May 8, 2018

To:    Dean Van Galen, Chancellor
       116 North Hall
       University of Wisconsin – River Falls

From:  Mialisa Moline, Chair
       Faculty Senate
       University of Wisconsin – River Falls

Re:    UWRF Faculty Senate Motion 2017-18/132

The following motion was approved with 21 in favor, 0 opposed, and 0 abstentions by the Faculty Senate on May 2, 2018:

Motion from the Academic Program and Policy Committee (Tammy Kincaid, Chair) to approve the attached program change proposal for the MSE—Mathematics Secondary Education program.

☑ Approved

☐ Disapproved

[Signature]
Dean Van Galen, Chancellor

5/10/18
Date
UWRF - Program Change Transmittal Form

Instructions: In a separate document a) include a rationale for the requested changes or new program, b) clarify which courses have not been approved, c) include a listing of course array for the current as well as the proposed program, d) include minutes from the department meeting where the requested changes were approved. On the addendum to this form a) include signatures from all department chairs and deans whose programs will be affected by the proposal, b) secure all signatures prior to review by all other shared governance levels.

Graduate Program Change

Preparer(s)      College      Department      Date
Erick Hofacker   CAS          Mathematics     Dec 06, 2017

Program Title      Implementation Term      Nature of Proposal
MSE - Mathematics Secondary Education  Summer 2018    An existing program

Have all courses been approved?  Yes

Requested changes (select all that apply):
- [ ] Name change  [x] Credits change  [x] Curriculum change
- [ ] Change in major  [ ] Change in minor  [x] Change in option/emphasis  [ ] Other

Reviewed and approved by

Department      Approval date      Signature of Chair/Dean
Mathematics      1/5/2018       
College Curriculum Committee      CAS
1/31/2018       
Dean of      CAS
1/31/2018       
Grad Studies Curriculum Committee
3/8/2018       
Director Graduate Studies
4/5/2018       
University Curriculum Committee
4/5/2018       
Academic Policy & Programs Committee
Faculty Senate
Provost/Vice Chancellor
Chancellor

Revised: Fall 2015

Notice of action
Signatures of Additional Departments and Colleges Affected

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MSE – Mathematics Secondary Education Program Changes

Rationale for Requested Changes

Our department would like to restructure our program to provide our graduate students an additional pathway (option) to complete their degree. This is based on feedback we have received from current and former graduate students. We believe by giving them this option, it will better serve the needs of these classroom teachers and they will be able to better complete their degree in a timely manner.

All courses listed under each option have been approved.

Current Course Array for Program

Research Option (30 credits)

- Complete the following 30 credits
  MATH 711 Geometry for Educators, 4 credits
  MATH 726 Statistics for Educators, 4 credits
  MATH 736 Discrete Math for Educators, 4 credits
  MATH 751 Linear and Abstract Algebra for Educators, 4 credits
  MATH 756 Probability for Educators, 4 credits
  MATH 766 Calculus for Educators, 4 credits
  MATH 705 Integrating Emerging Technologies in the Teaching and Learning of Mathematics, 3 credits
  TED 760 - Methods in Research, 3 credits

- Complete Plan B Research Paper.

- Complete Final Oral Exam with graduate committee.
Proposed Course Array for Program

Research Option (31 credits)

- Complete the following 24 credits
  MATH 711 Geometry for Educators, 4 credits
  MATH 726 Statistics for Educators, 4 credits
  MATH 736 Discrete Math for Educators, 4 credits
  MATH 751 Linear and Abstract Algebra for Educators, 4 credits
  MATH 756 Probability for Educators, 4 credits
  MATH 766 Calculus for Educators, 4 credits
- Complete the following 3 credits
  MATH 705 Integrating Emerging Technologies in the Teaching and Learning of Mathematics, 3 credits
- Complete the following 4 credits.
  TED 760 - Methods in Research, 3 credits
  MATH 798 Independent Research, 1 credit

- Complete Research Paper.

- Complete Final Oral Exam with graduate committee.

Capstone Option (34 credits)

- Complete the following 24 credits
  MATH 711 Geometry for Educators, 4 credits
  MATH 726 Statistics for Educators, 4 credits
  MATH 736 Discrete Math for Educators, 4 credits
  MATH 751 Linear and Abstract Algebra for Educators, 4 credits
  MATH 756 Probability for Educators, 4 credits
  MATH 766 Calculus for Educators, 4 credits
- Complete the following 3 credits
  MATH 705 Integrating Emerging Technologies in the Teaching and Learning of Mathematics, 3 credits
- Complete 7 credits from the following.
  MATH 689 Special Topics in Mathematics, up to 6 credits
  MATH 789 Special Topics in Mathematics, up to 6 credits
  MATH 798 Independent Research, up to 4 credits
  TED 750 Advanced Educational Psychology, 3 credits
  TED 755 Social Issues in Education, 3 credits
  TED 760 Methods in Research, 3 credits

- Complete Final Oral Exam with graduate committee.
Current Course Catalog

Mathematics, MSE

Overview of Program

Degree Requirements for Master of Science in Education in Mathematics

Students are required to take 24 credits (six courses) in core mathematics (content coursework), a course on integrating emerging technology in the middle and high school classroom, and write an independent curriculum research paper (thesis). The research paper is supported by a required course in research technology.

Area of Specialization - Mathematics, 24 graduate credits

The Mathematics courses are offered in two, consecutive four-week sessions during the summer. Classes are repeated every three years.

MATH 711 Geometry for Educators, 4 credits
MATH 726 Statistics for Educators, 4 credits
MATH 736 Discrete Math for Educators, 4 credits
MATH 751 Modern Algebra for Educators, 4 credits
MATH 756 Probability for Educators, 4 credits
MATH 766 Calculus for Educators, 4 credits

Emerging Technology Course

MATH 705 Integrating Emerging Technologies in the Teaching and Learning of Mathematics, 3 credits

Independent Curriculum Research

TED 760 Methods in Research, 3 credits
Proposed Course Catalog

Mathematics Secondary Education, MSE

Overview of Program

Degree Requirements for Master of Science in Education in Mathematics

Secondary Education

There are two different options that students can complete in order to satisfy the requirements of the degree. They can either complete a Research option (31 credits) or a Capstone option (34 credits). Both options require 24 credits in mathematics content work for educators, as well as 3 credits related to emerging technology in the teaching and learning of mathematics.

Research Option (31 credits)

Area of Specialization – Mathematics Secondary Education Content Domains (24 credits)

Two mathematics content courses for educators are offered each summer. They are repeated every three years.

MATH 711 Geometry for Educators, 4 credits
MATH 726 Statistics for Educators, 4 credits
MATH 736 Discrete Math for Educators, 4 credits
MATH 751 Linear and Abstract Algebra for Educators, 4 credits
MATH 756 Probability for Educators, 4 credits
MATH 766 Calculus for Educators, 4 credits

Area of Specialization – Mathematics Secondary Education Technology (3 credits)

This course is offered in the spring every two to three years.

MATH 705 Integrating Emerging Technologies in the Teaching and Learning of Mathematics, 3 credits

Area of Specialization – Mathematics Secondary Education Research (4 credits)
These courses are recommended to be taken at the same time, in order to assist in writing the Research Paper.

TED 760 - Methods in Research, 3 credits
MATH 798 Independent Research, 1 credit

Complete Research Paper.

Complete Final Oral Exam with graduate committee.

Capstone Option (34 credits)

Area of Specialization – Mathematics Secondary Education Content Domains (24 credits)

Two mathematics content courses for educators are offered each summer. They are repeated every three years.

MATH 711 Geometry for Educators, 4 credits
MATH 726 Statistics for Educators, 4 credits
MATH 736 Discrete Math for Educators, 4 credits
MATH 751 Linear and Abstract Algebra for Educators, 4 credits
MATH 756 Probability for Educators, 4 credits
MATH 766 Calculus for Educators, 4 credits

Area of Specialization – Mathematics Secondary Education Technology (3 credits)

This course is offered in the spring every two to three years.

MATH 705 Integrating Emerging Technologies in the Teaching and Learning of Mathematics, 3 credits

Area of Specialization – Mathematics Secondary Education Capstone Electives (7 credits)

Two to three courses should be selected from the following in order to support further work into mathematical knowledge for teaching.

MATH 689 Special Topics in Mathematics, up to 6 credits
MATH 789 Special Topics in Mathematics, up to 6 credits
MATH 798 Independent Research, up to 4 credits
TED 750 Advanced Educational Psychology, 3 credits
TED 755 Social Issues in Education, 3 credits
TED 760 Methods in Research, 3 credits

Complete Final Oral Exam with graduate committee.
Math Department Meeting Minutes
Thursday, December 7, 2017

Present: K Chavey, A Chatterjee, R Coffman, I Ghenciu, E Hofacker, L Langford, K Nabb, K Tomlinson
Absent: A Tupan

Meeting called to order at 3:30.

1) Motion to approve minutes from 11/30/17 meeting (Langford, Chatterjee). Passes.

2) Chairs Report
   • Andrea will be absent for 4-6 weeks starting on Monday, December 11. Please get your finals week schedule to her by Friday, December 8.
   • Kathy asks people to let her know if they have interest in teaching a summer course by the end of next week.

3) Proposed Program Changes for the MSE Program.
   • Change to the Research Option. Addition of one credit of MATH 798: Independent Research.
   • Add Capstone Option. Rather than a Plan B Research Paper, students complete courses that support further work in mathematics pedagogy or mathematics pedagogical content knowledge.

Erick described the proposed changes. There was discussion about whether to retain the term “Plan B” that used to refer to a classroom-type research paper rather than a “Plan A” thesis paper. It was decided to strike the term “Plan B.” Erick explained that decisions about which option to use and the content of the final oral exams would be handled through advising. Discussion about the frequency of offering of TED 760. Discussion about the need to allow for flexibility in the Capstone Option. Kathy asked what the distinction is between “mathematics pedagogy” and “mathematics pedagogical content knowledge.” Keith Nabb suggested that the term “mathematical knowledge for teaching” might capture both ideas and the description of the capstone electives was changed to reflect this.

Motion to approve the program changes to the MSE Program, adding 1 credit to the Research Option and adding a Capstone Option, with amendments concerning the use of “Plan B” terminology and substituting the phrase “mathematical knowledge for teaching.” (Coffman, Chatterjee). Discussion about the number of credits for MATH 689, 789 and 798 in the Capstone Option. Agreement to list the number of credits for MATH 689 and 789 as “up to 6 credits,” and for MATH 798 as “up to 4 credits.” Passes. (8,0,0)

Meeting adjourned at 4:30