

Mathematics Education, BA

Requirements

The Bachelor of Arts with a major in mathematics education requires a minimum of 120 s.h., including the general education requirements for the degree, 46 s.h. in mathematics professional education courses, and a minimum of 41–42 s.h. in mathematics education content courses for students earning the BA in mathematics or a minimum of 47–50 s.h. in mathematics education content courses for students earning the BS in mathematics. General education requirements to earn a bachelor of arts degree from the College of Education are the GE CLAS Core of the College of Liberal Arts and Sciences (CLAS). The major requires admission to the Teacher Education Program (TEP), and students must maintain TEP academic and professional standards. Application information can be obtained through the Office of Student Services.

Students must earn a BA in mathematics (Program B) or a BS in mathematics (Program B) at the University of Iowa in order to earn the BA in mathematics education; both degrees may be earned at the same time. Graduates who have earned one of these degrees at another institution and wish to earn the BA in mathematics education should consult the Department of Teaching and Learning; additional coursework may be required. Students also complete coursework in teacher licensure including student teaching.

For initial licensure, student teaching must be an all-day, full-semester experience. Most students are placed in a district within a 60-mile radius of Iowa City. Placements outside this area require special approval and are considered on an individual basis. Special site programs provide experience in districts with diverse populations and students may also apply to student teach at international sites for the second half of the semester.

Additional information about options for student teaching and application procedures is available from the Office of Student Services. Applications for student teaching must be submitted during the calendar year before the student teaching semester. The deadline for students planning to student teach the following fall semester is Nov. 15 and April 15 for the following spring semester.

Programs designed to lead to professional licensure are subject to federal regulations regarding informational disclosures. Please see Professional Licensure Disclosures by Program for further information.

The BA with a major in mathematics education requires the following work.

Professional Education Course Requirements

Students complete 46 s.h. from the following.

Foundation Courses

Foundation courses may be completed before or after admission to the major.

Course #	Title	Hours
All of these:		
EDTL:4900	Foundations of Special Education	3
EPLS:3000	Foundations of Education	3
PSQF:1075	Educational Psychology and Measurement	3

Additional Licensure Courses

Course #	Title	Hours
All of these:		
EDTL:3002	Teaching and Learning Technologies	2
EDTL:3091	Secondary Education Program Orientation and Classroom Management	3
EDTL:3095	Teaching Reading in Secondary Content Areas	1
EDTL:3532	Introduction and Practicum: Mathematics	3
EDTL:3534	Methods: Middle School Mathematics	3
EDTL:4535	Methods: High School Mathematics	3
EDTL:4750	Assessment in Science, Technology, Engineering, and Mathematics (STEM)	2
EDTL:4751	Learning in the Science, Technology, Engineering, and Mathematics (STEM) Classroom	2
EPLS:4180	Human Relations for the Classroom Teacher	3

Student Teaching

Transfer students should consult their advisor since they must complete certain courses before they student teach.

Course #	Title	Hours
All of these:		
EDTL:4087	Seminar: Curriculum and Student Teaching	3
EDTL:4091	Observation and Laboratory Practice in the Secondary School	6
EDTL:4092	Observation and Laboratory Practice in the Secondary School	6

Mathematics Education Content Courses

Students earning a BA in mathematics complete at least 41–42 s.h. from the following; students earning a BS in mathematics complete at least 47–50 s.h. from the following.

Course #	Title	Hours
All of these:		
CS:1210	Computer Science I: Fundamentals	4
MATH:1850	Calculus I	4
MATH:1860	Calculus II	4
MATH:2150	Foundations of Geometry	3

MATH:2700	Introduction to Linear Algebra	4
MATH:2850	Calculus III	4
MATH:3720	Introduction to Abstract Algebra	4
MATH:3770	Foundations of Analysis	4
STAT:3120	Probability and Statistics	4
One of these:		
MATH:4050	Introduction to Discrete Mathematics	3
MATH:4060	Discrete Mathematical Models	3

And:
 For students earning a BA in mathematics, one additional course beyond calculus 3-4
 For students earning a BS in mathematics, three additional courses beyond calculus, including at least two courses numbered MATH:4120 or above 9-12

Endorsements

The mathematics education TEP is approved by the state of Iowa as preparation for teaching licensure with endorsement for grades 5-12 mathematics. Added endorsement programs for additional teaching areas are available.

Teacher Education Program Academic and Professional Standards

State of Iowa teacher preparation standards require that teacher candidates demonstrate the content, pedagogical, and professional knowledge, skills, and dispositions necessary to help all students learn. Because of this, the College of Education and the Teacher Education Program have established academic and professional standards that students must maintain. For undergraduate teacher candidates and Bachelor of Arts candidates in mathematics education, these standards include the following.

- University of Iowa cumulative GPA and overall cumulative GPA, based on total hours earned
 - 0-29 overall earned semester hours: minimum of 1.85 (2.70 for good standing)
 - 30 or more overall earned semester hours: minimum of 2.00 (2.70 for good standing)
 - Non-degree students: minimum of 2.00 (2.70 for good standing)
- TEP major GPA (overall cumulative): minimum of 2.00 (2.70 for good standing)
- University of Iowa term GPA: minimum of 1.50 during fall or spring enrollment
- A grade of C-minus or higher in TEP major courses
- No notices of concern in professional dispositional qualities
- Academic good standing in the College of Liberal Arts and Sciences
- Major GPA in the TEP CLAS content major: minimum of 2.00
- UI major GPA in the TEP CLAS content major: minimum of 2.00

For additional information about these standards, contact the Office of Student Services.

Liberal Arts Core

State of Iowa teacher preparation standards require a core of liberal arts knowledge including but not limited to English composition, mathematics, natural sciences, social sciences, and humanities. The GE CLAS Core together with the mathematics education content courses satisfy these requirements. For additional information about these standards, contact the Office of Student Services.

Academic Plans

Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

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Course	Title	Hours
Academic Career		
Any Semester		
Admission to the Teacher Education Program, College of Education, is by competitive application. For information about application requirements, process, and deadlines, please consult an advisor for the College of Education.		
For specific information regarding requirements in the College of Education, please see the General Catalog.		
Students must earn another major at the University of Iowa in order to earn the BA in mathematics education. Both degrees may be earned at the same time. ^a		
Graduates who have earned one of these degrees at another institution and wish to earn the BA in mathematics education should consult the Department of Teaching and Learning; additional coursework may be required.		
GE CLAS Core: Sustainability ^b		
Hours		0
First Year		
Fall		
MATH:1850	Calculus I ^c	4
RHET:1030	Rhetoric: Writing and	3 - 4
or ENGL:1200	Communication	
	or The Interpretation of Literature	
GE CLAS Core: World Languages First Level Proficiency or elective course ^d		4 - 5
CSI:1600	Success at Iowa	1
Hours		12-14
Spring		
PSQF:1075	Educational Psychology and Measurement	3
MATH:1860	Calculus II	4
ENGL:1200	The Interpretation of Literature	3 - 4
or RHET:1030	or Rhetoric: Writing and Communication	
GE CLAS Core: World Languages Second Level Proficiency or elective course ^d		4 - 5

10-hour pre-admission school field experience ^e

Hours	14-16
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Summer

Prepare materials for Teacher Education Program application (e.g. essays, letters of recommendation)

Hours	0
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Second Year

Fall

EPLS:3000	Foundations of Education	3
GE CLAS Core: International and Global Issues ^g		3
GE CLAS Core: World Languages Third Level Proficiency or elective course ^d		4 - 5
Course(s) required for second degree - consult sample plan for BA or BS in mathematics (Program B)		8

Admission Application: apply to the Teacher Education Program ^f

Hours	18-19
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Spring

EDTL:3002	Teaching and Learning Technologies	2
EDTL:3091	Secondary Education Program Orientation and Classroom Management	3
EDTL:3095	Teaching Reading in Secondary Content Areas	1
GE CLAS Core: Social Sciences ^g		3
GE CLAS Core: World Languages Fourth Level Proficiency or elective course ^d		4 - 5
Course(s) required for second degree - consult sample plan for BA or BS in mathematics (Program B)		3

Hours	16-17
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Third Year

Fall

EDTL:4750	Assessment in Science, Technology, Engineering, and Mathematics (STEM)	2
EDTL:4751	Learning in the Science, Technology, Engineering, and Mathematics (STEM) Classroom	2
EDTL:4900	Foundations of Special Education	3
GE CLAS Core: Historical Perspectives ^g		3
Course(s) required for second degree - consult sample plan for BA or BS in mathematics (Program B)		7

Hours	17
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Spring

EDTL:3534	Methods: Middle School Mathematics	3
EPLS:4180	Human Relations for the Classroom Teacher	3
GE CLAS Core: Natural Sciences without Lab ^g		3
Course(s) required for second degree - consult sample plan for BA or BS in mathematics (Program B)		8

Apply for student teaching (see the College of Education website for application instructions and deadlines)

Hours	17
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Fourth Year

Fall

EDTL:3532	Introduction and Practicum: Mathematics	3
EDTL:4535	Methods: High School Mathematics	3
GE CLAS Core: Literary, Visual, and Performing Arts ^g		3
GE CLAS Core: Natural Sciences with Lab ^g		4
Course(s) required for second degree - consult sample plan for BA or BS in mathematics (Program B)		7 - 8

Hours	20-21
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Spring

EDTL:4087	Seminar: Curriculum and Student Teaching	3
EDTL:4091	Observation and Laboratory Practice in the Secondary School	6
EDTL:4092	Observation and Laboratory Practice in the Secondary School	6

Degree Application: apply on MyUI before deadline (typically in February for spring, September for fall) ^h

Hours	15
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Total Hours	129-136
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- a These majors include a BA in mathematics (program B) or a BS in mathematics (program B) at the University of Iowa.
- b Sustainability must be completed by choosing a course that has been approved for Sustainability AND for one of these General Education areas: Natural Sciences; Quantitative or Formal Reasoning; Social Sciences; Historical Perspectives; International and Global Issues; Literary, Visual, and Performing Arts; or Values and Society.
- c Enrollment in math courses requires completion of a placement exam.
- d Students who have completed four levels of a single language or two levels of two different languages in high school or college have satisfied the GE CLAS Core World Languages requirement. Students who have completed three levels of a single language may complete a fourth-level course in the same language or may choose an approved World Language and Cultural Exploration course. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course. Contact your academic advisor or CLAS Undergraduate Programs Office with questions concerning the World Languages requirement.
- e Complete the College of Education 10-hour pre-admission school field experience verification form available on the Teacher Education Program web page.
- f Please see the College of Education website for detailed application instructions and deadlines. Admission is selective and a priority deadline exists.
- g GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.
- h Please see Academic Calendar, on Office of the Registrar website, for current degree application deadlines. Students should apply for a degree for the session in which all

requirements will be met. For any questions on appropriate timing, contact your academic advisor or Degree Services.