

Mechanical Engineering Technology Department

Mission

The Mechanical Engineering Technology Department prepares future technologists to enrich lives and enhance society through professional level performance within the engineering enterprise.

Vision

The program will become the outstanding Mechanical Engineering Technology Department in the region.

To accomplish this, the department faculty will:

- Prepare students as life-long learners, intellectually and ethically prepared to serve and lead in a world wide economy;
- Deliver quality instruction based on technical fundamentals, which are supported by practical experiences and applications in support of economic development;
- Advance their own scholarship through new methods of instruction, applied research programs and outreach delivery;
- Provide leadership in outreach activities in both its content and delivery modes to local, national, and international communities; and
- Support diversity, academic freedom, high aspirations, and mutual respect.

Core Values

Diversity – We respect others and value diversity of opinion, freedom of expression, and other ethnic and cultural backgrounds.

Integrity – We are committed to the principles of truth and honesty, and we will be fair, equitable, impartial, and professional.

Service - We believe that serving others is a noble and worthy endeavor, and we seek to provide exceptional service.

Intellectual Freedom – We respect the rights of all to pursue knowledge in an unfettered manner.

Excellence –We seek excellence in all our endeavors, aspire to new heights, and are committed to continuous quality improvement.

Stewardship of Resources – We are dedicated to the efficient and effective use of resources. We accept the responsibility of the public's trust and are accountable for our actions.

Goals, Critical Success Factors, Objectives and Strategies

Goal 1. Academic and Research Excellence: Transition the current Mechanical Engineering Technology program with TAC/ABET accreditation to become TAC/ABET accredited with options in design and manufacturing, fluid power, and electronics and control.

Critical Success Factors:

- University administration financially supports proposed increase of options.
- Complete all of the administrative requirements and have the necessary resources in place for the next ABET General Review.
- TAC/ABET accreditation.
- Approval from The Oklahoma State Regents for Higher Education (OSRHE).
- 70% Student/Alumni support for proposal.
- Research expenditures (includes in-kind equipment) of \$25,000 per year per FTE.
- Publish at least one peer-reviewed article per year per FTE.
- Overall instructor and course evaluations of 3.25 on a 4.0 scale (based on student surveys of instruction).
- Every faculty member to be engaged in some on-campus or off-campus research or outreach program.
- 25% of faculty conducting professional development/continuing education courses each year.
- 35% of graduates having significant involvement in professional society activities.
- One (1) Wentz Research Scholar application per year.
- 30% of graduates having internships, co-op study, or other engineering technology work experience.
- All undergraduates employed within 3 months of graduation.

Objectives:

Objective 1.1: Obtain support and resources for the three new options.

Strategies:

- Finalize proposal for departmental restructuring changes including a specification of resources and faculty required to accomplish the plan.
- Develop undergraduate program outlines and course descriptions.
- Develop a communications plan to inform current students, alumni, and the general public about the proposed changes.

Objective 1.2: Change department structure and program emphasis.

Strategies:

- Ensure the new options reflects the needs of industry worldwide.
- Publicize the availability of the new options.
- Develop and implement a program to make the changes necessary to satisfy OSRHE.
- Develop and implement a plan to achieve TAC/ABET accreditation.
- Work with ABET to accomplish a smooth transition.
- Hire a consultant and undergo a trial accreditation visit.
- Increase number of faculty from 6 to 8.
- Increase dollar amount of research proposals from \$50,000 to \$150,000.
- Increase number of funded research programs from 2 to 4.
- Increase number of publications from 0.3 to 1.0 per FTE per year.

Objective 1.3: Significantly expand the current research effort.

Strategies:

- Use industry based field projects, which will be part of the systems master's program described in Goal 2, to provide entree to companies in order to obtain research funding.
- Hire new faculty with proven track records in electro-mechanical research.
- Hire new faculty with proven track records in systems research.

Objective 1.4: Significantly expand student and faculty development.

Strategies:

- Foster student development through their formalized participation in the Industrial Advisory Board (IAB), student professional societies and continuous quality improvement program.
- Provide financial support for student professional activities and travel.

Goal 2. Access and Diversity: Recruit, retain, and graduate a larger, more academically prepared, and more diverse student body.

Critical Success Factors:

- Increase number of undergraduate students from 150 to 200.
- Increase diversity of the student population and faculty in proportion to the State's population.
- Simultaneous masters programs to be developed in Oklahoma City and Tulsa.
- Master's degree approved by The Oklahoma State Regents for Higher Education (OSRHE). [Assumes support from Administration.]
- 20 graduate students (shared with EET).

Objectives:

Objective 2.1: Recruit more undergraduate students into Mechanical Engineering Technology (MET)

Strategies:

- Support the College of Engineering Architecture and Technology recruiting efforts with special emphasis on underrepresented groups.
- Enlist the assistance of the MET's department's Industrial Advisory Board (IAB) in recruiting.

Objective 2.2: Establish an applications-oriented master's degree for working professionals.

Strategies:

- Obtain the necessary approvals for the graduate program. (Joint with EET)
- Hire new faculty in a timely manner to facilitate the delivery of a graduate degree. Special emphasis to be placed on recruitment of underrepresented groups.
- Develop graduate program outlines and course descriptions with input from alumni and IAB members to meet the requirements set by OSRHE
- Identify target industries and establish a marketing program for the new master's degree.

Goal 3. Engagement: Provide programs and services that disseminate knowledge and skills and that enhance the quality of life.

Critical Success Factors (*measures of the degree of success over the next 5 years*):

- Develop at least one course with a service-learning component.
 - Computer Numeric Control/HAAS student machine center
 - Electro-Hydraulics and control
- Graduate 10% of the student body with a service-learning designation.
 - Fluid Power Certification
 - Machine Tool

Objectives:

Objective 3.1: Foster community involvement in the department.

Strategies:

- Identify two opportunities for community involvement.
- Identify at least one course that will include a service-learning component.

Objective 3.2: Become a full-service organization that incorporates research initiation and performance, application development, technical training and industry involvement that supports state and national needs.

Strategy:

- Use the Ground Source Heat Pump Center and the Oklahoma Inventor's Assistance Center as a model.

Goal 4. Technology: Benefit from the use of technology in the delivery of services.

Critical Success Factors (*measures of the degree of success over the next 5 years*):

- Maintain a quality Internet presence.
- Establish at least 3 courses having a fairly extensive Internet or technology based support component.
 - OSU/OKC
 - OSU/TUL
 - OSU/Okmulgee

Objectives:

Objective 4.1: Develop supplemental courseware to be made available on the Internet.

Strategies:

- Provide reduced teaching loads for faculty developing Internet learning components.
- Request additional funding to develop the use of technology in the classroom.

Assessment:

- Number of courses with an Internet or technology based learning component.

Objective 4.2: Develop distance education ready graduate courses.

Strategy:

- Establish creative delivery options for the master's degree at OSU/OKC and OSU/TUL

Goal 5. Partnerships/Collaborations: Build strategic partnerships and alliances with external entities.

Critical Success Factor (*measures of the degree of success over the next 5 years*):

- Articulation agreements with junior and/or community colleges. Special working relationship with OSU/OKC, OSU/Tulsa, and OSU/Okmulgee.

Objective:

Objective 5.1: Develop partnerships with other educational institutions.

Strategy:

- Identify partnerships that would help to increase enrollment and opportunities for joint research proposals.

Goal 6. Human Resources and Infrastructure: Maintain a quality workforce and work environment.

Critical Success Factors (*measures of the degree of success over the next 5 years*):

- 3 new faculty positions for masters program.
- 1 new staff position.
- Maintain and fund staff training and development, \$1,000 per year.

Objective:

Objective 6.1: Recruit and retain quality faculty and staff.

Strategies:

- Recruit faculty who can make an immediate contribution to the new masters program.
- Obtain additional office space for new faculty, and laboratory space for their research.
- 25% of faculty and staff participate in a professional training program appropriate for their position or faculty rank.

Goal 7. Tradition and Pride: Enhance the image of the Department of Mechanical Engineering Technology.

Critical Success Factors (*measures of the degree of success over the next 5 years*):

- Host at least three multi-department events per year
 - Electro-hydraulic
 - HAAS Training Center
 - Ground Source Heat Pump Systems Annual Conference
- Recognize at least one alumnus per year who has achieved a significant leadership role.

Objective:

Objective 7.1: Instill tradition and pride in being a member or an alumnus of the department.

Strategies:

- Host student events that have participants from across the campus.
- Develop the department's means of recognizing alumni.

Goal 8. Financial Stability: Strengthen Financial Resources.

Critical Success Factor:

- Increase annual giving from zero to \$2,500 per year.

Objective:

Objective 8.1: Instill tradition and pride in being a member or an alumnus of the department.

Strategies:

- Enlist the help of the department's IAB in fund raising.
- Issue at least one Newsletter per year with an insert for giving.

Goal 9. Accountability: Enhance planning, performance, assessment, and public accountability.

Critical Success Factors (*measures of the degree of success over the next 5 years*):

- Obtain TAC/ABET accreditation for new program.

Objectives:

Objective 9.1 Develop a stable and productive workforce.

Strategy:

- Conduct mid-probationary-period reviews of tenure track faculty and lecturers.

Objective 9.2 Develop a continuous improvement process.

Strategies:

- Establish an ABET assessment database.
- Review assessment results with faculty and staff at least once every six months as part of a continuous improvement process.