

# Engineering a Campus

## Transformation

**E**CE alumnus Harold Martin (Ph.D. '80) has been selected to receive Virginia Tech's 2004 Graduate Alumni Achievement Award. The first such award, given in 2003, was presented to Robert Richardson, a Nobel Laureate and physics graduate.

Martin is chancellor of Winston-Salem State University of the University of North Carolina (UNC) system. When he took the helm in January 2000, the school was described by UNC President Molly Corbett Broad as "a campus adrift, an institution eager for a strong leader to guide it through a critical time of change and transition."

Martin is credited with guiding WSSU through a "remarkable transformation;" strengthening ties with internal and external constituencies, boosting the academic programs and graduation rates, increasing enrollment more than 40 percent, and increasing alumni contributions.

Martin started his academic career in 1980 after earning his Ph.D. from Tech. He joined the faculty of North Carolina A&T, where he had earned his BSEE and MSEE degrees. As an expert in computer architecture and VLSI design and fabrication, he joined North Carolina's efforts to develop the state's digital electronics industry through education, research, and investment.

In 1985, Martin was named chairman of A&T's Department of Electrical Engineering, and four years later, he was named dean of the school's College of Engineering. In 1994, he was tapped to serve as vice chancellor for academic affairs, a position he held until joining WSSU.

Noting that A&T is a historically black university, Martin said that, when he was first a student there, there were no African Americans with doctorates on the faculty in the school of engineering. "It was important to me to be one of the first graduates to get a Ph.D. and return to serve on the faculty," he said.

Martin's favorite accomplishments at A&T were improving the academic programs and student success rates, creating Ph.D. programs, and connecting the school with high-tech firms. A major goal was to raise the standards of the engineering program and to recruit top students. "We encouraged our top students and our faculty to pursue Ph.D. degrees. It worked and we started sending our best and brightest to Stanford, Georgia Tech, Michigan, North Carolina, and Virginia Tech."

### Underrepresented Minorities in Engineering

When he first joined the faculty at A&T, Martin's focus was on increasing minority student involvement in engineering. He found mentoring to be critical. "When somebody mentors you



**The Library at Winston-Salem State University.** ECE alumnus Harold Martin (Ph.D. '80), pictured at right, serves as university chancellor. Inset: Martin's relationships with students, alumni, and community and business leaders have been critical to helping with WSSU's transformation. (Photos by Black Horse are courtesy of Winston-Salem State University.)

and pushes you in the direction of one of your talents, you accelerate,” he said. “Students need to be told when they are good at something.” He found himself speaking increasingly with high school students and even 6th and 7th graders and began working with a group called the SouthEast Consortium for Minorities in Engineering, now called the Southeastern Consortium for Mathematics and Engineering. The universities involved worked to create a link with pre-college teachers and students.

The involvement and mentoring made a difference. “When I became dean of engineering, we had 900 minority engineering students. We quickly grew to 2500 students and were drawing large numbers of the best and brightest of the region. That then created the best vehicle for exposing other students to the field.”

While focused on building relationships with minority students, Martin observed that the numbers of female engineering students also grew. “About 40 percent of our engineering students were women, which was significantly above the national norms,” he noted. “We had a great vehicle for attracting women interested in math and science; however, we also realized that many of our young minority males were being distracted by athletics.”

This triggered a program of meeting with K-12 school groups. “We needed to spend time with the parents. We felt it was extremely important to say it is OK to do sports. However, the parents needed to realize that they must emphasize the academics as much as the sports. We found that many parents went to every athletic event, but not PTA or teacher meetings. This was sending the wrong message to their sons.”

### **Saying ‘Goodbye’ to Teaching**

As Martin moved higher in administrative work, he found one of his greatest challenges to be his reluctance to give up his roles as teacher and researcher. “I really enjoyed the students and my involvement in research and solving unsolved problems in computing and fault tolerant architectures. As a department chair, you can teach to some degree and have some level of research if you have great graduate students,” he said. As external commitments and responsibilities increased, “I had to say goodbye, which was painful.”

He found that his experience as a faculty mentor gave him a natural tendency “to demand the best from myself and my students. When I moved into administration, I adapted those same characteristics. I focused on the organization and creating organizational change and the minutiae of creating that change. Some of my greatest rewards were seeing the organization better than it was when I found it. That has developed into a great passion.”

When he took the head position at WSSU, also a historically black university, it provided him an opportunity to transfer the technical and administrative skills he had honed to a primarily undergraduate, liberal arts campus. As he did at A&T, Martin started by focusing on undergraduate programs, raising academic standards, and boosting retention and graduation rates.

### **Strategic Program Development**

Not only have his efforts boosted enrollment by 40 percent in a three-year period, but he is also guiding the university from an undergraduate institution to a master’s category campus.

Working with the business community, Martin identified a number of programs needed in the region. In 2001, master’s pro-

grams in teacher education and physical therapy were introduced and 2002 saw the start of an evening MBA program and master’s programs in computer science and nursing. “These programs were strategically developed to help the region transition from a manufacturing economy to a knowledge-based economy,” he said. He cited the example of Winston-Salem’s growing medical institutions. “Even with our new program, we can’t produce enough nurses to meet the needs of the region.”

### **Master Relationship Builder**

A major effort in Martin’s success at WSSU has been building relationships with the school’s alumni. “WSSU did not have strong links to its alumni, many who have become business and community leaders nationwide.” He has worked to establish alumni chapters as far away as Detroit. He meets with 30 percent of the school’s alumni groups each year. His efforts are bringing results and alumni financial support has grown substantially.

Martin believes his efforts to reach out to community groups, business leaders, and alumni are critical to his success. His calendar is full of speaking engagements and he and his wife, Davida, host many functions in their home. “It is important for a university chancellor to be readily accessible and build connections with the stake holders that are critical to the life of the institution,” he said. “It has been more taxing than anything I’ve done before in terms of energy and involvement. It’s demanding, but fun.”

### **Engineering Basics**

Although Martin is now more administrator than engineer, he credits his success in part to his engineering background. “As engineers, we develop problem-solving, focus, and analytical skills,” he said. “I found these absolutely critical to strategic planning, thinking and relationship building. It gave me a leg up with setting agendas and goals.” He also found that much of his work involves interacting with major funding agencies and corporations, many of whom are engineering-related. “The technology-driven industries hire many engineers and I spend a lot of time interacting with them. In the life of a chancellor or president, that’s what you do.”

