

# Indiana University – Purdue University Fort Wayne

## Department of Civil and Mechanical Engineering

### Master of Science in Engineering (M.S.E.) - Mechanical

The Master of Science in Engineering (M.S.E.) in Mechanical Engineering is designed to help students sharpen their engineering skills, grow professionally, and stay on top of recent developments in the field. Our MSE degree prepares students for the future by broadening and deepening their understanding of engineering principals, state-of-the-art technology, and technical management. Our MSE equips students to succeed in our rapidly-changing world and positions them to become senior engineering professionals or technical managers.

Our graduate program is designed for working engineers taking one or two courses each semester. However, full-time students can also be accommodated, as they can take additional classes in systems engineering, organizational leadership & supervision, math & statistics, and engineering technology. In addition, on-line classes from Purdue WL can be taken at a reduced tuition rate. All students are encouraged to conduct research and write a thesis. Research is a high-impact, transformational activity that benefits industry, students, and our program. Industry-sponsored research projects are ideal. A non-thesis MSE option is also available.

Most courses are offered in the evening to meet the needs of both full-time students and working adults.

#### Admissions

Applicants to the M.S.E. program ideally should have graduated from an approved, accredited engineering program with a Bachelor of Science degree in mechanical engineering, or closely related area, with a GPA of 3.0.

Graduates with Bachelor of Science degrees from programs in the physical sciences, computer science, mathematics or technology will be considered for admission. Formal admission to the M.S.E. program requires a Bachelor of Science degree as well as:

- Completion of the engineering mathematics sequence which includes calculus, multivariate calculus, linear algebra, and differential equations
- Completion of at least two semesters of calculus-based physics
- Completion of all undergraduate engineering courses that are the prerequisites to the graduate courses on the student's plan of study

These requirements are in addition to the standard admission requirements of the Purdue Graduate School.

#### Transfer Credits

No more than 12 credit hours can be transferred to IPFW from the following:

- Credits earned at another university;
- Credits earned as undergraduate excess;
- Credits earned as a post-baccalaureate student;
- Credits earned for a graduate certificate.

### Teaching Assistantships

A limited number of graduate teaching assistantships are available to qualified students. Teaching assistantships usually include a stipend and substantial

### Degree Requirements

The requirements for the MSE-Mechanical concentration are:

- Four 500-level, graduate mechanical (or closely related) engineering courses from the recommended list below:
- **ME 50500 - Intermediate Heat Transfer** Cr. 3.
- **ME 50900 - Intermediate Fluid Mechanics** Cr. 3.
- **ME 54400 - Modeling And Simulation Of Mechanical Engineering Systems** Cr. 3.
- **ME 54500 - Finite Element Analysis: Advanced Theory and Applications** Cr. 3.
- ME 54600 CAD/CAM Theory and Advanced Applications
- **ME 54700 - Mechatronics, Robotics And Automation** Cr. 3.
- **ME 55000 - Adv Stress Analysis** Cr. 3.
- Other 500-level or higher courses offered by the CME Department may be used with approval
- Two additional 500-level engineering courses from the recommended list below:
- ME 55300 (online via Purdue WL)
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- **SE 52000 Engineering Economics**
- **SE 53000 Systems Engineering Management**
- **SE 54000 Systems Architecture**
- **SE 55000 Advanced Manufacturing Systems and Processes**
- Other 500-level or higher courses may be included with approval
- Two thesis research courses (ENGR 69800) or two approved graduate-level elective courses
- Students interested in a more technical track can take additional online courses in a wide-variety of engineering topics via Purdue WL.
- Students interested in leadership and management can take courses such as OLS 51000 Foundations of Behavior and Leadership in Organizations, or OLS 53000 System Change and Organization Development.
- Two 500-level or higher math (or closely related) approved courses

For more information, please contact:  
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