

**Retention and Recruitment Plan
for Engineering Technology and Industrial Studies
at Middle Tennessee State University**

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Abstract

With the many problems facing universities today, recruitment and retention are high on the list needing attention. Steps or goals to develop recruitment plans need to be implemented and continually improved upon to keep pace with today's changing needs. Target areas which require attention include those which directly or indirectly affect the students: to keep those currently enrolled interested in staying within the department, to convince undeclared majors to select a degree and a career from Engineering Technology programs, to actively recruit high school students and older nontraditional students currently working, and to improve the attitude and professional development of faculty and staff, as well as curriculums. A timeline should be utilized to structure the execution of these ideas.

Innovative methods for recruiting are discussed. Implementation plans need to be developed which are directed to these target areas. When any of the goals are achieved via the retention and recruitment target timeline, the department will be strengthened by way of growth in numbers and the personal connections with the students. The students need to witness positive attitudes and be treated as customers. The department needs to work towards offering a quality degree program meeting the needs of the 21st century. The entire field of Engineering Technology is changing and the career options are changing. To retain students, any university must meet the need.

Introduction

A major problem facing the Engineering Technology and Industrial Studies Department at MTSU is recruitment and retention of the students. To turn this situation around, steps to develop a recruiting program need to be implemented and continually improved upon. Efforts at this time should focus on recruitment plans to cover five basic target areas: (1) to keep those currently enrolled in the department interested in staying in the department; (2) to convince the high percentage of undeclared majors at Middle Tennessee State University (MTSU) that Engineering Technology (ET) can supply them what they need for successful careers; (3) to recruit high school students to choose ET as a career; (4) to recruit the skilled, already employed,

non-traditional students from industry who need some advanced education for growth in their career areas; and (5) to improve the attitude and professional development of the department overall, including faculty, administration and curriculum. According to Mr. Webster, recruit means growth, increase, or enlistment, or another meaning offered is “to strengthen or maintain by supplying anew.” Recruitment by either definition is by no means a passive activity.

Considering an overall approach to improving the department, one should remember that the goal of a college education is to prepare a student to enter the workforce with the tools necessary to be successful and have the satisfaction of making a worthwhile contribution in a chosen career field. This preparation is provided by the degree program made up of course work necessary to perform in the career field. More than just classroom exposure, this preparation is influenced by the faculty, their attitude, and the quality of the program. The focus of the degree program must be two-fold: a positive and encouraging experience for the student and the type of quality education necessary to gain employment and advance in the career chosen. The maintenance of a quality degree program requires the department to keep the enrollment necessary to provide the classes. In other words, bodies are needed to have the classes make. The department needs to develop that quality product.

Physical identification for the department is also needed. Placards or signs displayed on the upper four (or more) corners of the VIS building are needed, as well as front and back signs at the pedestrian level. When the new football stadium is completed, VIS will be one of the nearest buildings for fans to notice and identify with. The department should make use of the building marquee, MTSU-TV, brochures, web sites, and student organizations to spread the word that this department has a lot to offer.

Target area 1- keeping existing majors

In this first target group, the present trend is for first and second year students who are declared ET majors to switch majors to another department by their junior year. One way to prevent this is for faculty and staff to react to student's needs. The faculty and staff need to be friendly, positive, enthusiastic, and available (through office hours and appointments) to help the students. All faculty members should make contact with their advisees each semester. The important thing is to show a caring attitude about the student and their progress, and care enough to be available to assist in resolving any uncertainties. Faculty members must believe in ET and what they are doing while representing the department, whether at Customs, at University functions, when advising, or while in the classroom. With a good attitude, the quality of their teaching will have a positive influence on the students.

Keeping up with the latest technology, teaching updated issues, and teaching from more than just the textbook is also a good way to keep students excited about learning and from switching majors. For instance, having a guest speaker or a field trip as a part of the syllabus each semester can offer a hands on look at the latest developments in technology and can keep a student's interest level up.

Target area 2- the undeclared majors pool

The second target area for recruitment involves those students who are enrolled at MTSU and have not declared a major. Of the 18,000-plus students enrolled, a high percentage are unsure of the direction their education should take and are open to suggestion or encouragement. Those students who have not declared a major may not be familiar with the ET department and the many opportunities the programs offer for careers. Some ways of catching their attention include sending postcards to this pool of students inviting them to investigate what the ET Department can offer them, putting posters up around campus advertising the department (in the Dean's office, cafeterias, dorms, bookstore) listing the degrees offered and opportunities available, or getting articles about department accomplishments (solar car, co-op opportunities, faculty achievements) in the student paper. An open house, or similar function, held once a year inviting freshmen and undeclared majors to attend and offering a tour of the ET facilities could be useful in reaching this group of students, especially if it could become a yearly department tradition. Lists of students from the admissions office or university focus reports could be utilized to contact this pool of students by phone or letter. In addition, by developing interesting classroom teaching techniques, word of mouth could influence some undeclared majors to switch to ET.

Target area 3- high school juniors and seniors

Another recruitment section to target includes high school juniors and seniors enrolled in public and private schools in a radius of 300 miles. These students should be informed about all ET programs and the opportunities available within each of our degree programs through direct contact. Faculty participation in high school career fairs, open houses, or formation of "outreach" committees available to travel to assigned high schools to recruit can be utilized to reach these college bound students.

Meeting with students in small groups or in individual classes allows for a good exchange of ideas. The more direct the contact made with these students, the more they are impressed with what MTSU has to offer, particularly the ET staff. This type of recruiting also reaches the parents. Posters (with return postcards attached) or brochures (similar to those used on campus, but geared to high school students) distributed to all the high schools with information about the department should be part of an outreach program to reach these students. Phone committees from within the department with enthusiastic, positive attitudes could be formed to respond to inquiries received via the postcards or high school visits.

Additional outreach activities could include invitations to the students, their parents, and teachers to tour the department and possibly participate in projects, competitions, or activities relevant to ET careers. This "tour" could include participation in a testing procedure leading to scholarships or awards for the top 3 finishers, for example, textbooks purchased for the year or software packages such as TK Solver. By scheduling events which appeal to high school students and their parents, interest in those things the department has to offer will increase. Taking advantage of the interest is another area which needs to be explored and developed.

Developing any or of all these identity and public relations efforts could be accomplished through several methods, one being a summer camp for 11th and 12th graders. Activity sections might include the basics of engineering, industrial technology, bridge building projects, computer workshops (with CADD, Basics, etc.), design projects, environmental science projects, or science programs using physics or robotics. By using co-sponsors, such as Basic and Applied Sciences through the Dean office or professional societies, the ET Department can get assistance from industry, students currently enrolled, or other university departments to assist with the sessions. The possibilities for success are unlimited. Planned competitions, with prizes, could be organized as an ideal means of creating a structure for course interest, offering a project component, and generating excitement among students or prospective students. Entries could include individual or team efforts, with prizes such as cash, paid attendance to a professional conference, an offer to publish the project specifics in a recognized publication (to be worked out beforehand), or, at the least, a Certificate of Participation. Planned yearly, this type of competition could become 2nd annual, 3rd annual, etc., and gain a reputation for the competition and for the department, such as challenging, quality, progressive, or high tech. With competitions similar to the Science Olympiad on campus, a camp of this type involving the College of Basic and Applied Sciences and sponsored by the Department of Engineering Technology and Industrial Studies would be great recognition for the department and help in development of a quality program.

From another educational approach, involvement in projects used as learning programs could be established for high school physics, science, math, and computer students at their schools. Some high schools encourage their better students to get involved with college level projects. Using the internet to develop high school participation projects through the MTWeb would be a high tech means of getting students involved and interested in ET programs. Reaching high school teachers and impressing them with the department's attitude and approach to encouraging students to study ET programs is another benefit of advertising the department in this venue. The teachers can also benefit from the project efforts and shared information in the fields of ET, and possibly use the experience towards continuing education requirements.

Target area 4- recruiting from industry

In this target area, contact should be initiated with local industries to make their employees aware of what ET can offer them by means of posters and articles in plant news letters. Affiliation with the local industries should be developed to not only promote the department, but to also assist faculty in staying abreast of latest trends. Partnerships should be encouraged with manufacturers in Middle Tennessee with benefits ranging from joint teaching by experts in the various industrial fields to offering co-op positions or internships to students for on the job training in preparation for entering the workforce.

If enough interest can be generated, arrangements to offer a class related to a specific manufacturing process or product could be established, or any classes which might benefit the workers. By taking the opportunity to earn a BS or MS out to industry employees, the department reaches out to those who may not be able to attend classes on campus. A sub-group of this target area to consider is the worker who may be interested in a career change or a teacher who may be interested in ET as a continuing education field of study. Another aspect of

teaching/learning from this group of individuals involves shared experiences with other classmates. Each member of the class, including the faculty, benefits from listening to on the job situations and experiences, particularly at the graduate level.

Using the Russell Chair of Manufacturing Excellence as a means of developing manufacturing partnerships is as important to the classroom as the department. Contacts can be used for cutting edge course development, networking can be utilized for access to latest technologies available in the industries and for guest lecturers and faculty involvement in seminars and workshops can be exchanged for consulting opportunities, as well as other opportunities. Using all avenues to develop worthwhile associations such as these to be used in the classroom will enhance the reputation of the department and impress upon students the progressive nature of the department. Students are interested in hands on, useful information and training to prepare themselves for a career. Contacts are important. The Russell Chair is an important tool in developing a quality program.

Target area 5- improve the department

Many ways to improve the department are discussed in the plans for the first 4 target areas listed. Some are as simple as keeping office hours, being courteous to all students, and exhibiting a positive attitude about the department and all its components. For example, when participating in Customs, representatives from each program should be available and each should be enthusiastic about the department and classes offered. A workshop for faculty members may be useful for sharing program information so that all advisors can be consistent in helping the new students. Methods of selling the department to students could be suggested, for example, thinking about what is said and how it is understood.

First impressions are important. All students approaching the administrating staff in the office should be treated as customers. Everyone should act willing to help, be friendly, courteous and pleasant. If specific answers are needed regarding the programs or major requirements, the staff should refer the students to the appropriate advisor. Workshops for secretaries, work study students, and coordinators should be held so that each understands the direction the department is trying to take regarding recruiting and also so that they understand which faculty members are responsible for which programs. First impressions also include putting out the best possible home page on the MTWeb with easy access to information being sought, bulletin boards with student organization information and job opportunities, and signage defining all the programs and majors in the department and identifying what is available, where it is located, and who is responsible for it. Identity is important for recognition. If the students do not know something exists, they cannot enroll in it. All of this helps develop a quality program.

Ways of advising students should be better defined by the department. Advisors should keep in mind that most new underclassmen need guidance and direction to determine class scheduling in order to get a solid foundation for future engineering course work. To keep existing students, the department should devise a plan for faculty to keep track of those they are assigned to advise. Faculty must be available to meet student's needs. An appointment with each student once each semester should be required to maintain personal contact and keep

discussion lines open, whether to discuss problems with classes, with other students, or to simply show an interest and develop a rapport. A computer program for each faculty member to track the progress of students assigned for advisement (grades/registration/related problems) should be established and include procedures for follow-up if assistance is needed. Tracking student progress helps develop a quality product.

Other observations

As the number of ET majors are retained and new students are added (growth in numbers), the addition of honors classes to the schedule should be investigated to attract students. The newest technology should be offered to draw students, which may mean adding degrees in automation/robotics technology, project management, or additional masters programs, as the recruiting plans fall into place and enrollment increases. The right thing to do is to offer those things which meet the needs of the 21st century. A timeline should be established to ensure the department is doing its best to grow, develop, and progress to be the best it can be. A Masters in Engineering Technology should be established by the year 2001. Other improvements should be projected by specific dates. All faculty members must be challenged to offer the best they can offer to make these improvements attainable.

The importance of internships and cooperative positions cannot be emphasized enough. Not only for career preparation and training, but by recognition of the quality of ET students being educated at MTSU. As the quality of the programs continue to improve through the growth in numbers of students, the strength of the department will continue to improve through its reputation for maintaining a quality level of education.

Conclusion

In conclusion, students need to witness positive attitudes where the faculty and staff are involved. The faculty needs to respect the students, improve teaching styles, and assist the department in developing quality programs for each degree area. Active faculty participation in all recruitment ideas is essential for any progress to be made in department growth.

The students should be treated as customers. Attitude and pride are important. Identification is important. Marketing the department and what it stands for is important. Teaching is important. All components of the department are important and must work together for ET to improve and “to strengthen and maintain by supplying anew.” These attitude changes, when used with a new approach to selling the department and its programs, should increase the numbers of majors and allow development of some improvements in what the ET Department has to offer. Respect for other faculty members and support for their efforts to develop programs which enhance the department and enhance their personal educational growth should be automatic.

With increases in MTSU’s overall enrollment, ET should strive to gain its share of that increase. Changes and growth within ET should coincide with this department working with other university departments, such as admissions, to improve the perception of ET as a major and as a career choice. By developing a quality program the reputation of the department can aid in

the recruiting effort. By reaching out and offering a 21st century education, getting certifications necessary to compete against other universities, and by advertising what ET is offering, growth is assured.

The entire field of Engineering Technology and Industrial Studies is changing and the career options in the fields are changing. The ET Department needs to track the changes and be flexible in the needs of the students while using every opportunity to convince students of the benefit of majoring in MTSU's quality ET degree programs.

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