

University of Wisconsin-Whitewater
Curriculum Proposal Form #2
Change in Degree, Major, or Submajor

Effective Term: 2141 (Spring 2014)

Type of Action: Change in Submajor

Degree: BS

Program Title: Mathematics, Secondary Education Emphasis

GPA Requirement for the Major/Submajor: 2.5

Sponsor(s): Tamas Szabo

Department(s): Mathematical and Computer Sciences

College(s): Letters and Sciences

Consultation took place: NA Yes (list departments and attach consultation sheet)

Departments: Curriculum and Instruction

Proposal Information:

[Procedures for Form #2](#)

Total number of credit units in program:

Before change 39

After change 39

1. Exact description of request:

Two new courses are added to the program that are specifically designed for future secondary mathematics teachers. These new courses (Math 421, Math 422) will connect the different university mathematics courses to each other and to the high school mathematics curriculum at the end of the training of prospective high school teachers. The new courses will replace two other courses of the old program whose content can be incorporated into other required courses, to keep the number of credits unchanged. Specifically, Math 452 will cover rings, fields and integral domains as well as groups, and thus Math 453 will not be required any longer, and Math 359 will include a unit on probability and thus Math 441 is not required any

longer.

From (as listed in catalog and on AR)

MAJORS/EMPHASES

Students may elect one of five emphases in the mathematics major. Emphases consist of the CORE* courses and an additional 4 to 5 required courses in their emphasis. (*The one exception is the APPLIED MATHEMATICS EMPHASIS for which the CORE course MATH 452 is not required.) In addition, each major must complete a writing requirement (ENGLISH 370 or ENGLISH 372), a computer science requirement (courses are listed below for all emphases except the SECONDARY EDUCATION EMPHASIS which does not have a computer science requirement), and the milestones (Major Field Test and Math Exit Interview). An approved minor is also required with each emphasis.

For more information on the different emphases including 4-year plans and Math Major FAQ, please visit the department's website: <http://math.uww.edu>.

CORE COURSES in the MATHEMATICS MAJORS -25 UNITS

MATH 253, MATH 254, MATH 255, MATH 280, MATH 301, MATH 355, MATH 452*

MATHEMATICS FOR SECONDARY EDUCATION (BSE)

This emphasis is suited to students interested in a career as a mathematics educator at the secondary school level.

LICENSURE - 38 UNITS

1. SPECED 205
2. FOUNDATIONS BLOCK: EDFOUND 243 OR EDFOUND 212, AND EDFNDPRC 210
3. EDFOUND 245
4. METHODS BLOCK
 - A. SECNDED 428 AND SECNDED 466
 - B. SELECT 3 UNITS FROM CIFLD 492
5. STUDENT TEACHING

SELECT 2 UNITS FROM CIFLD 402 AND 12 UNITS FROM CIFLD 414 OR SELECT 2 UNITS FROM CIFLD 404 AND 12 UNITS FROM CIFLD 412

MAJOR - 39 UNITS

1. Completion of the core.
2. MATH 353, MATH 359, MATH 441, MATH 453

WRITING REQUIREMENT - 3 UNITS

1. ENGLISH 370 OR ENGLISH 372

To (to be listed in catalog and on AR)

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MAJOR - 39 UNITS

1. Completion of the core.
2. MATH 353, MATH 359, ~~MATH 441~~, ~~MATH 453~~, **MATH 421***, **MATH 422***

WRITING REQUIREMENT - 3 UNITS

1. ENGLISH 370 OR ENGLISH 372
2. **Relationship to mission and strategic plan of institution, and/or college and department goals and objectives:**

The proposed change will serve the university's missions of : "*Commitment to the pursuit of knowledge and understanding*" and "*Development of the individual*". The Department of Mathematical and Computer Sciences (in consultation with the Department of Curriculum and Instruction) agreed that changing the training of future teachers is necessary to foster the education of professionals who can deeply understand and view the high school mathematics curriculum as an integrated unit with all its connections, beauty and challenges.

3. **Rationale:**

One reason to recommend the change of the program came from assessment data, students in their exit interviews repeatedly expressed their desire to have courses more relevant to their future career. The 2012 CBMS report on the Mathematical Education of Teachers have specifically recommended three capstone content courses designed for secondary teachers (9 semester hours), but we have been unable to find room in the program without increasing the total credit hours, thus have compromised for only two courses. The new courses will enable students to develop a deep, detailed, and integrated understanding of pre-college level mathematics from an advanced perspective.

4. **Cost Implications:**

Over a two year period we currently offer 4 sections of Math 452, and 2 sections of Math 441 and Math 453 for a total of 24 credit hours. In the new program, depending on future enrollment, during the same two year period we plan to offer 2 sections of Math 421, Math 422, Math 452 and 1 section of Math 441 and Math 453 for the same 24 credit hours, so there is no extra burden on the department to hire new faculty. There are no capital equipment or supplies needed either.