

PROGRAM STATEMENT

The Department of Engineering Technology provides high quality, applied engineering based programs with appeal to a broad range of students including non-traditional students and the hands on learn, so that educational opportunities in engineering are provided to a greater cross-section of the state's population.

VISION STATEMENT

The programs in the Department of Engineering Technology will transition to become EAC/ABET accredited engineering programs that retain the positive aspects of the current programs consistent with the department's mission, but at the same time, better align the department with the university vision and direction. These new programs will be recognized by employers and the general public as the best in Texas in providing graduates who have useful skills that are immediately applicable in a global market place.

Goals, Benchmarks, and Strategies

The Engineering Technology Department has established 5 fundamental goals to help guide and focus its direction over the next several years as it seeks to achieve its stated Mission and Vision. Each goal has stated benchmarks to help measure the achievement of each goal and stated strategies to help it achieve each goal.

Goal 1. Improve and maintain high quality academic programs within the department.

Benchmarks:

- Continue to improve and maintain existing degree programs until TAC→EAC transitions occur.
- Upgrade existing Construction Engineering Technology program to Construction Engineering program.
- Upgrade existing Mechanical and Electrical Engineering Technology programs to an Integrated Systems Engineering program.
- Achieve ABET/EAC accreditation for all applied engineering programs within the department within 6 years of initiation of each program.
- Develop graduate programs that support the new engineering programs in the department within 4 years of initiation of new programs.
- Increase the number of faculty in the department with Ph.D. degrees to support development of graduate programs.

Strategies:

- a. Maintain existing ABET/TAC accreditation via established continuous improvement and assessment process.
- b. Complete planning, application, and approval process to transition the Construction Engineering Technology Program to a Construction Engineering program, with an applied engineering focus. Target date of transition is September 2009.
- c. Identify and develop an integrated systems engineering program of study that maintains an application focus and meets the needs of a unique sector of industry not currently met by other programs in the CoE at Texas Tech University. Target date of the new program is September 2010.
- d. Develop and implement an assessment and continuous improvement process that will satisfy the requirements of ABET/EAC. These processes are to be in place and functioning by target transition date of each program.
- e. Survey industry and identify unique needs for a graduate program that correlates to the new undergraduate programs and develop graduate curriculum. Initial development of potential masters programs will be to utilize the existing interdisciplinary Master of Engineering degree in the CoE until program growth provides justification for approval of new stand alone programs.
- f. As natural faculty attrition occurs in the department through retirement and/or resignations, hire replacement faculty with Ph.D. degrees in appropriate engineering disciplines.
- g. Utilize the Industrial Advisory Board for guidance with respect to program development and review.

Goal 2. Increase the number and diversity of undergraduate students in the department.

Benchmarks by the year 2012,

- Increase the total enrollment of the department by 20% to 420
- Increase the percentage of female students from 5.3% to 10%
- Increase the percentage of Hispanic students from 12.8% to 26%
- Increase the percentage of Black students from 2.5% to 5%

Strategies:

- a. Develop and maintain high quality degree programs and courses in applied engineering, targeted to reach out to the non-traditional student and/or hands on learner.
- b. Improve retention rates by supporting CoE “First Year Experience” programs and activities.
- c. Support minority based student organizations within the CoE.
- d. Increase the number and amount of undergraduate scholarships.
- e. Develop programs/agreements with local school districts and 2 year colleges to channel students into the existing ET programs and the EAC transitioned programs.

- f. Support CoE and TTU recruiting efforts.
- g. Increase the visibility of the programs in industry by publishing and distributing program resume books each long semester.
- h. Determine and execute strategy to reach out to some 300+ engineering undecided majors within the college.
- i. Advertise departmental and external scholarships on the ET website.

Goal 3. Increase the academic creativity within the department.

Benchmark by the year 2012:

- Increase the number of faculty holding Ph.D. degrees in the department.
- Increase the number of externally funded research proposals submitted to 1.5 per FTE per year.
- Increase the amount of annual external research funding obtained per FTE to \$75,000 per year.
- Increase the number of articles and papers published in referred journals or presented at national and international conferences per FTE to 1.5 per year.

Strategies:

- a. As natural faculty attrition occurs in the department through retirement and/or resignations, hire replacement faculty with Ph.D. degrees in appropriate engineering disciplines.
- b. Provide reduced teaching loads for research active faculty to allow more time to write proposals, pursue/conduct research, and publish/present related articles and papers.
- c. Establish endowed department chair or professorship to attract and retain high quality faculty and provide them time and resources to more actively participate in academic creativity.
- d. Identify and establish industry partnerships that will enhance applied research opportunities.
- e. Seek to increase the amount of travel funds (internal and external) available to faculty for travel to conferences to present papers and to meetings to develop research funding relationships.
- f. Solicit IAB membership for opportunities to conduct applied research as a resource to solve day to day problems.

Goal 4. Improve the stability of the programs and department with in the College of Engineering.

Benchmarks:

- Complete the initial transition of all existing TAC programs to EAC programs by fall 2010.
- Obtain ABET/EAC accreditation for all new programs within 6 years of initial transitions of new programs.
- Hire and retain high quality faculty.
- Establish an endowed Chair or Professorship within the department by 2012.

- Increase industry support, input, and interaction with the department and programs.
- Increase faculty salaries and decrease workloads to values more consistent with the rest of the CoE.
- Increase the number and amount of endowed scholarships.

Strategies:

- a. Give transition of programs high priority in daily activities.
- b. Have continuous improvement and assessment processes in place by the transition date of all new programs.
- c. All new faculty hires will have earned Ph.D. degrees and will either have a strong record of teaching, academic creativity and research or show a strong potential for the same.
- d. Work with the Dean of CoE and the Provost of TTU to provide appropriate salary levels for new hires and to find funds when possible to increase existing faculty salaries to engineering appropriate levels.
- e. Participate in and support the current CoE efforts and TTU Capital Campaign to increase the number and amounts of endowed scholarships and to establish endowed Chair(s) or Professorship(s) within the department.
- f. Work with the existing 18 member Industrial Advisory Board (IAB) and seek to expand the opportunity for more companies to participate but not to lose the effectiveness of the current size board. One possibility is to maintain the size and function of the existing IAB but also develop a larger Industrial Council made up of companies who recruit at and support TTU financially, coupled with a self-sustaining Alumni Chapter, most of whom also work in industry.
- g. Publish at least 1 departmental newsletter per year with an insert for giving.
- h. Increase the visibility of the programs in industry by publishing and distributing program resume books each long semester.
- i. Advertise internal and external scholarships on the departmental web site.
- j. Establish a department “Partners in Excellence” opportunity for industry to be involved in supporting the ET programs.

Goal 5. Enhance the tradition, pride, and image of the department.

Benchmarks:

- Re-establish ties and participation with alumni of the department.
- Maintain a quality Internet presence via the departmental web site.
- Encourage community involvement by our students.
- Obtain additional high quality office space and classroom/laboratory facilities.
- Recognize outstanding alumni and graduates.
- Host seminars and events that reach beyond the department level.
- Get more ET graduates recognized as Distinguished Engineers.

Strategies:

- a. Publish at least 1 newsletter per year.
- b. Appoint a faculty or staff member with collateral duties to develop and maintain the departmental web site.
- c. Work through the student organizations to encourage participation in community activities.
- d. Sponsor at least 1 extra curricular activity per year for current students, alumni, and industry advisors/sponsors/recruiters.
- e. Seek opportunities to work with Dean CoE and Provost TTU to expand and improve office, classroom, and laboratory facilities.
- f. Work with Office of Research Services to identify and write equipment and facilities grants to improve the office, classroom, and laboratory facilities.
- g. Regenerate and expand the department Academy to recognize outstanding graduates and industry sponsors and their accomplishments.
- h. Publish faculty and student successes via the ET website and local bulletin boards. Examples include but are not limited to: Published papers, conference proceedings, grades (President's List or Dean's List), Outstanding Student Awards, community service, and student competitions.
- i. Submit at least 1 DE nomination each year.