



From The Ground Up

The Founding and Early History of the Franklin W. Olin College of Engineering
A Bold Experiment in Engineering Education



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Franklin W. Olin College of Engineering

A Bold Experiment in Engineering Education

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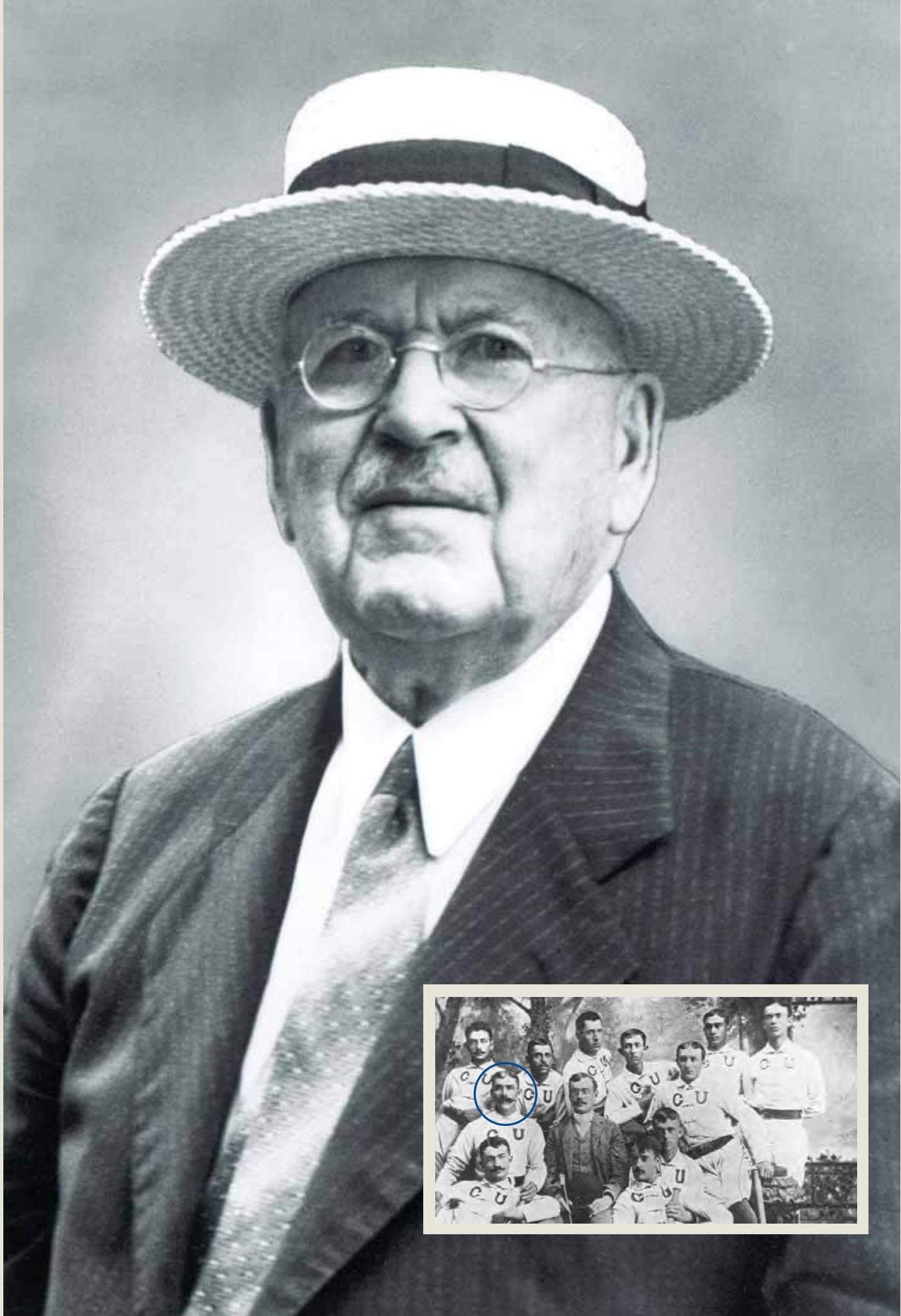
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IN MAY 2006, THE FRANKLIN W. OLIN COLLEGE OF ENGINEERING GRADUATED ITS FIRST CLASS OF SENIORS. THIS WAS A MILESTONE NOT ONLY FOR THE STUDENTS, BUT ALSO FOR EVERYONE ASSOCIATED WITH THE INSTITUTION. IN A VERY SHORT PERIOD OF TIME, THIS VERY TALENTED GROUP TURNED A WOODED HILLSIDE INTO A RESPECTED EDUCATIONAL INSTITUTION WHOSE REPUTATION AND INFLUENCE CONTINUE TO GROW.

THE FOCUS OF THIS BRIEF HISTORY IS THE GENESIS OF THE IDEA TO CREATE A NEW KIND OF ENGINEERING COLLEGE AND ITS REALIZATION AS A LIVING INSTITUTION. INSTITUTIONAL HISTORIES TYPICALLY LOOK BACK ON PAST TRIUMPHS.

WITH LITTLE HISTORY (SO FAR!), AND WITH CHARACTERISTIC MOMENTUM, ANY DISCUSSION OF OLIN WILL LOOK TO THE FUTURE MORE THAN IT DOES THE PAST. SO THIS IS JUST A SHORT RESPITE, A QUICK STOP ON WHAT PROMISES TO BE A LONG AND ADVENTUROUS JOURNEY.

JUNE 2009



Founding Inspiration: Franklin W. Olin

Franklin W. Olin's life traced the arc of the American legend. Born poor in rural Vermont and largely self-educated, he retired as the head of one of the country's largest industrial corporations.

Olin was born in a lumber camp in rural Woodford, Vt., in 1860. His father, Truman Olin,

the local schools for a number of years to increase his supply of books. Part of his time was spent as a repairman, learning how machines worked and how to fix them.

Olin was 22 years old when he finally took the entrance exam and was able to enroll

FRANKLIN OLIN DIED IN 1951 AT THE AGE OF 91. THE SCOPE OF HIS LONG CAREER WAS A MIRROR OF AMERICAN INDUSTRIAL DEVELOPMENT IN THE MACHINE AGE. HE BEGAN WORKING IN AN ERA OF WATER-POWERED MECHANICS, AND LIVED TO SEE THE ADVENT OF ATOMIC POWER.



was a master millwright who specialized in building water wheels and other water-driven machinery. As was common in those days, Olin attended school until he was about 13, and then went to work for his father. The family was then living in Johnsonville, N.Y. (near Albany), where Truman Olin was building the second-largest water wheel in the world. At some point, Franklin acquired a volume of the *American Machinist*, replete with articles about the use of steam to generate machine power. Since he was already familiar with some aspects of power generation, this was the inspiration that led him to pursue an engineering education.

It took Olin the better part of five years to earn both the knowledge and the money that a college education required. Secondary education was scarce in rural communities. Instead, Olin studied every book and article he could find that would further his education, and even taught in

at Cornell University, where he had two passions — engineering and baseball.

Olin already had some experience playing local ball before he reached Cornell. He was also older and more muscular than most of his teammates, and was made team captain in his freshman year. His first challenge was to improve his team's lackluster hitting skills, which he accomplished by introducing an indoor batting cage and drilling his team relentlessly. The work paid off, as the Cornell team became the Ivy League's most feared batters and consistent champions. Olin also perfected the design of a concave bat that gave him better contact, especially when hitting curveballs. (See sidebar, "More on Olin's Curved Bat," page 4.) This was legal in Olin's day — the size and shape of bats were not regulated, other than the requirement that they have no more than one flat side. His 540-foot home run, which cleared the outfield and smashed into the fountain

Franklin W. Olin;
Olin and his
Cornell University
teammates.

Photos courtesy
Cornell University

MORE ON OLIN'S
CURVED BAT

Before he became a philanthropic powerhouse, F. W. Olin was known for his skills on the baseball field, where his inventive side was in evidence: he designed [Cornell] University's first batting cage — one of the first indoor batting cages — and came up with a unique curved baseball bat.

Carved from a wagon tongue, the bat was similar to others then in use — with one important difference. When presented with a curve ball, the batter turned the bat a quarter-turn to reveal a distinct concavity. The bat is mentioned several times in baseball literature and is described by Morris Bishop in his History of Cornell: "convex on one side for distance, concave on the other to meet the drop curves." Apparently Olin was having a hard time hitting the curve, and he theorized that a bent bat would compensate for the motion of the ball. It's not documented if and when Olin used it, but it would have been perfectly legal in major league play.

— Excerpt of article, "Bent Out of Shape: Where Is Olin's Curved Bat?" by Stephen Eschenbach, in Cornell Alumni Magazine. Used with permission.

ting .312 in 48 games. His career average was .316. Graduation in 1886 ended Olin's baseball career, though he remained a life-long fan.

Opportunities for civil engineers were rich in the 1880s, but it seems Olin was determined to work for himself. He got his big break in the late 1880s when Olin Scott, a cousin, asked him to take over supervision of the construction of a new black-powder mill in New Jersey. Olin would build several powder mills under contract in the following few years. In 1889, Olin

Olin played for the Toledo Blue Stockings and other major league teams during his summer breaks from college.

of Sage Chapel, still stands as a Cornell record — an impressive achievement, even in these live-ball days.

To earn money in the summer, Olin played professional ball (also legal in those days). He was a left-handed hitter and hit for average rather than power. Olin's most successful season in the major leagues was 1884, when he played for the Toledo Blue Stockings and the Washington Nationals of the American Association, hit-

Olin's first factory in East Alton, Ill., housed the Equitable Powder Manufacturing Company, founded in 1892.

married Mary Mott Moulton of Toledo, Ohio; they eventually had three sons — Franklin Jr., Spencer and John.

By 1892, Olin had collected enough money and experience to set up in business for himself. He purchased a plot of land in the village of East Alton, Ill., and using his own funds and investments from friends, he opened his first business, the Equitable Powder Manufacturing Company. This was a logical place to start; Olin had acquired most of his professional experience in the powder industry, and black powder was a product whose market was strong and likely to increase. It was the preferred industrial explosive, especially in the rapidly growing coal mining industry.

Equitable was the first of at least a dozen companies Olin would originate or acquire. Branching out from powder production, Olin began to develop plans for an ammunition plant and opened the Western Cartridge Company in 1898. In succeeding years, he would enter into all aspects of the ammunition business — powder, shells, casings, lead shot and firearms.

Olin grew his businesses by having a focus on quality and innovation. When a solution to a particular problem was not available, he would engineer his own. He designed and fabricated a machine to load powder into shells that could handle two shells at once, doubling the speed of production and thus reducing cost. He also improved shell primer production tenfold.





The original Western Cartridge Company building in East Alton, Ill.

Photos courtesy Olin Corporation

The companies' capacity for large-scale production was rewarded by large military contracts in both World Wars. Olin's companies supplied nearly seven billion loaded rounds during World War I — enough when laid end to end to circle the equator 18.5 times. In World War II, he produced more than 15 billion rounds. By the

war's end, Olin's companies employed more than 62,000 people.



Franklin W. Olin (left) and his sons Spencer and John.

Franklin Olin finally retired in

1944, at the age of 84. The various Olin companies were consolidated into a single entity, Olin Industries, and passed into the hands of his sons John M. and Spencer T. Olin. Both had followed their father to Cornell and then into engineering. Both had been employed in various divisions of the company throughout their careers.

Franklin Olin died in 1951 at the age of 91. The scope of his long career was a mirror of American industrial development in the Machine Age. He began working in an era of water-powered mechanics, and lived to see the advent of atomic power. He displayed the inventiveness

For the war effort, Olin donated the original grinding wheels from the Equitable Powder factory to the U.S. government for scrap metal in 1944.

characteristic of a generation of engineers for whom all solutions were designed from scratch but displayed a business sense that valued efficiency, innovation and practicality in these solutions as much as he did effective design. In this way, Olin embodied the characteristics that would be enshrined in the Founding Precepts of the college that now bears his name.

THE 25-CENT REWARD

Although Charles Horn was a longtime associate of Franklin Olin, his son, former Olin College Trustee William Horn, never had an opportunity to meet the man himself. He did occasionally speak to him on the phone, however, when the old man would call to speak to his father.

Horn was impressed that Olin always remembered his name — a boy of eight or nine did not expect that kind of attention from a man as important as Mr. Olin. Olin would also never fail to ask how young William was doing in school. If he could report that he was on the Honor Roll, Olin would send him a quarter — a pretty decent tip in those days.



The F. W. Olin Foundation

Franklin Olin set up the Olin Foundation, Inc., in 1938, transferring a significant portion of his personal wealth, including his majority share of the Olin Industries stock and ownership of Federal Cartridge Company of Minnesota, one of his subsidiary companies:

“Franklin Olin had finally turned the presidency [of Olin Industries] over to John. . . . Franklin got the bulk of the stock, and the boys [John and Spencer] split the rest. The old man then took his marbles out of the game. . . . He plunked his stock into a charitable foundation. . . . If the boys did not want control of the company to pass to the foundation on his death, they’d jolly well have to hustle up the money to buy back the shares.”¹

They did, leaving the foundation some \$50 million with which to play Santa. The foundation

was managed by James O. Wynn, a New York tax attorney who had helped Olin set up the foundation; Charles L. Horn of Minneapolis, president of Federal Cartridge; and Ralph Clark of Alton, Ill., Olin’s financial consultant.

Olin did not articulate a strict policy for governing the choice of grant recipients, and the giving priorities of the foundation were determined primarily by the personal interests of Olin and his wife. Donations were generally smaller gifts to hospitals, churches, schools and community organizations. There were, however, two major gifts made by Olin. The first, in 1940, was a gift of nearly \$1 million to build Olin Hall of Chemical Engineering at Cornell University. Cornell was the alma mater of Olin and all three of his sons; the building was named in honor of the eldest son, Franklin Jr., who had died as a



1938
Franklin W. Olin forms
F. W. Olin Foundation.



1940
First major building
grant, to Cornell
University, Olin's
alma mater.



Directors James O. Wynn (joined the board in 1938), Charles L. Horn (joined in 1946) and Ralph Clark (joined in 1948), known as “the Three Musketeers,” provided the foundation’s direction after Olin’s death.

young man. The second major gift was a grant in 1949 to build and equip a vocational high school in Olin's adopted hometown of Alton. In founding the school, he stated in justification: "I don't want the youth of the present generation to encounter the same difficulties in obtaining a useful education that I had to overcome when I was a boy."²

After Olin's death in 1951, it fell to the three directors — Wynn, Horn and Clark — to establish the future direction of the foundation. Olin had left neither specific instructions nor a formal statement of mission to clarify his long-term intentions, so in going forward, the directors chose to be guided by Olin's two major gifts, to Cornell and to the city of Alton.

The grant process evolved throughout the 1950s. Grants were made to colleges and universities, as well as to a variety of other causes — a clinic in Florida named for Olin's wife, Mary; a school for children with cerebral palsy in New Jersey; and a building for the American Farm School in Salonica, Greece. There were two additional

"While the Directors of the Foundation were certain that the southern states had made far greater progress in the education of the Negro than was generally believed, they felt that education was not always [wise] in the sense that we have waved the flag and said everyone can be President of the United States and then handed the Negro adolescent, ranging from brilliance down to mediocrity, a high school diploma with an economic opportunity equal in many cases to zero. In Atlanta and Birmingham, we found local industry surprisingly enthusiastic about the idea of vocational training on the high school level for Negro youth. The Foundation therefore built and equipped in these cities vocational high schools which by the terms of the contracts with the Foundation will at all times be open to members of the Negro race."³

By the late 1950s the parameters of the educational building grant program were clear. The grant recipients were private colleges, which did not have ready access to public funding and had to rely on private fundraising to effect capital



1949
Second major gift,
to the town of
Alton, Ill., to build a
vocational school.



1951
Olin dies.



1950s
Grants made in
many locations:
Florida, New Jersey,
Greece, Georgia,
Alabama.

grants for vocational schools, one in Atlanta, Ga., and one in Birmingham, Ala., which were required by charter to remain racially integrated and offer equal access to white and African-American students:

improvements. If a grant was made, the award included sufficient funds not only to build the building, but also to fully furnish and equip it so that it would be ready for use on the day it opened. The focus of these grants was for the most part science and engineering buildings, but

other facilities (libraries, art and performance centers) were also funded. Although large colleges were numbered among the grant recipients, many were small regional schools, generally chosen because of some demonstrated excellence in their particular niche. The choice of grant recipients was also somewhat remarkable for the progressive scope of the directors' vision — grants to sectarian schools of all denominations and historically minority colleges made up a significant proportion of the gifts.

Because the grants were for the entire facility, from the physical structure to the chairs and light bulbs, individual grants were quite large, and there were only two or three grants in most years. This had two ramifications, and the first was simply pragmatic. The directors ran the foundation themselves rather than hiring a staff, but their own time was limited — while Clark was able to dedicate his time more or less fully to the foundation, Wynn and Horn still had other professional commitments. By managing the trust

The other advantage of a large-grant program, apart from its administrative efficiency, was the impact that it could have. Grants on such a scale could transform institutions by filling longstanding needs, freeing up capital for additional expansion and — most important — acting as a catalyst to energize additional capital fundraising. For smaller private colleges, especially those that historically served a minority or sectarian community and did not have a strong fundraising history, an Olin grant validated the college's mission, gave luster to its reputation, and energized its alumni and supporters. Olin grants were often announced as the centerpiece of or kickoff to a larger fundraising campaign.

This grant pattern was well-established by the 1960s. As college expansion accelerated in the wake of Sputnik and the race to the moon, applications for foundation grants soared as well. The Agenda of Applicants, the roster of grants under consideration, grew to hold several hundred



"We can only ask that this facility — we not only ask it but the world will ask it — that this facility be used in the pursuit of knowledge for the good of all mankind."

James O. Wynn
March 1, 1957



EARLY 1960S
Foundation solidifies giving policies to focus on building grants for independent colleges and universities.



1970S
New members added to the board:
(clockwise from top left)
Carlton T. Helming, William B. Horn, Robert D. Moss, Lawrence W. Milas.

themselves, they maintained tight control over the priorities of the foundation and one of the lowest cost-to-grant structures of any American foundation.

requests. Given the rate of disbursement (two or three per year) and the personal involvement of the foundation directors in each grant, applications remained on the agenda for a long time. Applicants could wait for years without



Worcester Polytechnic Institute (1957), University of Southern California (1964), Marquette University (1975) and Birmingham-Southern College (1984) buildings.

hearing anything about the progress of their request, prompting one recipient to give to the directors a plaque bearing the admonition: “No News Does Not Mean No.”

By the mid-1970s, it was time for the Old Guard to turn the foundation’s reins over to younger

distinguish it from other “Olin” foundations established by his sons and others.

The new board maintained the grant program, but streamlined the process for selection, ultimately opting for a regular annual review and notification cycle. Overall, from 1938 until 1997,

LARGE GRANTS COULD TRANSFORM INSTITUTIONS BY FILLING LONGSTANDING NEEDS, FREEING UP CAPITAL FOR ADDITIONAL EXPANSION AND — MOST IMPORTANT — ACTING AS A CATALYST TO ENERGIZE ADDITIONAL CAPITAL FUNDRAISING.

hands. The original directors had managed the foundation for more than 20 years; Charles Horn was in his mid-80s, Ralph Clark was in his early 80s, and James Wynn was the youngest, in his late 70s. New members were added to the board in 1974, drawn as before from familiar Olin sources — new directors Carlton Helming, Robert Moss and William Horn (Charles Horn’s son) were all officers of Federal Cartridge, and Lawrence Milas was the law partner of James Wynn and legal advisor to the foundation. A deliberate effort was made in selecting these men to maintain the continuity of the grant program. In 1987, the foundation formally changed its name from the Olin Foundation to the F. W. Olin Foundation, to be identified more closely with its founder and clearly

when the grant program was suspended, the Olin Foundation funded the construction of 78 buildings at 58 different institutions.

OLIN FOUNDATION BUILDING GRANT RECIPIENTS

- | | |
|---|-------------------------------------|
| Augustana College | Harvey Mudd College |
| Albion College | Jarvis Christian College |
| Alfred University | Johns Hopkins University |
| Babson College | Kenyon College |
| Bard College | Lafayette College |
| Bates College | Lewis & Clark College |
| Birmingham-Southern College | Luther College |
| Blackburn College | Macalester College |
| Bradley University | Marquette University |
| Bucknell University | Millsaps College |
| Carleton College | Mills College |
| Case Western Reserve University | Nebraska Wesleyan University |
| Centre College | Roanoke College |
| Clemson University | Rollins College |
| Colby College | Rose-Hulman Institute of Technology |
| Colgate University | Southwestern University |
| Colorado College | Tufts University |
| Concordia College | Union College |
| Connecticut College | University of Denver |
| Cornell College | University of San Diego |
| Cornell University | University of Southern California |
| Denison University | Ursinus College |
| DePauw University | Vanderbilt University |
| Drake University | Wake Forest University |
| Drury College | Washington & Jefferson College |
| Florida Institute of Technology | Whitman College |
| Franklin W. Olin College of Engineering | Willamette University |
| Gustavus Adolphus College | Wofford College |
| Hampton University | Worcester Polytechnic Institute |

The Big Idea

There was another board transition in the 1980s. Helming and Moss passed away; William Norden, a lawyer in Wynn and Milas' firm, took over as legal counsel and joined the board, as did William Schmidt, another former officer of Federal Cartridge. For the first time, there was no board member who had a personal



Foundation Directors: William Norden, William Schmidt, Lawrence Milas, William Horn.

acquaintance with Franklin Olin. The closest connection was William Horn, whose father, Charles, had known Olin but who was not himself a colleague of the old man.

As governance of the foundation moved further and further from the founding directors, the problem of long-term planning and succession began to loom. In the 30 years since Olin's death, the foundation had worked without a formal written mandate, following a path determined by the directors' personal knowledge of Olin's intentions and their own expertise. The foundation itself was run with a minimal staff and maintained one of the lowest cost-to-grant ratios

of any foundation in the country. The directors themselves evaluated the applications and conducted the site visits. This thriftiness allowed them to keep more money in the grant pool and maximize the impact of each grant on the recipient institution.

Nevertheless, as it looked forward to the next 30 or more years, the board could not expect to continue in the same manner. All previous directors had come to the board because of their professional services to the foundation or with Federal Cartridge Company, an Olin subsidiary that was owned by the foundation. However, changes in federal tax laws required the foundation to sell Federal Cartridge. Ownership of Federal had been transferred to the foundation when Olin first established it in 1938; it was the foundation's largest asset, and over the years its profits had provided significant funds to support the building grants program. The sale of Federal Cartridge guaranteed that future directors would have to come from outside the circle of professional and corporate affiliations that had surrounded Mr. Olin. The board's greatest concern was that new directors, with no connection to the founding culture that had guided the foundation since its

IN ORDER TO CONTINUE AS THEY THOUGHT APPROPRIATE, THE BOARD WOULD HAVE TO COME UP WITH A SUCCESSION PLAN AND RESTRICTIONS THAT WOULD LIMIT FUTURE DIRECTORS' DISCRETION AND MAINTAIN THE FOUNDATION'S FOCUS ON COLLEGE BUILDINGS. THE OTHER OPTION WAS TO DISSOLVE THE FOUNDATION AND SPEND DOWN ITS RESOURCES.

inception, could take the foundation in a new direction. To that point, the directors had carefully guarded a mission that they thought best reflected the intentions of Franklin Olin.

By the early 1990s, the problem of strategic planning for the future became acute, and the board was faced with the decision whether to continue or dissolve. In order to continue as they thought appropriate, the board would have to come up with a succession plan and restrictions that would limit future directors' discretion and maintain the foundation's focus on college buildings. The other option was to dissolve the foundation and spend down its resources, either by choosing two or three very large projects or by dividing the money among the 50 or so Olin grant colleges to finance building upgrades or new construction. Such a project, however, would take years and require a large staff to administer.

The task fell to Milas, who had been president of the foundation since 1983, to lead the effort to consider the advantages and disadvantages of the various options and make a recommendation to the board. If there is one person who can be called the founder of Olin College, it is Milas. His advocacy of the idea of establishing the college and his involvement in its development are the reasons the college exists today.

However, as Milas initially sat down to review his options, the way forward for the foundation was not at all clear. The solution had to not only be one that advanced the foundation's purpose to best advantage, but one that also would create the greatest possible impact for its resources. In keeping with long-standing Olin Foundation priorities, the solution should focus on education and engineering. Milas was considering collaborations with various types of institutions; each possibility

had its strengths and weaknesses, but none really fit what he was trying to accomplish. It was Milas' wife, Marjorie, who finally provided the inspiration. After putting up with her husband's mumbling and pacing around the house, she finally observed, in jest: "Why don't you just start your own damn college?" Milas' first thought was, "You'd have to be crazy."⁴

On second thought... as a solution to the problem, it

covered all the bases — and it certainly had impact. Milas thought it over carefully and worked on it for several months before bringing the idea to the board in the fall of 1993.

It is probably safe to say that Milas' report took the directors by surprise. Entirely bypassing succession plans and the distribution of building funds, Milas proposed three bold new scenarios: give the entire sum to a smaller but well-regarded engineering school and use the money to raise it to the top tier; use the money to start an engineering school at a well-regarded institution that did not have one; or the most costly and daring option, start a whole new school from the ground up.

The board's reaction was decidedly mixed. The proposals, especially the latter, would give the foundation a great deal of publicity and make a huge impact on engineering education. But it was also a complex and uncertain undertaking that could result in nothing more than a well-publicized failure that compromised the foundation's reputation as well as its assets. Nevertheless, the board gave Milas the approval to explore it further.

**"WHY DON'T YOU JUST START
YOUR OWN DAMN COLLEGE?"**

— Marjorie Milas

To make matters more complicated, as the directors deliberated the future of the Olin Foundation, engineering careers in America were at a low point. The Cold War was, if nothing else, a boon to American engineering; government funding and Defense Department contracts had

neers to be bricklayers rather than cathedral builders.⁵ Engineers needed teamwork and communication skills, especially for teams that included non-engineering specialists. As businesses became more global in their focus, it would be necessary for engineers, like other professionals, to communicate effectively across cultural lines.



1980s
William Schmidt and William Norden join board as directors.

Federal Cartridge Company sold.



1993
Milas proposes new college idea to the board.



LATE 1990S
ABET adopts Criteria 2000 guidelines for accreditation of engineering education institutions.

fueled huge advances in technology for over 40 years. Shifts in funding after the collapse of the Soviet Union led to a soft employment market for engineers and a drop in the demand for engineering degrees. In response, the National Science Foundation (NSF) and American businesses took aim at this same issue — looking to retool engineering education in the same way that the engineering profession was trying to retool itself. In the view of the NSF, engineering education had become too specialized, leading to engineers with excellent technical skills but none of the other skills that they needed to succeed in the new, more business-oriented environment that was taking shape. Many engineers' careers would stagnate after a few years, because they did not have the communication or teamwork skills the needed to advance as managers and their expertise was too narrow for them to effectively communicate within the company or with clients or partners. In the words of Marshall Lih, director of the NSF's Division of Engineering Education, most schools were educating engi-

To succeed in this new environment, they would also need to be creative, think like entrepreneurs and possess excellent design skills.

The requirements of business and the changes championed by the NSF were adopted by the Accreditation Board for Engineering and Technology (ABET) in its "Criteria 2000," a revised rubric for the accreditation of engineering education institutions. According to these criteria, engineers of the future should possess:

- *the ability to apply knowledge of math, science and engineering*
- *the ability to design and conduct experiments, and analyze and interpret data*
- *the ability to design a system, component or process to meet a desired need*
- *the ability to function on multidisciplinary teams*
- *the ability to identify, formulate and solve engineering problems*

- *an understanding of ethical and professional responsibility*
- *the ability to communicate effectively*
- *the broad education to understand the impact of engineering solutions in a global and societal context*

sophomore year, and the demand for engineering degrees had declined by 20 percent since 1985, despite the strong and technologically-focused economy. Nevertheless, less than 25 percent of the faculties of the nation's 300 engineering institutions saw a need to overhaul their curricula.⁷ Established schools had entrenched

1997

Olin Foundation receives charter from Massachusetts Board of Higher Education to establish Franklin W. Olin College of Engineering.



2002

Foundation and Olin College adopt a Statement of Founding Precepts.

Arrival of first freshman class, which includes 30 Olin "partners" who joined the college the year before.

- *a recognition of the need for, and the ability to engage in, lifelong learning*
- *a knowledge of contemporary issues*
- *the ability to use the techniques, skills and modern engineering tools necessary for engineering practice*

More than half of these 11 criteria addressed nontechnical requirements that were typically outside the scope of an engineer's training.⁶

Given the decline in the demand for engineering degrees, why did the Olin Foundation think that the country needed another engineering school? Milas' response — echoed by ABET, the NSF and American business — was that the country did not need another engineering school, it needed a different one. Although some engineering schools were seeking to implement changes in the way their students were taught, many did not see the need for such change. By the NSF's estimates, more than 50 percent of engineering students dropped out of the program by their

institutional cultures, interdepartmental competition for resources and funding, a defined faculty structure, and established research and funding relationships that could not simply be jettisoned. Progress, when it came, could only be slow and incremental.

The Olin Foundation directors debated their options in the light of what they had learned in their consultations with educators, businesses and organizations like the NSF and ABET. Their many years of reviewing grant applications and meeting with more than 100 college representatives annually had given the directors a strong and thorough understanding of the strengths and weaknesses of America's higher education system. Making over an existing school or endowing a new school at an established institution had similar limitations, and the potential to effect real change in the way engineers were trained was minimal. After several years of deliberation, the foundation's directors eventually decided that their best option was to start a new school, which could be a laboratory to test this new

direction in engineering education unencumbered by the baggage of the past. Olin's college could be nimble, without an established faculty or institutional culture, no territories to jealously guard, no competing priorities, no burdens of tradition. It could be set up from scratch with the single focus of engineering excellence, with an administration and faculty dedicated to perfecting an engineering curriculum. By eliminating both academic departments and faculty tenure, the college could more easily craft an interdisciplinary curriculum that could respond quickly to changes in the engineering field.

The foundation chartered its college in 1997, beginning the process that would eventually dissolve the charitable institution in favor of the new college. To ensure that the founder's legacy would be preserved and to distinguish this effort from the endeavors of the other foundations that bore the Olin name, the school was to be called "the Franklin W. Olin College of Engineering."

In October 1997, the foundation petitioned the Massachusetts Board of Higher Education for permission to organize the college and award Bachelor of Science degrees in engineering, as well as honorary doctorates in engineering, laws and humane letters. The board's approval was the necessary first step in obtaining a charter from the state. The process was not expected to be easy, since much of the required documentation, especially the curriculum plan, had yet to be

written. This could also be a very slow process, often lasting as long as two years, but none of the other plans could go forward until the decision had been rendered.

For an outline of the proposed education program, Milas sought the advice of

Dr. James Eifert, of Rose-Hulman Institute of Technology in Indiana, then vice president for academic affairs and later the founder of the entrepreneurial Rose-Hulman Ventures program. Rose-Hulman's programs in engineering and entrepreneurship were models for the type of progressive and innovative education that the Olin trustees wanted to offer. Eifert drafted a curriculum outline that emphasized the importance of introducing opportunities for professional practice alongside classroom training and allowed considerable latitude for students to incorporate personal interests and career goals into their training.

In presenting their petition, the trustees outlined an expansive vision of the role of engineering training in professional and civic life, a vision that was the first comprehensive statement of what the new college would be. Olin-trained engineers would be adequately prepared to build anything and everything, from widgets to global communities.

IN THE WORDS OF
MARSHALL LIH, DIRECTOR
OF THE NSF'S DIVISION OF
ENGINEERING EDUCATION,
MOST SCHOOLS WERE EDU-
CATING ENGINEERS TO BE
BRICKLAYERS RATHER THAN
CATHEDRAL BUILDERS.

"We envision a 21st Century in which the industrial and commercial community is truly a global marketplace....We believe that modern engineering education provides the optimum basic preparation for the leaders of the future we see. We believe that engineers will continue to be expected to practice their profession in the traditional technical capacities. In addition, however, we believe that engineers will be called upon and must assert their leadership as managers of technology-based commercial ventures and governmental agencies, as senior corporate leaders, entrepreneurs, political leaders, and as specialized professionals in the fields of medicine and law. We believe that engineers will be so important in this future society because their education uniquely provides them with the essential knowledge, skills, processes and perspectives to understand the complex system that modern life has become. Many educational programs provide graduates with either the 'know how,' the 'know why' or the 'know when.' The Franklin W. Olin College will enable its graduates to develop within themselves the necessary synthesis of these three ingredients to emerge as the effective leaders needed to chart our course through the future.

*In short, we see a future in which an undergraduate engineering education becomes the true 'Liberal Education,' i.e. an education which liberates one to lead a personal and professional life of full citizenship in one's local, national and global communities."*⁸

The logistical portions of the petition outlined Eifert's plan for a curriculum of coursework in mathematics, the sciences and engineering structured around a framework of professional mentoring (including opportunities for professional practice), experiential learning, and international education and work experience. The curriculum would be "vertically integrated," allowing less-experienced students to share projects with both upperclassmen and faculty, as a means of engaging their problem-solving capabilities and challenging their skills. For this to work well, the college would have to attract the brightest and most motivated students, and therefore the trustees were eager to keep the financial and institutional barriers as low as possible — tuition for all students would be covered by a full scholarship, state-of-the-art equipment and resources

would be supplied, and the faculty-to-student ratio would be low.

In order to keep the process on track, Milas met with James Carlin, chairman of the Massachusetts Board of Higher Education, about the application. Carlin was intrigued by the innovative nature of the Olin Foundation's proposal and encouraged the board's staff to expedite its review. Following a positive review, the Board of Higher Education responded with "speed, support and enthusiasm"⁹ to Olin's petition, approving the Articles of Organization and the authority to award degrees within a few weeks of their submission.

Following the approval of the articles came the still harder work of crafting the college. The powerful vision and program outlined in the

charter documents became the starting point for the school's organizational structure. As the trustees began to hire an administrative staff — a president and deans — to implement this vision, it became obvious that it would be necessary to articulate a legal framework for the commitment of the foundation's assets to its new college, and a contract that bound the staff to pursue the foundation's vision and expectations. In the first few years, while they were occupied with building the college, the trustees and

administration operated from a common set of assumptions based on the founding vision articulated in the charter and other documents.

Finally, in 2002, the foundation and the college formally adopted a Statement of Founding Precepts. The precepts codified the assumptions and principles that inspired the founding of the college and spelled out the foundation's philosophy of independence, innovation and philanthropy:

"Let it be said that the Foundation does not seek to establish a generic undergraduate engineering college — one that will simply offer programs similar to many others around the country. Olin College is intended to be different — not for the mere sake of being different, but to be an important and constant contributor to the advancement of engineering education in America and throughout the world and, through its graduates, to do good for humankind."

The precepts enshrined innovation in practice and pedagogy at the core of the college's mission:

"Even a new institution can, with the passage of time, become resistant to change. If this were to happen at the College it would be a tragic loss of opportunity for engineering education, generally, and a terrible disappointment to the Foundation. The need for the College to be continually open to change and to encourage and support a culture of innovation is paramount. Risk-taking with respect to new programs or in the manner in which engineers are taught should be routine. The College acknowledges that a culture of innovation is a fundamental precept of the planning for Olin College. The College commits itself to the need to be open to change and to support a culture of innovation and constant improvement in every aspect of its operations and programs."



The changes in engineering deemed necessary by ABET and the NSF were acknowledged as the framework for curriculum development:

- *interdisciplinary and integrated teaching*
- *hands-on learning and research opportunities*
- *improved communication skills*
- *students working in teams, similar to industry practice*
- *exposure to other cultures or international experiences*
- *a better understanding of business and management practices*

Most important, the Founding Precepts defined Olin as “student-centered,” placing commitment to the teaching of students, rather than the needs

of faculty, at the center of its endeavors. The curriculum would address all aspects of students’ social and intellectual development, emphasizing the arts and humanities as well as the sciences. Furthermore, the foundation would promote access for all qualified students by providing all of them with full-tuition scholarships. Students who choose to attend Olin College could do so based on their evaluation of its educational offerings, rather than on personal financial circumstances. The overall goal was to gather as diverse a body of students and faculty as possible. Students would be chosen on the basis of academic merit and the breadth of their interests and commitments.



IF YOU BUILD YOUR CASTLES IN THE AIR,
YOUR WORK NEED NOT BE LOST; THAT IS
WHERE THEY SHOULD BE. NOW PUT THE
FOUNDATIONS UNDER THEM.¹⁰

— Henry David Thoreau

The Less-Than-Once-in-a-Lifetime Opportunity

Lawrence Milas and the board were doing their homework, compiling their wish list and talking to as many people in engineering education and engineering businesses as they could. On the advice of Jon C. Strauss, president of Harvey Mudd College, Milas contacted Richard Miller, dean of engineering at the University of Iowa, to discuss whether Miller would be willing to become a candidate for president of Olin College. Miller's credentials spoke to all the issues that Milas was trying to address at Olin. He had modernized Iowa's engineering curriculum and facilities, and had created the nation's first Technological Entrepreneurship Certificate Program for engineers. He had the teaching credentials, the professional reputation and the innovative temperament that would both serve the Olin vision and establish its credibility as an academic enterprise.

Milas' overtures, however, were not immediately welcome. Miller had just turned down another offer to relocate, and he and his family were just settling back into their routine. But Milas was persistent — the two men should at least meet to talk about it. Miller went to meet Milas at his Florida office to hear what he had to say.

The conversation lasted for the better part of two days, as Milas laid out his vision of the new school. Overall, Olin's educational goals were consistent with the changes Miller had been trying to make at Iowa. Two ideas, however, were especially compelling. The first was that the Olin Foundation would finance the costs of the project, down to tuition stipends that would allow

students to attend virtually for free. Olin's would be possibly the only college presidency in the country for which fundraising was not the highest priority; rather than being the frontman for raising money, the president would actually be able to devote his energies to making the project work. The second was the idea of continuous innovation and improvement, a college that would not fall into the complacency of other successful schools but instead constantly challenge itself to improve and take the risks necessary to maintain innovation. That was an attitude that Miller had not encountered before in higher education, and one that he regarded as a "challenge worth dedicating your life to."¹¹

Miller went back to Iowa and wrote out the ideas that the conversation inspired; he sent his notes to Milas. He also remembered that in his previous position at USC, he had taught and held offices in Olin Hall and Vivian Hall

— both the result of Olin Foundation grants — and that the foundation had a long history of involvement in engineering education and a strong reputation for delivering on its commitments. The foundation had the money and had developed a credible business plan. Miller's hat went into the ring.



Richard K. Miller

To evaluate possible candidates, the foundation formed a national search committee consisting of the four directors and several distinguished higher education leaders. Milas screened the candidates and chose the best two or three to be brought before the committee for interviews. The committee selected Miller in a unanimous vote. He took office in February 1999 as the first employee of Olin College.

With the addition of Miller as president, the implementation of the foundation's conceptual plan accelerated. Miller was tireless in his efforts to get the college started. His commitment of time and energy, combined with an intuitive sense of what was the right course of action for



President Miller became very adept at explaining Olin to the media.

the college, set a challenging standard for his staff. Miller's leadership by example was very effective and inspired and motivated his staff to reach extraordinary levels of accomplishment. In a short time Miller left no doubt in the minds of the foundation's directors that choosing him as president was the right decision.

Miller not only embraced the earlier planning, but also worked with his staff on new strategies for areas yet to be developed, like faculty hiring, curriculum development and student recruiting. He and Milas worked well together, making the invention phase more successful than might have been possible without their close consultative relationship.

Miller's strong leadership on campus was, at the least, matched by his being an extremely effective off-campus spokesman for the college. Although Miller had expected to focus primarily

on internal business in leading the college, his ability to communicate the Olin College story off-campus became an enormous asset in gaining almost instant respect for

the college from important members of the engineering education community and the media.

Miller joined the college not only as the first employee, but as the first outside member of the Board of Trustees, which until that point had consisted of the four directors of the F. W. Olin Foundation: Lawrence W. Milas, William J. Schmidt, William B. Horn and William B. Norden. Over the next few years, the college's board would further expand and diversify its membership.

For the most part, colleges grow incrementally, adding new functions and structures as the need arises and trying to retool those that become obsolete. So, one good part about starting from scratch, as Olin did, was that everything — the structures, the equipment, the people — can be planned exactly the way you want it. The harder part is that all those decisions have to be made at the same time. "The College That Doesn't Exist — Yet!" (in the words of an early poster) had to be planned and guided by the Administration-That-Didn't-Exist, the Faculty-That-Didn't-Exist had to plan the Curriculum-that-Didn't-Exist...and so on.

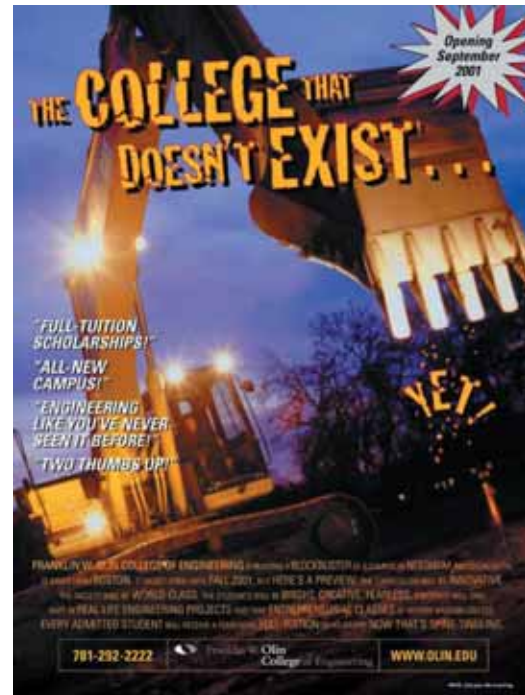
Developing the campus master plan was carried out by the foundation directors under Milas' leadership and began before, and ran parallel

TWO IDEAS WERE ESPECIALLY COMPELLING: THE OLIN FOUNDATION WOULD FINANCE THE COSTS OF THE PROJECT, DOWN TO TUITION STIPENDS THAT WOULD ALLOW STUDENTS TO ATTEND VIRTUALLY FOR FREE. THE SECOND WAS THE IDEA OF CONTINUOUS INNOVATION AND IMPROVEMENT, A COLLEGE THAT WOULD NOT FALL INTO THE COMPLACENCY OF OTHER SUCCESSFUL SCHOOLS.

This fall 2000 poster was mailed to high school guidance counselors nationwide to create awareness.

with, many of the early founding milestones, including the receiving the charter and hiring the first employees. For help in developing the campus plan, Milas turned to Vanasse Hangen Brustlin, Inc., real estate acquisition specialists; Dober, Lidsky, Craig and Associates, facilities planning consultants; and Perry Dean Rogers Partners, architects specializing in institutional and academic structures. A key role in this effort was played by James Eifert, the Rose-Hulman educator who also had assisted in the charter effort. Eifert's job was to develop a detailed vision of the academic program for use by the campus architects in planning buildings. Based on his own experience as an educator, Eifert's plan reflected the innovative approach that he and Milas had discussed. The plan was later fine-tuned by the Olin administration and faculty after they were hired.

To construct the campus, the foundation decided to purchase the land from Babson College: 70 undeveloped acres adjacent to the Babson campus on the Needham-Wellesley town line. It was no accident that Olin came to be located near Babson. Top ranked in entrepreneurship, Babson was the perfect partner for the sort of entrepreneurially minded engineering education Olin had in mind. Eventually, the two institutions



would come to share faculty, academic centers and services as part of a wide-ranging collaboration.

The site Olin purchased from Babson, hilly in some places and low-lying and boggy in others, was a tangle of trees and brush. For immediate use, the college acquired a row of houses right along the roadway in front of the meadow and turned them into temporary offices.

Physically, the campus was placed as close to Babson as possible, with walkways and open spaces linking the two sites in order to facilitate connections between the schools. The architects of Perry Dean Rogers Partners laid out a central oval — a modern twist on the traditional quad-rangle — ringed by the campus' main academic buildings: the Olin Center, the Campus Center and the Academic Center. The oval crowns the topographic high point of the site, and wide





The first phase of Olin campus construction took place from early 2000 through 2005.



breaks between the encircling structures are filled with long vistas over the Great Lawn and the wooded slopes. Glass facades on the interior-facing walls of the encircling buildings reinforce the role of the oval as the focal point of the campus.

Inside, the most notable feature was the fluid arrangement of the faculty offices and labs; rather than clustering academic specialties together, the various facilities are interwoven to foster interdisciplinary collaboration and sharing of ideas.

Student dorms were designed to promote community as well as privacy. Although students enjoy double-occupancy rooms as well as suites with private bedrooms and bathrooms, inviting communal spaces furnished with such amenities as fireplaces,

ORIGINAL LEADERSHIP TEAM



Olin Foundation President Lawrence Milas oversaw the early development of the college and chaired the committee that hired Richard K. Miller as president.

common lounges and very comfortable furniture provide tempting venues for collaborative work or socializing. The campus facilities have been recognized by *Princeton Review* as among the best in the nation.

While the campus was being built, Milas and Miller were assembling their core leadership team. Stephen Hannabury was hired to be vice president for administration and finance from Boston University's School of Management, where he had overseen a major construction effort and maintained strict budgetary control for 14 years. David Kerns, a widely respected academic, came over from Vanderbilt to assume the office of provost. Also from Vanderbilt, Sherra Kerns was hired as the vice president for innovation and research, a unique position that established these priorities at the very top of the Olin structure. Charles Nolan, legendary in admissions circles for his management ability, had only to cross the street from Babson to become Olin's first dean of admission, but Duncan Murdoch, known as one of the most creative marketers in higher education, had to cross the country from USC to take the post of vice president for external relations and enrollment. Roger "Rod" Crafts, a veteran student life professional, joined Olin from Brandeis University in August 2000, completing the

Leadership Team in its original configuration. Like Miller, all were known in their fields for an innovative, even adventurous, approach to their work. All were drawn to Olin by the uniqueness of its vision, and by the "less-than-once-in-a-lifetime" opportunity to use their knowledge and skills to create something new and effective. Their formidable professional reputations put the academic world on notice that Olin College was a serious enterprise.

Bringing in an equally respected faculty was the next task, one that fell primarily to Richard Miller, David Kerns and Sherra Kerns. The ideal Olin professor would be a gifted teacher, deeply committed to the classroom and accomplished in the lab. He or she would be creative, open to collaboration and willing to teach in new ways. Above all, faculty members were expected to be inspirational teachers of undergraduates. The ideal faculty member would also be committed to intellectual vitality through scholarly and other creative endeavors, and would bring this vitality into the classroom. All faculty members would be expected to pursue nationally visible achievements. Moreover, he or she would have a broad range of interests that extended beyond science and engineering to history and society, arts and letters. The wish list was long and comprehensive.



Stephen Hannabury
VP for Administration
and Finance



David Kerns
Provost



Sherra Kerns
VP for Innovation
and Research



Charles Nolan
Dean of Admission



Duncan Murdoch
VP for External
Relations and
Enrollment



Roger "Rod" Crafts
Dean of Student Life



Founding faculty, hired from an initial pool of more than 1,500 applicants: (from left) Dr. John Bourne, Dr. Daniel Frey, Dr. Diana Dabby, Dr. Lynn Andrea Stein, Dr. Hillary Berbeco, Dr. Joanne Pratt, Dr. James Propp and Dr. Brian Storey. Propp left before the Partner Year. Not shown: Dr. Stephen Holt.

While Olin's new approach posed an exciting challenge for educators, there were also serious drawbacks. Most of the potential faculty had not yet heard of Olin. Also, the college was much more of a concept than a reality at this point, and Olin would not offer tenure, nor would it provide an opportunity to work with Ph.D. students. Nevertheless, job ads were placed in the professional journals, and Miller, Kerns and Kerns went on the road, speaking at professional conferences and meetings about Olin and its innovative approach to education.

Clearly, they were persuasive — they received approximately 1,500 applications for the initial eight slots that they were trying to fill. Many of the applicants had academic or professional qualifications in the arts and humanities, as well as in science or engineering, and were searching for an

opportunity that would allow them to integrate their many interests. Several were attracted, again, by the rare opportunity to be involved at the start and to create something new and meaningful. Olin's founding faculty arrived in the fall of 2000.

With the selection of the initial administration and faculty, the implementation process was in full swing. The blueprint for this process was a document entitled "Invention 2000," a two-year strategic plan that encompassed curriculum development, student life, administration, marketing, finance and governance.

The "discovery" phase of curriculum development consumed the new faculty's first year at Olin. Faculty teams studied curricula and teaching models at various institutions and visited, or hosted visits from, more than 50 colleges, businesses and government agencies. A number of these outside advisers were also appointed to a President's Council to provide ongoing advice. About midway through the first year, the broader ideas gathered through consultation coalesced into the "Bold Goals," a vision statement of Olin's educational ideals, against which all curriculum decisions would be tested. The Bold Goals for Olin's curriculum were as follows:

- *Hands-on design projects included in the education plan for every year*
- *An ambitious and authentic senior capstone project representative of professional practice*
- *Opportunities to work independently, as team members and as team leaders*
- *Opportunities to perform before audiences comprising experts in the field of the presentation or performance*

THE LESS-THAN-ONCE-IN-A-LIFETIME OPPORTUNITY

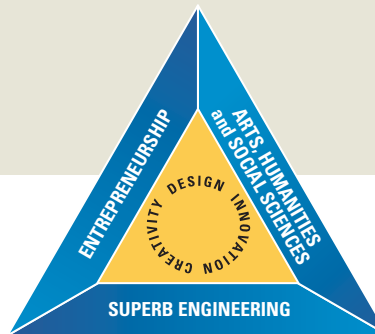
Provost David Kerns and VP Sherra Kerns were personal friends with Paul Penfield, then head of the Electrical Engineering and Computer Science Department at MIT. In 1999, as they were considering the invitation of President Miller to join the Olin team, Sherra said to Paul, "It seems like a once-in-a-lifetime opportunity," to which Paul quickly responded, "Oh no, statistically, having the opportunity to start a college is a much-less-than-once-in-a-lifetime opportunity." This statement was a key factor in the Kerns' decision to leave Vanderbilt for Olin.

Several years later, when Provost Kerns was recruiting Dr. Michael Moody to be dean of the faculty, Moody said, "Well, this must be a once-in-a-lifetime opportunity for you," and David Kerns reiterated the statement, "Oh no, it's a much-less-than-a-once-in-a-lifetime opportunity." Dean Moody later recounted that this was a pivotal factor in his decision also.

In February 2001, Provost David Kerns arranged a retreat at the Warren Conference Center in Ashland, Mass., for the founding faculty to consider the Olin curriculum and other academic matters. After dinner on the first day, without any agreed-upon schedule or plan, faculty members began assembling in the downstairs meeting room, where they had discussed wide-ranging issues all day; eventually, everyone was there. Picking up a marker and standing before

a white board, VP Sherra Kerns said, “OK, without defining the curriculum in detail at this point, let’s list the things we have come to agree upon.” By the end of the evening, the group had articulated the “Bold Goals,” which would feature prominently in virtually every discussion about Olin’s curriculum for the next several years.

- *An international or intercultural immersion experience*
- *A substantial constructive contribution to society through social responsibility and philanthropy*
- *Ability to communicate logically and persuasively in written, spoken and visual/graphic forms*
- *Self-sufficiency and the ability to articulate and activate a vision and bring it to fruition*



These Bold Goals were bounded by a conceptual framework that came to be known as the “Olin Triangle.” At the peak of the Triangle was **Superb Engineering**, supported by the **Arts, Humanities and Social Sciences (“AHS”)** (encompassing Design, Creativity and Innovation) and by **Entrepreneurship** (including Philanthropy and Ethics). In order to prevent students’ creative endeavors from being swept aside by the pressure of coursework, the first two years of the curriculum incorporated work in the arts and humanities, culminating in an AHS capstone project. In addition, students were allowed to accumulate some of their nondegree credits through their “Passionate Pursuits,” their chosen areas of artistic/creative interest. The college would offer scheduled time and faculty and financial support for the Passionate Pursuits and for the various

organizations that provide services to the community and the college. Olin’s educational mission was defined as preparing well-rounded students able to use their technological expertise to shape the future and solve society’s problems, whether or not they ultimately went on to be engineers.

Beyond the Bold Goals and the discovery of best practices, it was necessary to configure an actual four-year curriculum, one that would fulfill the desired educational goals, meet ABET’s

accreditation expectations, and fall within the practical constraints of time and cost. This task was entrusted to a subcommittee called the Curricular Decision-Making Board (CDMB). The CDMB winnowed out the many options to come up with a curriculum plan that emphasized both course work and project experience. In the following year, curriculum ideas were tested on the Olin Partners, 30 students who were recruited to spend a special pre-enrollment year assisting in the development of the college’s programs. Partners took part in the ongoing CDMB, and then tested curriculum ideas as four-week “modules.” Successes and failures were evaluated, and the changes were built into the growing curriculum plan. The final product was based on a two-year **foundation** of course and project work, a third year of **specialization** in which the student focuses on a particular area of interest and a fourth year (**realization**) during which the expertise is applied to a project of professional caliber.

Differing from the traditional engineering curriculum, projects form a significant percentage of the student’s learning plan from the start (a strategy known at Olin as “do-learn” — that is, learning by doing); the percentage of project

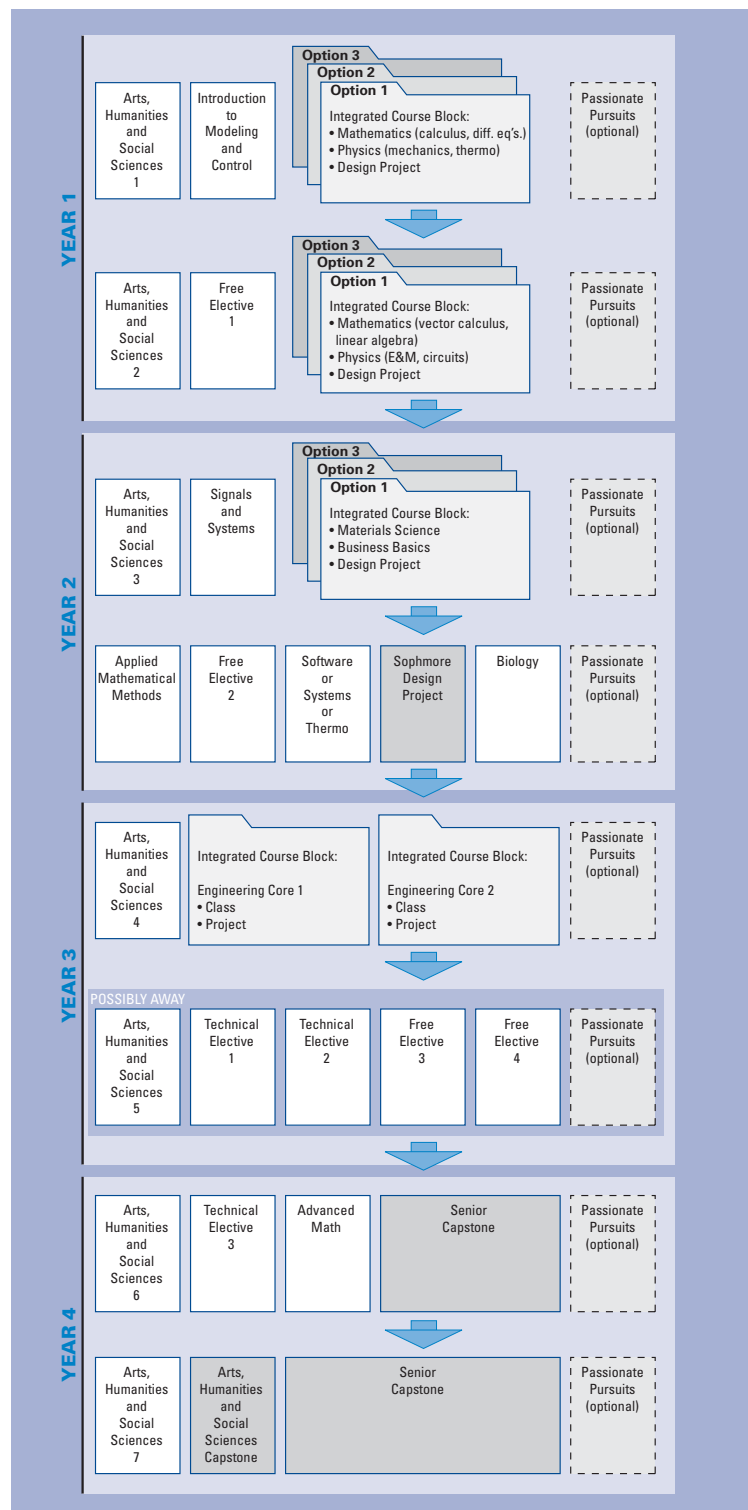
work increases in importance over the four years. In the first two years, projects are structured around **integrated course blocks (ICBs)**, large course blocks that combine two areas of study (say, engineering and biology) and an interdisciplinary project. The ICB model emphasizes the interdisciplinary nature of Olin's teaching and provides teamwork opportunities for both faculty and students. Another distinctive feature of the curriculum is the design stream, which provides coursework in engineering design continuously throughout the curriculum. The fourth-year senior capstone project (later known as SCOPE), pairs student teams with businesses to develop a solution that incorporates the students' specialized skills and meets the business clients' requirements and schedules. Thus at the end of four years, students not only learn the fundamentals of engineering science, but also can apply these techniques to the solution of real-world problems. Another unusual curricular element, Olin Self-Study, provides opportunities for independent research and lifelong learning.

While the individual elements of the curriculum continued to morph over the first few years, undergoing tweaks and name changes, its basic structure has remained remarkably close to the original vision.



The Olin Partners arrived in Needham in August 2001 and lived in a temporary modular residence hall while the campus was being built.

One of the earliest published versions of the Olin curriculum.



Building the Plane As It's Flying

"Harvard has a fifteen-year window in which to attract a student applicant, while Olin has to get their attention in just ten months."

– Duncan Murdoch, Olin's founding external relations and enrollment VP

The Olin Web site does not sell little pink and blue bibs that say "Olin Class of ??". It may come to that someday, but we're not there today. Yet the "bib gap" represented a serious challenge for the Olin admission staff. Given the stiff competition for top-tier students and the undeniable attraction of a prestigious college name, how could Olin, with its still-unproven newness, get itself noticed?

From the outset, the admission staff crafted a two-pronged strategy designed to appeal to both the exuberance of 18-year-olds and the caution of their parents. For the prospective students, Olin mailings were all attitude and jarring colors. They featured bungee jumpers ("Fearless?") and huge growling excavators. They played off the exclusivity of established schools by posturing with a mock exclusivity of their own: "There's only one thing cooler than getting into Harvard, MIT and Stanford — TURNING THEM DOWN!" One of the first admission pieces, "7 Reasons You Should Apply to an Engineering College That Doesn't Exist," was a card fan anchored at the corner by an aluminum rivet and mailed in a silver Mylar envelope. The prospectus was bound with silver duct tape. These brochures were meant to attract notice, not be tossed out with the junk mail.

The appeal to parents was more direct and hard-headed — tuition will be free; the professors have world-class credentials and do the actual teaching; the major innovative technology companies (read: your child's future employers) agree that this is the future of engineering education. This was the anti-legacy appeal — *because* Olin is not an ancient ivy-covered college, your child will be given opportunities to excel and develop that no one else could offer.

Students who did apply to Olin began the process with the familiar rituals of seniors everywhere — the SATs, the APs, the two application essays. But those who made the first cut were invited to another Olin innovation, the Candidates' Weekend. The candidates were

The "7 Reasons" brochure, one of Olin's earliest publications, was used to recruit students to the college.





November 2001 recruitment tabloid, geared toward high school students.

assigned to small groups and given projects to complete together (say, Styrofoam towers or bridges). They were interviewed and observed

by faculty and staff, and in light of Olin’s strong emphasis on collaborative learning, the final offers of admission were based upon teamwork, leadership and self-expression. For students and their parents, Candidates’ Weekend made the transition less daunting by providing an opportunity to meet impressive potential classmates and teachers, and an assurance that the school really did exist after all. For the Admission Office, Candidates’ Weekend was that last sales pitch, proof that the school could attract brilliant students. Olin students almost invariably cite Candidates’ Weekend as the tipping point that

led them to choose Olin.

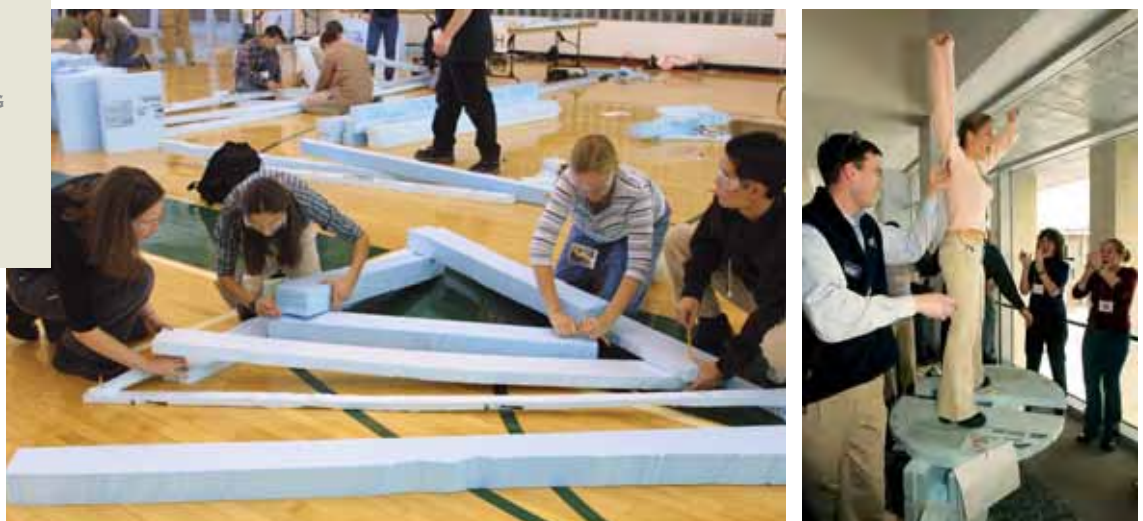
Olin’s most innovative and productive admission draw, Partner Year, was not even part of the original plan.

The college was scheduled to open for students in fall 2001. The initial group of faculty had been hired and campus construction was under way. The application groundwork had been laid the year before by sending high school juniors a bright blue brochure with the image of a fine Georgian campus crossed by a slashed red circle: “You Can’t Get Into Our College in 2000, because we don’t exist — yet.” The pamphlet urged them instead to “pass it on to the tenth-grader who ruins the curve in your AP Physics class, or the kid next door whose eighth-grade project is ‘patent pending.’”

Thirty-thousand new recruitment brochures had just been printed and delivered when it became all too clear that the college was not going to open on time. Construction of the facilities had been delayed and the academic program was not ready. Canceling the freshman class would halt the momentum that the college had worked hard to build and severely damage its budding credibility. In a crisis planning retreat, the administration collectively settled on an innovative idea to admit a smaller class of “Olin Partners,” a select group whose first year would be spent helping to create the college — collaborating with the faculty on curriculum development and helping to develop the student culture. Thirty-thousand Post-it notes were hand-pasted into the brochures to announce the program. New

The first Candidates’ Weekends, held in March 2001, helped recruit 30 Olin Partners and 14 virtual Partners. The event has been held every year since then.

IN 2000, THE ADMINISTRATION COLLECTIVELY SETTLED ON AN INNOVATIVE IDEA TO ADMIT A SMALLER CLASS OF “OLIN PARTNERS,” A SELECT GROUP WHOSE FIRST YEAR WOULD BE SPENT HELPING TO CREATE THE COLLEGE — COLLABORATING WITH THE FACULTY ON CURRICULUM DEVELOPMENT AND HELPING TO DEVELOP THE STUDENT CULTURE.



brochures were printed, selling the educational and professional value of the Partner concept — “Put THAT on a resume!” and “When Friends Ask, ‘Where Are You Going to College?’...Tell

’Em You’re Building Your Own!”

Marketing the Partner concept was very successful, and nearly 700 students applied for the 30 places. The temporary residence hall planned for student accommodations would only house 30, so 30 students were offered admission. Because of the high quality of the applicant pool, 36 were offered the waitlist with a chance to defer a year if no openings occurred. Surprisingly, 26 of the 30 students

admitted enrolled. Four additional students were admitted from the waitlist for the Partner Year. Fourteen other students on the waitlist accepted the deferred year, and came to be known as “Virtual Partners.”

The Partners became, quite literally, the poster children for Olin’s experiment — bright, articulate and willing to snub some of the best schools in the country. The quality of the Partners was stunning, by all standard measures. All of them

could point to significant accomplishments outside of the classroom. Some had already started their own companies. Better still, they proved that high quality and diversity went hand in hand — they came from 17 different states, 25 percent were students of color and exactly half were women.

The Partners were both co-planners and guinea pigs for all aspects of the Olin startup. This process was not always smooth. Often it was not even clear, and setting the terms of the discussion, from target objectives to meeting protocol, became the first task.

Say the words “Town Meeting” to a group of Olin Partners and be prepared for a barrage of sighs, laughter and a good bit of eye-rolling. The Town Meeting was the brainstorming session, with everyone together in the room and giant Post-it notes stuck to the walls to record ideas and decisions. Town Meetings could be lengthy — some lasted for days. Nevertheless, the messiness was part of the process — keep ideas in play, question assumptions, hear from everyone, make as many connections as possible. A deliberate effort was made at the beginning to not “finalize” too many decisions too soon, but keep the options flexible as the plan began to take shape. Ideas were tested as “modules,” four- or five-week sessions, each concentrating on a particular topic such as curriculum or teaching.

The pending arrival of the first regular freshman class in August 2002 accelerated this process, but did not finish it. Partners



Temporary modular housing arrives for the 30 Olin Partners. It was surprisingly nice inside.



Four of the Olin Partners, on opening day (August 23, 2001): (from left) Adam Horton, Kate Blazek, Leighton Ige and Jessica Anderson.

Olin’s first classes were held in the Campus Center because the Academic Center was not finished.





Two Partner Year projects: the 95-Step Rube Goldberg device (left), designed to turn off an alarm clock; and the golf ball cannon.

made up just under half of this class, along with 14 Virtual Partners and 32 newly admitted students. Between classes, homework and other activities, the discussions went on. Some welcomed the transition back to being students; others found it more difficult to spend part of their day as a student and the other part as a colleague, and were prone to at first spend more time on “Olin business” than on schoolwork.

For the first freshman class, each year was a new creation, often likened to building an airplane

while flying it. Subsequent classes came into a more settled structure; for them, innovation is increasingly a process of feedback and improvement rather than invention. Their attraction to Olin was the strong appeal of the do-learn model, the chance to integrate their artistic pursuits with their engineering, and

the opportunity to be part of a group they met at Candidates’ Weekend. They were not expected to “create” Olin, but they were expected to keep re-creating it.

As each new class arrived, it experienced its own challenge: how to help Olin live up to its ideal of continual improvement. The classes that joined Olin after the pioneering Class of 2006 have proven themselves equal to the task, taking up positions of responsibility in student government, joining committees and becoming full participants in each new milestone. In the Olin tradition, they have become partners in the completion and fine-tuning of the four-year curriculum, the Inauguration and Campus Dedication of 2003, the launching of the Olin Expo program in 2004 and the debut of the SCOPE program in 2005. Each class demonstrates anew that what distinguishes Olin students is not the year they enter, but their inventive, pioneering spirit.

The Olin Partners spent many months conceiving, writing and debating the content of the Honor Code. All students sign it during their first year.



Olin’s high-tech campus echoes, but updates traditional academic architecture.

Needham: America's Newest College Town

Olin College is located on land purchased from Babson College, just on the Needham side of the Needham-Wellesley town line. A relationship with Babson College was part of the Olin plan from the outset, and was codified in the Founding Precepts. Babson's well-known excellence in entrepreneurial training would be a part of the Olin educational program. Olin Foundation President Lawrence Milas had graduated from Babson himself and was quite familiar with the surrounding area, whose technology-business focus gave it strong potential for recruiting faculty, business partners and students. Moreover, William Glavin, then president of Babson, was a strong supporter of the Olin project and an important source of advice as the plans progressed.

Milas was sensitive to the impact that Olin could have on a town like Needham. He took care that town officials and residents whose properties abutted the proposed college site were notified of the proposal by the foundation before the plans were made public. Throughout the summer and fall of 1997, he also made himself available for meetings before the Board of Selectmen, the



The Town of Needham proclaimed "Olin College Week" in September 2003 to celebrate its status as America's newest college town.

Planning Board, Town Meeting and the West Needham Civic Association (WNCA), which represented the neighboring residents. Milas was understandably eager for the town to support the plans for Olin College and regard its presence as an asset. He promised to keep the community apprised of the foundation's plans as they progressed and to address the concerns of the neighbors.¹²

Needham town officials were concerned about the formal issues that typically characterize a large-scale infra-



OLIN STAFF AND STUDENTS HAVE MADE A DELIBERATE EFFORT TO TAKE PART IN NEEDHAM'S COMMUNITY LIFE, JOINING LOCAL SERVICE CLUBS, TOWN ACTIVITIES AND VOLUNTEER EFFORTS.

Olin students have worked on local Habitat for Humanity projects.



structure change — how to minimize the traffic impact on busy Great Plain Avenue, and whether the existing water and sewer system had sufficient



Olin's groundbreaking on May 1, 2000, was attended by state, local and college representatives, among others.

capacity to accommodate the new campus. For the WNCA, however, the issues cut a little closer to home — their homes, to be precise. Babson's vacant meadow had acted for years as a buffer to help control water runoff in the adjacent residential

properties. Parts of the site were wetland, and neighborhood basements were already prone to flooding, a situation made worse after recent construction at Babson. Moreover, although the site had never been developed, it was not unused and contained retainer ponds to control the water fluctuations, a natural gas pipeline and the Sudbury Aqueduct. These features posed a challenge for the site planners and severely limited the amount of buildable land.

To prevent potential property damage as the hillside was developed, Milas and the WNCA held extensive discussions with planners and engineers. In the end, the best solution for Olin and the best solution for the neighbors turned out to be the same. To maximize the physical proximity of the Olin structures to Babson, and given the constraints of the site, the only appropriate location for building was on the high ground at the western edge of the parcel, abutting the Babson campus. This was also the part of

Olin students volunteered their time to refurbish computers for use by low-income community members.



the site farthest from the residential properties, and allowed planners to maintain the tree cover that buffered the homes from the campus. To facilitate this solution, Town Meeting granted an exemption from the zoning height requirements, allowing Olin to build higher structures with smaller footprints, thereby minimizing the amount of surface impervious to drainage.

To minimize the infrastructure burden to the town, the college paid a substantial percentage of the cost of upgrading the parts of the sewer system and the pumping station that were affected by the new construction. A Coordinating Committee, composed of Milas and representatives of the WNCA and relevant municipal boards, was formed to resolve similar planning issues as the project progressed.

To the town at large, Milas offered his college as an economic and educational benefit. Based on the experience of other local towns, the presence of a college in Needham would have a beneficial effect on home values. Local businesses would see new customers among the students, faculty and visiting parents. Better still, the school's emphasis on philanthropy would send students and staff into the community as volunteers. Organized under a board known as SERV (Support, Encourage and Recognize Volunteerism), Olin staff and students can propose and carry out projects to assist the local communities, such as



Emma Goodman '06 (right) leads a tour of the campus for Needham residents.

Needham resident Carol Johnson Boulris is a former member of Needham's Town Meeting and the School Committee, and current chair of the Historical Commission. Proving that the world is a small place, she grew up in Alton, Ill., the home base of Olin Industries. In March 1998, she wrote a letter to the Needham Times, voicing support for the foundation's plans and sharing a remarkable encounter between her father and Franklin Olin. Excerpts from the letter are below.

To the Editor,

When I was a child in Alton, Illinois, my father J.B. Johnson was the town's Superintendent of Schools. Nearby East Alton was the home plant of the Olin Corporation....One Sunday afternoon, a uniformed chauffeur rang the front doorbell of our home. He explained that elderly Mr. F. W. Olin wanted to speak to my father. Dad went out to the car to greet Mr. Olin so that the old gentleman would not have to leave his car.

Returning to the house quite a while later, my father had a look of incredulity on his face. I remember my father's words: "Mr. Olin just asked if I would like him to give a vocational high school to the town!"

In time, the large brick F. W. Olin Vocational School was built on a rise between an existing junior high school and the town's senior high school, creating a campus-like complex on three small hills where thousands of students have traveled back and forth among buildings as they received their education. In the Olin Building, as it was called, young people were trained in occupations such as welding, practical nursing, printing, shop and carpentry, drafting, cosmetology, etc. The school filled a great need in the community and enabled many young people to receive training for good jobs after high school.

– Needham Times, March 19, 1998

refurbishing computer equipment for use by low-income students; conducting engineering workshops or projects with the public schools; and assisting at local service agencies.

Early cooperation and coordination between Milas and the community helped to minimize potential disruptions and find satisfactory solutions to traffic and infrastructure issues. Olin staff and students have made a deliberate effort to take

part in Needham's community life, joining local service clubs, town activities and volunteer efforts. Throughout the building phase and Olin's first years, Needham has become increasingly proud of being "America's Newest College Town."

What's Next?

The graduation of the Class of 2006 signaled the end of the “Invention” phase of Olin’s history. That one afternoon encapsulated nine years of constant effort by the trustees, the administration, students and advisers. Much of the collective attention was focused on this milestone. The goal was achieved, but the work did not stop.

In the same year as the first graduation, the college received official word of its accreditation by the New England Association of Schools &



At Olin's first Commencement on May 21, 2006, graduate Etosha Cave receives her diploma from Provost David Kerns as Dean of Faculty Michael Moody looks on.

Colleges (NEASC), the regional accrediting body, followed shortly by accreditation by ABET, the accreditor of college and university programs in applied science, computing, engineering and technology. The 2006 graduation was the last substantial piece needed to secure Olin’s eligibility for accreditation by these two organizations. The imprimatur of accreditation not only certifies that the school is qualified to train engineers;

it also makes Olin and its graduates eligible for a number of government, foundation and agency programs that are closed to unaccredited institutions.

Olin must find ways to address not only the financial but also the human costs of “continual innovation,” which can be high for an institution with such ambitious goals as Olin. New ways must be found to husband the college’s endowment and to develop new revenue streams that will uphold its financial assets. Sustainability must become as important a mantra as Innovation.

Faculty members can now breathe a big sigh of relief — the structure of the curriculum has been completed and tested, and it is no longer necessary to start everything from scratch. For them, and for members of the administration, the challenge is to keep moving forward — not only to fix the things that need fixing, or to expand degree offerings, but also to maintain the culture of innovation that is a founding precept of the college. They must keep abreast of new developments in engineering and in business, and keep devising ways to meet these needs without falling into the dual traps of complacency or making changes for change’s own sake.

And then there are the students. Olin’s first few crops of graduates have left the college. For now, the surest way for



the college and the world to evaluate the success of Olin's innovative approach to education will be to see the performance of its students as they go on to graduate study or enter the workforce. They are well able to bear this extraordinary burden. Take it for granted that they are incredibly smart. They have also shown themselves to be adaptable and flexible, persistent, creative, and idealistic.

Finally, there is the rest of the world. To create a new teaching model for your students is a good



thing, but the goal of the Olin Foundation — with the NSF and ABET — was to recraft the entire process of engineering education. For the Olin experiment to be truly successful, its innovations must be adopted by other schools as well. This has started to happen: Olin receives visitors



from around the globe who are interested in learning about its innovative curriculum, and the college has struck up a partnership with the University of Illinois at Urbana-Champaign to test whether its innovations can be scaled up to a large public institution.

The road is long and not always smooth; each new stage has its challenge. Nevertheless, new travelers take to the road each year, sure that the goal is worth the journey.



Afterword and Acknowledgments

Many people in the Olin community have helped me with this project, providing resources, sitting for interviews and setting up contacts. Obvious in all of them was an immense pride in what they had accomplished together, gratitude that they had been a part of it, and a great eagerness that I should understand just how unique and important the opportunity had been. I do not think a single encounter went by without someone assuring me that it was a "less-than-once-in-a-lifetime opportunity." Many thanks to:

Lawrence Milas, President, Director, F. W. Olin Foundation; member, Olin College Board of Trustees	Stephen Hannabury, Vice President for Finance	Dianna Magnoni, Director, and the Staff of the Olin College Library
William Norden, Secretary and Counsel, Director, F. W. Olin Foundation; Chair, Olin College Board of Trustees	Roger Crafts, Dean of Student Life	Katherine Blazek, Class of 2006
William Horn, Director, F. W. Olin Foundation; former member, Olin College Board of Trustees (retired)	Duncan Murdoch, former Vice President for External Relations and Enrollment and Dean of Admission	William Clayton, Class of 2006
Richard K. Miller, President of the College	Carla Gude, Olin College Trustee	Adam Horton, Class of 2006
David V. Kerns, founding Provost	C. Scott Gibson, Olin College Trustee	Grant Hutchins, Class of 2006
Sherra E. Kerns, founding Vice President for Innovation and Research	Robert N. McBurney, Olin College Trustee	Leighton Ige, Class of 2006
	Lillian Wu, Olin President's Council	Que Anh Nguyen, Class of 2006
	Lynn Andrea Stein, Professor of Computer and Cognitive Science	Jeffrey Satwicz, Class of 2006
	Mark Somerville, Associate Professor or Electrical Engineering and Physics	Polina Segalova, Class of 2006
		Nicholas Zola, Class of 2006
		Mallory (Mel) Chua, Class of 2007
		Tiana Veldwisch, Class of 2008
		Francys Scott, Class of 2009

I would like to thank the members of the Needham community who were involved in the early development of Olin College from the town side, for the information they provided. By coincidence — or maybe not, Needham being a small place — they are all also currently members of my Board of Directors at the Needham Historical Society. I would like to therefore thank them a second time, for their patience as I fit this project in between my historical society duties:

Carol Johnson Boulris, Needham Historical Commission (and former resident of Alton, Ill.)	John H. Cogswell, Needham Board of Selectmen	Maurice Handel, Needham Planning Board
	Mark Gluesing, former President, West Needham Civic Association	

I would also like to thank Jeff Stern, who recorded all the interviews; photographer Michael Maloney; and the talented Sylvia Peretz of Peretz Design, for her design of this volume. Finally, and most of all, I would like to thank Joe Hunter, Olin's director of communication, for the huge amount of effort that he expended on this project. Joe set the project in motion and faithfully (and tactfully) pushed it along the whole route, providing me with every resource and making every logistical arrangement. Working with him was a pleasure, and I am unspeakably grateful. As in all my endeavors, thanks to my family — my husband, Michael Greis, and my children, Madeleine and Adam — for their love and cheerleading.

Congratulations to the Olin College Classes of 2006, 2007, 2008 and 2009, and to the parents, administrators, advisers and teachers who helped bring them to their Graduation Day. Best wishes to all the Olin students for whom this milestone is yet to come.

Gloria Polizzotti Greis
Executive Director, Needham Historical Society
June 2009

Appendix A

Statement of Founding Precepts for Franklin W. Olin College of Engineering

The F. W. Olin Foundation, Inc., founded in 1938 in New York by Franklin W. Olin, established the Franklin W. Olin College of Engineering in Needham, Massachusetts, in 1997. In connection with the execution of an agreement between the Foundation and the College of event date herewith, which, among other matters, provides for the Foundation to make endowment and other grants to the College, the Foundation hereby sets forth the following precepts, all of which the College accepts and agrees to adhere to and abide by in perpetuity. These precepts reflect the principles upon which the College was established as well as the Foundation's hopes for what the College will accomplish and the good that it will do.

With respect to the Foundation's reasons for establishing the College, let it be said that the Foundation does not seek to establish a generic undergraduate engineering college — one that will simply offer programs similar to many others around the country. Olin College is intended to be different — not for the mere sake of being different — but to be an important and constant contributor to the advancement of engineering education in America and throughout the world and, through its graduates, to do good for humankind.

1. Name of the College

The College shall, in perpetuity, be named FRANKLIN W. OLIN COLLEGE OF ENGINEERING, or in the event it shall be determined upon the written consent of two-thirds of the total number of the members of the College's Board of Trustees that such name is no longer adequately descriptive of the College's programs and courses of study, such name may be changed, provided, however, that: (1) the College's name always shall include the name "Franklin W. Olin"; and (2) no other person's name (or corporate or business name) shall appear in the name. It is also agreed that for marketing and related purposes, the name "Olin College" (or appropriate variations such as "Olin University" and "Olin School"), may be used in written material, provided that when practical there will always appear in such materials a reference to the College's full name.

2. Engineering the Primary Academic Program

The College's primary academic program always will be undergraduate engineering. As such, the number of its full-time-equivalent (herein "FTE") students working toward an undergraduate engineering degree shall always constitute no less than two-thirds of the total FTE undergraduate enrollment.

3. Commitment to Academic Quality and Diversity

Students shall be recruited on the basis of their academic merit, as determined by their scholastic records and appropriate test results, and other relevant achievements. However, from among the students who qualify on this basis, the College shall endeavor to develop as diverse a student community as is possible. Diversity of many kinds is desirable. Race, gender, creed, religion, ethnicity, economic background, home location, particular skills, talents and experiences are but a few that are important for achieving a diverse and vital student community. Quality and diversity also shall be sought with respect to the College's faculty and administrative employees. Because current pedagogy makes a low student/faculty ratio an important contributing factor for achieving academic quality, the College will maintain a low student/faculty ratio of about ten to one unless changes in pedagogy through technological developments or other improvements in education are developed which justify departing from this standard.

4. A Culture of Innovation and Constant Improvement

The National Science Foundation and other credible voices from engineering schools and industry have advocated changes in how engineers are educated. Some of the major themes of the changes advocated include interdisciplinary and integrated teaching, hands-on learning and research opportunities for students, improved communication skills, students working as members of teams (the way that engineers in industry work), exposure to other cultures or an international experience, and a better understanding of business and management practices. But for many reasons, including the very simple reason that many, but not all, faculty are resistant to change, progress has been slow and disappointing. The Foundation's decision to establish the College was based in large part on a determination that the need to reform engineering education could be accomplished more easily at a new institution that was not burdened with people and existing programs resistant to change. However, even a new institution can, with the passage of time, become resistant to change. If this were to happen at the College, it would be a tragic loss of opportunity for engineering education, generally, and a terrible disappointment to the Foundation. The need for the College to be continually open to change and to encourage and support a culture of innovation is paramount. Risk-taking with respect to new programs or the manner in which engineers are taught should be routine. The College acknowledges that a culture of innovation is a fundamental precept of the planning for Olin College. The College commits itself to the need to be open to change and to support a culture of innovation and constant improvement in every aspect of its operations and programs.

5. A Student-Centered and Philanthropic Institution

The Foundation believes that the College must care about its students not only as scholars and engineers but also as people. Students must be encouraged and given the opportunity to grow both intellectually and socially. Student life policies must assure that no student is forgotten or ignored. A commitment to support the education of students with programs in the arts, humanities and social sciences is vital to the fulfillment and potential of their lives. The College also should nurture a student's appreciation of the role of philanthropy in America. Students should be encouraged to contribute their time and wealth to support philanthropic endeavors of their choice. The College itself, the product of philanthropy, should find ways to contribute to its community, and beyond, with services natural for it as an educational institution. Policies must be maintained that support these outcomes.

6. Full-Tuition Scholarships

The College will always endeavor to operate by offering full-tuition scholarships to all regular full-time students enrolled in its undergraduate degree programs. The solicitation of additional endowment gifts and annual giving to support tuition and scholarship aid shall be an important goal. In order to provide full-tuition scholarships to all students, the College shall adjust its undergraduate enrollment to a number that can be supported by the projected operating budget revenue. Beginning in the 2021 academic year, upon the written consent of ninety percent of the total number of the members of the College's Board of Trustees, the College may elect to reduce full-tuition scholarships to an amount that will leave the portion of tuition payable by regular full-time students enrolled in its undergraduate degree programs equal to an amount that is not in excess of the average cost of tuition for resident engineering students at the following institutions: the University of California – Berkeley, the Georgia Institute of Technology, the University of Illinois – Urbana, the University of Massachusetts – Amherst, the University of Michigan – Ann Arbor and the University of Texas – Austin. The decision to reduce full-tuition scholarships shall be based on substantial business needs and a determination that the endowment take and other revenue cannot support the number of students needed to sustain the College's academic programs. During such

period of time as the College shall only offer partial scholarships, the College may award financial aid to students based on need. After reducing full-tuition scholarships, the College's Board of Trustees may thereafter, by a simple majority vote, at a meeting of the Board called for such purpose, restore full-tuition scholarships. Tuition scholarships, whether they fully or only partially cover tuition, always shall be awarded to all students who are admitted to the College regardless of need. This Precept shall not prohibit the College from charging for or providing need-based aid for non-tuition charges such as room, board and student fees.

7. Collaboration With Babson College

The conceptual planning for Franklin W. Olin College of Engineering made collaboration with Babson College an important element. Babson's recognized excellence in management and entrepreneurship education were considered to be potential resources for the College's own innovative programs. The College shall endeavor to always work closely with Babson College to develop programs and operating and administrative procedures for their mutual benefit. Similar collaboration with other neighboring colleges, particularly Brandeis University and Wellesley College, shall be actively sought.

8. Faculty Tenure

Knowledge of science and technology is not static but is continually evolving. The ability of the College to offer its students a faculty that is competent in the latest advances in knowledge and in newly emerging fields of science and technology is absolutely essential to the College's goal of offering academic programs with the highest possible quality. The College will, therefore, strive to strike an appropriate balance between the legitimate concerns of faculty for employment security and the College's need to achieve and maintain the quality it seeks. It will do this without offering traditional tenure.

9. College to Remain Independent

The College shall remain a privately supported institution committed to supporting itself from private, rather than government or public resources. However, government grants from programs subject to peer review and open to other institutions on a competitive basis may be sought. Grants from so-called earmarked funds will be rejected.

10. Economic and Governmental Ideals

The College's policies and operations shall be consistent with and supportive of free enterprise and a capitalistic economy within a democratic nation.

Founding Faculty

Olin's founding faculty members joined the college in the fall of 2000. An intrepid group every bit as risk-taking as Olin's first students, they came from the nation's top schools. They arrived on a campus not yet built, accepted positions that didn't offer tenure, and eagerly took on the task of giving form to a curriculum that aimed to revitalize engineering education and educate the best students. They more than rose to the challenge. Here, in alphabetical order, are Olin's founding faculty, with the titles they held upon their arrival:

Dr. Hillary Berbeco, Assistant Professor of Chemistry

Dr. John Bourne, Professor of Electrical and Computer Engineering

Dr. Diana Dabby, Assistant Professor of Electrical Engineering and Music

Dr. Daniel Frey, Assistant Professor of Mechanical Engineering

Dr. Stephen S. Holt, Professor of Physics

Dr. David V. Kerns, Jr., Franklin and Mary Olin Distinguished Professor of Electrical Engineering, Provost

Dr. Sherra E. Kerns, F. W. Olin Professor of Electrical and Computer Engineering, Vice President for Innovation and Research

Dr. Joanne C. Pratt, Assistant Professor of Biological Sciences

Dr. Lynn Andrea Stein, Professor of Computer and Cognitive Science

Dr. Brian D. Storey, Assistant Professor of Mechanical Engineering

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- ⁶ "Olin College and the Future of Engineering," Richard K. Miller, October 2001; Interview, 10 August 2005.
- ⁷ "Well-Educated Bricklayers?" Carl Irving. *Crosstalk*, Winter 1998.
- ⁸ "Petition to the [MA] Board of Higher Education, pursuant to 610 CMR 2.00 (Degree Granting Regulations for Independent Institutions of Higher Education)," Lawrence W. Milas, William J. Schmidt, William B. Norden and William B. Horn as Incorporators, 6 October 1997.
- ⁹ Letter from Stanley Z. Zoplik (Chancellor, Board of Higher Education) to Lawrence W. Milas (President, F. W. Olin Foundation, Inc.) notifying the Foundation of approval of its petition, 18 November 1997.
- ¹⁰ Henry David Thoreau, *Walden*.
- ¹¹ Richard K. Miller, Interview, 10 August 2005.
- ¹² "Selling the 'College Town.'" Jim Walker. *Wellesley Townsman*, 13 November 1997; "Business Owners Hear About College Benefits." Dave Gershman. *Needham Times*, 12 March 1998.

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