KelloggMcCormick

Master of Management & Manufacturing

mba + mem

Master of Business Administration
Master of Engineering Management

2-YEAR DUAL DEGREE PROGRAM

NORTHWESTERN UNIVERSITY
To those with the ambition to lead a product-driven business, MMM provides the best lifelong career-enhancing opportunities. MMM integrates the breadth of the Kellogg MBA curriculum with the depth of McCormick’s engineering management program. The result: credentials with real market power and a virtually unlimited array of career possibilities.
Willie came to MMM with an electrical engineering degree from Stanford University and six years of experience as a naval submarine officer. In the Navy, he managed large groups while serving as a nuclear engineering plant manager. Willie turned to the MMM program to gain the general management skills he’ll need to lead a business within a product-driven organization. After graduation, he will begin a three-year general management program at Eaton Corp.

**Willie Harbert**

“I was accepted into five other management degree programs. I chose MMM over the others for two reasons. First, MMM is completely integrated. You’re not just getting two degrees here, you’re learning how to be a good general manager. The second reason is the diversity in the MMM program. There is a wide range of students here, from different cultures and backgrounds.”

An award-winning painter, sculptor and architect, Uli came to MMM from McKinsey & Co. in Munich. At MMM, Uli had opportunities to bridge his diverse interests. He was president of the Kellogg Art Club and an active member of the European Business Club. He also led a research project in patent management and earned the 2004 Top Student Award in technology industry management. After graduation, Uli will return to McKinsey, where he’ll focus on product development and operations.

**Ulrich Seidel**

“I’m interested in engineering and aesthetics and they come together in product development. I’m a very hands-on person, and the MMM program seemed to be a natural pathway to a career in a product-related industry. I gained a top-level understanding and a tool kit that I can draw on in my work as a consultant to product-driven companies.”
Today’s global marketplace requires a new type of manager-leader: one able to fuse strategic business practices with cutting-edge technology. The Master of Management & Manufacturing Program at Northwestern University offers an unparalleled opportunity to master these critical skills and prepare for a lifetime of professional achievement.

**what is MMM?**

The MMM program offers many advantages:

- The opportunity to earn two degrees, with one set of curricular requirements, in just two years: the Master of Business Administration degree from the Kellogg School of Management and the Master of Engineering Management degree from the Robert R. McCormick School of Engineering and Applied Science.
- A flexible curriculum that allows students to take a wide array of courses in areas most suited to their career goals, including marketing, operations, finance and entrepreneurship.
- A hands-on, team-based approach to learning that applies theory to real-world challenges.
- A shared student experience with peers in the Kellogg School’s full-time MBA program, including extracurricular and leadership opportunities.
- Access to world-class experts and facilities in nanotechnology, biotechnology and other technical disciplines with significant business implications.
- Outstanding career opportunities in a wide range of functions and industries, including general management, operations and production, finance, product development, business development, marketing and strategic planning.

We invite you to visit our Web site at mmm.northwestern.edu to learn more about the exciting opportunities the MMM program offers. Our staff, students and alumni also will be pleased to share their perspectives on the MMM experience.

Wally J. Hopp, MMM Director
McCormick School of Engineering

Sunil Chopra, MMM Director
Kellogg School of Management
As full-fledged members of the Kellogg and McCormick communities, MMM students work closely with faculty to turn technological breakthroughs into sound business proposals. This dynamic environment is complemented by a wealth of extracurricular activities that bring to life the lessons taught in the classroom.

The MMM program offers a world of resources within and beyond the classroom. In addition to a challenging curriculum and devoted professors, MMM students enjoy access to Northwestern’s premier engineering facilities, including its biotechnology and nanotechnology research centers.

THE MANAGEMENT CORE CURRICULUM
MMM students learn the concepts critical to cross-functional management through six core management courses. These courses cover the same material as the core classes in the traditional Kellogg MBA program. However, the MMM core classes tend to move at a faster pace, due to the strong quantitative skills possessed by most MMM students. Prior to matriculation, entering students must have completed financial accounting and statistics.

Core Management Courses (subject to change):
- Accounting for Manufacturing Management
- Managing and Leading Organizations
- Turbo Finance (Finance I/II)
- Microeconomic Analysis
- Business Strategy
- Marketing
- Values and Crisis Decision-Making (1/2 credit)

THE MANUFACTURING CORE CURRICULUM
At MMM, technology is taught from a management perspective. Students focus on the technology and engineering concepts they will need to lead product-driven enterprises.

The manufacturing curriculum consists of a combination of core and elective manufacturing courses that seek to answer the critical question: What does a manager need to know about technology? The product development course, for example, focuses on managing the product-design process, rather than on the technical skills involved in...
creating those products. Through these courses, MMM students gain the ability to lead companies in a fast-evolving world of technological change.

**Core Manufacturing Courses** (subject to change):
- Factory Physics I
- Factory Physics II
- Managing Product Innovation
- Operations Strategy or Logistics and Supply Chain Management or Service Operations
- Three additional manufacturing electives

**BEYOND THE CORE**

MMM students enjoy an unusual degree of freedom to customize their education. In addition to their core coursework, they can take 10 or more general electives. Popular choices include:
- Entrepreneurship and New Venture Formulation
- International Marketing Channels
- Financial Decisions
- Design for Manufacturing
- Innovation Effectiveness
- Nanotechnology: Scientific and Business Opportunities
- Negotiations

Students may also take enrichment courses at other Northwestern University schools and programs, though these courses do not count toward requirements for graduation.

MMM students often graduate with two or three Kellogg majors, such as Finance, Marketing and Management & Strategy. Some choose to deepen their technical knowledge by obtaining a Master of Science degree, rather than a Master of Engineering Management degree, from the McCormick School, along with their MBA.
Ed Hernandez had learned a lot about project management while working as a process engineer at a chemical engineering firm. He came to MMM to gain a strategic perspective and the skills to move above shop-floor implementation. After graduation, Ed became a marketing associate at 3M. He hopes eventually to pursue an entrepreneurial venture.

Ed Hernandez ’02

“At MMM, they talk about the full-company perspective. And that’s what you get when you enroll in the program. As a process engineer, I had gained a lot of tactical knowledge, but I sought more strategic skills. The MMM program allowed me to develop a better understanding of strategic management, which enabled me to transition into brand marketing. MMM is not just about manufacturing a product, but selling it. It puts you in a great position to really affect the direction of a company.”
Prior to enrolling in MMM, Mark Homan had spent five years in process engineering. When he realized his interests were growing more entrepreneurial, he turned to MMM to gain exposure to a broad variety of industries. That was just the beginning. “I got more than I ever expected to out of the program,” Mark recalls. From the bonds with fellow students to a portfolio of critical management skills, Mark emerged from the MMM program poised to move ahead. He’s now at Cisco Systems Inc., where he is a senior manager and global process owner.

Mark Homan ’98

“MMM folks have been very successful here at Cisco. It seems to be a natural fit. Like MMM, we value high energy, candor, enthusiasm, and an ability to motivate people within a very fast-paced start-up environment. Just being able to crunch numbers isn’t going to cut it here. The fact is that MMM produces people with a very strong ability to motivate others and help them see the big picture. MMM graduates can sit down and convince a company vice president of something, and use the same style to communicate with the ground-floor analysts. That ability to build trust top to bottom is very rare.”
INTEGRATION PROJECT
The MMM program culminates with the Integration Project requirement. Student teams, guided by a faculty member, consult with companies on the re-engineering of an existing process or the design and launch of a new product. Students can also develop a business plan for an entrepreneurial venture as part of their project. Recent examples include:

- MMM students developed an analytic inventory/distribution model and used it to evaluate various product design, assembly and service options for a leading manufacturer of industrial flow meters. Their results helped the client shape its global product strategy for the next decade.

- MMM students analyzed the benefits of switching from a bay build system to a progressive assembly system for a manufacturer of industrial/municipal sanitation vehicles. Their transition plan was used by the client to dramatically overhaul and improve its manufacturing operation.

- MMM students developed a process for relocating a production facility of a leading medical device manufacturer from St. Paul, Minn. to Ireland. Their plan addressed a broad range of issues, ranging from facility design to process control to training and organizational change. The plan was used by the client to effect a smooth transition and ramp-up of the new facility.
OUTSIDE THE CLASSROOM
The MMM curriculum is complemented by many extracurricular learning opportunities, most of which are organized by students and offer opportunities for leadership roles. These activities include a speaker series, on-site visits to manufacturing enterprises, and the student-run Manufacturing Business Conference. These events are attended by senior-level manufacturing executives, who enjoy meeting with students during lunches and other informal events.

ABOUT THE FACULTY
In a faculty renowned for its expertise in the classroom, the Kellogg and McCormick professors who teach in the MMM program are among the most outstanding. They include several recipients of the Sidney J. Levy Teaching Award, given annually by the Kellogg School for excellence in teaching elective courses. Other professors in the MMM program have been named Teacher of the Year at McCormick. Many MMM professors have received other honors for their teaching skills as well.

The MMM faculty maintains a dynamic relationship with industry. Many MMM professors advise and consult with a variety of manufacturing companies, including Black & Decker, Boise Cascade, Eli Lilly, Ford, GE Capital, General Motors, Intel, Motorola, Owens Corning and many others. This interchange creates a powerful conduit for students seeking knowledge of the latest trends in management and technology.

THE DIRECTORS
The MMM program is directed by two distinguished professors: McCormick’s Wally Hopp and Kellogg’s Sunil Chopra.

Hopp is the Breed University Professor in the Industrial Engineering Department at McCormick. Named both the top McCormick professor and a Top 5 Kellogg Professor, Hopp teaches the course Factory Physics. This core two-quarter course covers the principles that govern operational behavior in all manufacturing enterprises.

Chopra, the IBM Distinguished Professor of Operations Management and Information Systems, is a two-time Levy Award winner and recipient of numerous other teaching awards. He teaches Logistics and Supply Chain Management, which explores the managerial levers for process improvement.
After eight years as a general supervisor at an Ohio manufacturing company, Lester Charles decided it was time to take his career to the next level. With his eyes on a leadership role, he realized he needed to learn more theory. Since graduating in 2000, Lester has served in a series of increasingly complex management positions at Harley-Davidson, Inc. Now director of manufacturing at the company’s plant in Kansas City, Lester says MMM set him on course to achieve his potential.

Lester Charles ’00

“My first year at Harley, I was in charge of rearranging the company’s power-train facility in Milwaukee. The next year, I was sent to London to move Harley’s European distribution center from the Netherlands to Belgium. Then I managed a joint venture between Porsche and Harley. I credit the MMM program for my ability to meet these challenges. No one at Harley questions my skills when they learn I come from MMM. I think they’re trying to stretch me to see how far I can go. I’m still going.”
GIM students visit Japan... and Chile and Argentina.

Jose Meija, president of Supply Chain Networks, Lucent Technologies

Ronald Dollens (left), president and CEO of Guidant Corp. and Jonathan Friedman ’04 at the Biotech Conference

Gary Cowger, president of GM North America, at the Manufacturing Business Conference

Sharath Kumar, senior manager of Strategy and Operations, Deloitte & Touche with MMM student Liz Cheang ’05

MMM students tour a Toyota plant.

GIM students visit Japan... and Chile and Argentina.

©Mary Hanlon
The MMM program’s innovative curriculum is enhanced by its vibrant relationship with the manufacturing community. Industry leaders on the MMM Advisory Board help set the program’s agenda. Conferences and seminars bring additional industry experts to campus.

Manufacturing executives serve as mentors to MMM students and host visits to company facilities. These links prove enormously helpful to students as they network and pursue career opportunities.

**MMM ADVISORY BOARD**
The MMM Advisory Board is a vital component of the MMM community. Composed of senior executives from dozens of manufacturing firms, the board advises on curricular and strategic issues. Their companies hire MMM graduates, fund research, and take part in integration projects and other classroom assignments. Their engaged and active interest has been a critical factor in MMM’s success.

**CONFERENCES**
The annual Manufacturing Business Conference was launched in 1996 by a group of MMM students. Their goal: to address the top strategic issues facing today’s manufacturing organizations. The result: an annual forum for industry leaders and academic experts to explore the latest advances in manufacturing and management.

MMM students also play leading roles in organizing other conferences that address technology and broader management issues. Those events provide students with many opportunities to meet and learn from experts in technology fields.

**VISITS TO INDUSTRY**
In the MMM program, the classroom experience is complemented with visits to manufacturing facilities, both domestic and overseas. Many MMM students participate in Kellogg’s Global Initiatives in Management (GIM) program, during which students perform in-depth research on business opportunities around the world. GIM brings students to the factory floor in nations such as China, Vietnam and South Africa.

MMM students also have frequent opportunities to visit manufacturers throughout the United States. Companies that have welcomed MMM students into their plants include Toyota, Baxter International Inc., Harley-Davidson Inc. and many others.
Of the MMM program’s many strengths, its greatest may well be its tremendous sense of community. Its students, faculty and alumni share a passionate interest in products and the companies that make them. This common bond is enhanced by the deep spirit of collegiality at the core of the MMM program.

From their first days on campus, MMM students are immersed in an environment that is devoted to building leadership and teamwork. Team skills and lifelong friendships take root in core classes and flourish in the program’s many extracurricular offerings.

MMM students are unique in that they bridge two Northwestern University schools, and they move easily between them. MMM students play leading roles at the Kellogg School, as members of the student government and in many other activities outside of class, including intramural sports and Kellogg’s annual “Special K” musical revue. They also take part in social and career-oriented events at the McCormick School of Engineering.

A variety of activities unique to the MMM program are coordinated by the MMM Student Executive Council. This student-run board organizes a student-to-student mentoring program, many social events, and visits to manufacturing facilities.
THE ALUMNI NETWORK

MMM alumni around the world are extremely supportive of the program. They return to campus frequently to participate in events and to mentor current students. They also provide networking assistance to students seeking internships and full-time employment, and continue to offer support to fellow alumni throughout their careers. With each graduating class, this network, already the largest of any manufacturing management program in the country, grows even more influential.

MMM alumni enjoy many continuing benefits from the program after graduation. These include an online alumni directory, email forwarding addresses, and lifelong learning opportunities. They also have access to career management resources, including workshops, a database of job opportunities exclusively for graduates, and free, one-on-one career counseling.
Justine Dube is a self-confessed “gadget person.” Though her undergraduate degree is in business, she has always been fascinated by manufacturing processes. Justine knew the MMM program would help her bridge both disciplines and open the door to a wide range of career opportunities. At MMM, she dug deeply into the core curriculum and gained the skills she needed to lead cross-functional teams. Justine is now the director of strategic marketing and global commercial leader for the urology franchise at Johnson & Johnson Pharmaceutical Services, LLC.

**Justine Dube ’00**

“I learned so much in my MMM classes, such as product design and development and operations strategy. I dove into those classes because I knew eventually I’d be managing people in those functions. That was the real coup: learning how to work and communicate with scientifically based colleagues and how to motivate them. That’s an education that goes beyond the typical MBA curriculum, and I use that knowledge constantly.”
Naomi is passionate about designing products that meet consumers’ needs. With undergraduate degrees in engineering and anthropology from MIT and five years’ experience at a product design firm, Naomi learned how to identify those needs and create products to fulfill them. She sought a thorough understanding of the strategic and marketing processes involved in bringing a product to market. MMM enabled Naomi to obtain that crucial knowledge and prepared her for her next step: a position as product researcher at Pactiv Corp.

Sridhar Kaza

“The focus in MMM is on more than just straight management. I can manage, but I also understand technical issues. That really came through in the product innovation course, where our professors — who were from some very well-respected design firms — led us through the invention process. In MMM, I’ve learned how to apply systematic thinking to a creative challenge. The result is always an innovative solution.”

Sri, who completed his undergraduate engineering degree at the University of Michigan, worked in supply-chain consulting at PricewaterhouseCoopers and sales and business development for a software company in Tokyo before joining MMM. His goal at MMM was to master the technical and operations concerns of a product-driven company. After graduating, he’ll put those skills to work at McKinsey & Co.

Naomi Korn

“I got everything out of MMM that I wanted. When I’m confronted with a problem, I think about it differently now. I can anticipate how a competitor might respond before we go to market, and I know how to make choices in advance to handle their reactions. Now I can identify and address issues before they become problems.”
Companies from a wide variety of industries recruit MMM graduates for many different leadership positions.

MMM graduates take advantage of this career versatility. They are equally effective planning corporate strategy, financing a new venture, or marketing a new product. MMMs don’t limit themselves to manufacturers, either. Many apply their knowledge of manufacturing as consultants or at companies in the retail, transportation or financial sectors. Others go on to start their own firms, drawing on all the skills and opportunities available to them through the MMM experience.

MMM students enjoy the resources of the Kellogg School’s Career Management Center, which offers one-on-one strategy sessions and career advice tailored to each student’s aspirations. The center also offers self-assessment workshops, résumé critiques, videotaping of simulated interviews, access to an online job posting system and an extensive career resource center.
The MMM Barbecue is a chance for first- and second-year students to meet informally.

McCormick School of Engineering Professor Donald Norman, who teaches in the MMM Program’s Design & Innovation track, reviews one of the product projects.

Craig Sampson (right), director of IDEO’s Chicago office, discusses a MMM team’s design progress during New Product Studio.

Students discuss their design project for the annual Product Fair.
It is the policy of Northwestern University not to discriminate against any individual on the basis of race, color, religion, national origin, sex, sexual orientation, marital status, age, handicap or veteran status in matters of admissions, employment, housing or services or in the educational programs or activities it operates, in accordance with civil rights legislation and University commitment.

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