



MASTER OF SCIENCE
**COMPUTER
SCIENCE**

PURDUE UNIVERSITY
FORT WAYNE

Office of
Graduate Studies

PFW.EDU/GRADUATE

A MESSAGE FROM THE DIRECTOR

Welcome to the graduate program in computer science at Purdue University Fort Wayne. Initiated in 1997, with an emphasis on software engineering, the master's program has grown to be the largest program in the College of Engineering, Technology and Computer Science at Purdue Fort Wayne.

Our program has enhanced and matured in the past 20 years to educate students for a durable computer science foundation and sophisticated applications of the theory in an environment of rapid technical change.

Our curriculum reflects current trends in the computing and information discipline, and covers the major traditional areas of computer science: data science, algorithms and theory, software engineering, database systems, computer security and networks, and computer systems.

We also provide a 5-year combined B.S./M.S. program in computer science by offering a cost-effective educational option to high-achieving students.

Our program strives to provide quality programs that prepare our students for life-long success.



Jin Soung Yoo, Ph.D

Associate Professor
Computer Science Graduate
Program Director
yooj@pfw.edu

BENEFITS

DEVELOP SKILLS FOR THE FUTURE

The Master of Science in Computer Science prepares graduates to achieve their goals through theory, practical application and research in computing and information. The curriculum centers on a core of courses that cover major areas of computer sciences: software engineering, database systems, computer security and network, and algorithm and theory.

Students have the flexibility to acquire in-depth knowledge in specialization areas such as data mining, machine learning, big data management and analytics, IOT (Internet of Things), mobile computing, and embedded systems.

Graduates of the program gain skills that meet career needs and adapt to a rapidly changing technological environment.

Graduates of the program are skilled in:

- Designing and planning information and computer software systems with an emphasis on software engineering
- Establishing requirements for complex systems, including both technological and managerial perspectives
- Modeling alternatives for complex operations
- Providing data analytics and visualization
- Addressing human factors relevant to implementation and use of computer systems
- Keeping abreast of technological advancements in various areas such as data science, software engineering, and software systems, and network and information security.

LEARN FROM DEDICATED, EXPERT FACULTY

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

Faculty research areas include:

- Software Engineering and Project Management
- Computer Network and Wireless
- Embedded System and IOT
- Mobile Computing
- Algorithm and Theory
- Databases and Data Warehousing
- Data Visualization and Computer Graphics
- Data Mining, Machine Learning
- Big Data and Cloud Computing
- Information Security and Privacy
- Artificial Intelligence

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

"Graduate school is fun if you are ready to work hard, keen to learn new things, and have an intent to add breadth and depth in your skill set. I'm currently working with Dr. Jin S. Yoo. Dr. Yoo is an expert in data mining and data science. She has published many papers in these areas. I am assisting Dr. Yoo on a big data project which involves analysis and prediction."

Kanika Binzani

COURSES

MASTER OF SCIENCE IN COMPUTER SCIENCE (30 CREDIT HOURS)

The course of study requires completion of 30 credit hours with the following components: core requirements, electives, and/or a thesis project. To receive the degree, students need to maintain at least 3.0 in their cumulative GPA.

CORE REQUIREMENTS

ACS 56000 - Software Engineering
ACS 58000 - Algorithm Design Analysis
and Implementation

One of the following:

ACS 57400 - Advanced Computer Networks
CS 50300 - Operating Systems

The remaining 24 credit hours are computer science electives. Students have the option to select either a thesis or non-thesis option to complete the program.

ELECTIVE COURSES

ACS 56700 - Software Project Management
ACS 56200 - System Analysis & Design
ACS 57500 - Database Systems
ACS 57600 - Distributed Database Systems
ACS 57700 - Knowledge Discovery and Data Mining
ACS 56400 - Human Computer Interaction
ACS 54500 - Crypto & Network Security
ACS 52100 - Topic in Computer Graphics
ACS 58200 - Expert Systems
ACS 56600 - The Strategic Role of Information Systems
CS 51400 - Numerical Analysis
CS 51200 - Computational Methods in Analysis
CS54300 - Simulation & Modeling of Computer Systems
CS 57200 - Heuristic Problem Solving
CS 59001 - Machine Learning
CS 59002 - Big Data and Cloud Computing
CS 59003 - Internet of Things
CS 59004 - Wireless Systems & Mobile Computing
CS 59005 - Embedded Systems
CS 59006 - Web Services
CS 59000 - Other topic courses

TRANSFER CREDIT

With the approval of the Director of Graduate Studies, students may transfer up to nine graduate credit hours of appropriate course work with grades of a B (3.00) or better earned at other accredited institutions. No more than 12 graduate credits completed as a non-degree student will be counted toward the Master degree.

NON-THESIS OPTION

For students who choose to complete the program without a thesis, the remaining 24 credit hour minimum will be chosen from the CS/ACS courses listed in the Graduate Bulletin. A limited number of other graduate courses in mathematics, engineering, and occasionally business and other relevant disciplines may be approved on an individual basis.

THESIS OPTION

For students who choose the thesis option, they will need to complete 6 credit hours in ASC 69800-Research M.S. In addition, the remaining 18 credit hours will be chosen from the CS/ACS courses listed in the Graduate Bulletin. The student would need to find a graduate faculty member to serve as the thesis supervisor. The faculty advisor and student would identify a research/project topic together. The topic should be substantial, spanning through two semesters.

APPLICATION DEADLINES

MAY
1

International: regular fall admission

JUN
30

U.S. Citizen: regular fall admission

NOV
1

International: regular spring admission

NOV
15

U.S. Citizen: regular spring admission

STEPS TO APPLY

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.

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.

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.

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.

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
Doermer School of Business Room 304
2101 E. Coliseum Blvd.
Fort Wayne, IN 46805-1499, USA
graduate@pfw.edu

Domestic transcripts must be sent directly from a Registrar's office to the Office of Graduate Admissions via mail or email.
If you mail them yourself, it must be in an envelope sealed by the registrar.

INTERNATIONAL APPLICANTS

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

- **English Proficiency Scores:**

TOEFL iBT Overall Score: 80 with the following minimum section requirements:

Reading: 19

Listening: 14

Speaking: 18

Writing: 18

IELTS Overall Score: 6.5 with the following minimum section requirements:

Reading: 6.5

Listening: 6.0

Speaking: 6.0

Writing: 5.5

TOEFL Essentials Overall Score: 8 with the following minimum section requirements:

Reading: 8

Listening: 8

Speaking: 8

Writing: 8

Duolingo English Test Overall Score: 115 with the following minimum section requirements:

Literacy: 115

Comprehension: 115

Conversation: 115

Production: 115

ELS- Certificate Level 112

Waiver of English Proficiency Scores

Routine waivers of an English Proficiency exam are granted for applicants that meet an alternate criterion:

- Earned a Baccalaureate, graduate, or professional degree within the last 36 months prior to the time of recommendation for admission - from a school where English is the primary language of instruction, in a country where English is the native language.
- Citizen of official English-speaking country

Note: Some graduate programs may still require a test of English proficiency, please confirm the acceptance of the waiver with your department.

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