

December 1999

New Department Scholarship page!

We now have a Department Scholarship page (accessed from the [Department Information page](#)) that explains what scholarships we have, how to apply, and how to donate. See <http://www.eece.maine.edu/scholarships/>. We've pulled together all the information on scholarship funds that have been established with the University of Maine System or Foundation that are relevant to Electrical and Computer Engineering. This page provides information and forms for **applicants, donors, and anyone wishing to establish a scholarship.**

Current and future students, please note the application date for all scholarships is MARCH 1.

Professor Fred Irons retires

Fred Irons has announced he will retire from the Department in January, 2000. In 1998, then Interim Dean John Field wrote a letter, nominating Fred for the Maine Distinguished Professor Award, the highest award the University can bestow on a faculty member. Fred won the award. Please read the [letter](#) to understand how much we will miss Fred. He's not leaving entirely, however. He intends to remain involved with the Communications Lab and will work with some very lucky students. If you would like to honor Fred's career, I encourage you to donate to the [Fred H. Irons Scholarship Fund](#) using the [pledge form](#) on our new Scholarship page. We will make sure he learns of your thoughtfulness.

Microelectronics Lab is imminent!

The Microelectronics Design, Modeling, and Simulation Laboratory is off the ground. With a donation of five Sun workstations and monitors from Quadric Systems, and a generous matching grant donation from Sun Microsystems, we have acquired a total of five Ultra10 high performance workstations and 10 SunRay thin client stations. Please take a look at the [lab configuration](#). The lab will be located in 213 Barrows and should be operational in February 2000. What started out as a simple donation of surplus equipment from Quadric Systems was leveraged into a first class microelectronics design, modeling, and simulation lab!

Tips for investigating engineering programs:

I thought it would be interesting to pose this question to our faculty. **"If you had a son or daughter who wished to enroll in an engineering program, what would you look for?"** The point is that our faculty have seen many students and programs through the years and, I believe, have some special insights. .

In general, faculty stated that **cost** and **quality** of education were most important. We all understand how to measure cost, and it was generally recognized that a program that costs twice as much is not necessarily twice as good. The [cost of tuition at UMaine](#) compares favorably with that of [other New England universities](#), and when compared to out-of-state rates at most universities, UM is a bargain. We sometimes hear stories from alumni who are training/supervising employees whose education cost far more than their own.

But how do you measure **quality** of education? There are many questions to ask:

Is the program ABET accredited? ([Accreditation Board for Engineering and Technology](#)) Every six years, programs are visited and must pass inspection. It is no small task to remain accredited, and accreditation is VERY important. Most serious programs are accredited. However, if you haven't heard of the program, it doesn't hurt to [check](#).

What jobs are available to graduates? What percentage of graduates receive job offers? Do graduates have difficulty entering graduate school programs at other universities? We are proud of our answer as detailed in the [last newsletter](#).

Who are the faculty and what are their interests? The curriculum tends to mirror the interests of faculty. For example, do the faculty have industrial experience? Are their interests more applied or centered on fundamental research? Is there diversity in the faculty, providing exposure to a variety of viewpoints based on experience? Our last [annual newsletter](#) documents faculty interests and activities.

What is the department's history? Is it well established with a proven track record? We recently celebrated our 100th anniversary. Professor Emeritus Walt Turner created a very interesting [history of the Department](#).

Who does the teaching? Are graduate students given teaching responsibilities? In our Department, grad students are often given lab teaching responsibilities, but very infrequently are they given lecture responsibilities. Take a look at our [class schedules](#) to see teaching assignments.

What are the program's lab facilities? How much emphasis is placed on "doing" or "hands-on" work? We are currently in the process of documenting our lab facilities for an upcoming ABET visit. We will post the results on our web page. In the meantime, a visit might be the best way to obtain this information. Our philosophy has always been, "why

should this course NOT have a lab?" rather than, "why SHOULD it have a lab?"

Which students do research? Is it possible for undergraduates to become involved in research? Many universities only involve undergraduate students in a minor way. We have had an active [National Science Foundation Research Experience for Undergraduates program](#) for many years. We **depend** on undergraduates and encourage them to participate. The payoff for students is an opportunity to work in close collaboration with faculty on state-of-the-art research problems and continue their work during the summer.

Is co-op experience valued? In our Department, six credit hours may be earned through co-op experience. We actively encourage all students to pursue co-op opportunities. Two Department web sites that assist students are the The [ECE Coop Center](#) and the [Student Job Status page](#). Look for comparable sites at other institutions and compare.

What is the "difficulty" of the program? This is a tough one to answer. One measure that comes to mind is the average SAT scores of the entering class. The reason is that faculty, no matter where they teach, will tend to adjust the curriculum to a level consistent with the abilities of the students. It is for this reason that MIT, one of the most discriminating engineering schools in the country, is assumed to be "difficult". Based on a sampling of 11,600 high school seniors across the US who entered Electrical or Computer Engineering at US universities, the average ACT Composite score was 21.9, corresponding to a total SAT verbal and math score of 1026. The UM ECE average total SAT score for first year students in 1999/2000 is 1230. I don't have data for other ECE programs, but it might pay to ask.

What OTHER programs exist? You learn much more than Electrical and Computer Engineering when you come to UMaine. The advantage of attending a broadly based university, as opposed to a technology institute, is the diversity of the campus community. It has been observed that one indicator of a satisfactory student experience is the level to which students get involved in some aspect of campus life. For many engineering students, this involvement is outside of engineering and provides a good balance to their 'engineering lives". Try perusing our [directory of UM web sites](#). It amazes me every time I wander through this assortment of departments, clubs, services, and activities.

Is the campus safe? Is the environment healthy? Is the location "close enough" to home? Many, many questions need to be answered before a final decision is made. I hope this article has been helpful.

Publications, proposals, etc.

Vetelino, J., Caron, J., Haskell, R. and Freeman, C., U.S. Patent #5992215, "Surface Acoustic Wave Mercury Vapor Sensors," Nov. 30, 1999.

Patton and Habib Dagher met with Bath Iron Works task force representatives, Waterville, Nov. 16 and 30 to further develop plans for joint proposals.

Eason became a senior member of IEEE, October 16.

P.C. Andricacos, D.E. Kotecki, and K.L. Saenger. U.S. Patent 5,998,250, "Compound Electrode Stack Capacitor" issued December 7, 1999.