



What is the BS in Engineering?

One of the few manufacturing engineering degrees offered in the nation, the Bachelor of Science in Engineering (Manufacturing) is a cooperative program offered by Western Michigan University (WMU) and area community colleges. In an effort to help meet the personnel needs of regional manufacturers, the BSE program was developed in partnership with numerous local industries, enhancing the skills of current employees as well as preparing students for future employment.

What does the program offer?

The BSE (Manufacturing) provides students with the skills that are in demand by manufacturers in aerospace, automotive, furniture, appliances, metal working, plastics, paper, and other industries. The curriculum is manageable and designed to accommodate the time constraints of the full-time working adult. WMU courses are currently scheduled during late afternoons and evenings, and offer students many opportunities to develop:

- Team experience
- Oral and written communication skills
- A working knowledge of probability and statistics
- An understanding of how to design for manufacturability
- A working knowledge of CAD, process modeling, and simulation
- An understanding of the design process from concept to customer

Contact Information

Department of Manufacturing Engineering

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technology
career



Manufacturing Engineering

Bachelor of Science in Engineering



location

education

What can this program do for you?

Engineers who have the ability to take a product or concept and design the manufacturing processes are in great demand as industries compete in the global market. This degree program is one of only a few manufacturing engineering degrees (BSE) offered in Michigan and nationwide, and delivers what you need to get ahead in today's competitive market.

The program will help you develop the competencies needed to be a productive leader in an industrial and/or manufacturing setting. Our experienced faculty will provide you with knowledge of several engineering disciplines, including mechanical, electrical, and industrial engineering, and the skills necessary to design and execute successful manufacturing systems. The manufacturing engineering degree program prepares students for diverse roles in the manufacturing enterprise.

Program Components and Course Requirements

The program consists of 128 credit hours and is intended to be completed in four years. Students will take approximately half of the credit hours through Kellogg Community College (KCC), Lake Michigan College (LMC), Lansing Community College (LCC), and/or Muskegon Community College (MCC) and the remaining required courses through Western Michigan University in Battle Creek, Lansing, Muskegon, and/or Southwest. Transfer credits from other community colleges may be accepted; consult an advisor for additional transfer information. This program is divided up into three components:

- Foundational and Pre-engineering Curriculum (38 hrs.)
- Manufacturing Engineering Curriculum (76 hrs.)
- General University Requirements (14 hrs.)

For further information about the Manufacturing Engineering program, visit our website:

www.wmich.edu/mfe



What does a Manufacturing Engineer do?

- Specify the equipment and processes to manufacture a part
- Work with vendors to design and build accessories for standard and specialized equipment
- Provide conceptual designs and supervise the design and construction of specialized tooling for equipment/processes
- Provide engineering services for machinery, automation, metrology, etc. to support the manufacturing operation
- Work with mechanical and electrical engineers to install equipment
- Work with industrial engineers to lay out the equipment and processes for the most efficient operation productivity, plant floor space, and people utilization
- Perform process and system simulation studies; the latter typically in collaboration with industrial engineers
- Supervise designers and installation of equipment
- Improve, troubleshoot, and debug existing manufacturing systems
- Propose solutions and implement cost effective changes
- Coordinate design, construction, and installation

Admissions Information/Requirements

Admission to Western Michigan University is a two-step process:

- Submit a formal undergraduate admission application according to Western Michigan University admission policies. Applications are available at the WMU branch campuses or online at: www.wmich.edu/admi/undergradapp/. Select the pre-engineering curriculum (PE). Allow six to eight weeks for processing.
- Just prior to completing the pre-engineering courses, students must submit an application for admission to the College of Engineering and Applied Sciences. An overall GPA of 2.5 or higher is required for admission to the College, with no grade lower than 2.0 in the pre-engineering curriculum.

You may apply for non-degree status if the semester begins within eight weeks. Non-degree admission is processed within a few days and allows you to enroll for up to nine hours.

For further information regarding applications, scholarships, and credit equivalencies for transfer students, go to www.wmich.edu/admissions/transfer/

Financial Aid

Information and application forms are available from your program advisor and at the branch campuses.

Many companies reimburse their employees for part or all of their tuition and materials. Check with your company's human resources office to see if assistance is available. Opportunities for part-time employment at sponsoring manufacturing companies are common.