

UNIVERSITY OF IOWA
COLLEGE OF EDUCATION
MATHEMATICS TEACHER LICENSURE PROGRAM
ENDORSEMENT NUMBER 143, MATHEMATICS 7-12
(Optional Additional Endorsement: NUMBER 142, MATHEMATICS K-6)

ADMISSION PROCEDURES

Application forms for admission to the teacher education program may be obtained from the Office of Teacher Education and Student Services, N310 LC. The deadlines for application to the secondary teacher education program are March 15 and October 15. A limited number of applicants are accepted into the mathematics teacher education program, so meeting the minimum requirements listed below does not ensure admission. Other criteria relevant to teaching success are also considered.

MINIMUM ADMISSION REQUIREMENTS

1. A University of Iowa g.p.a. and cumulative g.p.a. of 2.70 at the time of admission to this program.
2. Successful completion of at least 33 semester hours of college credit.
3. Successful completion of Calculus I and II with a g.p.a. of 2.5.
4. Successful completion of a 10-hour volunteer practicum in a K-12 classroom setting.
5. Successful completion of PRAXIS I exam.

PROGRAM REQUIREMENTS

1. Successful completion of all professional education requirements for teaching mathematics in grade 7-12.
2. Successful completion by undergraduates of a major in mathematics as defined by the College of Liberal Arts and Sciences' Department of Mathematics. Course work for all endorsees must include a minimum of 39-40 semester hours in mathematics course work in the teaching area as described.
3. Maintenance of a University of Iowa g.p.a. and cumulative g.p.a. of 2.70 on all course work.
4. Must have a cumulative g.p.a. of 2.70 on all course work, on all course work in education and mathematics education, and on all course work in mathematics at the time of registration for student teaching **and** at the time of recommendation for licensure.
5. Approval by the designated College of Education advisor of all transfer credit or substitutions of courses for requirements listed. Separate approval by the designated College of Liberal Arts and Sciences officer may be needed if courses also are used to meet degree requirements.
6. At the time of application for student teaching, a completed copy of this program guide signed by the College of Education advisor should be attached to the licensure application.
7. Student must complete a minimum of 20 semester hours at this institution for The University of Iowa to recommend for licensure.

THE FOLLOWING MATHEMATICS COURSES ARE REQUIRED:

		<u>Hours</u>	<u>Substitute Course & Hours</u>
Each of the following courses is required:			
22M:25	Calculus I	4 s.h.	_____
22M:26	Calculus II	4 s.h.	_____
22M:27	Introduction to Linear Algebra	4 s.h.	_____
22M:28	Calculus III	4 s.h.	_____
22M:50	Introduction to Abstract Algebra	3 s.h.	_____
22M:55	Fundamental Properties of Spaces and Functions I	3 s.h.	_____
22C:016	Computer Science I: Fundamentals	4 s.h.	_____
22S:120	Probability and Statistics	4 s.h.	_____

One of the following courses is required:

22M:70	Foundations of Geometry	3 s.h.	_____
OR			
22M:106	Transformation Geometry (not available effective Fall 2007)	3 s.h.	_____

One of the following courses is required:

22M:150	Introduction to Discrete Mathematics	3 s.h.	_____
OR			
22M:151	Discrete Mathematical Models	3 s.h.	_____

At least one post-calculus elective is required:

B.A. requirements include one additional course beyond calculus.

B.S. requirements include three additional courses beyond calculus, of which two must be numbered 22M:106 or above.

22M:106 Transformation Geometry may count here if 22M:70 Foundations of Geometry is also taken (see required courses).

22M:151 Discrete Mathematical Models may count here if 22M:150 Introduction to Discrete Mathematics is also taken (see required courses).

Indicate the courses chosen and semester completed from the following:

22M:72	Elementary Numerical Analysis	3 s.h.	_____
22M:100	Introduction to Ordinary Differential Equations	2-3 s.h.	_____
22M:105	Basic Analysis	3 s.h.	_____
22M:107	History of Mathematics	3 s.h.	_____
22M:108	Philosophy of Mathematics	3 s.h.	_____
22M:109	Classical Analysis	3 s.h.	_____
22M:115	Introduction to Analysis I	3 s.h.	_____
22M:116	Introduction to Analysis II	3 s.h.	_____
22M:118	Complex Variables	3 s.h.	_____
22M:120	Abstract Algebra I	3 s.h.	_____
22M:121	Abstract Algebra II	3 s.h.	_____
22M:123	Foundations of Set Theory	3 s.h.	_____
22M:124	Foundations of Logic	3 s.h.	_____
22M:126	Elementary Theory of Numbers	2-3 s.h.	_____
22M:127	Matrix Theory	3 s.h.	_____
22M:130	Elementary Topology	3 s.h.	_____
22M:132	General Topology	3 s.h.	_____
22M:133	Introduction to Smooth Manifolds	3 s.h.	_____
22M:140	Continuous Mathematical Models	3 s.h.	_____
22M:142	Nonlinear Dynamics with Numerical Methods	3 s.h.	_____
22M:144	Partial Differential Equations with Numerical Methods	3 s.h.	_____
22M:145	Introduction to Partial Differential Equations II	3 s.h.	_____
22M:152	Theory of Graphs	3 s.h.	_____
22M:160	Introduction to Differential Geometry I	3 s.h.	_____
22M:161	Introduction to Differential Geometry II	3 s.h.	_____
22M:170	Numerical Analysis: Nonlinear Equations and Approximation Theory	3 s.h.	_____
22M:171	Numerical Analysis: Differential Equations and Linear Algebra	3 s.h.	_____
22M:174	Optimization Techniques	3 s.h.	_____
22M:176	Finite Element Method	3 s.h.	_____
22M:178	High Performance and Parallel Computing	3 s.h.	_____

ALL OF THE FOLLOWING PROFESSIONAL EDUCATION COURSES ARE REQUIRED:

Core courses for all educators:

7P:075 Educational Psychology and Measurement	3 s.h.	_____
7B:180 Human Relations for the Classroom Teacher (This course may only be waived in N310 LC)	3 s.h.	_____
*7S:190 Orientation to Secondary Education (Required for students admitted March 2002 or later)	1 s.h.	_____
*7S:195 Teaching Reading in Secondary Content Areas (Required for students admitted March 2003 or later)	1 s.h.	_____
*7E/S:102 Technology in the Classroom (7W:111) (Must be taken during first semester in the College of Education)	2 s.h.	_____
7S:100 Foundations of Education	3 s.h.	_____
7S:171 Secondary Classroom Management (Required for students admitted March 2008 or later)	2 s.h.	_____
7U:100 Foundations of Special Education	3 s.h.	_____

*Must be taken during the first semester in the College of Education.

Methods courses and practica:

7S:095 Introduction & Practicum: Mathematics Must be completed prior to 7S:134 and 7S:135	3 s.h.	_____
7S:134 Methods: Middle School Mathematics Prerequisite: 7S:095. This course must be taken prior to or concurrently with 7S:135	3 s.h.	_____
7S:135 Methods: High School Mathematics Prerequisite: 7S:095	3 s.h.	_____

Student Teaching (final semester):

7S:187 Seminar: Curriculum and Student Teaching	1 s.h.	_____
7S:191/7S:192 Observation and Laboratory Practice in the Secondary School	12 s.h.	_____

(Optional Addition of Endorsement Number 142, Mathematics K-6)

Note: Endorsement 142 is for teaching K-6 mathematics only and does not prepare candidates for general elementary teaching.

7E:163 Teaching Elementary School Mathematics	3 s.h.	_____
7S:189 Elementary School Special Subject Area Student Teaching	6 s.h.	_____

NOTE: 7S:189 would replace 7S:192, thus allowing for completion of both elementary and secondary student teaching during the same semester.

PLAN OF STUDY APPROVED: Date: _____ Advisor signature: _____

Student signature: _____

Student ID: _____