

Mechanical, Industrial & Manufacturing Engineering (MIME)

Oregon State University is a Carnegie I research institution, Oregon's Land Grant University, and one of only two U.S. universities to have Sea, Sun, and Space Grant designations. These credentials set the stage for unique partnerships among experts across campus and with other academic, government, and industry leaders both nationally and worldwide. In addition, OSU has a strong commitment to attracting and retaining top students at both the undergraduate and graduate levels.

MIME Program Offerings

The School of MIME offers graduate degrees (MS, MEng, PhD) in mechanical engineering, industrial engineering, and materials science. We offer bachelor's degrees in mechanical, industrial, manufacturing, and energy systems engineering. Our ME, IE, and MfgE undergraduate programs are accredited by ABET.

Industrial Engineering

Industrial engineers work in all sectors of industry and government to design and manage complex systems requiring integration of people, processes, and materials. The OSU IE program allows for customized paths and includes a Business Engineering option.

Manufacturing Engineering

Manufacturing engineers develop and implement high-quality, efficient, and economically viable production processes and systems. At OSU, many IE and MfgE students complete a double degree in the two majors.

Energy Systems Engineering

Energy systems engineers oversee complex energy conversion and distribution systems, improve energy storage systems, and ensure efficient energy use in building, manufacturing, and processing systems.

Housed at the OSU-Cascades campus in Bend, the ESE program combines core ME and IE classes with business and energy management coursework.

Mechanical Engineering

Mechanical engineers design, develop, and improve devices, products, processes, and systems. An ME degree can lead to work in almost any type of industry. At OSU, ME focal areas include design, mechanics, materials, robotics & control, and thermal-fluid sciences.

Our Competitive Edge

- **We deliver a top-tier, hands-on engineering education.** Our students complete rigorous coursework and real-world engineering projects. They engage in extracurricular activities and enter competitions. They participate in industry and research internships. And their hands-on work in the MIME Machining & Product Realization Lab both broadens their repertoire of conceptual knowledge and hones their skills in designing, building, and testing.
- **Our faculty are research leaders in their fields.** And they involve MIME students – both grads and undergrads – in their research programs.
- **We enjoy strong ties with industry,** building connections through research partnerships, student project sponsorships, company presentations, recruiting events, and more.
- **Our graduates land jobs.** MIME students have an excellent track record for securing employment, in many cases before they graduate from OSU.

MIME AT A GLANCE

1600 undergraduates in **four** majors ▪ **200** graduate students in **three** majors ▪ **37** full-time faculty ▪ **\$245K** in annual scholarships and fellowships
 ▪ **Six** professional and honor societies (and many other options for extracurricular involvement) ▪ **Seven** interdisciplinary research clusters ▪ **~\$300K** average annual faculty research expenditure ▪ **Seven** NSF CAREER / DoD Young Investigator awardees

School of Mechanical, Industrial & Manufacturing Engineering

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Oregon State
 UNIVERSITY

Research in the School of MIME

Research in the School of MIME encompasses seven interdisciplinary areas:

- **Complex Cyber-Physical Systems** research addresses the design, modeling, analysis, and operation of engineered systems whose subsystem interactions, while crucial for meeting the overall system's design objectives, are also potential sources of system failure.
- **Energy and Sustainability** research addresses societal, environmental, and economic/industrial considerations in system and product development.
- **Human-Centered Systems Engineering** research focuses on analysis and design of systems where human performance and experience are primary considerations.
- **Manufacturing, Production, and Service Systems** research encompasses all of the steps involved in the delivery of products and services to customers.
- **Materials Science and Biomaterials** research, a highly interdisciplinary effort at OSU, focuses within MIME on structural materials, biomaterials, electronic ceramics, energy materials, sensors, and bulk and thin film materials processing.
- **Micro- and Nanoscale Processes** research is both experimental and computational. In MIME, this research spans the disciplines of industrial and manufacturing engineering, thermal and fluid sciences, and materials science and engineering.
- **Robotics and Autonomous Systems** research focuses on design, modeling and control of systems that observe, move within, and interact with their environment. Such systems include mobile robots, micro-aerial vehicles, and large active sensor networks.

Engineering Internships

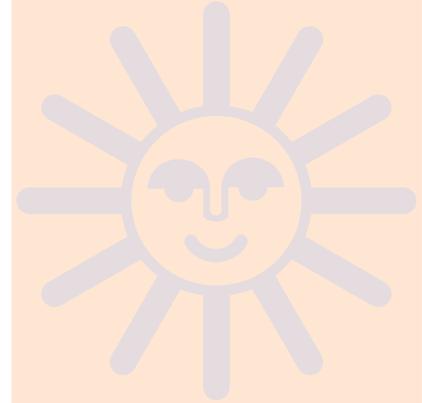
Students can learn about internship opportunities by visiting the Beaver Job Net, attending OSU's engineering career fairs, interacting with employers at MIME recruiting events, and attending company presentations at ASME, IIE, and SME student chapter meetings. Many companies conduct interviews on campus.

In addition, many MIME undergrads participate in the Multiple Engineering Co-Op program, or MECOP, which provides two 6-month paid internships at companies located throughout the Pacific Northwest. Students normally enter the program during their junior year, and participation adds two academic terms to their degree completion time. More program information is available at mecop.oregonstate.edu.

International Opportunities

For students interested in work and travel abroad, OSU International Programs and the OSU chapter of Engineers Without Borders are excellent resources. In addition, MIME offers two unique opportunities for developing a global engineering skillset:

- **Atlantis Bachelor Program: Dual Degree in ME and Mat Sci.** Atlantis is a transatlantic program leading to Bachelor's degrees in materials science and mechanical engineering. MIME participants spend their first two years at OSU, their third year in Germany or Sweden (where they complete their Mat Sci degree requirements), and their final year back at OSU, where they complete their ME degree requirements. For more information, visit matsci.oregonstate.edu/atlantis
- **Global Formula Racing.** Global Formula Racing (GFR) is the first global collaboration of its kind in the history of U.S. and EU student Formula racing. Six thousand miles and nine time zones apart, students at OSU and Duale Hochschule Baden-Württemberg-Ravensburg in Germany jointly design, build, and test two racing vehicles (combustion and electric), one at each school. In 2010 and 2011, GFR prevailed on both the U.S. and European competition circuits, qualifying them as back-to-back international champions. For more information, visit www.global-formula-racing.com



Extracurricular Options

MIME Student Chapters

- *American Society of Mechanical Engineers*
- *Institute of Industrial Engineers*
- *Society of Manufacturing Engineers*
- *Surface Mount Technology Association*

Honor Societies

- *Pi Tau Sigma (ME)*
- *Alpha Pi Mu (IME)*

Multidisciplinary Student Groups

- *Society of Automotive Engineers/Global Formula Racing*
- *Robotics Club*
- *American Institute of Aeronautics and Astronautics*
- *Solar Vehicle Club*
- *Engineers without Borders*
- *Society of Women Engineers*
- *Society of Hispanic Engineers*
- *Society of Black Engineers*
- *CoE Ambassadors*
- *And many more across OSU (check out oregonstate.edu/sli/studentorgs)*