**Proposed Online Degree**

This proposal is to provide the details for moving the Master of Arts in Mathematics with Mathematics Secondary Education option completely online. Moving forward, our graduate Mathematics program will focus on online students pursing the Mathematics Secondary Education option and no longer will deliver the study options in the Master of Arts in Mathematics, or the Elementary/Middle Level Education option. In doing this we are eliminating the following options-

- MA in Mathematics
- Mathematics Elementary/Middle Level
  Education Option

and request that information and details on these programs be removed from the catalog.

Currently, the Mathematics Secondary Education option has two pathways- a Dual Credit pathway and a General Education pathway. In moving completely online, we are eliminating the General Education pathway. In a review of student needs and other mathematics education online graduate programs, we found that the need for mathematics content courses and the desire to teach dual credit is great. To be able to teach dual credit mathematics courses, a teacher needs a masters degree in the field or related field as well as 18 hours of content in the subject area. While it is our strong belief our degree has always prepared candidates to dual credit teach, most interpret this requirement as what we call pure content in the area. Our program offers a unique experience for students and gain students looking for dual credit eligibility while also improving their knowledge of effective mathematics pedagogy and curriculum.

In order to make the program work effectively and efficiently we will eliminate the content based independent study project and return to requiring 4-credits for the action research independent study project. This is what the degree used to require before we implemented a 2-credit content based independent study project. We found that content project as not as meaningful and the work required for the action research project was not reduced, thus creating an imbalance of work required for the credit hours earned. Another change we are making is that many content courses we offer vary in credit hours (from 3 or 4 credits) and so we will establish a course rotation that allows for at least two 3-credit content courses and at least three 4-credit content courses to ensure a minimum of 18 hours mathematics content in 2.5 years, which is the minimum time required to complete the degree.

**Current Catalog Program Listing**

**Mathematics (Secondary Mathematics Education Option)**

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**Program Mission for the Master of Arts in Mathematics with
Secondary Mathematics Education Option**: The Option in
Secondary Mathematics Education, a predominantly summer program, strengthens the professional preparation of junior and senior high school teachers. Special courses required by the option allow students to share their experiences and to revitalize their teaching methods.

**Admission Requirements**: To be eligible for degree candidacy, applicants must meet all the requirements for admission to the Graduate School (see "Admission to Graduate Degree and Certificate Programs"). In addition, applicants must submit evidence of successful completion of accredited teacher education programs from Eastern Illinois University or other equally accredited institutions. Applicants must also possess a valid teaching certificate. Two years teaching experience is highly recommended. Note: This is not a certificate granting program.

**Degree Audit**: The graduate plan of study is the EIU Degree Audit, which is generated automatically at the time of degree or certificate candidacy. Modifications of the standard EIU Degree Audit are submitted by the graduate coordinator to the certification officer in the Graduate School at the time modifications are approved. The Degree Audit serves as an unofficial summary of requirements for the program. Degree and certificate candidates are advised to review the comprehensive summary of the Degree Audit process specified on the "Requirements for All Degree and Certificate Candidates" section of the Graduate Catalog. Individual programs may require candidates to submit plans of study in addition to the Degree Audit, candidates should consult with the program coordinator.

**Degree Requirements**

Candidates for the Master of Arts in Mathematics with Secondary Education Option must complete a minimum of 32 semester hours regardless of program focus. Additionally, candidates must complete an action research project and a classroom-based teaching project.

Candidates will choose from two options for the final 9 semester hours of the degree program; the Dual Credit Pathway Option or the Education Pathway Option.

**Core Classes**

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**Total Credits: 14**
- MAT 5409 - Teachers as Researchers in Mathematics Education Credits: 1
- MAT 5410 - Action Research in Mathematics Education. Credits: 3
- MAT 5300 - Curriculum and Assessment in Mathematics Education Credits: 3
- MAT 5700 - Topics in Teaching Mathematics. Credits: 2 to 4
- Taken for 3 credits
- MAT 59901 - Independent Study I Credits: 1 to 6
- Taken for 2 credits
- MAT 59902 - Independent Study II Credits: 1 to 6
- Taken for 2 credits

**No more than 9 Semester Hours Chosen From:**

- MAT 4750 - Linear Programming. Credits: 3
- MAT 4830 - Introduction to Complex Analysis with Applications. Credits: 3
- MAT 4850 - Operations Research. Credits: 3
- MAT 4855 - Introduction to Topology. Credits: 3
- MAT 4910 - Number Theory. Credits: 3

**Dual Credit Pathway Option**

9 semester hours selected from:
- MAT 5035 - Topics in Computer Science. Credits: 4
- MAT 5100 - Abstract Algebra. Credits: 4
- MAT 5151 - Probability. Credits: 4
- MAT 5152 - Statistics. Credits: 4
- MAT 5200 - Higher Geometry. Credits: 4
- MAT 5210 - An Introduction to Differential Geometry. Credits: 4
- MAT 5220 - Topology. Credits: 4
- MAT 5301 - Real Variables. Credits: 4
- MAT 5330 - Complex Variables. Credits: 4
- MAT 53351 - Topics in Mathematics I Credits: 2 to 4
- MAT 53352 - Topics in Mathematics II Credits: 2 to 4
- MAT 53353 - Topics in Mathematics III Credits: 2 to 4

**Education Pathway Option**

Graduate Education Courses. Credits: up to 6
No more than 6 hours chosen from a current list of courses obtained from the department of education.

**At least 3 semester hours selected from:**

- MAT 5035 - Topics in Computer Science. Credits: 4
- MAT 5100 - Abstract Algebra. Credits: 4
- MAT 5151 - Probability. Credits: 4
- MAT 5152 - Statistics. Credits: 4
- MAT 5200 - Higher Geometry. Credits: 4
- MAT 5210 - An Introduction to Differential Geometry. Credits: 4
- MAT 5220 - Topology. Credits: 4
- MAT 5301 - Real Variables. Credits: 4
- MAT 5330 - Complex Variables. Credits: 4
- MAT 53351 - Topics in Mathematics I Credits: 2 to 4
- MAT 53352 - Topics in Mathematics II Credits: 2 to 4
- MAT 53353 - Topics in Mathematics III Credits: 2 to 4

Proposed Catalog Program Listing

# Master of Arts in Mathematics Secondary Education Option

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**Program Mission:** The Mathematics Secondary Education Online Option offers an online curriculum strengthening the professional preparation of secondary teachers, creating reflective practitioners, and providing mathematics content enabling the teaching of dual credit courses. Special courses required allow shared experiences among students to revitalize their teaching methods. Degree does not lead to teacher licensure.

**Admission Requirements:** To be eligible for degree candidacy, applicants must meet all of the requirements for admission to the Graduate School (see "Admission to Graduate Degree and Certificate Programs"). Additional requirements include completing the program application in MyEIU, providing evidence of successful completion of an accredited teacher licensure program in mathematics or a related field. Two years teaching experience is highly recommended.

**Degree Audit**: The graduate plan of study is the EIU Degree Audit, which is generated automatically at the time of degree or certificate candidacy. Modifications of the standard EIU Degree Audit are submitted by the graduate coordinator to the certification officer in the Graduate School at the time modifications are approved. The Degree Audit serves as an unofficial summary of requirements for the program. Degree and certificate candidates are advised to review the comprehensive summary of the Degree Audit process specified on the "Requirements for All Degree and Certificate Candidates" section of the Graduate Catalog. Individual programs may require candidates to submit plans of study in addition to the Degree Audit, candidates should consult with the program coordinator.

**Degree Requirements**: Candidates must complete 32 semester hours, which includes an action research project.

## Required Courses

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Total Credits: 14

Students may take no more than nine credit hours of courses numbered 4750-4999.

- MAT 5409 - Teachers as Researchers in Mathematics Education Credits: 1
- MAT 5410 - Action Research in Mathematics Education. Credits: 3
- MAT 5300 - Curriculum and Assessment in Mathematics Education Credits: 3
- MAT 5700 - Topics in Teaching Mathematics. Credits: 2 to 4
  Taken for 3 credits
- MAT 59901 - Independent Study I Credits: 1 to 6
  Taken for 4 credits

## Mathematics Courses

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Total Credits: 18

Selected from the following:

- MAT 4830 - Introduction to Complex Analysis with Applications. Credits: 3
- MAT 4855 - Introduction to Topology. Credits: 3
- MAT 4910 - Number Theory. Credits: 3
  MAT 5010 Credits / Units: 4
- MAT 5100 - Abstract Algebra. Credits: 4

MAT 5150 Credits / Units: 4

MAT 5020 Credits / Units: 4

- MAT 5152 - Statistics. Credits: 4
- MAT 5200 - Higher Geometry. Credits: 4

  MAT 5230 Credits / Units: 3
- MAT 53351 - Topics in Mathematics I Credits: 2 to 4

  Taken for 3 credits

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**Date approved by the department or school: 12/6/21**
**Date approved by the college curriculum committee: 1/20/22**
**Date approved by the Honors Council (if this is an honors course):**
**Date approved by CAA:                    CGS:**