The Master of Science in Mechanical Engineering is designed to enhance the skills of individuals with a strong mathematical, scientific or technical background for entry into the profession at an advanced level, to obtain a position in industry or consulting, and/or for further study leading to a Doctorate Degree.

MS in Mechanical Engineering Overview

This degree program provides advanced study in contemporary and emerging Mechanical Engineering fields as well as in the traditional mechanical engineering field.

The department supports several curriculum tracks as well as general mechanical engineering coursework which permits the student to increase his/her knowledge and competence in essential skills for Mechanical Engineering while affording sufficient freedom to provide in-depth study in such areas as mechanical design, manufacturing, solid mechanics and materials, and thermal fluid system and sustainable energy; and explore in interdisciplinary areas such as mechatronics and automation, sports and aeronautical engineering, biomechanical engineering, and micro and nano engineering.

The department is the home of the CNC Mini Milling Machine Laboratory, Computer Aided Engineering and Prototyping Laboratory, and the Applied Computational Fluid Dynamics Laboratory. Students can also access to the other laboratories in the School of Engineering. Some classes are taught by adjunct faculty from local industries and faculty from other engineering departments at UB.

About UB

The University of Bridgeport is an international, doctoral-intensive, comprehensive university, offering award-winning academic programs in a variety of innovative undergraduate and graduate degree programs. Our 50-acre, seaside campus overlooks Long Island Sound on Connecticut’s corporate Gold Coast, and is within easy driving distance of New York City and Boston.

Our student-faculty ratio is 15:1, and our full- and part-time faculty members include Fulbright Scholars, National Science Foundation Fellows, Ford Fellows, National Endowment for the Humanities Fellows, American Council for Learned Societies Scholars and Phi Beta Kappa Scholars. Some 32 percent of our students are members of minorities and students from more than 80 countries live and learn within our community.
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**Program of Study**

Admission to the program requires a Bachelor's degree in Mechanical Engineering or a related engineering and/or design curriculum and completion of any deficiencies in previous training. Students with other engineering or science background can be accepted into the program with the condition that they will make up their deficiencies in the core Mechanical Engineering areas in the MSME program and/or through additional courses.

Students meeting the requirements complete 30 credit hours for their degree. The program of study includes 27 credit hours of courses and 3 credit hours of project. Alternatively, it can be 24 credit hours of courses and 6 credit hours of thesis. A co-op and internship program is supported. Students are encouraged to take co-op (Engineering 500) to gain practical engineering experiences. In addition, the department also offers the opportunity to acquire another graduate degree along with the M.S. degree in Mechanical Engineering.

**Program Tracks**

- **Design Engineering**
  - Computer Aided Engineering Design (CAD)
  - Advanced CAD Projects
  - Computer Aided Engineering (CAE)
- **Manufacturing Engineering and Management**
  - Computer Aided Manufacturing (CAM) and NC Machining
  - Production Technology and Techniques
  - Manufacturing Strategy and Lean Manufacturing
  - Supply Chain Management and Logistics
- **Mechanics and Materials**
  - Finite Element Method
  - Mechanics of Composite Material
  - Advanced Mechanics of Materials
  - Polymer Nanocomposites
- **Thermal Fluid Systems and Sustainable Energy**
  - Computational Fluid Dynamics
  - Advanced Heat Transfer
  - Aerodynamics and Hydrodynamics in Sports
  - Heating, Ventilation and Air Conditioning System Design
- **Interdisciplinary areas**
  - Biomechanical Engineering (Biotransport, Biomechanics, Biomaterials, and Bioinstrument Design)
  - Mechatronics and Automation (Advanced Dynamics, Advanced Vibrations, Control, and Robotics)
  - Micro and Nano Engineering (Microfluidics, MEMS, and Nanomaterials)
  - Sports and Aeronautical Engineering (Aerodynamics, Design, and Manufacturing)

UB’s School of Engineering is an educational resource in the sciences, computing, engineering, technology, and design fields. We are a 21st century, high-tech hub and learning center for people who want to mastering world of technology-oriented markets and computer-aided solutions. UB’s School of Engineering is the largest in the state of Connecticut and the second largest in New England.

**Two Degrees for Graduate Students Pursuing Masters Level Degrees**

Graduate students interested to pursue two MS degrees or an MS and an MBA degree must simultaneously satisfy the degree requirements for both degrees. Furthermore, students are required to take at least 48 graduate credit hours. Students who wish to complete two MS degrees or an MS and an MBA degree must obtain the approval of the two departments or programs involved. Students pursing two degrees are awarded upon their graduation one diploma for each major.