty and staff that take time out of the current busy workdays to work on outcome assessment model development and implementation.

The Department wants the capability to tally much of the course related outcome measures from the student's permanent university records. The university's administration already may have the capability to generate much of the information for us. If not, they may want to consider developing that capability since we believe other Departments may want course information for their assessment models equivalent to what we want. We believe it would be more efficient for the software to be developed centrally than in several different departments. If the capability is not available or developed centrally, then we want to develop our capability to generate the information. We would use part of the mini-grant funds to help pay for developing this capability. Other departments may want to use the software we develop to help do their assessments.

### **Implementation without mini-grant funding**

Since the assessment model is mandated by the administration, the Department of Agricultural Economics will implement an assessment model if the requested mini-grant funds are not provided. However, development of materials to support the assessment model will be completed much slower without the assistance of staff members requested. Faculty members will have to fit the development of this material into their already busy schedules.

### **Continuation of assessment model**

After the mini-grant funds are exhausted, the Department will have to provide funds to continue the assessment from current operating funds. These funds will have to be reallocated from some other instructional purpose. It is hoped that part of the funds being collected from students each semester will be allocated to departments to fund the departments' costs of assessment.

**Table 1. Objectives, criteria, method and implementation time for the Department of Agricultural Economics.**

OBJECTIVE	LABEL	CRITERIA	METHOD	IMPLEMENTATION
Diverse education	BS 1	70 % of GER and 30% of graduation requirements outside CASNR	Count hours of courses	Summer 1993 for 1993/94
Understanding of Agricultural Sciences	BS 2	90 % complete 7 hours and 60 % complete 12 hours in CASNR outside Dept of AGECE	Count hours of courses	Summer 1993 for 1993/94
Understanding of economic concepts as applied to an agricultural issue	BS 3	90 % complete term project in capstone or senior capstone	Grades on term projects	Summer 1994 for Spring 1994
Understanding of foundations of agricultural policy and policy analysis	BS 4	90 % pass AGECE 4703	Grades in specific course	Summer 1993 for 1993/94
Understanding of microeconomic concepts	BS 5	90 % pass ECON 3113 or ECON 3023	Grades in specific courses	Summer 1993 for 1993/94
Understanding of macroeconomic or monetary concepts	BS 6	90 % pass ECON 3123 or ECON 3313	Grades in specific courses	Summer 1993 for 1993/94
Well prepared for first position or admission to professional or graduate program	BS 7, MS 5, MAG 4, PhD 6	85 % of graduates satisfied or very satisfied with preparation	Survey of graduates by Student Satisfaction Committee	Summer 1994 for 1993/94
		Students qualitative evaluation	Exit interviews of graduates	Fall 1994 for Fall 1994
		Department rank high relative to peer institutions	CSRS review	Summer 1992

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Table 1. Continued.

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Find ready employment or admission	BS 8, MS 6, MAG5, PhD 7	90 % accept position or indicate plan to continue education	Survey by Student Satisfaction Committee	Summer 1994 for 1993/94
Understanding of principles of agricultural economics, economics, and statistics	MS 1, MAG 1, PhD 1	80 % complete core courses with grades of B or better	Grades in specific courses	Summer 1993 for 1992/93
Understanding of application of principles to problems	MS 2, MAG 2, PhD 2	90 % complete written comprehensive examinations within 2 years for MS and MAG and 3 years for PhD	Written comprehensive examinations	Summer 1993 for 1992/93
Ability to analyze a specific agricultural economics related problem	MS 3, MAG 3, PhD 3	80 % complete required report or internship within 2 years for MS and MAG and 3 years for PhD	Thesis, formal report, or informal report for MS, dissertation for PhD, and internship for MAG	Summer 1993 for 1992/93
Ability to write a professional report	MS thesis 4, PhD 4	90 % complete professional publication	Written work suitable for submission	Summer 1994 for 1993/94
Demonstrate "frontier" level competency within specialty area	PhD 5	90 % pass oral qualifying examination within 3 years	Oral Examination	Summer 1993 for 1992/93
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**Table 2. Estimated costs of developing and implementing the assessment model.**

Item	Department of Agricultural Economics First Year Only	Department of Agricultural Economics Annually Funded	Mini-grant Funded
Development of assessment model proposal, faculty and staff time	\$ 5,000	\$ 0	\$ 0
Assessment Coordinator plus other faculty time providing information, .2 FTE	0	16,000	0
Staff and data center assistance to model development	8,000	0	2,000
Staff assistance to assessment coordinator, .5 FTE	0	10,000	0
Development, printing, and testing exit interview	0	0	580
Development, printing, testing, and distribution of alumni survey	0	0	1,000
Development of computer program to access student files and print student performance for selected objectives	1,000	0	1,000
Travel to intercollegiate competition and paper presentations, faculty advisors and travel grants to students	0	3,000	0
Interpretation and analysis of alumni survey and exit interview results	500	1,000	1,000
Data center assistance to assessment coordinator	0	3,000	0
Totals	14,500	33,000	5,580