175 Years

of

ENGINEERING

at the

UNIVERSITY of VIRGINIA

A letter from Professor Monongahela to a member of the Board, representing his efforts for some years past to introduce a course of lectures on civil engineering, stating as the result of experiments and observations his conviction of the necessity of introducing with success a department of civil engineering, and presenting his views of a proper organization having been long ago advised with as to the plan, and it is proposed, to be adopted in his paper on mathematics in its execution.

Resolved, that there shall be a department of civil engineering in the University and that it shall comprise the following branches of instruction:
A letter from Professor Bonnycastle to a member of the Board, representing his efforts for some years past to introduce a course of lectures on civil engineering, stating as the result of his experiments and observations his conviction of the practicality of introducing with success a department of civil engineering, and presenting his views of a proper organization having been laid before the Board; and Mr. Rogers, Professor of Natural Philosophy having been advised with as to the plan, and his co-operation with the Professor of Mathematics in its execution.

Resolved, that there shall be a department of civil engineering in the University, and that it shall comprise the following branches of instruction—
One hundred and seventy-five years ago, the Board of Visitors made civil engineering a formal course of study at the University of Virginia. In doing so, it set an example that guides the Engineering School today.

In 1836, the board was responding to the needs of a nation embracing the Industrial Revolution. The United States required engineers to build machinery for its factories, bridges for its turnpikes, and locks for its canals. The University created a “department” of engineering to prepare young people to take on these challenges.

Service to society remains the primary purpose of the School of Engineering and Applied Sciences. Our responsibility is to equip the current generation of students with the knowledge they need to build the infrastructure of the 21st century.

In creating a school of civil engineering, the Board of Visitors also demonstrated its openness to innovation. At the time, there were just three institutions of higher learning in the United States wholly devoted to engineering instruction. With its 1836 resolution, the University of Virginia became the first enduring engineering program established in the South and the first in the nation at a comprehensive university.

The drive to innovate is as strong today as it was 175 years ago. The Engineering School constantly strives to enhance the educational opportunities it offers students, through such programs as the Business Minor and internships in science and technology policy. In research, Engineering School faculty members are setting the agenda in a score of fields.

The 1836 resolution creating an engineering program at U.Va. reminds us that today’s School reflects the collective efforts of many people. Creating the School took the vision and determination of two faculty members — Charles Bonnycastle and William Barton Rogers — and the foresight of the Board of Visitors. At every stage in the School’s evolution, groups of individuals have stepped forward to make this School even better.

I am glad to say that this is no less true today. The School has just completed an ambitious strategic plan, designed to realize our goal of “empowering people to create a better future.” We have mapped out strategies to strengthen the School, to prepare our graduates for leadership, to heighten the impact of our research and to reach more people. By working together, we will ensure that the Engineering School continues its long tradition of innovation and service to society.

JAMES H. AYLOR, DEAN
Louis T. Rader Professor of Electrical Engineering

"Our responsibility is to equip the current generation of students...to build the infrastructure of the 21st century."
The new century has shown that our nation and indeed the world face a series of daunting challenges. Meeting these challenges successfully will require a new kind of leadership. It will require women and men with an analytical temperament, with an ability to frame problems and identify solutions and with the highly specialized technical knowledge needed to carry them out. In short, we must have leaders who are expert engineers.

But these leaders will require more than traditional engineering skills. Meeting these challenges will require engineers who can take advantage of engineering’s unique place at the intersection of disciplines, who can build coalitions and mobilize expertise from different fields of endeavor — from the sciences, commerce and law.

It will also require engineers who can communicate, manage and inspire in the face of unprecedented complexity and across cultures. It will require engineers with a broad ethical perspective and a deeply felt commitment to the common good. Most of all, it will require engineers with the capacity and the confidence to innovate.

This is precisely the kind of engineering leader that the School of Engineering and Applied Science is ideally equipped to prepare. Thomas Jefferson founded the University explicitly to produce the informed leaders our republic would need to flourish. This mission has shaped the Engineering School since its founding 175 years ago.
"We must have leaders who are expert engineers."

AN ENTREPRENEURIAL FACULTY
The Engineering School’s ability to prepare future generations for leadership rests squarely on the ambition, talent and character of its faculty. Our faculty members are united by a desire to uncover knowledge and to find increasingly effective ways to convey this to their students. As with Jefferson’s original faculty, they teach by example as well as by precept.

For this reason, it is important to note that our faculty includes some of the most distinguished figures in engineering. We are proud to count 11 members of the National Academy of Engineering among our current and emeritus faculty. They include Joe Campbell, whose work in photodiodes was fundamental to the deployment of long-distance fiber optic networks, and Elmer Gaden, regarded as the father of biochemical engineering.

Our younger faculty is equally distinguished. Thirty-seven Engineering School faculty members have been singled out by the National Science Foundation for highly competitive Early CAREER Awards. This has enabled them to build research programs leading to advances in materials science, computer graphics and systems biology, among other fields.

Thanks to its creativity and expertise, our faculty has been notably successful in attracting grants from funding agencies at a time when government support for research is waning. The Engineering School has increased its research funding 45 percent over the last five years, to $61.13 million. For instance, a team led by aeronautical engineering professor James McDaniel was recently awarded a $10 million grant from NASA and the Air Force to develop analytical techniques needed to build a hypersonic aircraft. Biomedical engineering professor Kevin Janes has won research awards totaling $2.6 million to understand how networks of signaling pathways within cells coordinate cell decisions. This knowledge will be critical in developing next-generation cancer treatments.

OUR FACULTY ARE INVOLVED IN GROUNDBREAKING RESEARCH. Edward Botchwey, associate professor of biomedical engineering, is developing new techniques to mend shattered bones and reconnect severed nerves by amplifying and managing natural processes. He recently won a Presidential Early Career Award.

NATIONAL ACADEMY OF ENGINEERING MEMBERS
- Toby Berger, Electrical and Computer Engineering
- Joe C. Campbell, Electrical and Computer Engineering
- John J. Dorning, Engineering Physics
- Elmer L. Gaden, Jr., Chemical Engineering (Emeritus)
- Nicholas Garber, Civil and Environmental Engineering (Emeritus)
- Lester A. Hoel, Civil and Environmental Engineering (Emeritus)
- Barry M. Horowitz, Systems and Information Engineering
- John Hudson, Chemical Engineering
- Anita K. Jones, Computer Science (Emeritus)
- Edgar A. Starke, Jr., Materials Science and Engineering (Emeritus)
- William Wulf, Computer Science
PREPARING THE NEXT GENERATION OF ENGAGED ENGINEERS

In 1922, William Mynn Thornton, the first dean of the Engineering School, began a process of reassessment and thoughtful educational innovation that has come to distinguish the School’s approach to the undergraduate curriculum. Thornton devised a five-year program to ensure that students would graduate with exposure to “liberal culture” and “training in research.” Ever since that time, the administrative leaders and the faculty of the School have continually sought ways to balance depth in engineering disciplines with an appreciation for such subjects as ethics, collaboration and communication.

Thornton’s innovations led directly to the institution of the fourth-year thesis requirement and the creation of the Department of English within the School, the predecessor of today’s Department of Science, Technology and Society. In recent years, the School has expanded the number of minors available to undergraduates. Particularly popular is the Engineering Business Minor, offered in conjunction with the College and Graduate School of Arts & Sciences and the McIntire School of Commerce. The Engineering School has also created a summer internship in science and technology policy, which has sent students to Richmond, Washington, Paris and Buenos Aires.

At a time when research and development, design, and manufacturing increasingly transcend borders, the Engineering School has taken a number of initiatives to make it easier for students to study abroad. The School has established exchange programs and research collaborations with Peking and Tsinghua universities in Beijing and Shanghai Jiao Tong University — and students have taken courses and worked in laboratories in a host of countries, including Germany, South Africa and Chile.

The Engineering School also encourages undergraduates to roll up their sleeves and get involved in substantial real-world research. We support students who wish to develop their own research and public service projects, providing guidance, contacts and connections to funding. Our Engineering Students Without Borders organization has undertaken projects in such places as Cameroon, South Africa and Belize, and students have worked with their colleagues in the School of Architecture on affordable, environmentally sound housing. In addition, faculty members welcome undergraduates into their laboratories, where the students become integral members of their research teams.

FINDING BETTER WAYS TO BENEFIT SOCIETY

Our vision for the Engineering School is not an ivory tower, but a tower of learning in the midst of society. Accordingly, one of our most important goals is to build partnerships that enable us to share our technological and educational expertise in ways that benefit others.

One area of focus is to ensure that the School contributes to economic development by moving the discoveries we make on Grounds to companies that can use them to improve processes or make new products. We recently received a Wallace H. Coulter Foundation
grant, creating a $20 million endowment for translational research in biomedical engineering. This award recognizes procedures we have put in place that encourage researchers to make potential application a critical criterion for research design. Initiatives like the Applied Research Institute, which builds relationships between the University and the national intelligence community, and the Commonwealth Center for Advanced Manufacturing (CCAM) help us better coordinate our research with industry and government partners.

This spirit of public service motivates our educational outreach programs. The Engineering School was one of the pioneers in distance learning. Since 1983, we have been offering distance-learning courses to graduate students through the U.Va. Commonwealth Graduate Engineering Program. In 2007, we introduced Engineers PRODUCED in Virginia, an initiative that enables students in the Virginia Community College System to earn a Bachelor of Science degree in engineering science without leaving their communities. In this way, we are helping ensure that Virginia's numerous technology-driven companies have the skilled engineers they need to grow and prosper and that citizens of the Commonwealth who seek to expand their opportunities can do so.

THE ENGINEERING SCHOOL AT A GLANCE

Since 2005, the Engineering School has hired 31 new faculty, built 200,000 square feet of new buildings, increased research funding by 49 percent and significantly increased the quality of undergraduate students.

- There are 2,400 undergraduates: 31 percent are women and 27 percent are from underrepresented populations.
- Ninety-six percent of the Class of 2015 were in the top 10 percent of their high school class.
- There are 616 graduate students: 79 percent of them are in a Ph.D. program.
- There are 139 tenured/tenure-track faculty.
- There are 10 undergraduate and graduate programs, four off-Grounds and collaborative programs and eight minors.
- Approximately 30 percent of our students complete the Engineering Business Minor, 23 percent hold minors in other areas and 13 percent graduate with a double major.
- Seventy-nine students studied, worked or served abroad in 2009–2010.
In August 1836, the Board of Visitors met for its annual meeting. After reviewing the proceedings of the faculty, the University’s accounts and other University records, board members reported back on matters that required collective action. They expelled two students, sold surplus microscopes, imposed a dress code and warned faculty members not to suspend classes at Christmas for more than two days.

The Board also reviewed a letter from Charles Bonnycastle, the professor of mathematics, proposing creation of a department of civil engineering. Today this would be considered a request to establish a new major. On August 13, the board resolved to create such a department, the forerunner of the School of Engineering and Applied Science.

**PROMISING BEGINNINGS**

In his letter, written in consultation with William Barton Rogers, the professor of natural philosophy, Bonnycastle pointed out that his lectures on civil engineering had been well received, giving him reason to believe that there would be demand for a more comprehensive treatment of this discipline. Certainly, the young republic needed civil engineers to meet the needs of the Industrial Revolution. Canals and turnpike projects were being built around the country and steamboat service established along the coasts and on major rivers — and all these projects required trained engineers.

A probable inducement for the Board was that the new department did not require the addition of full-time faculty. Bonnycastle would lead a class in graphical mathematics (most notably geometry), the theory of leveling and surveying, and the theory of roads, railroads, canals and bridges. Rogers would develop a course covering theoretical mechanics, hydrostatics and hydrodynamics, the laws of heat and steam, and geology and mineralogy. They would hire a part-time teacher of drawing to conduct surveying exercises and to teach plan and topographical drawing. The three faculty members received an additional $15 per academic session for their work.

When the board referred collectively to these subjects as a school, it did not refer to an administrative organization. Rather, it meant a course of study. Students completing the three courses would receive a certificate of completion in civil engineering in partial fulfillment of their graduation requirements.
Caught up in an economic crisis

Between 1836 and 1841, 56 students enrolled in this program and, of these, 19 received certificates. There is no record of attendance after 1839, however, and in 1850 the School of Civil Engineering disappeared from the University catalog.

The reasons the program was discontinued are not hard to understand. Demand disappeared when the devastating Panic of 1837 brought economic activity across the country to a standstill. During the panic, 40 percent of the banks in the United States failed, setting the stage for five years of depression and widespread unemployment. With Bonnycastle’s untimely death in 1840 and Rogers increasing preoccupation with his geologic survey of Virginia, the program lost momentum.

Charles Bonnycastle was one of the professors recruited by Thomas Jefferson’s emissary in Europe, Francis Walker Gilmer. Arriving for the first term in 1825, he was appointed professor of natural philosophy. Having written a textbook called *Inductive Geometry*, he was well prepared to assume the post of professor of mathematics when the original chair-holder resigned. Bonnycastle died in October 1840 at the age of 43 and is buried in the University of Virginia Cemetery.

A geologist and educator, William Barton Rogers joined the faculty of the University of Virginia in 1835, adding geology and mineralogy to the curriculum. He completed the first geological survey of the state of Virginia in 1842. Eleven years later, he resigned his faculty position and moved to Boston, where he became an advocate for technical education. He convinced the Massachusetts state legislature to incorporate the Massachusetts Institute of Technology in 1861, and in 1862 became the school’s first president.

A question of precedence: When the Board of Visitors established a School of Civil Engineering at U.Va. in 1836, there were three institutions in the United States devoted to engineering: the United States Military Academy (established 1803) at West Point, Norwich University (1817) at Norwich, Vt., and the Rensselaer Institute (1824) at Troy, N.Y.

Although there is no comprehensive survey documenting the appearance of schools of engineering in the United States, we believe that our Engineering School was the first enduring engineering program established in the South and the first in the nation at a comprehensive university. A number of colleges and universities in the South began to offer civil engineering programs around the same time. They included William and Mary (1836), soon abandoned and never revived, and the University of Alabama (1837). The Virginia Military Institute (1839) and the Citadel (1842) opened soon after.
The Virginia Legislature was still debating the wisdom of secession when it learned of the attack on Fort Sumter. It passed an ordinance of secession on April 17, 1861, which was ratified by the voters on May 23. Caught up in the enthusiasm for the war, the Board of Visitors met four days later and resolved to create a School of Military Science & Civil Engineering. They intended to hire a professor and two assistant instructors, petition the governor for cannon, muskets and small arms, and cut expenditures in other areas of instruction.

Reality set in over the summer as faculty members and students left to join the conflict. By September, the Board had decided to postpone indefinitely further action on this new school.

**A NEW START**
Immediately following the end of the war, professor of mathematics Charles Scott Venable persuaded the Board to reinstitute an engineering program. Venable seems to have been motivated in part by the prospect of government funding for engineering and agricultural education under the Morrill Land Grant Act, passed in 1862. Accordingly, the Board created a School of Technology and Agricultural Science and a School of Applied Mathematics. In 1867, Leopold Boeck, a Polish engineer, was appointed adjunct professor of applied mathematics, and John Mallet was named professor of analytical, industrial and agricultural chemistry.

Agriculture ceased being a focus of engineering education at the University when Morrill Act funding was used in 1872 to create the Virginia Agricultural and Mechanical College in Blacksburg.

**THORNTON TAKES CHARGE**
Before resigning in 1875, Boeck, now a full professor, developed curricula leading to professional degrees in both civil and mining engineering.

When William Mynn Thornton arrived in Charlottesville to replace Boeck, he immediately set out to modernize the engineering curriculum. In the past, professors simply lectured. Thornton, by contrast, assigned the most up-to-date textbooks and field manuals to his students, lecturing only to supplement and reinforce their reading. Because the School lacked laboratories, he was forced to emphasize the theoretical side of engineering. Between sessions, he visited...
manufacturers, identified problems and prepared case studies based on his observations for student discussion.

During the late 1880s, the University’s finances improved. Enrollment rose from 298 in 1883–84 to 562 in 1891–92. With increasing revenue from student fees, the University equipped a machine shop and testing laboratory for the department of engineering in the basement of the Rotunda and the Rotunda Annex. The department’s lecture hall and library were also housed in the basement. Thornton inaugurated a degree program in mechanical engineering with the help of his former student and adjunct professor of mathematics, William H. Echols.

And then disaster struck. On the morning of October 27, 1895, a student noticed smoke seeping from the corner of the Rotunda Annex. Despite Echols’ efforts to create a firebreak by throwing sticks of dynamite at the Annex from the Rotunda dome, all that was left of the Rotunda and the Annex the next day was a smoldering brick shell. The engineering shop and laboratory were completely destroyed, though the massive Olsen testing machine (used for determining the mechanical properties of materials) escaped relatively unscathed.

William Mynn Thornton was a professor of Greek at Davidson College when he received an unsolicited offer to join the University of Virginia as an adjunct professor of applied mathematics. He was a pivotal figure in the development of the Engineering School, serving on the faculty from 1875 to 1930. He was chairman of the faculty from 1888 to 1896 and first dean of the Engineering School, from 1905 to 1925. His influence on the School lasted long after his retirement. Until John E. Gibson assumed office in 1973, every dean had been one of Thornton’s students.

Charles Venable, a student of William Barton Rogers, served as an aide to General Robert E. Lee during the Civil War. He returned to the University of Virginia in 1865, acting as chair of the faculty at times during the 1870s and 1880s. He was instrumental in starting schools in astronomy, biology, applied chemistry, natural history and geology, in addition to engineering. He also acquired funding for the McCormick Observatory.

1869 • Four graduates receive the first titled engineering degrees, all in civil engineering.
1892 • The University introduces a degree in mechanical engineering.
1895 • The Rotunda fire destroys the engineering laboratory, library and shop.
After the fire, Thornton resigned as chairman of the faculty and devoted himself to reestablishing the engineering program. By the 1897–98 academic session, the Engineering Department was ready to move into the Mechanical Laboratory on the Lawn and into the newly built Boiler House, south of Cabell Hall. The Mechanical Laboratory, later renamed Cocke Hall, was designed to accommodate 50 engineering students. Initially, there were only 14, but enrollment quickly recovered. By 1903–04, it had reached 61.

The department faculty also began to grow. At the time of the Rotunda fire, Thornton had been shouldering the teaching load in applied mathematics himself with just one assistant instructor, while Professor Francis H. Smith, who succeeded Rogers to the chair of natural philosophy in 1853, taught electrical theory. In June 1903, the Board authorized the appointment of an adjunct professor of applied mathematics to teach electrical practice.

More change was in the offing. Shortly after Edwin A. Alderman became the University’s first president, he reorganized the University and appointed administrative deans to each department. He appointed Thornton first dean of the Department of Engineering. He also found funding to add chairs in both civil and mechanical engineering.

**INNOVATION IN ENGINEERING EDUCATION**

In 1922, Thornton pushed through a curriculum change that would define and differentiate engineering at U.Va. He recognized that by taking advantage of the resources of the larger University, his department could produce engineers who would be distinguished by their breadth as well as their depth of knowledge.

He introduced a five-year engineering program that delayed specialization until the last year. During their first four years, students would earn a Bachelor of Science degree...
“Thornton pushed through a curriculum change that would define and differentiate engineering at U.Va.”

They would supplement mathematics, science and technical courses with those in English literature, history, government, commercial law, economics or modern languages. Students would then spend their last year conducting original research or taking elective courses leading to a degree in civil, mechanical, electrical, chemical or mining engineering.

In 1936, the department reinforced its emphasis on what Thornton called “liberal culture” by creating an English department headed by Assistant Professor Joseph L. Vaughan.

THE MOVE TO THORNTON HALL

For years, it had been clear that the Engineering Department had outgrown the old Mechanical Laboratory on the Lawn. Enrollment was consistently over 200 and the department now had 12 full-time faculty members. With the department’s 100th anniversary approaching, the University resolved to build a new facility to accommodate 300 students on the edge of the Grounds. It was named Thornton Hall, in honor of William Mynn Thornton, who died two weeks after it opened in 1935.

Thornton Hall was a state-of-the-art facility for its time. It included a wind tunnel, universal testing machines for materials analysis, a two-stage steam turbine generator as well as a diesel engine generator, a hydraulics laboratory and laboratories for communication and electronics, photometry, and electrical measurement. In addition, it had a combined library and reading room on the second floor — eventually referred to by students as the “Stacks” — containing 7,500 volumes.

1936

An English department within Engineering is established.

ENGINEERING SCHOOL DEANS

<table>
<thead>
<tr>
<th>Name</th>
<th>Years</th>
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<tbody>
<tr>
<td>William Mynn Thornton</td>
<td>1905–25</td>
</tr>
<tr>
<td>John Lloyd Newcomb</td>
<td>1925–31</td>
</tr>
<tr>
<td>Walter S. Rodman</td>
<td>1931–33 (Interim Dean) 1933–46</td>
</tr>
<tr>
<td>Lawrence R. Quarles</td>
<td>1946–47 (Interim Dean)</td>
</tr>
<tr>
<td>Edward W. Saunders</td>
<td>1947–50</td>
</tr>
<tr>
<td>Charles A. Henderson</td>
<td>1950–55</td>
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<tr>
<td>Lawrence R. Quarles</td>
<td>1955–73</td>
</tr>
<tr>
<td>John E. Gibson</td>
<td>1973–83</td>
</tr>
<tr>
<td>Ralph Lowry</td>
<td>1983–84 (Interim Dean)</td>
</tr>
<tr>
<td>Edgar A. Starke, Jr.</td>
<td>1984–94</td>
</tr>
<tr>
<td>David Morris</td>
<td>1994 (Interim dean)</td>
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<tr>
<td>Richard W. Miksad</td>
<td>1994–2004</td>
</tr>
<tr>
<td>James H. Aylor</td>
<td>2004–05 (Interim dean) 2005–Present</td>
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Engineering students at work in the Mechanical Laboratory, which was part of a suite of buildings built at the south end of the Lawn after the Rotunda fire. The new facilities were designed by McKim, Mead and White, the preeminent architectural firm in the United States at the turn of the 20th century.

In 1939, the University acquired a site for an airport in Milton and instruction in aviation became part of aeronautical engineering curriculum.
The years following World War II saw the birth of the modern research university, as government funds began to flow to schools of engineering to create the technological breakthroughs demanded by the Cold War. But at U.Va., the principal challenge was to deal with the influx of engineering students supported by the G.I. Bill. Dean Edward W. Saunders noted in his report for the 1947–48 session that 560 students were enrolled in the program, twice the capacity of Thornton Hall, and that only three temporary structures had been added since it was built. He concluded that “building is the greatest single limitation on immediate instructional progress.”

In 1948, the shortage of space was partially alleviated through an unexpected appropriation of $250,000 from the state legislature. Before World War II, the electrical engineering faculty had been given the components of a high-voltage surge generator, and Dean Walter S. Rodman had requested funds for a building to house this equipment. After Rodman’s death in 1946, no one was aware of the request until the appropriation came through. With an additional supplement from the legislature, the funds were also used to build the E-wing of Thornton Hall, which would house chemical engineering laboratories.

**The Foundation for Change**

By 1950, enrollment had declined to just 350, and over the next three decades the Engineering School remained primarily an undergraduate institution. Nonetheless, efforts were made to build a graduate program and support faculty research. The School began offering a master’s degree in 1948 and a doctorate in 1955. The School also began to
branch out, offering degrees in new fields — in aeronautical engineering in 1956, nuclear engineering in 1957, materials science in 1963, biomedical engineering in 1964, applied math and computer science in 1965, and systems engineering in 1974 — and hiring faculty to staff these departments. Reflecting these changes, the Department of Engineering became the School of Engineering in 1952 and the School of Engineering and Applied Science in 1963.

Throughout the period, the School began to take the shape now familiar to us. Deans found funding to build Olsson Hall, a nuclear reactor on Observatory Hill and Thornton’s D-wing, as well as buildings to house mechanical and aeronautical engineering, and materials science and engineering. By 1986, when the Engineering School celebrated its 150th anniversary, there were 125 men and women faculty members and 2,000 undergraduate and graduate students.

A SCHOOL THAT CONTINUES TO MAKE ITS MARK

By the mid-1980s, the pace of change accelerated. This was most clearly visible in the student body. Following the enrollment of Robert Bland (EE ’59), the number of African-American and other minority students gradually increased, and a growing percentage of students were now women. At the same time, the School hired young faculty members from some of the best engineering schools in the nation, and they brought with them high aspirations for research as well as for teaching.

Dean Edgar Starke built on these trends. He energized research at the School by persuading the state legislature to establish the Higher Education Equipment Trust, providing funding for research laboratories, and he built a new chemical engineering building. He also established the Center for Diversity in Engineering, demonstrating the School’s commitment to students from underrepresented populations.

Under Deans Richard W. Miksad and James H. Aylor, the Engineering School continued to innovate. They strengthened research by stressing interdisciplinary collaboration and developing closer relationships with industry. They also established new educational programs, creating the Internship in Science and Technology Policy, the Engineering Business Minor and the International Programs Office, among other initiatives. During their tenure, the Engineering School continued to expand and modernize its facilities, opening MR5 (for biomedical engineering), Wilsdorf Hall and Rice Hall Information Technology Engineering Building. Commissioned by Dean Aylor, the School’s new strategic plan maps out an ambitious series of strategies that recast the goals of innovation and service to society for the 21st century.

In 1948, a new Engineering Alumni Association was established to facilitate communications among alumni. Five years after its founding, the association evolved into the Virginia Engineering Foundation, with a new focus on raising funds for the School. The first formal donation to the foundation was a check from the Alumni Fund for $2,921.

Robert Bland (EE ’59) was the first African-American to receive an undergraduate engineering degree at U.Va.
During World War II, engineering faculty trained officers for the U.S. Navy and the U.S. Army.