CGS Agenda Item: 21-40
Effective Spring 2022

Department of Mathematics and Computer Science
Graduate Certificate in Dual Credit Mathematics Content for Teaching

Part I: Catalog:

Name of Department or School: Department of Mathematics and Computer Science

Title of the Certificate Program: Graduate Certificate in Dual Credit Mathematics Content for Teaching

Certificate Program Mission:
To provide licensed secondary teachers of mathematics with 18 hours of graduate level mathematics content that, when paired with a masters degree, will allow them to teach dual credit mathematics courses in Illinois.

Certificate Admission Requirements:
To be eligible for admission to the certificate program, applicants must meet all of the requirements for admission to the Graduate School (see "admission to Graduate Degree and Certificate Programs"). All applicants must also submit evidence of successful completion of accredited teacher education programs from Eastern Illinois University or other equally accredited institutions and possess a valid teaching certificate. Two years teaching experience is highly recommended.

Degree Audit:
The graduate plan of study is the EIU Degree Audit, which is generated automatically in DegreeWorks 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.

Certificate Course/Curriculum Requirements:
Certificate Course Requirements
Total Semester Hours: 18

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

At least 9 semester Hours chosen from

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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 5230 – Algebra of Knots and Tangles
- 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

Courses Applicable toward a Specific Concurrent or Future Degree Program:
Courses taken towards completion of the Graduate Certificate in Dual Credit Mathematics Content for Teaching may be counted toward the MA in Mathematics- Secondary Mathematics Education option. Acceptance into the certificate program also admits a student into the MA in Mathematics- Secondary Mathematics Education option program.

Courses Applicable toward Concurrent of Future Additional Certificate Programs:
Each separate certificate program must include 9 semester
hours of new coursework that cannot be shared with a concurrent or future certificate program. With department approval, up to 9 semester hours of coursework may be shared with a concurrent or future certificate program. Certificate candidates should check with program coordinators for department specific policies.

Part II Rationale:

Program Rationale and Justification:
The Department of Mathematics and Computer Science currently offers a graduate program in mathematics with a secondary mathematics education option. As part of this option, students often want/need to take 18 hours of graduate level mathematics content. The State of Illinois requires 18 hours of content in the discipline along with completion of a Masters degree. This certificate would allow both graduate students and those who already have a Masters degree but need the content courses to know that they have completed what is needed to be able to teach dual credit courses in Illinois.

Requested Effective Date is Spring 2022.

Impact on Existing Programs:
No new faculty or new program requirements will be needed as we are formalizing part of an existing program. Additionally, several of these courses are already offered online.

Existing Courses that Apply to the Certificate:

- 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
- 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

New Courses that Apply to the Certificate:
As new courses are created, the list of courses that apply will be modified.

Number of Students Expected to Enroll Each Year:
4-6

Department Contact:
Current graduate coordinator, currently Dr. Peter Wiles

Part III Approvals
Department/School Curriculum Committee: 8/27/21
College Curriculum Committee: 9/8/21
Council on Graduate Studies: