MASTER OF SCIENCE

MATHEMATICAL SCIENCES

PURDUE UNIVERSITY® FORT WAYNE | Office of Graduate Studies

PFW.EDU/GRADUATE

BENEFITS

SPECIALIZE YOUR PROGRAM

Each of the Purdue Fort Wayne graduate programs offered by mathematical sciences is flexible, allowing you to tailor it to your needs and interests:

- The Master of Science in Mathematics incorporates recent developments in applied mathematics and statistics into a curriculum built on solid mathematical foundations.

- The Post-baccalaureate Certificate in Applied Statistics offers the knowledge and experience needed for strategic planning and quality control. Courses applied toward the certificate can also be counted toward the master's degree.

EXPERIENTIAL LEARNING

Our program emphasizes the value of the practical application of knowledge and skills. Not only will you examine the concepts, theories, and research of the discipline, you will learn to apply them.

THE PURDUE FORT WAYNE DIFFERENCE

Stand out with a graduate degree that enhances your qualifications through:
- Course offering designed for working adults
- Internationally recognized degree at a fraction of the cost
- Personal attention from dedicated faculty
- Small class sizes

LEARN A DIVERSE SET OF SKILLS THAT COULD LEAD TO POSITIONS SUCH AS:

- Accountant
- Actuary
- Algorithm engineer
- Data analyst
- Data scientist
- Mathematician
- Software engineer
- Statistician
- Underwriter
- University professor

"The Purdue Fort Wayne graduate program in Mathematics was everything I was looking for and more. It was engaging, thorough, and highly interactive. The courses covered a broad range of areas and disciplines, each with significant depth, and the knowledge of the professors was outstanding. My experiences not only expanded my knowledge of mathematics, but also taught me effective ways to motivate and teach the students in my classroom."

Jason Barnes

"As an undergraduate, I didn't want to pursue a bachelor's degree in mathematics. I earned my B.A. in chemistry and minored in mathematics. At Purdue Fort Wayne, I caught up on some of the courses I was missing in the process of pursuing my M.S. Then, after graduating from Purdue Fort Wayne, I worked at a software company for two years before deciding to pursue my PhD. Faculty at Purdue Fort Wayne were great to work with, and have always been very supportive. Dr. (Doug) Weakley was tremendously helpful in assisting me with my transition into the program at Purdue Fort Wayne."

Jeff Shriner

A PROGRAM DESIGNED FOR YOU

Our Master of Mathematical Science program was redesigned to meet the needs of busy adult students. The program is now fully online, with in-person and hybrid options available.

This program is designed for students who:

- Are, or plan to be, employed in a position in business or industry that requires significant proficiency in mathematics or statistics, or
- Wish to earn HLC certification as a secondary school teacher, or
- Wish to enter a doctoral program in mathematics or statistics

The Graduate Certificate in Applied Statistics is designed to give engineers and technical managers the statistical knowledge and experience needed for good planning and quality control.

GET TO KNOW OUR PROFESSORS

Alan Legg, PhD

Assistant Professor
leggar01@pfw.edu
Dr. Legg's website

In recent semesters, Alan designed online sections for Purdue Fort Wayne's graduate courses in Linear Algebra and Number Theory. He's happy to be able to implement these courses for online students at the same high standard as the on-campus sections. His research is in complex analysis and potential theory.

Alessandro Selvitella, PhD

Assistant Professory of Data Science & Applied Statistics
aselvite@pfw.edu
Dr. Selvitella's website

Alessandro is an Assistant Professor of Data Science and Applied Statistics in the Department of Mathematical Sciences at Purdue University Fort Wayne. He received a BSc and an MSc in Mathematics from Università degli Studi di Milano (Milan, Italy), a PhD in Mathematical Analysis from SISSA (Trieste, Italy), and an MSc and a Ph.D in Statistics from McMaster University (Hamilton, Canada).

Alessandro is the lead organizer of many activities at PFW, including Thematic Program on Data Science and COVID-19 2020-2021, the Data Science Week, the Data Science and Machine Learning Seminar Series, and the project-based courses Data Science Methods in Epidemiology Part I and II.

All of Alessandro's activities are grounded in Equity, Diversity, and Inclusion, as well as collaboration, interdisciplinary, and community impact. Students with the most diverse backgrounds have enriched the research activities of his lab. Over 100 students have participated in Alessandro's research, with over 50 student projects in the past couple of years. Several of his students have successfully applied to industry and academic positions, such as graduate student positions in top US schools and internships in local companies, and presented their work in local and international conferences, such as GLBIO 2021 and the Data Science Week.
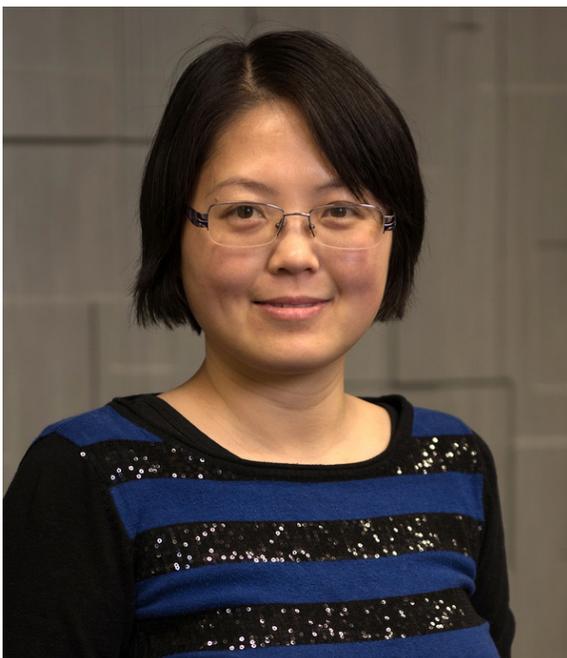
Yuan Zhang, PhD

Associate Professor
zhangyu@pfw.edu
Dr. Zhang's website

Yuan's main research areas are in complex analysis and partial differential equations. She has been lecturing graduate courses in the past semesters, such as real analysis and partial differential equations, with flexibility both in-person and online. In the future, Yuan expects to (re)design more courses that incorporate her research into teaching in depth and serve to facilitate the math graduate program.

Betsy Berry, PhD

Associate Professor of Mathematics Education
berrys@pfw.edu

Betsy Berry has been an Associate Professor of Mathematics Education since 2005 after completing her PhD at Purdue West Lafayette. Her teaching responsibilities include mathematics foundational content courses for elementary education majors and methods of teaching for secondary education majors. She also teaches courses in college geometry and supervises student teachers in their practicum experiences. Her passion is in the teaching and learning of mathematics.

She has many years' experience in teaching at all levels from middle school through university as well as providing professional development programs for practicing teachers. Prior to teaching at the university level, she was a regional and state facilitator of mathematics for the Maine Mathematics and Science Alliance and served as director and P.I. for National Science Foundation and Maine-Department of Education grant projects. All of these experiences inform her work in the preparation of future teachers and the professional development of practicing teachers.

Betsy is active in the Hoosier Association of Mathematics Teacher Educators (HAMTE) as well as NCSM and NCTM, and is a regular presenter at local, state, and national conferences. Internationally, she has collaborated with at Queensland University of Technology in Brisbane, Australia on projects involving children's developing understanding of math models and curriculum development and professional development for teachers in schools with majority indigenous populations.

At Purdue University Fort Wayne, she received an Assessment Award for her innovative classroom assessment approach, the Sigma Xi Teacher of the Year Award and the Friends of the University Outstanding Teacher Award.

Beyond the classroom, she earned her private pilot's license, races with a lightning sailing team on Lake Wawasee, and has run seven marathons.

Zhenisbek Assylbekov , PhD

Assistant Professor of Data Science

zassylbe@pfw.edu

Zhenisbek has a PhD in Mathematical Statistics from Hiroshima University, and in his thesis, he studied the convergence of a certain family of goodness-of-fit test statistics.

After the PhD and some period of work in industry, he worked at Nazarbayev University (NU) in Astana, Kazakhstan, till Spring 2023. Since Fall 2023 he has been an Assistant Professor of Data Science at Purdue University Fort Wayne (PFW).

Zhenisbek's research interests are in machine learning with applications to natural language processing (NLP). He is interested in both the theoretical analysis of machine learning algorithms and the practical implementation and experimental evaluation of such algorithms on text data. He has more than 30 publications, of which 10 are in top journals (e.g., Journal of Artificial Intelligence Research) and top conferences (EMNLP, NAACL, COLING, AAAI, ECAI) in AI and NLP. In more than 20 publications, he has student co-authors.

While working at NU and PFW, he has gained valuable experience developing and teaching statistics courses (Statistical Methods, Probability, Statistical Inference, Regression Analysis, Design of Experiments, Stochastic Processes, Time Series Analysis, Statistical Learning, Data Analysis with R/Python).

COURSES

MASTER OF SCIENCE IN MATHEMATICS (30 CREDIT HOURS)

The Master of Science in Mathematics is suitable for individuals in a business or industry that requires significant mathematics application. This program incorporates applied mathematics into a curriculum based on a sound mathematical foundation.

For admission, you need a background including linear algebra, statistics, and differential equations.

The course of study requires completion of 30 credit hours, which include core mathematics courses, and additional graduate level courses with substantial mathematical or statistical content. They may be from areas such as physics, engineering, or business, as well as statistics, mathematics, or computer science.

All classes are online, with in-person and hybrid options.

MATHEMATICS CORE REQUIREMENTS (12 CREDIT HOURS):

MA 51100   Linear Algebra with Applications
MA 54000   Analysis I
STAT 51900 Introduction to Probability

ONE OF THE FOLLOWING:

MA 52100   Introduction to Optimization Theory
MA 52500   Introduction to Complex Analysis
STAT 52800 Introduction to Mathematical Statistics

ADDITIONAL REQUIREMENTS (18 CREDIT HOURS):

Credits in additional courses are approved by your advisory committee. The courses are to be selected from graduate-level courses in mathematics or statistics, but may include courses from computer science, engineering, physics, or business appropriate for your emphasis.

APPLICATION
DEADLINES

	International	U.S. Citizen		International	U.S. Citizen
FALL	**MAY 1**	**JUL 15**	**SPRING**	**NOV 1**	**DEC 1**

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 Academic Statement of Purpose is typically a 500-word statement that outlines:
- Your academic and professional background, detailing how your experiences have prepared you for graduate study in this field.
- Your career goals and how a graduate degree from Purdue Fort Wayne will help you achieve them. Focus on demonstrating how you fit with the program by discussing faculty members you want to work with, the program's qualities, or specific research or career opportunities.

Personal History Statement:
Approximately 500 words, highlights your unique experiences, challenges, and achievements that have shaped who you are today. This is your chance to share:

- Your personal background, such as your upbringing, or life events that influenced your perspective.
- Why you're a good fit for Purdue Fort Wayne's program beyond academics, emphasizing personal qualities like resilience, leadership, or community engagement.

This statement is your opportunity to stand out and present a compelling narrative about your journey and why you want to earn your graduate degree at Purdue Fort Wayne.

Recommendations:

Submit the name of three (3) individuals who are qualified to evaluate your academic or on-the-job performance who can attest to your ability to pursue a graduate degree. At least two (2) letters of recommendation should be from faculty members familiar with your work in Mathematics or Statistics. 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).

INTERNATIONAL APPLICANTS

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

English Proficiency Scores:

(For exams taken before January 21, 2026)

TOEFL iBT
Overall Score: 80 with the following minimum section requirements:
    Reading: 19
    Listening: 14
    Speaking: 18
    Writing: 18

TOEFL Essentials
Overall Score: 8 with the following minimum section requirements:
    Reading: 8
    Listening: 8
    Speaking: 8
    Writing: 8

(For exams taken after January 21, 2026)

TOEFL iBT
Overall Score: 4.0 with the following minimum section requirements:
    Reading: 4.0
    Listening: 3.5
    Speaking: 3.5
    Writing: 4.0

TOEFL Essentials
Overall Score: 8 with the following minimum section requirements:
    Reading: 8
    Listening: 8
    Speaking: 8
    Writing: 8

IELTS
Overall Score: 6.5 with the following minimum section requirements:
    Reading: 6.5
    Listening: 6.0
    Speaking: 6.0
    Writing: 5.5

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.

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.

PURDUE UNIVERSITY. FORT WAYNE

PFW.EDU/GRAD-INFO

260-481-6111

EA/EOU