

MATHEMATICS, BA

More Information: <https://mathstats.case.edu/undergraduate-programs/why/frequently-asked-questions/>

Degree: Bachelor of Arts (BA)

Major: Mathematics

Program Overview

All undergraduate degrees in the department are based on a four-course sequence in calculus and differential equations and have a computational component. The mathematics and applied mathematics degrees all require further mathematics courses in analysis and algebra. The statistics degrees all require a further statistics core. The applied mathematics program has a four-course professional core requirement to promote the understanding of how mathematics is applied in other fields. There are additional requirements particular to each degree program, including technical electives in the major. Each degree program requires a minimum of 120 credit hours.

Teacher Licensure

This program offers a special option for undergraduate students who wish to pursue this major and a career in teaching. The Teacher Education Program prepares CWRU students to receive an Ohio Teaching License for grades K-12 (Multi-Age) or grades 7-12 (Adolescent to Young Adult (AYA)) depending on major area of study. Students declare a second major in education—which involves 36 hours in education and practicum requirements—and complete a planned sequence of major content coursework within the context of this major. The program is designed to offer several unique features not found in other programs and to place students in mentored teaching situations throughout their teacher preparation career. This small, rigorous program is designed to capitalize on the strengths of CWRU's departments, its Teacher Education Program, and the relationships the university has built with area schools. For the subject area requirements for teacher licensure, please visit the program page for the Teacher Education, BA.

Undergraduate Policies

For undergraduate policies and procedures, please review the Office of Undergraduate Studies section of the General Bulletin.

Accelerated Master's Programs

Undergraduate students may participate in accelerated programs toward graduate or professional degrees. For more information and details of the policies and procedures related to accelerated studies, please visit the Office of Undergraduate Studies section of the General Bulletin.

Program Requirements

Students seeking to complete this major and degree program must meet the general requirements for bachelor's degrees and the general requirements of the College of Arts and Sciences. Students completing this program as a secondary major while completing another undergraduate degree program do not need to satisfy the latter set of requirements.

The BA degree in mathematics requires at least 38 hours of mathematics and 3 hours of computer programming or scientific computing. The specific requirements are as follows:

Code	Title	Hours
Mathematics Requirements		
MATH 121	Calculus for Science and Engineering I	4
MATH 122	Calculus for Science and Engineering II	4
or MATH 124	Calculus II	
MATH 223	Calculus for Science and Engineering III	3
or MATH 227	Calculus III	
MATH 224	Elementary Differential Equations	3
or MATH 228	Differential Equations	
MATH 307	Linear Algebra	3
MATH 308	Introduction to Abstract Algebra	3
MATH 321	Fundamentals of Analysis I	3
MATH 322	Fundamentals of Analysis II	3
MATH 324	Introduction to Complex Analysis	3
or MATH 425	Complex Analysis I	
Three approved technical electives *		9
Computing Requirement		
ENGR 131	Elementary Computer Programming **	3
or MATH 330	Introduction to Scientific Computing	
Total Hours		41

* No more than one can be from outside the department.

** Or other approved computer science course.

Teacher Licensure

The requirements of the program are:

(a) Completion of the BA program in mathematics, including the following as the three approved technical electives:

Code	Title	Hours
MATH 150		
MATH 304	Discrete Mathematics	3
STAT 312	Basic Statistics for Engineering and Science	3
Total Hours		6

(b) The completion of a second major in Teacher Education.

More details about these program requirements and the way they are implemented can be found in the Frequently Asked Questions at the "More Information" link at the bottom of this page.