



Tom Shumpert (above), of the Electrical Engineering faculty assists engineering students Hillard Smithers and Kenneth Lee in AUMEP's Interactive Learning Laboratory.

MINORITY ENGINEERING PROGRAM EXCEEDS EXPECTATIONS

Three years after its inception and two years after the creation of its programs, the Auburn University Minority Engineering Program (AUMEP), designed to increase retention and improve the academic performance of minority engineering students, is exceeding expectations.

For the past two years, the AUMEP has met its objective of bringing the academic performance of its minority engineering student participants to a level of parity with the College of Engineering as a whole. For example, freshmen AUMEP students had a mean grade point average of 2.70 after one year of study; 75 per cent of AUMEP participants had a grade point average of 2.20 or higher, which is the minimum grade point average needed to take engineering courses (see bar charts on page 3). By comparison, non-minority engineering students had a mean grade point average of 2.56, with 67 per cent having a grade point average above the minimum.

Prior to the AUMEP, minority engineering freshmen had a mean grade point average of 1.92, with 42 percent having a grade point average of 2.20 or better after one year of study.

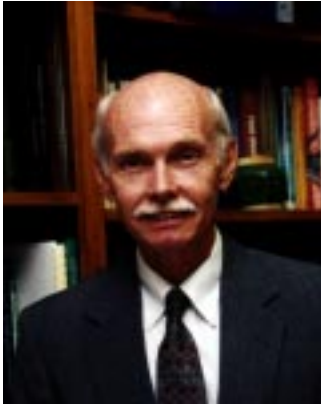
Dennis Weatherby, the AUMEP director, says the academic success students are having are the result of AUMEP's "structured learning environment." The programs consist of an interactive learning laboratory, a weekend tutorial, collaborative learning sessions, and a proactive mentoring program (see website: www.eng.auburn.edu/depart/mep). AUMEP provides academic support in mathematics, chemistry and physics, the heart of the pre-engineering curriculum. "Student participants are asked to involve themselves in the programs as they would their courses, attending at appointed times on a weekly basis, as oppose to only coming when they feel they need help. Having set appointments in the AUMEP allows the mentor-tutor staff to have frequent contact with the freshmen so that they can provide timely assistance in their coursework and ensure that each student's effort is consistent and not merely out of pre-exam desperation."

"The program's are not just about helping the participants with homework and in preparation for exams," says Weatherby. "We teach them to master the principles they learn in class. AUMEP participants complete from 200 to 300 additional problems per academic quarter related to the technical coursework. The additional work can be arduous at times, but the process results in mastery of concepts. Once students master concepts they are able to solve any variation of problems related to the principles, thereby being more prepared for the exams." Weatherby adds the key to longterm success in engineering fields is to build a good foundation on the mastery of technical principles.

The AUMEP students spend at least six hours each week working to these master principles. The MEP targets first-year students making the transition from high school to college, but includes students of all levels, some who are getting assistance and others who are passing along knowledge they have learned through participation in the program.

(continued on page 3)

Preparing for Success in Engineering



Interim Dean Larry Benefield

What does it take to make it in college— especially in a tough and demanding school like engineering?

Successful students share some common traits, some of which are in the attitude they bring with them, others in the way they study.

There is, in fact, a kind of mindset that is necessary for success in college, and the first part of that is the recognition that college is different from high school.

Some adjustments will be needed from the start. Classes and teachers in college are more demanding than high school, and will ask more from you in terms of time and effort.

You will have to demonstrate determination to succeed – and an effort is required to do so. You will have to study harder and longer.

Your mom and dad will not be there to give you advice, and they will not be there to keep you from some of the temptations that you will face, such as parties, football games and road trips.

How you balance your social and academic life will make a real difference in how well you do, and how successful you will be. Setting priorities is a big part of college, and a big part of the transition you will have to make.

Being self-motivated and responsible for your own actions is another way of putting this. Don't wait until you get to college to start developing these traits – it's important to begin now.

It is also important to develop good note-taking skills, because a lot of your time in class will be spent doing just

that. The notes you take will determine how well you will be able to do your homework. And yes, you have to make time for homework. It's an essential part of the work that is required of you in engineering classes.

Finally, you have to learn how to “study smart.” This means that planning, reflection, and an open mind to pick up on new ways of studying is essential. If you become alert to the necessity to do this, much of it will begin to come to you intuitively. If you do these things, you will find yourself turning into a “learning machine,” ready to absorb, respond, and find new directions. You will even begin to find your life changing as the challenges of college life unfold. It will be scary – and fun – all at the same time.

I can only offer one more piece of advice – the most important of all – and that is to seek help when things aren't going well. This not only means asking lots of questions in class, but before and after classes as well. There is plenty of help available – but you have to ask for it! Don't hesitate, and don't feel like you're the lone ranger. The students that we have on hand to help you with your problems have been there themselves, and understand.

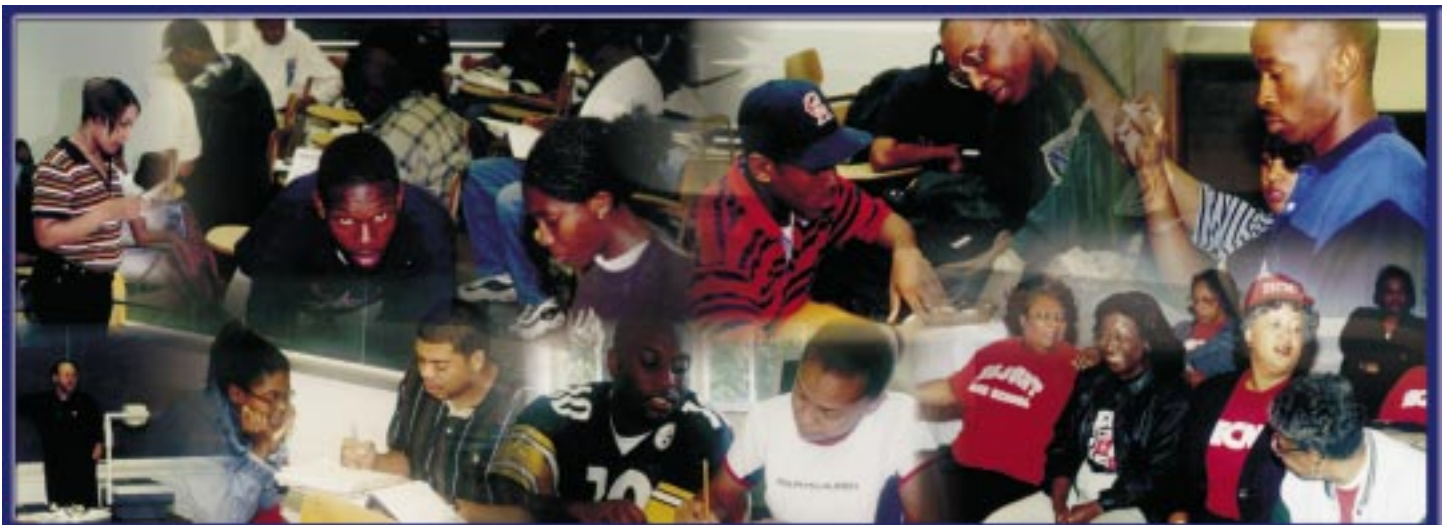
If you have an aptitude for engineering, and the science and math subjects that go hand in hand with a technical education, we will do our best to help develop the talents within you.

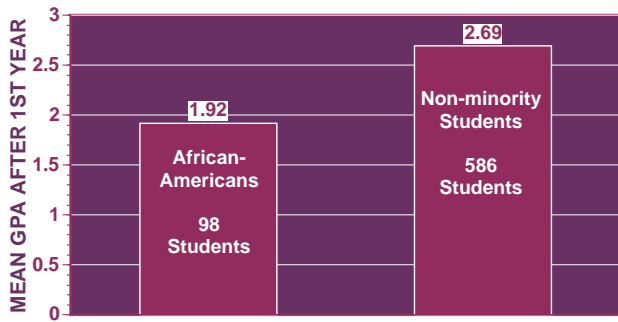
Don't be afraid of the challenges of engineering. Come to us with... no fear. In my own experience, I found myself unprepared in some areas. These were the ones I simply worked harder and longer on, and overcame.

If you stick it out, you'll find an incredibly exciting career, one that is very well paid, with a high degree of respect from every element of society. As an engineer you will be a helper, a builder, a manager, a contributor, and a designer – of your own life and lives of others who will look to you for the answers to questions a technology- driven world demands.

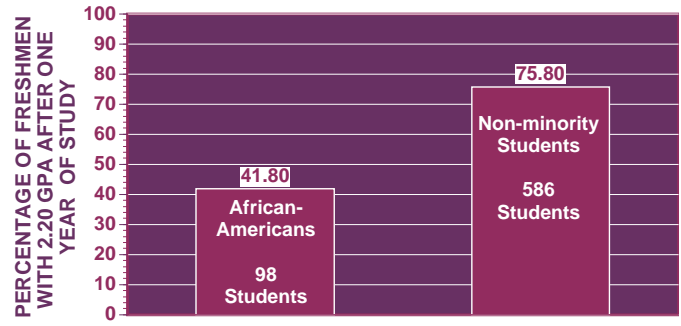
Good luck!

Scenes From AUMEP

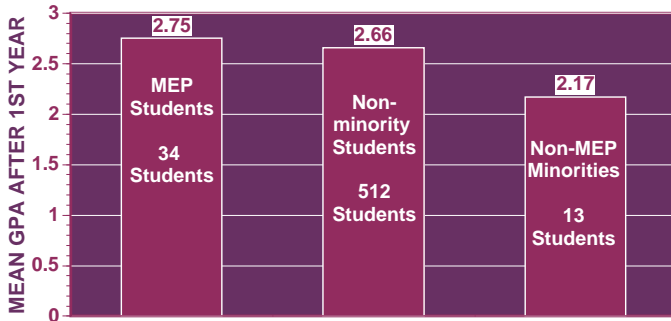




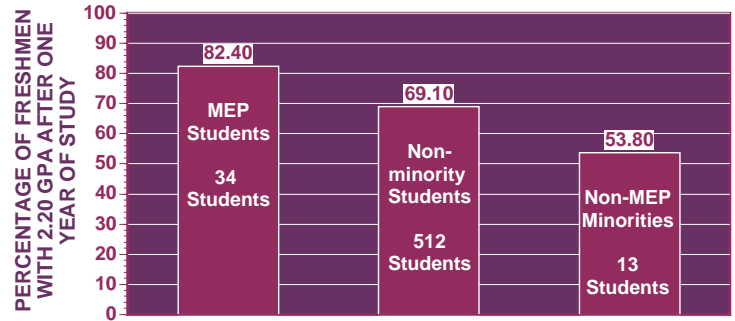
1991-92 AU ENGINEERING FRESHMEN



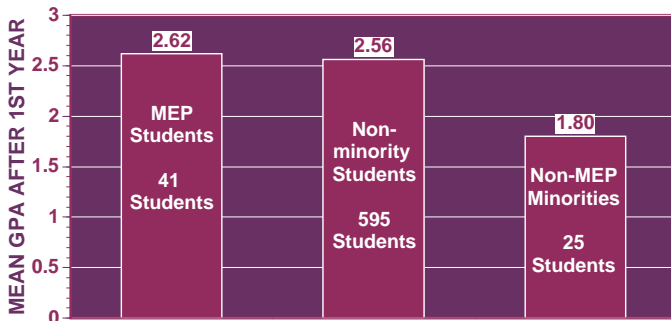
1991-92 AU ENGINEERING FRESHMEN



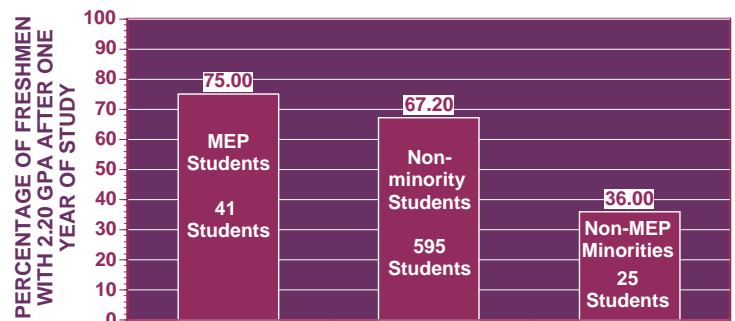
1997-98 AU ENGINEERING FRESHMEN



1997-98 AU ENGINEERING FRESHMEN



1998-99 AU ENGINEERING FRESHMEN



1998-99 AU ENGINEERING FRESHMEN

— Program Exceeds

In addition, the program offers need- and merit-based scholarships to students who are successful in the program. “By awarding scholarships based on merit and successful completion of the program each quarter, we provide extra incentive to the student,” says Weatherby, “but we also can rest in the knowledge that the student receiving the aid have shown the propensity and desire to succeed.”

Engineering Students who participated in Auburn University’s Minority Engineering Program and currently have a 3.00 grade point average or higher.

Eric Brewer - Electrical Engineering
 Deven Conley - Mechanical Engineering
 Biko Freeman - Chemical Engineering
 Wendell Hardin - Electrical Engineering
 Nicole Harris - Materials Engineering
 Travia Holder - Software Engineering
 Sterling Huntley - Chemical Engineering
 Kevin Jackson - Computer Engineering
 Melvin Jones - Industrial Systems Engineering
 Nicholas Parks - Computer Engineering
 Tammy Pickett - Chemical Engineering
 Jacquelin Scott - Computer Science
 Kristie Walker - Computer Engineering
 Monica Whiting - Aerospace Engineering
 Tiffany Williams - Software Engineering
 Ashanti Bradford - Computer Science
 Maurice Clark - Computer Science
 Jamaal Delbridge - Materials Engineering

Shaun Doyle - Mechanical Engineering
 Emmett Garrett - Aerospace Engineering
 Kaneka Jones - Mechanical Engineering
 Orenthral Morgan - Mechanical Engineering
 Mwana Mortley - Computer Science
 Niger Sledge - Electrical Engineering
 Korey White - Chemical Engineering
 Candace Williams - Electrical Engineering
 Otis Seals - Electrical Engineering
 John Lett - Mechanical Engineering
 Antoria Arnold - Electrical Engineering
 Major Wheeler - Materials Engineering
 Jonique Parker - Civil Engineering
 Ferris Mitchell - Chemical Engineering
 Sara Beth Richardson - Electrical Engineering
 Casey Robinson - Civil Engineering
 Diana Shepherd - Electrical Engineering

New Problem-Solving Course for Pre-Engineering Students

The Auburn University Minority Engineering Program has initiated a problem-solving pilot course designed to enhance pre-engineering students' ability to think logically and critically when solving problems related to their coursework and in everyday life.

"One of the reasons some students become frustrated in courses such as chemistry, calculus and physics and leave engineering is because they they have not developed proficiency in fundamental problem-solving and critical thinking strategies," says Dennis Weatherby, AUMEP Director. "In most engineering programs around the country, students are taught content and technical routines, but are not introduced to the process involved in solving problems. As a result many students fail to understand how some of the abstract principles they are taught apply to engineering problems."

This first course, designed by Tom Shumpert (Electrical Engineering) and Jeff Fergus (Materials Engineering), is being taught this fall, and is entitled T.I.P.S.: Techniques in Problem-Solving. The objective of the course is to enhance the student's problem-solving proficiency by teaching the methods and techniques requisite to success in the engineering fields. Thirty-nine pre-engineering students are enrolled in the pilot course, including 20 minority students and 19 non-minority students. The problem-solving approaches presented to the students apply across all engineering disciplines.



Tom Shumpert (above), faculty in Electrical Engineering and instructor for the T.I.P.S. course, assists pre-engineering students as they learn problem-solving skills in a laboratory group project using a jigsaw puzzle.

The Auburn University Minority Engineering Program is made possible by the financial support of the following sponsors:

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