GRADUATE STUDIES
MASTER OF SCIENCE IN ENGINEERING
A MESSAGE FROM THE DIRECTOR

Thank you for considering a Master of Science in Engineering from Purdue University Fort Wayne. Students in our programs work with world-class faculty who provide a transformative educational experience, advancing the latest research, applied to real-world problems. Offering three concentrations in the degree program allows students to choose the right fit for their needs and provides a thesis-option for those that want to more deeply explore a research question of their own. An engineering degree from Purdue University is one of the most recognizable and admired degrees in the world of STEM. Focused on real-world application, Purdue Fort Wayne offers small class sizes, designed and scheduled for working adults who are looking to advance their knowledge and careers.

Chao Chen, Ph.D
Associate Professor
Electrical and Computer Engineering Graduate Program Director
chenc@pfw.edu
BENEFITS

SHARPEN YOUR SKILLS AND ACHIEVE YOUR GOALS

The Master of Science in Engineering (MSE) is designed to meet the needs of motivated engineers seeking to advance their careers. The following technical concentration areas are currently offered:

- Computer Engineering
- Electrical Engineering
- Systems Engineering

Stand out with a graduate degree that enhances your qualifications through:

- Small class sizes
- Personal attention from dedicated faculty
- Course offerings designed for working adults
- Internationally recognized degree at a fraction of the cost
- Practical and real-world projects and application

LEARN FROM DEDICATED, EXPERT FACULTY

Our faculty have expertise in a wide range of areas. Students benefit from the distinct and renowned breadth of knowledge our professors and instructors have developed throughout their careers.

Engineering faculty research areas include:

- Signal Processing
- Biomedical Imaging
- Embedded Systems
- RF Circuits and Systems
- Wireless Communications and Networks
- Internet of Things
- Machine Learning
- Robotics and Control
- Computer Vision
- Smart Grids and Energy Systems
- Enterprise and Lean System Design
- Manufacturing Systems
- Healthcare Systems

THE PURDUE FORT WAYNE DIFFERENCE

Stand out with a graduate degree that enhances your qualifications through:

- Small class sizes
- Personal attention from dedicated faculty
- Course offerings designed for working adults
- Internationally recognized degree at a fraction of the cost

"Purdue Fort Wayne gave me an easy access to good quality education. Professors are great, classes are great, and the campus is well equipped. Overall very happy with the program!"

Sami Shalak

"Although a master’s degree was not in my original plan, my professors (and the overall environment) encouraged me to pursue an MSE degree in Systems Engineering. This program provides the theory behind system design, but the major emphasis is on the application of this theory. Systems engineering can be applied to so many concepts and the classes are structured to tailor the applications to your specific interest. I believe this approach allows me to best adapt my education to my career goals in addition to making the learning environment enjoyable."

Joe Smith
MASTER OF SCIENCE IN ENGINEERING (MSE) (30 CREDIT HOURS)

The MSE program is designed to provide opportunities for qualified individuals seeking to advance in their careers. Students can pursue one of the following concentrations:

- Computer Engineering
- Electrical Engineering
- Systems Engineering
- Mechanical Engineering (see individual booklet)

COMPUTER ENGINEERING CORE COURSES (12 CREDIT HOURS)

ECE 53800 Digital Signal Processing I
ECE 54700 Introduction to Computer Communication Networks
ECE 56700 FPGA Designs for Signal Processing Applications
ECE 60000 Random Variables and Signals
ECE 66100 Computer Vision

COURSE OF STUDY

The course of study requires completion of 30 credit hours in the following:

- The core courses (4 courses, 12 credits) are courses specific to the student’s concentration and are meant to provide students with a strong foundation of principles and theories in that area of expertise.
- Graduate-level courses (2 courses, 6 credits) from mathematics (MA), statistics (STAT), or computer science (ACS or CS) are required.
- The engineering electives (2 courses, 6 credits) offer students a chance to develop depth in their area of concentration and related disciplines.
- The general electives (2 courses, 6 credits) offer students the flexibility to tailor the program to meet their specific career needs in approved courses of the student’s choosing.
- Research (thesis) credit is not required for students on the non-thesis option.
- Students pursuing the thesis option are required to register for 6 credits ECE 69800 research credits.
**ELECTRICAL ENGINEERING CORE COURSES (12 CREDIT HOURS)**

- ECE 53800 Digital Signal Processing I
- ECE 54300 Wireless Communication Networks
- ECE 56900 Introduction to Robotics
- ECE 58400 Linear Control Systems
- ECE 60000 Random Variables and Signals

**SYSTEMS ENGINEERING CORE REQUIREMENTS (12 CREDIT HOURS)**

- SE 51000 Systems Engineering
- SE 52000 Engineering Economics
- SE 53000 Engineering Management
- SE 54000 System Architecture
- SE 55000 Advanced Manufacturing Systems and Processes
GRADUATE CERTIFICATE IN SYSTEMS ENGINEERING (12 CREDIT HOURS)

The Graduate Certificate in Systems Engineering is designed to recognize students who have completed a four-course sequence in systems engineering. The curriculum provides students with a background in system engineering fundamentals, system architecture, economics, and engineering management that can be applied to any industry including manufacturing, healthcare, or education. The systems engineering body of knowledge prescribes techniques and “best practices” for developing complex or interdisciplinary products. Professional engineers may find the program beneficial in helping them understand modern product development principles and best practices.

CERTIFICATE REQUIREMENTS

The Systems Engineering certificate will require satisfactory completion of 12 credit hours of course work (B or better) in the specified engineering courses. No course with a grade below a “B” may be applied toward the certificate.

Choose 4 of the following course options:
- 3 credits in SE 51000 Systems Engineering
- 3 credits in SE 52000 - Engineering Economics
- 3 credits in SE 53000 Systems Engineering Management
- 3 credits in SE 54000 Systems Architecture
- 3 credits in SE 55000 Advanced Manufacturing Systems and Processes

VALUE OF THE SYSTEMS ENGINEERING CERTIFICATE

Systems engineering is a structured approach to developing technical solutions that satisfy customer needs. Unlike traditional forms of engineering, systems engineering does not focus on a specific class of products, rather it focuses on processes used to design, develop, verify and validate new products and systems. The certificate in Systems Engineering was developed in response to local employers’ interest. The certificate addresses the needs of working engineers that already possess a master’s degree or do not have the time or financial resources to commit to an MSE program.

HOW TO APPLY

To apply for the Graduate Certificate in Systems Engineering follow the application instructions outlined on the APPLY INFO page. Admission to the certificate program requires that students meet the requirements of the Purdue University Graduate School. Candidates to the graduate certificate program are expected to have earned a bachelor’s degree in an engineering discipline. Graduates with a Bachelor of Science degree in physical sciences, computer science, mathematics or technology will also be considered for admission.
APPLICATION

DEADLINES

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International: regular fall admission  U.S. Citizen: regular fall admission  International: regular spring admission  U.S. Citizen: regular spring admission

STEPS TO APPLY

1. Application: To begin your application create an account through the portal at pfw.edu/grad-apply. Applicants can make and save changes before submitting by logging in with the username and password used to create the account.

2. Application Fee: The Graduate School application fee is $60 (U.S. dollars) for domestic applicants and $75 (U.S. dollars) for international applicants. Your application will not be processed until your nonrefundable application fee has been paid.

3. Transcripts: Through the application portal, you must upload transcript(s) and/or academic document(s) for every institution of higher education you attended regardless of whether or not a degree was received. If a degree was received then it must be printed on the transcripts. If no degree conferral is printed on the transcripts then a copy of the original diploma (degree certificate) is needed. If the documents are not in English, you must upload an English translation certified by the college or university that issued it. For those who have completed degrees in the People’s Republic of China, you will also be required to submit the Graduation Certificate.

4. Statement of Purpose (Essay): The statement of purpose should be 300-500 words concerning your purpose for undertaking or continuing graduate study, your reasons for wanting to study at Purdue Fort Wayne, and your research interests, professional plans, and career goals. You also may explain any special circumstances applicable to your background and elaborate on your scholarly publications, awards, achievements, abilities, and/or professional history.

5. Recommendations: Submit names of three individuals who are qualified to evaluate your academic or on-the-job performance who can attest to your ability to pursue a graduate degree. In the online application to the Purdue Graduate School, once you click “Send to Recommender,” each individual will receive an email with instructions for submitting their recommendation online. Once submitted, the graduate program to which you applied will have access to view your recommendation(s).

OFFICIAL TRANSCRIPTS

You must provide official transcripts and/or academic records at the request of the graduate program or if you are admitted and choose to enroll. An official transcript bears the original signature of the registrar and/or the original seal of the issuing institution. An unofficial transcript printed from your current/previous institution(s) student system is not an acceptable document. Official documents should be submitted to:

Purdue University Fort Wayne
Office of Graduate Studies
2101 E Coliseum Blvd., KT 140
Fort Wayne, IN 46805

Domestic transcripts must be mailed directly from a Registrar’s office to the Office of Graduate Admissions. (You can choose to send the transcripts yourself, but the transcripts must be in an envelope sealed by the Registrar).
INFORMATION
INTERNATIONAL APPLICANTS

All international applicants must also submit the following items to be considered for admission:

1. **English Proficiency Scores:**
   **TOEFL for Non-Native English Speakers**
   Minimum Paper-Delivered Test - no overall score reported with the following minimum section requirements:
   - Reading: 19
   - Writing: 18
   - Listening: 14
   Minimum Internet-Based Test (IBT) Overall Score: 80 with the following minimum section requirements:
   - Reading: 19
   - Speaking: 18
   - Listening: 14
   - Writing: 18

   **IELTS (Academic Module): An alternative to the TOEFL, overall band score of 6.5 or higher with minimum section requirements:**
   - Reading: 6.5
   - Listening: 6.0
   - Speaking: 6.0
   - Writing: 5.5

   **ELS - Certificate Level 112**
   Routine waivers of an English Proficiency exam are granted for applicants who have been conferred a baccalaureate or graduate or professional degree within the last 24 months from an institution where English is the primary language of instruction in a country/location where English is the native language.

2. **Transcript Evaluation**
   International Applicants must submit original and certified copies for every institution of higher education attended. All documents must be submitted in both English and in the original language. All candidates must hold a four-year undergraduate degree or equivalent in any discipline from a recognized institution.

3. **Proof of Financial Support**
   An official letter and financial statement from a bank, company, or government sponsor indicating the availability of sufficient funds to pay for your tuition and living expenses is required.

4. **Visa and/or Permanent Resident Card (PRC)**

INTERNATIONAL TRANSCRIPTS SHOULD BE MAILED DIRECTLY TO THE OFFICE OF INTERNATIONAL EDUCATION

Purdue University Fort Wayne
International Education
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Fort Wayne, IN 46805-1499, USA
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