A message from the dean

Strength and focus represent Engineering's future

Whenever I'm asked to evaluate the College of Engineering in terms of where it stands and where it's going, I tend to be conservative in my comments, whether it's to an alumnus, a student, a faculty member, or anyone else for that matter.

The care I take in not under or overstating the many factors that enter into the equation of the complex and changing environment that surrounds the college is part of the engineer in me — and as a civil engineer, I'm perhaps more conservative than most.

I'm surprised, then, to find myself in the realization that we've turned a corner in Auburn Engineering, full of the prospect of an exciting future.

Like the university itself, and higher education in general in Alabama, we have faced some tough times over the past few years. In 1995 state appropriations to four-year institutions were reduced 7.5 percent; held at that level over the next two years; and increased slightly less than 5 percent in 1998.

Modest tuition increases designed to bring our fees up to regional levels coupled with an increase in state funding during the past session of the legislature still leaves us well short of parity with the 1994 budget when inflation is factored in.

These developments represent in large part the reason that in 1998 President William V. Muse instituted a move to analyze the university's direction, ordering a sweeping assessment of the institution's priorities and funding.

Every school and college within the university participated in this exercise, as well as the institution's administrative units, with an initial mandate to return up to 10 percent of each unit's budget into the general fund over a five-year period — for the College of Engineering, a total of $1.7 million.

As this process evolved, reductions in fund reallocations were linked to schools and colleges in terms of mission and priority. The College of Engineering, which received a top-third ranking, was ultimately required to reallocate only about $500,000.

Our final plan for returning those funds to the central administration culminated in the transfer of the aviation management program to the College of Business, effective Oct. 1 of this year.

It was not an easy thing to pass through the controversy that surrounded this process, but I am convinced that a

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A message from the dean (continued from page 1)

stronger, more focused College of Engineering will be the result.

At the same time, the future of aviation management is a positive one. In my talks with College of Business Dean Wayne Alderman, he has stressed that the program will benefit from curriculum enhancements in the area that is the focus of that program - management. As time goes by, I believe that we will view the relocation of this program as a positive development in the context of the program and the university as a whole.

The most significant part of this process was the creation of seven Pinnacles of Excellence — priority funding areas which were identified to share $500,000 in one-time funding and $1 million in continuing funding annually over a five-year period.

With two of these priority areas situated within the College of Engineering — information technology and transportation — and substantial involvement in a third — detection and food safety — almost half of the first-year dollars in the two funding categories will be returned to us.

If we can maintain this level of funding during the next four years, the College of Engineering will benefit from a substantial net gain in operational funds. Most of this money will be used to hire faculty in these areas, with the one-time funding to be used for facilities and equipment.

I should make a point here to note how broad-based these initiatives are. The information technology segment will have faculty involvement from electrical and computer engineering, computer science and software engineering, industrial and systems engineering, and chemical engineering; transportation includes faculty involvement from chemical, civil, electrical and computer, mechanical, aerospace, and industrial and systems engineering.

The detection and food safety initiative includes faculty from mechanical and materials engineering, and electrical and computer, as well as seven other schools and colleges, including veterinary medicine, human sciences, agriculture and science and mathematics.

These are only examples of departmental involvement and shouldn't be considered inclusive or unchanging; by the very nature of these initiatives, they will draw from various areas within the College of Engineering and university as a whole in the future.

I believe that the result of the Pinnacles of Excellence initiatives will be increased stature in the national arena for the College of Engineering. Our commitment is simple; we want to stake a permanent place among the elite engineering institutions in this country.

We now place sixty-second in this ranking according to U.S. News and World Report, with Georgia Tech and the University of Florida the only other public programs listed in the Southeast.

(And yes, they are ranked ahead of us, with per student state support at $9,200 and $7,200 respectively, on an annual basis. Auburn University's state support is approximately $4,700 per student.)

If nothing else, these figures reflect the dedication of our faculty in bringing Auburn to this level of recognition, given the deep disparity in funding levels; and to our alumni for their support, which has made a real difference.

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Test track

Shane Buchanan, a senior research associate in the College of Engineering's National Center for Asphalt Technology, surveys progress at the Center's test track, nearing completion in neighboring Opelika. With site preparation, grading and the base course complete, surfacing will soon begin on the 1.75 mile oval. Almost a dozen states will join Alabama's Department of Transportation in accelerated testing of asphalt road surfaces, resulting in millions of dollars in savings to taxpayers. Buchanan graduates in December with a doctorate in civil engineering.
Programs approved for transition

The College of Engineering is expected to have all of its academic programs approved for the semester calendar by the end of this quarter, according to Joe Morgan, interim associate dean for academics.

Auburn will make the transition to the quarter system at the beginning of the fall, 2000, quarter.

"We've made fairly good progress in making the changes that needed to be made in order to transition to the semester system," Morgan notes. "Half of our curricula have already been approved by the provost's committee, which is overseeing the process."

The rest of the programs, he reiterates, are expected to be approved by the end of the quarter.

Morgan explains that the process involves several levels of review, beginning at the college level, then the university curriculum committee, followed by two administrative reviews and finally, board approval.

The most difficult aspect of the transition has been in translating quarter hours to semester hours, Morgan points out.

"There was some talk early in the process to keep semester hours to 120, but most of engineering felt that 128 hours were needed given the demands of the core curriculum and ABET requirements," he explains.

"Auburn University's core is larger than most general studies programs at our peer institutions, which places a significant burden on departments," Morgan notes.

"A couple of the college's programs were allowed some hours beyond 128 because of curriculum-specific ABET requirements that went beyond the accrediting group's general engineering requirements."

Rescheduling classroom and lab facilities has also been a challenge for most departments, Morgan says, particularly in terms of physical space requirements.

"It's easier to block off three scheduling periods for 50 students than it is to create two periods for 75 students, because that's the system we've operated under for so long." Morgan says. "It's simply another element of the transition process that will be worked out as we move into it."

Despite the dislocations caused by the shift to semesters, Morgan sees the transition as positive.

"This is going to put us in sync with the vast majority of the institutions that are our peers." Morgan explains. "It will make it easier for our students to arrange co-op schedules, summer work, and most importantly, put them into the industry recruiting cycle more efficiently."
EE renamed Electrical and Computer Engineering...

The Department of Electrical Engineering has been renamed as the Department of Electrical and Computer Engineering, with the addition of a new computer engineering degree option approved by the Alabama Commission on Higher Education. Students who graduate in fall semester, 2000, are eligible to select the new option.

"This name change and addition of the new degree option is a response to the dramatically increasing focus on computer technology within the field of electrical engineering," says David Irwin, department head and Earl Williams Eminent Scholar. "Compared to electrical engineering curricula 30 years ago, much of the discipline is now centered on the design of computer chips and systems, as well as products and systems containing embedded computers.

Dramatic advancements in microelectronics have made the design of computer hardware and the application of computer technology to solve engineering problems a major focus of electrical engineering, and one that continues to increase at a staggering pace."

Microcomputer technology now pervades all of electrical engineering, he adds, from the design of microprocessors, memories, and complex integrated circuit chips, to the design of systems ranging from personal notebook computers to large computer networks and supercomputers.

Microcomputers are now routinely used as building blocks in the solution of electrical engineering problems, embedded into such products as automobiles, cellular phones, home appliances, and industrial control systems.

"The electrical engineering curriculum has traditionally provided a solid background in circuits, electronics, digital systems, electromagnetics, communications, control systems, and power systems. Students may focus on one or more disciplines through a choice of electives, building on a broad base of fundamentals," Irwin notes. "The result is that Auburn graduates are prepared to work within any segment of the industry."

However, he points out that the growth in computer-related technologies has significantly increased the need for engineers who are grounded not only in (continued on next page)

Working together

Dave Irwin, left, head of the Department of Electrical and Computer Engineering, and James Cross, chair of the Department of Computer Science and Software Engineering, see their roles as complementary, with Irwin's department more hardware-oriented, while Cross and his colleagues focus more on the field's software issues.

...CSE becomes CSSE to reflect focus

The Department of Computer Science and Engineering has been renamed as the Department of Computer Science and Software Engineering, a designation that more accurately reflects the department's mission, according to James Cross, who serves as chair.

"This move is particularly appropriate with the introduction of our new degree programs in software engineering," Cross notes. "It will also clarify our role for those outside the university, who sometimes confuse us with faculty who are more involved in the hardware side of the field."

In fact, he adds, the department's computer engineering program has always been software focused. ABET's new accreditation criteria for software engineering enabled the department to move forward with the new degree designation.

"The Department of Electrical Engineering has always focused on the hardware aspects, and with their new designation - Electrical and Computer Engineering - they have a new name that more accurately reflects this mission," Cross points out. "We are working together in a complementary manner."

He also notes that all engineering students take their software courses within Computer Science and Software Engineering; and university students outside of engineering as well enroll in many of the department's courses, mostly from mathematics, physics and related areas. In response to this demand, the depart- (continued on next page)
Smith heads Industrial and Systems Engineering

Alice E. Smith has been named as professor and chair of the Department of Industrial and Systems Engineering, effective Sept. 1. She joins the College of Engineering from the University of Pittsburgh, where she was an associate professor of industrial engineering and Board of Visitors Faculty Fellow, a position similar to Auburn's Alumni Professorships.

"The College of Engineering is fortunate to be able to attract Dr. Smith to this leadership position," Interim Dean Larry Benefield said of the appointment. "She is uniquely qualified to build on the efforts of Dr. Unger and the faculty in bringing ISE into an arena where it is recognized as one of the leading programs in the nation."

Smith, who has degrees in engineering and business from Rice University, Saint Louis University, and the University of Missouri-Rolla, was employed by Southwestern Bell Corporation for 10 years before joining the University of Pittsburgh in 1991.

She was awarded an NSF CAREER grant there in 1995, and also received the Board of Visitors annual faculty award in the School of Engineering in 1996 for outstanding achievements in teaching and research, focusing on analysis, modeling and optimization of manufacturing processes.

She has worked with industrial partners including Lockheed Martin, DaimlerChrysler Rail Systems (NA), Inc. (Adtranz NA), Eljer Plumbingware, Extrude Hone, Ford Motor Company and Crucible Compaction Metals.

Smith holds editorial positions on six professional journals, including INFORMS Journal on Computing, IEEE Transactions on Evolutionary Computation, and IIE Transactions. She is a senior member of IIE, IEEE, and the Society of Women Engineers.

A registered professional engineer in industrial engineering in the Commonwealth of Pennsylvania, she has also been elected to the College Industry Council on Materials Handling Education for a term through 2003.

"The reputation that Auburn has built over the years in industrial and systems engineering was a determining factor in joining the faculty here," Smith said of her appointment.

"Our challenge in the future is to focus our faculty and resources on the priorities that have been formulated for the university over the past two years."

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ECE

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the basic electrical engineering disciplines of circuits, electronics and digital systems, but also such areas as computer science, operating systems, and computer hardware design.

"The new computer engineering curriculum has been designed to provide this background," Irwin points out.

The computer engineering option emphasizes the design and application of computer hardware, and will complement the software engineering and computer science programs offered by the Department of Computer Science and Software Engineering.

"Those acquainted with the department are aware of its history in computer hardware design," Irwin says. "For many years the ECE faculty have taught computer hardware design to electrical engineering students, and since the inception of the Department of Computer Science and Software Engineering in the mid-eighties, have taught computer hardware design to those students as well."

Irwin notes that over the past two decades, 54 master's degrees and 12 doctorates have been produced through the department's computer stem, as well as a significant number of graduates from the electronics stem, whose graduate work qualifies them to practice computer engineering.

Computer engineers who have graduated from the department include John Thorington, vice president at Intergraph and Dazix; Bell Labs fellow, James Boddie; Ben Barnes, who recently retired as director of the Alabama Supercomputer Network; and Troy Nagle, past president of IEEE, who serves on the faculty at North Carolina State. Ralph Cavin, who served that institution as dean of engineering, is also an ECE alumnus.

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CSSE

(continued from page 4)

ment will offer two minors, one in computer science and another information technology.

Cross points to a large amount of interest in the department's web pages by a wide variety of students as encouraging, with high school students surfing the undergraduate program, and graduating college seniors looking at the master's degree program in software engineering.

"We're literally at the heart of the information business, the information age, or whatever you wish to call it," Cross concludes. "It's not going away, and even now we're seeing five to 10 job offers for every student we graduate. These students are well positioned to pursue exactly the kind of careers they want."

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New website easy to use

Auburn Engineering's website is now easier to use and navigate. If you haven't visited us lately click on www.eng.auburn.edu for an updated look at our programs, as well as links to our departments and research centers.
Baginski granted patent for developing microchip

Thomas Baginski of the Department of Electrical and Computer Engineering has been granted a patent for developing a microchip that will improve automobile airbag safety and performance, while reducing the space needed to house the device.

"The component can replace the electrical circuitry currently used in automobiles to activate an airbag upon impact. This electro-explosive device will be used in future automobiles to save space within the wiring panels," Baginski says. "The automobile market is moving toward using integrated circuitry because manufacturers have run out of space to run wires everywhere inside of a car."

Baginski says existing activation systems also have significant limitations. "A single wire doesn’t have any smarts, whereas the initiator integrated into a silicon microchip does," he said. "The device tells the airbag when to open, but other circuitry — coding, decoding, vehicle safety checks — and many other features can also be designed into this microchip."

In the past, this kind of added intelligence would have required a complex wiring system, he said. But the new microchip simplifies manufacturing because the added features can be programmed into the chip once it has been installed in the vehicle. The new microchip is not only more convenient for manufacturers, it also is safer.

"Microchip initiator designs which are currently being used in the manufacturing of vehicle air bags are susceptible to various hazards, such as static electricity and radiated energy from high power communication antennas," Baginski said. "These hazards could cause an airbag to open prematurely."

However, Baginski’s microchips have proven to resist these potential safety hazards, as well as reduce costs.

"One four-inch silicon wafer is used to build thousands of these initiator microchips," Baginski said. "This creates tremendous cost savings for automobile manufacturers and consumers."

Baginski’s microchip also has potential applications in the mining industry, as well as a future in government projects.

Engineering faculty recognized for excellence

Sabat Adanur of the textile engineering faculty and Ronald Barrett of aerospace engineering have been awarded alumni professorships by the Auburn Alumni Association, according to an announcement by Provost William Walker.

Selected on the basis of outstanding teaching and research, they will receive a $3,000 yearly salary supplement for five years, beginning with the current academic year.

Two faculty members have also been honored through support from the university’s Daniel F. Breeden Endowment for Faculty Enhancement, allowing them to develop programs related to teaching. They are among 12 named to the program university-wide.

Kai Chang of the Department of Computer Science and Software Engineering received a grant to develop lecture and programming assignment materials for computer graphics; and Mary Stroup-Gardiner of the civil engineering faculty for the development of a pilot program to measure outcomes for Accreditation Board for Engineering and Technology 2000.

The program’s endowment was established to support faculty activities throughout the university. Breeden is a 1957 industrial management graduate.
Minority students meet program's performance goals

For the second consecutive year, freshmen pre-engineering students in the Minority Engineering Program have met the program’s goal by performing on an academic par with the college as a whole. Implemented in fall quarter, 1997, the program is designed to increase the retention rate and improve the academic performance of minority engineering students.

According to Dennis Weatherby, program director, first-year minority pre-engineering students involved in the program in 1998-99 had a mean grade point average of 2.7 over their first three academic quarters. Nearly 80 percent of the participants had grade point averages equal to or better than the 2.2 required to begin taking engineering courses.

Weatherby says the results for 1998-99 mirror those from the first year and are a product of what he calls the “structured learning environment” of the program.

“This isn’t just about helping the participants with homework and in preparation for exams,” he explains. “We teach them to master the principles they learn in class. They do about 300 problems for each of these principles. It’s grueling, but that’s the only way to master the concepts. And once you master them, any way the professor comes at you on that exam, you’re prepared.

“Plus, when you’re talking about long-term success in the field of engineering, building a good foundation by teaching them the key principles is the only way to go.”

Weatherby said that students in the program are required to spend at least six hours each week working to master these principles, ensuring that each of their efforts is consistent.

The program targets first-year students making the transition from high school to college, but includes students of all levels — some who are getting help, and others who are passing along (continued on page 13)

Corporate support

Bill McNair, vice president of customer services at BellSouth Telecommunications, presents MEP Director Dennis Weatherby, right, with a check in support of the program during a recent campus visit. Additional corporate supporters include 3M, American Cast Iron Pipe Co., BP Amoco, International Paper, and Thermal Components.

Bhavnani teams up in video class

Auburn has teamed up with the University of Maryland and the University of Minnesota to teach engineering students how to enhance the performance of computers by keeping them cool.

Developed as a class for graduate and undergraduate students, it is the first live multi-campus internet course taught at any of the three partner universities.

“We try to mimic the look and feel of an actual classroom as closely as possible, while using technology to enable a pooling of resources and areas of expertise,” according to Sushil Bhavnani of the mechanical engineering faculty.

Students at industrial locations such as Lockheed-Martin participate in the (continued on page 12)
Katy McDonald studies abroad—but stays at home

For six weeks this summer, Katy McDonald learned how to talk (French), eat (snails!) and look at life (in a whole new way). A senior in chemical engineering, she did all this, and more, as a Birdsong study abroad student. And she did it all from home— but more about that later.

The Birdsong study abroad scholarships were founded by Fred and Mary Lou Birdsong as an endowed gift to the College of Engineering that also includes the Birdsong teaching awards.

Fred, a 1934 chemical engineering graduate, founded the program to recognize and support academic excellence throughout the college.

"I looked at colleges from California in the west to Delaware in the east, but when I came to Auburn, I just fell in love with it," says McDonald, who grew up Korea, the Philippines and Germany as an Air Force brat. "These were the friendliest people that I ever met."

What mostly brought her to Auburn, she says, was the reputation of its chemical engineering program.

"My favorite high school subjects were chemistry and physics, and I was looking for something in that direction," she notes. "But my dad and a science teacher suggested that I consider engineering because it would be a more marketable career."

When she arrived on the Auburn campus she met Nick Conrad, at the time director of Engineering Student Services, and an ardent promoter of the Birdsong program.

"Dr. Conrad was very friendly, and very enthusiastic about both the study abroad program and chemical engineering," she relates. "That was it. I made my decision right there in his office."

The transition to college was a seamless one for McDonald.

"My freshman and sophomore years—can I say this?—were easy," she beams. "I was able to become involved in a lot of campus activities because the time was there to do it."

McDonald, who now serves as president of the Cupola Society, the College of Engineering's student ambassadors, still makes time for extracurricular activities, but when she came back for her junior year she was shocked.

"I loved my first chemical engineering class, but it wasn’t long before all of my extra time just disappeared. I spent three or four hours a day, every night, studying and reading."

"And it was hard! We began to move away from straightforward math, and concrete problems that involved real things, to abstract and conceptual assignments that I had to spend weeks sorting through."

"I’d call home to mom in tears... I can’t do this. I’d tell her. And she would tell me to go and talk to the teacher, to get some help... I did, but talking to her was the best help of all."

Now, says McDonald, she feels that she has passed into classes she more readily absorbs, and life as a senior is once again easier.

"It’s because we’re now addressing the kinds of things in class that I can really get excited about, like plant design. I love it. It lets me bring the business of engineering into the picture, which is the direction I see for myself now."

In fact, her plans include enrolling in an MBA program after she seasons herself with a couple of years on the job, to bring those two components of her future together.

The third component in her education has been her experience in the Birdsong program, which allows students to design a plan of study for themselves— as long as it doesn’t include engineering.

Birdsong, who spent a long career in industry as a chemical engineer and executive at Blue Bell, Inc., of Greensboro, N.C. — where he founded its research department — often found himself discouraged at what he saw as the two-dimensional nature of too many engineers.

When he founded the study abroad program, its primary stipulation was that students immerse themselves in a foreign culture, and learn as much as they could from it. The result is that Birdsong students from Auburn have visited every continent under its auspices.

McDonald chose Paris, and studied

Birdsong Scholar

Senior Katy McDonald, who is now interviewing for her first job as a chemical engineer, has taken full advantage of the opportunities she found available at Auburn—both in the classroom and beyond, including service as Cupola Society president.

intermediate level French for six weeks at the Sorbonne. Two hours a day, five days a week, she studied grammar; another 10 hours were devoted to conversational French, and 15 to phonetics.

"I hated it. The instructor would coach me over and over on the right way to say a word, and I was just as adamant that I was saying it right—1

(continued on page 11)
Walker confirmed as provost; Aldridge named Mercer dean

William F. Walker, dean of the College of Engineering for the past decade, has been confirmed as provost and vice president for academic affairs at Auburn University, while M. Dayne Aldridge, associate dean for cross-disciplinary programs, has been named dean of engineering at Mercer University.

As provost and vice president for academic affairs, Walker represents Auburn as its chief academic officer, overseeing the activities of the deans and faculty that make up AU’s academic schools, colleges and library, and the vice presidents for research and outreach, as well as directing other academic functions.

Last year Walker served as co-chair of a special committee created by the board of trustees to examine university governance and priorities. The committee’s recommendations led to a revised set of academic priorities, including the identification of high priority programs.

Aldridge served as director of the Thomas Walter Center for Technology Management, which he founded in 1989 as a partnership between the Colleges of Business and Engineering. He also served Auburn as interim dean of engineering prior to Walker’s appointment.

He is past chair of the Engineering Accreditation Commission of the Accreditation Board for Engineering and Technology, and also chaired a task force on management of technology for the American Assembly for Collegiate Schools of Business.

Russell is awarded honorary doctorate in spring exercises

Birmingham civic leader Ruel Russell Jr., a 1948 graduate in industrial management, was presented with the honorary doctor of science degree at spring quarter commencement exercises on the Auburn campus June 11.

A World War II combat veteran, Russell began working with U.S. Steel in 1947 as a student and remained with the company until his retirement in 1979 as assistant to the vice president. Since then he has been prominent in Birmingham civic and Auburn alumni activities, and has remained active in several business interests.


He has served two terms as president of the Auburn Alumni Association Board of Directors and is a past president of the Birmingham-Jefferson County Auburn Club.

Russell has also been chair of the Auburn First Committee, and is a member of the Auburn Alumni Engineering Council.

In Birmingham civic activities, Russell has been vice president of the Birmingham Chamber of Commerce and has been active in the United Way, Red Cross, Lions Club, Boy Scouts and the Heart Guild. He is married to the former Margaret Sims, a 1947 graduate of Auburn.

Dean and provost

William F. Walker, right, was on hand for a reception honoring M. Dayne Aldridge on the close of his Auburn career and the beginning of his new position as dean of engineering at Mercer.
Quinas announce support of endowed professorship

Long-time Auburn Engineering supporters Richard and Marjorie Quina have established an endowed professorship in the college that will be known as the Richard D. and Marjorie M. Quina Endowment for Professorship in the College of Engineering.

The professorship will be awarded to a faculty member in the Department of Mechanical Engineering during its first year. In subsequent years, it may be awarded to faculty member from mechanical, chemical or electrical and computer engineering. The minimum donation to endow a professorship is $150,000.

The Quina professorship is intended to attract, retain and motivate outstanding faculty in the College of Engineering. To be considered for the position, candidates must demonstrate a strong commitment to students, creative classroom instruction and research designed to encourage students in pursuing advanced degrees.

Quina is a 1948 Auburn mechanical engineering graduate who began his career and spent 32 years with International Paper, where he held numerous engineering and management positions. Following his retirement from International Paper in 1980, he took a position with Jefferson Smurfit Container Corporation, managing their containerboard mills and woodlands. Quina retired as a vice president in 1993.

He has developed a continuing association with the College of Engineering as an active member of the Auburn Alumni Engineering Council and the Auburn Pulp and Paper Foundation.

"The Quinas are an excellent example of Auburn graduates who have a strong belief in the university’s mission and the desire to create a lasting legacy within the College of Engineering for future graduates,” Interim Dean Larry Benefield said in announcing the professorship.

The Quinas also established the Quina Family Endowment for Excellence in Pulp and Paper Education in 1993, which supports a scholarship for students who have demonstrated academic excellence and financial need, and are enrolled in the pulp and paper curriculum.

Additionally, the Quinas have made a substantial contribution to the renovation of Wilmore Laboratories, the college’s primary teaching and research lab, which is currently undergoing a $12 million renovation.

Auburn legacy

The Quinas have established an Auburn legacy within their family. Two sons, Carter ’78 and Christopher ’83, graduated from Auburn in architecture and geology, respectively. The Quinas have two more children, Claudia Quina Farley, Patricia Quina Bentley, and Richard D. Quina, Jr. Christopher’s wife, Linda Gallione Quina, is a 1965 industrial engineering graduate. As well, Marjorie Quina’s brother, Ronnie Moreland, is a 1950 mechanical engineering graduate.

Martin establishes AE scholarship

Pauline M. Martin has established a scholarship in aerospace engineering in memory of her husband, Fred Martin, who joined the Department of Aeronautical Engineering at Auburn in 1956.

He taught courses in aerodynamics and developed the department’s aerodynamics laboratory, as well as designing a low-speed wind tunnel and the college’s first supersonic wind tunnel.

The former Pauline Miller wed the World War II Air Force veteran in 1948, as he was entering Virginia Polytechnic Institute to study aeronautical engineering. (He was born in Portsmouth, Va., in 1926, to James Joseph Martin and Grace Crossman Martin.)

Martin received his bachelor’s degree at VPI in 1952, and began working on his master’s in applied mechanics while teaching. He received the Ph.D. in 1969. He worked in the field in Downey, Calif., as an aerodynamics engineer at North American Aviation in the mid-fifties. While there he helped develop advanced missile systems such as the Navaho.

The Martin’s two sons, Fred Jr., and Jim, also have Auburn connections. The former received his bachelor’s and master’s degrees from Auburn in aerospace engineering, and the latter also attended the university.

Pauline received her master’s of education degree from Auburn in 1966. The Fred W. Martin Annual Scholarship in Aerospace Engineering will be awarded to a rising or currently enrolled senior in aerospace engineering.

Preference will be given to students who have demonstrated an interest in aerodynamics, and involvement in the American Institute of Aeronautics and Astronautics.
Lett adds endowment to Mechanical

Philip Lett, who serves as a member of the Auburn Alumni Engineering Council, has established an endowed scholarship in the College of Engineering.

Lett graduated from Auburn in 1944 with a bachelor’s degree in mechanical engineering, and also received a master’s in mechanical from the University of Alabama in 1946. He received the doctorate in mechanical engineering in 1951 from the University of Michigan.

“Dr. Lett’s leadership on the Alumni Engineering Council is an example for all to follow,” Larry Benefiel, interim dean, said in announcing the gift.

“He continues to demonstrate his dedication to his alma mater by bringing the College of Engineering into the next century through his engineering and business expertise and now through this generous gift to the college.

“We appreciate his efforts and applaud his devotion.”

The Philip W. Lett Endowment for Scholarships in the College of Engineering was created through a charitable remainder trust, and will be awarded to students throughout the college’s departments.

The scholarship will be awarded each year to a student who has demonstrated academic excellence. Entering freshmen must demonstrate a score of 25 or higher on the ACT or its equivalent and have a minimum high school GPA of 3.5 on a 4.0 scale.

Enrolled students must have achieved a cumulative GPA of 3.0; preference will be given to candidates with leadership ability as demonstrated by community and school involvement.

A charitable remainder trust enables donors to make philanthropic contributions while providing an income stream during their lifetime.

ISE gift is founded in memory of Payne

Nancy Whiteside Payne has established a scholarship endowment in memory of her husband, Herbert Knox Payne, Jr., in the Department of Industrial and Systems Engineering.

Payne, a 1965 Auburn graduate in industrial engineering, worked primarily for Burlington Industries and Sara Lee Corporation during his career. He was employed as a director of industrial engineering for Sara Lee Corporation in Winston-Salem, N.C., at the time of his death in 1997.

He and Nancy, a 1964 Auburn graduate in elementary education, have two sons, Patrick Knox and Hunter Andrew, who graduated from the University of:

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—Bhavnani

(continued from page 7)
course from their company sites, including Philips in the Netherlands. Additional students from Singapore, Australia, Israel and Sweden are participating as well.

First transmitted live last winter quarter, the class will meet again over the internet next quarter via the AU CUSeeMe video reflector, using digital cameras and two computers in each location — one to carry the digital video signal and the other for the class lecture notes.

Bhavnani said the idea for the class started two years ago at a meeting with colleagues from Maryland and Minnesota. They sent a proposal to the National Science Foundation and the Institute of Electrical and Electronics Engineers and received a $30,000 grant to help finance the effort.

An additional $30,000 grant has been awarded to support the program, which has received the 1999 Curriculum Innovation Award from the American Society of Mechanical Engineers.

“The class offers its students a real-time virtual classroom experience. Part of the lecture originates at Auburn and part at the other partner universities.”

One of the courseware modules was developed at AU Telecom/ETV with the help of Sam Sipper, a senior in mechanical engineering, and Chris Golden, a freshman in computer science and software engineering. It consists of a virtual laboratory tour through Auburn’s microelectronics fabrication laboratory.

“The software interface for the project represents an award-winning multimedia design,” said Bhavnani. “It is the culmination of years of testing and refining graphic user interfaces, and positions AU at the forefront of educational multimedia delivery.”

The interplay between students and faculty from all sites is one of the most compelling features of this project. If students have a question, they can ask it during the lecture.

Homework statements and solutions are developed in the form of a presentation put together with PowerPoint software. They are then placed on the Internet course web site for the benefit of all class participants.

Scholarship coordinator

Mary Lynn Saidla, left, reviews a scholarship award with student services specialist Malia Givens in her office at 104 Ramsey. Saidla joins the College of Engineering as its first scholarship coordinator, bringing with her a wealth of experience in student services. Saidla will coordinate the administration and assessment of the college’s scholarship program.

Saidla to coordinate scholarships

Mary Lynn Saidla has joined the College of Engineering as its first scholarship coordinator, according to an announcement by Bob Karcher, director of Engineering Student Services.

Her duties include the coordination of scholarships at both the departmental and college level, and liaison with the university’s scholarship office.

“Our scholarship program has a lot of potential for further development,” Karcher notes. “However, it has now grown to the point that we need to make sure our scholarship dollars are used in the most efficient manner possible.”

Saidla notes that her first concern is that scholarships are awarded in a timely manner, not only in relation to the student’s needs, but also as a recruiting tool. She coordinates her activities with the college’s scholarship committee, which serves as a screening panel.

“We have a number of freshman scholarships that we use to attract candidates to the College of Engineering, and as a result need to make high school students aware of their availability as well as the deadlines for application,” she explains.

“We also have scholarships that are available for upperclassmen, given in recognition of academic excellence, generally at the departmental level.”

Saidla is also responsible for tracking students in the scholarship pool, making sure that they maintain eligibility requirements such as grade point average and class load throughout the grant’s term, as well as meeting the criteria established by scholarship donors.

“It’s important for our scholarship donors to know that we are keeping a close eye on their scholarship dollars,” Saidla notes. “Our stewardship of these funds doesn’t end when the donor signs off on the agreement.”

Saidla brings a well-rounded background to her new assignment, having served in the College of Veterinary Medicine as academic advisor, and as scholarship coordinator in the university’s Office of Financial Aid.

“We feel it is important that we take every effort to ensure that our scholarships are fairly and equitably awarded, and that students who receive them adhere to the performance standards that they carry,” Karcher points out.

“We feel that Mary Lynn’s appointment to the college will allow us to perform these functions in a professional manner, particularly so in terms of the background that she brings to the office. We’re delighted to have her on board.”
---Payne endowment

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South Carolina in 1989, and the University of North Carolina in 1992, respectively.

---Weatherby

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knowledge they have learned through participation in the program.

Some of the features of the program include one-on-one mentoring, tutoring and counseling, an interactive learning laboratory, academic excellence workshops, and also an academic resource library.

In addition, the program offers need- and merit-based scholarships to students who are successful in the first year of the program.

"I’m skeptical of awarding financial aid based on high school performance or ACT scores," said Weatherby.

"By basing such awards on successful completion of the first year of the program, we not only provide extra incentive to the student, but we also can rest in the knowledge that the student receiving the aid has shown the propensity and desire to succeed."

He is remembered as an alumnus who believed in and loved Auburn University, and who often spoke of the times he had enjoyed in school — fraternity events, football games and the lasting friendships that he established.

"Up until his death, Herb supported Auburn University in many ways, and this is just a continuation of his devotion for his alma mater," Larry Benefield, interim dean of the college, said of the scholarship endowments established by Nancy.

"The Herbert Knox Payne, Jr. Endowment for Scholarships will aid students pursuing a career in industrial and systems engineering and those who, like Herb, strive to attain and live by the high standards of loyalty, honesty, decency and integrity espoused by the Auburn Creed."

Scholarship candidates must have sophomore standing in the industrial and systems engineering curricula and demonstrate academic excellence through a minimum cumulative 3.0 GPA.

The scholarships are given for four years, or the awarding of undergraduate degree in engineering, whichever occurs first.

---Tatum remembered for service to college, and campus as a whole

Former Auburn University Trustee James T. Tatum Jr., a 1953 graduate in mechanical engineering, died recently at the age of 68. The Huntsville resident, who was appointed to the board of trustees in 1983, resigned in January, citing health problems that he was experiencing.

Tatum is survived by his wife, Dana Lee Tatum of Huntsville; two sons, William Blanton Tatum and Phillip Lee Lehman, both of Huntsville; three daughters, Terri Tatum Essees and Jamie Tatum Brown, both of Birmingham; and Julie Lehman Burk of Indianapolis; one sister, Geraldine McKenzie Mitchell of Cupertino, Calif.; and seven grandchildren.

"Jim Tatum was an excellent trustee and a good friend," said AU President William V. Muse. "He loved Auburn and always did what was best for the university."

W. James Samford Jr., president pro tem of the board added, "Jim Tatum championed many noteworthy and enduring university achievements, including academic program improvement, physical facilities and campus appearance, faculty and staff recognition and compensation, fiscal stability, student services, board by-laws and policy statements and AUM development."

At its June meeting, Auburn's board adopted the resolution awarding Tatum an honorary doctor of science degree from AU. It will be presented posthumously at fall quarter commencement on Dec. 11.

A senior partner in the Huntsville firm of Berry, Ables, Tatum, Little and Baxter, he received his law degree from the University of Alabama in 1962, where he was president of the law school student body. When he enrolled at UA, he also became a part-time instructor in the school's Department of Mechanical Engineering.
—Sharpless

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However, this dollar figure does not tell the whole story. Not included in the $4.5 million received this year are a number of planned gifts that will be realized in the future. An impressive number of our alumni are choosing to remember Auburn in their estate planning.

I was pleased to see many of our alumni and friends at the first George Petrie Society induction ceremonies held Sept. 11. Named for the noted faculty member who authored the Auburn Creed, the society recognizes those who have provided for Auburn in their wills, life insurance plans, or have established charitable remainder trusts through the Auburn University Foundation.

One of the more visible manifestations of private giving to the college is apparent in the progress of the Wilmore Laboratories renovation. The college has had $3.8 million committed toward its goal of $4.3 million in private funding for the revitalization of this essential teaching laboratory.

The renovation of this 50 year old facility is slated for completion in December 2000. This concrete transformation of Wilmore into a state-of-the-art training ground embodies Auburn’s commitment to becoming a nationally renowned institution as we enter the twenty-first century.

The college is fortunate to have a network of alumni and friends who share this vision. This was most recently evidenced at a series of receptions held in Birmingham, Huntsville, Mobile, San Jose and Knoxville. Many of our alumni and friends joined together to discuss the future of engineering education at Auburn University and how best to advance the college.

It was a great pleasure to meet so many of you at these receptions. We look forward to visiting with those of you we have not had the opportunity to meet and thank you personally for all that you do for Auburn Engineering. If you have an opportunity to visit the campus, please stop by and see us. Even if your travel plans don’t include a trip to the plains anytime soon, we would enjoy hearing from you. Please feel free to call us at 334.844.2736 or email us at sharplees@alumni.auburn.edu.
Alumni support critical in the development of engineering’s future

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That difference is something I want to touch on, because it ties into the results of last fall’s on-campus site reviews by visitation teams from the Accreditation Board for Engineering and Technology (ABET) and the Computer Science Accreditation Board (CSAB).

We recently received their final reports, with both groups giving official notice that no major deficiencies were found, resulting in the maximum six-year extension of accreditation terms for all programs under review. This marks the first time in the recent history of the college that all of our programs received maximum accreditation extensions; the next visits will be in 2004.

The textile engineering curriculum was accredited for the first time, reflecting efforts to add more engineering faculty to that department’s mix of three programs, which also includes textile chemistry and textile management and technology.

Key aspects of our success in receiving the maximum accreditation extensions lie in the hard work and dedication of our faculty and staff, and in the ongoing renovation of Wilmore Laboratories. The first phase of renovations will be completed in March of 2000, and the second and final phase in December of 2000. Renovations of Ross Hall will follow next, where space from laboratories moved from there into Wilmore will be renovated into offices and classrooms.

Nearly $4.3 million of a total of $12 million in funding for the Wilmore renovation was budgeted to alumni support; some $3.8 million of that amount has been raised. As you can see, an additional $500,000 in alumni support is needed to complete funding.

Bringing these high quality facilities online will be a big first step in a larger master plan that we have been developing in conjunction with a precinct study that has been carried out by an independent consultant.

The precinct plan now being structured represents a 15-year, $120 million effort that addresses all of the College of Engineering’s construction and renovation needs.

We requested that the institution’s trustees review the precinct plan at the Nov. 5 meeting of the board. If it is approved, we will be able to move forward in developing a funding strategy for a project that will arguably be the most significant undertaking in the history of Auburn Engineering.

Let me add that this kind of long-range planning speaks to our fundamental vision that the future of the College of Engineering is bright and focused.

We have seen ups and downs in enrollment, with the downswings often the result of a distorted picture that the news media presents to the public; the supposed glut of engineers following the end of the cold war is but one example.

There is a general perception dawning on the public, however, that technology is what is driving not only our current economic boom, but the future as well – and will do so well into the next century.

Our enrollments have been on an upswing as a result, with the freshmen class expected to be around 700 this fall. We may see some dips, but at the same time we feel that the College of Engineering will soon reach its former peak of 4,000 undergraduates.

When they graduate, they will have become the beneficiaries of a cutting-edge education that will turn them into some of the most sought-after professionals in any field. And if the quality of our alumni is any indication, they will cut a wide swath through the twenty-first century.

Keeping Auburn on the leading edge of engineering education – and retaining the high esteem in which our programs are held – is our primary goal. We look to your encouragement and support to make it happen, and greatly appreciate the generosity of those alumni who have made contributions to the college.

As this year unfolds we plan to expand our visits to our alumni through the dean’s receptions we have held over the past year in such cities as Mobile, Birmingham, Huntsville, Knoxville and San Jose.

We hope that you can take the time to visit with us if an upcoming meeting is planned in your area. It’s an opportunity for us to answer any questions that you have in terms of where we are and where we are going; to let you know what our plans for the future involve; and to let you participate in the ongoing development of the alma mater that brought you to a career that many people can only dream of.

Unger retirement

Larry Benefield, left, interim dean of the college, presents Ed Unger with an emeritus certificate from the president’s office on his retirement as head of the Department of Industrial and Systems Engineering. Unger, who arrived in 1979 from Georgia Tech, took the department to a ranked position in the Gourman Report, the field’s definitive index of graduate and undergraduate excellence in research and instruction.
Alumni leadership makes a real difference in our goals

For the seventh time in as many years, Auburn University has been designated as one of the nation's top 50 universities by U.S. News and World Report (August 19, 1999). The publication's rankings took into consideration the academic reputation, faculty resources, student selectivity, financial resources, graduation rates and alumni giving of more than 1,400 universities.

A large share of the commendation for this accolade should go to our alumni. Your leadership in the professional world is a reflection on the university, which in turn allows us to attract the nation's brightest students.

Our alumni have also played an essential role in laying the foundation for future success. Your investments in the students, faculty and programs of the college let us achieve far beyond what state funding permits. It's no exaggeration to say that without the support of our alumni and friends, we probably would not be enjoying this distinction from U.S. News.

To date this fiscal year, the college has received more than $4.5 million in private support from alumni, friends, foundations and corporate partners. Much of this amount represents endowed funding, which provides a perpetual source of support for the college and ensures that future generations will benefit from the quality education that is synonymous with Auburn engineering. (continued on page 15)