Progressive educators must lead, not follow

George Hairston,
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Technical training is crucial in an engineer's education, but so too is the study of economics and business. Engineering students need experience in business principles to succeed in today's business environment.

The nation's top engineering schools do an admirable job teaching the basics of technology. However, for a student to be fully prepared for the workplace they must be exposed to more business related courses during their academic career.

Time and time again we see engineers coming to Southern Nuclear without a basic understanding of subjects such as economics, marketing or finance. This lack of knowledge leaves them less prepared for a rapidly changing workplace where varied skills are paramount, resulting in a slower than expected integration period.

Engineers must be ready to enter a working environment with minimum additional training.

According to Dr. William A. Wulf, of the University of Virginia and the National Academy of Engineering, companies must invest in one to two years of expensive additional training for each new employee. Training for company-specific tasks is expected, but companies should not have to foot the bill to teach students "Business 101".

Southern Nuclear recruits engineering students out of the top schools in the southeast. Southern Nuclear also has summer student and cooperative education programs offering opportunities to expand on classroom experiences while encountering challenging tasks. We do this because it assists in a student's adjustment to a true working environment in a way that a classroom can't replicate. There is no substitute for hands-on experience.

Throughout Southern Company, we employ some of the best men and women because we recruit the best. We consistently offer competitive salaries and benefits and, like all businesses, we expect a return on our investment. The quicker we get that return, the better for the company — but more importantly — the better for the employee.

Auburn graduate Nicole Faulk is an example of a young engineer who has benefited from expanding her academic boundaries beyond the classroom. In 1991, Faulk entered Auburn University as an undergraduate in mechanical engineering. During this time she also worked as a co-op with the Department of Defense. She graduated in 1996 and went on to graduate school, receiving a master's in mechanical engineering and a minor in math. She was a member of Cupola Engineering Society at Auburn, an organization that works with area high schools and alumni groups. She was recruited into our program and began working for Southern Nuclear in November of 1998. Faulk rotated through several different departments in the corporate office and also worked on refueling outages at Southern Nuclear's nuclear plants.

As an undergraduate, Faulk often felt her education was incomplete as it included no training in business fundamentals.

"While at Auburn my only experience with the 'business side' was Engineering Economics and Business Economics. We often turned in design projects, but something was missing. How do you present this to a buyer or a manager? We were not taught how to communicate, how to present the business case for design projects, or even how to 'dress for success.' These things are definitely needed among engineers."

Her future plans include obtaining a senior reactor operator license and, eventually, an MBA to complete her education. She feels that acquiring an MBA is an important step in furthering her career. She realizes the importance of a strong business background.

Auburn University, in particular, is a school that is beginning to understand the need to include business courses within engineering education. I applaud the exciting changes now underway at the undergraduate and graduate levels.

Drs. P.K. Raju (Department of Me-

chanical Engineering) and Chetan S. Sankar (Department of Management) have been pro-active in preparing case studies for use in the classroom that stress the strong interdependence between the two disciplines. Case studies introduce students to real situations similar to those they are likely to face in the business world. It helps them link classroom theory to reality. According to Raju and Sankar,

"There is a strong need to develop case studies that describe technical issues along with financial, marketing and management issues."

Dr. Larry Benefield, Dean of Engineering, together with Dr. John Jahera and Dr. Wayne Alderman, the current and former Deans of Business, respectively, helped pioneer Auburn's new Business-Engineering-Technology program designed to integrate business and engineering practices. The program is organized through the Thomas Walter Center for Technology Management. The center is a joint effort between the engineering and business schools and offers students the option of a minor in either field. Drs. James Bryant from Engineering and Paul Swamidass from Business are responsible for running this center. In this program, engineering and business undergraduates take classes together, work in cross-functional teams, learn engineering and business principles, and practice integrating business and engineering principles by solving real-world case studies and design problems. The students who complete the program successfully will earn a minor in "Business-Engineering-Technology." Fall 2001 is the first semester students will enroll.

There are also encouraging changes at the graduate level. Auburn has implemented three programs outside the traditional MBA to assist students to further their business knowledge: distance education, the Executive MBA and the new Techno MBA. Dr. Dan Gropper, Assistant Dean and Executive Director of MBA programs, sees a growing awareness of the importance of business education among engineers:

"Although engineering is one of the historical roots of the MBA program, the general consensus among engineers has often been that they don't need business basics. We are definitely seeing a change in this attitude. The true leaders in the corporate world understand that to move ahead you need further training."

The MBA programs at Auburn offer flexibility and outreach to engineers who are often too busy on the job to devote time to a traditional program. Distance Education is videotaped and allows the engineer to develop his/her own program – he/she can even skip quarters. The Executive MBA was developed three years ago and serves senior level management. Engineers make up 40 to 50 percent of the enrollment. The newest program is the Techno MBA, serving engineers at a more junior level. The Executive and Techno MBAs offer a unique combination of flexibility and teambuilding. For two weeks every year, the students come to Auburn and learn the basics of group dynamics and communication skills. According to Gropper it is a memorable experience, "Many of them develop friendships they would be unable to acquire in traditional night school. They need to learn how to manage and interact with people and in this atmosphere they are able to do just that."

Progressive educators must lead, not follow. They are not afraid to take on the status quo and they do not get trapped using yesterday's technology. Techniques and methods on campus must keep up with the changes in the workforce if we are to keep up with the future.

Engineering Hall of Fame

George Hairston, President and CEO of Southern Nuclear Operating Company, was inducted into the State of Alabama Engineering Hall of Fame during ceremonies held in Huntsville, Alabama on February 24.

Founded in 1987 in recognition of the sesquicentennial of formal engineering education in the state of Alabama, the Engineering Hall of Fame honors, preserves and perpetuates the outstanding accomplishments and contributions of individuals, projects and corporations/institutions that have brought and continue to bring significant recognition to the state of Alabama. They serve as symbols inspiring others to pursue rewarding and challenging careers in all engineering fields.

Hairston graduated from Auburn University in 1967 with a Bachelor of Science degree in Industrial Engineering. He received a master's degree in nuclear engineering from the Georgia Institute of Technology in 1971. In 1991, he completed the Massachusetts Institute of Technology Program for Senior Executives.

He is recognized as one of the foremost leaders in the U.S. commercial nuclear industry, serving on the boards of directors for the Institute of Nuclear power Operations, the World Association of Nuclear Operators Atlanta Center Governing Board, and the Nuclear Energy Institute.