

# MATHEMATICS MAJORS

Updated May 2023

For students entering Purdue Fall 2023 or later

Graduation requirements are:

- a) Mathematics courses satisfying one of the math major options. Sample plans of study are available. [http://www.science.purdue.edu/Current\\_Students/majors/index.html](http://www.science.purdue.edu/Current_Students/majors/index.html)
- b) 2.0 Cumulative GPA in the courses used to fulfill the requirements of the major [excluding MAED]. MAED majors must have a 2.5 Cumulative GPA, 2.5 GPA in MA/STAT/CS courses, 3.0 GPA in Education courses, and meet all licensure and education requirements. See separate plan of study packet for this major.
- c) A total of 120 (or more) credits must be completed to graduate from the College of Science. At least 32 of these credits must be taken at the 30000 level or above in residence at Purdue, in accordance with University regulations.
- d) Meet the College of Science Core requirements. For a list, see the following website: [http://www.science.purdue.edu/Current\\_Students/curriculum\\_and\\_degree\\_requirements/college-of-science-core-requirements.html](http://www.science.purdue.edu/Current_Students/curriculum_and_degree_requirements/college-of-science-core-requirements.html). For information about meeting the College of Science requirement, please see your academic advisor.
- e) Meet the University Core requirements. For a list, see the following website: <https://www.purdue.edu/provost/students/s-initiatives/curriculum/courses.html>
- f) There are also requirements within the University Regulations. See your academic advisor if you have questions regarding University Regulations. Please see the current Purdue University Catalog for Academic Regulations & Student Conduct.  
**It is the student's responsibility to see to it that all requirements are fulfilled.**
- g) Grade Options: All required courses must be taken for a letter grade. Only General Education courses at the 500 level (for the College of Science Core requirement) and free electives (courses not used to meet specific requirements but used toward the minimum 120 credits) may be taken with a Pass/No Pass option. On the P/NP option a C- must be earned in order to pass the course. A maximum of two courses per academic year can be taken on P/NP and count toward credits for graduation. Please see the current Purdue University Catalog for current grade requirements.

## Additional Information

- a) Pre-requisite courses may have minimum grade requirements.
- b) Students may view their plan of study audit through myPurduePlan.
- c) For students who entered Purdue prior to Fall 2013, see an academic advisor for information concerning degree requirements.

# MATHEMATICS MAJOR OPTIONS

**CORE MATHEMATICS (MATH).** This option provides preparation for graduate study in pure mathematics, for advanced work in theoretical sciences or in other fields where strong mathematical backgrounds are valuable, such as business administration, economics, computer sciences, statistics, educational research, psychology, law, finance and medicine.

**MATHEMATICS EDUCATION (MAED).** This program leads to certification to teach in grades 5-12. See separate information packet for MAED.

**APPLIED MATHEMATICS (APMA).** Graduates with training in applied mathematics are employed in business, industry, and government. Since their jobs involve working with scientists in other fields, breadth is desirable; for instance, in physics, computer science, statistics, economics, finance or engineering.

**MATHEMATICS/STATISTICS (MASI).** Careers involving statistics are available in government, business, and industry. Statisticians play key roles in the collection and analysis of data, the design of experiments, and the assurance of quality. Students fulfilling the requirements of this option also qualify to receive a degree in Statistics with Math Emphasis from the Department of Statistics.

**MATHEMATICS/COMPUTER SCIENCES (MACS).** Careers involving computers are available in almost every industry, business, finance, branch and level of government, in basic and applied research, in education, and in the computer manufacturing industry.

**MATHEMATICS/BUSINESS (MABU).** An analytical background is becoming increasingly valuable for students who wish to pursue careers in business. This option, designed with the help of business and financial professionals, gives a strong mathematical foundation and courses in related areas to provide a suitable background for such a career. Students must earn a minor in ECONOMICS, BUSINESS ECONOMICS or MANAGEMENT to complete the major.

**DATA SCIENCE (DSMA).** Majoring in data science at Purdue will place you at the forefront of an emerging field and prepare you for an exciting career at the intersection of computer science and statistics. Created jointly by Purdue's Department of Computer Science, Department of Mathematics, and Department of Statistics, the data science major will open pathways to careers in virtually every area of society, from healthcare, security and sustainability to education, business, finance and economics.

## Related Major:

**ACTUARIAL SCIENCE (ACSC).** The actuarial science major is administered jointly by the Departments of Mathematics and Statistics. Actuaries use mathematics, statistics, and financial theory to study uncertain future events and typically have careers in insurance or pension businesses. The actuarial science program offers students the broad quantitative background needed for entry into the profession. To become an Associate, and ultimately a Fellow of one of the professional societies (Casualty Actuarial Society, Society of Actuaries, or the American Society of Pension Actuaries), students must pass a series of examinations.

## Honors Designator:

The honors designation provides an enhanced education in mathematics through enrichment of any of the preceding programs. To complete the honors designation, a student must satisfy the requirements of their major in one of the mathematics department degrees above (excluding Mathematics Core) and complete MA 44000, MA 44200 and 45000, with a grade point average of 3.5 in these three courses. MAED majors need only complete MA 44000 and MA 45000 with a grade point average of 3.5 in these two courses.

## Honors Mathematics (MAHO):

The honors program provides an enhanced education in mathematics through enrichment of any of the preceding programs. It is recommended for high performing students and particularly for those who intend to do graduate studies in mathematics or in theoretical sciences. To complete the honors curriculum, a student must satisfy the requirements the Mathematics Core major and complete MA 44000, 44200, and 45000, with a grade point average of 3.5