



**MASTER OF SCIENCE IN
ENGINEERING MANAGEMENT**



MARQUETTE
UNIVERSITY

Be The Difference.

MASTER OF SCIENCE ENGINEERING MANAGEMENT

The Marquette University Master of Science in Engineering Management (MSENMA) Program—offered jointly by the College of Engineering and the College of Business Administration—responds to the world’s growing need for technologists who can lead in the conceptualization, development, and globalization of new generations of commercially viable technology-based products, processes, and services. The MSENMA graduate acquires knowledge, skills, and direct hands-on experience in:

- generating innovative technical solutions to existing and emerging market needs;
- transferring technical solutions into entrepreneurial products and services; and
- developing global supplier and customer bases to apply technical solutions worldwide.

Organizations charged with developing and/or utilizing technology-based solutions will be able to immediately integrate the MSENMA graduate into its operations to increase the speed and impact of product/process research, development, and commercialization.

Program Evolution

More than a decade ago, Marquette’s Colleges of Engineering and Business Administration jointly conceived and launched their first-generation MSENMA Program to produce highly-skilled “how-to-do-it” engineering managers.

Today the MSENMA program is proactively evolving toward an entrepreneurial “what-to-do” focus—a leading-edge position that imbues highly-motivated technologists with the vision, knowledge, skills, and hands-on experience necessary to direct and deliver technology-based innovation, commercialization, and globalization efforts.

In short, the goal of today’s Program is to prepare the technology innovators of the future. Graduate students and working professionals who complete this Master of Science degree will demonstrate an enhanced ability to generate immediate and sustainable technology-based competitive advantage.



Master’s Program Focus Areas

Graduate students pursuing a Master of Science in Engineering Management must complete 33 credit hours of coursework (see the program web site at www.marquette.edu/msenma for complete program details and admission requirements), with courses in these areas:

Engineering Management courses covering topics such as:

- generation and assessment of technology-based innovation
- global development and commercialization of products and processes
- development of high-impact customer-focused technology portfolios
- high-performance manufacturing systems
- intellectual property generation for sustainable competitive advantage

Business Administration courses covering topics such as:

- marketing management
- supply chain management
- managerial accounting
- organizational behavior
- econometrics

Elective courses mutually selected by the student and advisor

The student’s elective courses provide an opportunity to focus on particular aspects of technology or business administration of special interest to the student.

Courses in the program’s Business Administration section provide the knowledge base essential for engineering managers to function effectively as project, program, and product administrators in today’s rapidly evolving business environment.

Coursework in the program's Engineering Management section provides special emphasis on three core elements:

Innovation: Includes essential topics such as voice-of-the-customer assessment, ideation (systematic idea generation), intellectual property generation, and technology roadmapping. Student teams apply these tools to projects that advance innovative technical solutions to real customer/market needs.

Entrepreneurial Commercialization: Student teams transfer innovative technical solution to products/processes capable of meeting all of the unique needs of their customer. An emphasis is placed on commercially viable technical solutions that provide sustainable competitive advantage.

Globalized Product Development: Student projects require cooperation with international industrial and educational partners on projects that serve a global customer base. International research and student and faculty exchange enhance this aspect of the program..

Program Linkages

Marquette University's College of Engineering and College of Business Administration, co-sponsors of the MSENMA program, are uniquely positioned to enrich the program.

- The College of Business Administration's Kohler Center for Entrepreneurship supports The Golden Angels Network, which provides early-stage companies access to capital and to key

University resources. The Network supports new venture development by University students, faculty, and alumni, and sponsors an annual business plan competition. The Center also sponsors an annual Business Plan Competition, which offers a \$10,000 prize for best entry. These activities can significantly enhance the entrepreneurial element of the program.

- The College of Business Administration also supports a well-developed International Business Studies Program, a proven stage upon which the MSENMA globalization element is partially based. Further, the College of Business Administration offers an undergraduate major in entrepreneurship.

- The College of Engineering's International Engineering Research and Exchange (IERE) initiative (see below) provides an integrated international research and educational experience for Marquette and partner institution students that can provide unique insight into product/process globalization issues. The College of Engineering's Engineers Without Borders-USA Chapter provides another hands-on avenue for greater insight into product/process globalization.

- World-class research conducted by the College of Engineering and the Medical College of Wisconsin provides an exciting platform for coursework in the innovation and commercialization elements of the program. The University's Law School Intellectual Property and Technology Law program provides a resource base that is a major asset to these and other entrepreneurial opportunities.

International Engineering Research and Exchange (IERE) Initiative

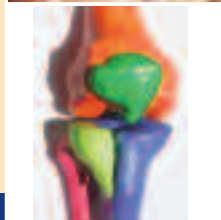
The Marquette International Engineering Research and Exchange (IERE) initiative is being formed under the auspices of the Marquette University Master of Science in Engineering Management Program.

The IERE conducts and coordinates international cooperative technology development and transfer activities with partner universities related to technology planning, development, and commercialization. Systematic student and faculty exchange opportunities are also pursued.

The initiative is based on three propositions: that entrepreneurial engineering education and experience in a global environment can be an important element of a student's professional preparation; that international cooperation can be a key element in developing cost-

effective means for the College to more aggressively pursue educational and research programs; and that the best regions for establishing international educational and research partnerships are the regions that potential industry partners go to for highly-capable, highly accessible resources.

Site visits conducted in 2005 at the largest polytechnic universities in Poland: Gdansk, Krakow, Poznan, Warsaw, and Wroclaw (combined enrollment of over 120,000 engineering students), resulted in the College signing of letters of intent to cooperate with these universities. Initial cooperative projects have been started with Poznan, Cracow, and Warsaw, (see the initiative web site at www.eng.mu.edu/iere for descriptions and status of current activities.)





Marquette University

Founded in 1881 in Milwaukee, Wisconsin, Marquette University has been educating people of faith to be leaders in their professional lives, their communities, and in society for more than 125 years.

Since the first graduating class of five men were awarded bachelor of arts degrees, Marquette has grown into a modern coed campus of more than 11,000 graduate, professional and undergraduate students.

For More Information

Mark H. Polczynski, PhD
Engineering Director,
Engineering Management Program
Marquette University
Room 241, Haggerty Hall
PO Box 1881
Milwaukee, WI 53201-1881

mark.polczynski@mu.edu
Office: 414-288-6779
Cell: 262-364-6609

MSENMA web site: www.marquette.edu/msenma
MSENMA brochure: www.eng.mu.edu/msenma
Engineering management: www.eng.mu.edu/enma

College of Engineering

The Marquette College of Engineering has been graduating highly skilled graduate and undergraduate engineers since 1908. Today the College offers advanced degrees through the following four departments:

- biomedical engineering
- civil and environmental engineering
- electrical and computer engineering
- mechanical engineering

The College is distinguished as the largest Catholic engineering College in the nation.



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College of Engineering
Haggerty Hall
1515 W. Wisconsin Avenue
Milwaukee, WI 53201-1881

(414) 288-6779
www.marquette.edu/eng

The mission of the Marquette University College of Engineering is to excel in four critical areas:

To prepare all students for successful careers based on a strong moral and ethical foundation

To advance the state-of-the-art in engineering

To serve our professional and technical communities

To contribute to our global society