FAIRMONT STATE UNIVERSITY™

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MEMORANDUM

TO: Faculty Senate

FROM: Susan Ross

DATE: 11/2/2021

SUBJECT: Curriculum Proposal # 21-22-01

I recommend the approval of the attached Curriculum Proposal 21-22-01. The proposal seeks to delete the two courses listed below from the required Mathematics (Grades 5-9) Teaching Endorsement in response to new mathematic education standards.

- MATH 2501 - Calculus I (4 credit hours)
- MATH 2554 - Topics in Mathematics History (2 credit hours)

cc: Dianna Phillips
            Lori Schoonmaker
            Stephanie Gabor
            Laura Ransom
            Steve Roof

CURRICULUM PROPOSAL (Submit one electronic copy to the Executive Director of Academic Programs by the second Tuesday of the month.)

Proposal Number:	#21-22-01
School/Department/Program:	Science & Technology/Computer Science & Mathematics/Mathematics
Preparer/Contact Person:	Stephanie Jones
Title of Degree Program	Mathematics (Grades 5-9) Teaching Endorsement
Telephone Extension:	4307
Date Originally Submitted:	
Revision (Indicate date and label it Revision #1, #2, etc.):	R1
Implementation Date Requested:	Fall 2022

I. **PROPOSAL ABSTRACT**. Write a brief abstract, not exceeding 100 words, which describes the proposed changes.

These proposed changes are in response to new mathematics education accreditation standards. The new standards do not require prospective middle school mathematics teachers to demonstrate mastery in the topics of calculus or mathematics history. Consequently, the proposed changes include deleting two courses, Calculus I and Topics in Mathematics History, from the required courses for the Mathematics (Grades 5-9) Teaching Endorsement. This will reduce the number of hours required for the endorsement from 30-31 to 24-25 credit hours.

II. **DESCRIPTION OF THE PROPOSAL**. Provide a response for each letter, A-G, and for each Roman Numeral II–V. If any section does not apply to your proposal, reply N/A.

A. Deletion of course(s) or credit(s) from program(s)   Total hours deleted: **6**

B. Addition of course(s) or credit(s) from program(s)   Total hours added: **0**

C. Provision for interchangeable use of course(s) with program(s)
   N/A

D. **Course Description Revision**: Include, as an appendix, a revised course description, written in complete sentences, suitable for use in the university catalog. **N/A**

E. **Course Changes:** Identify changes to existing courses such as changes to title, course number, learning outcomes, and elective or required status. **N/A**

F. **Create a New Course**(s) information (if applicable): For each new course complete the following:

1. **Course Catalog Information: N/A**

a.	Course prefix (subject area) and number:	
b.	Course title:	
c.	Course term(s) (e.g., Fall, Summer only):	
d.	Credit hours/Variable credit:	
e.	Repeatability (number of repeat credit hours):	
f.	**Prerequisite/Corequisites/Restrictions/Cross-listings:** If none, simply indicate with N/A (Not Applicable):	
g.	*Co-requisite* (include subject prefix and course number):	
h.	*Cross-listings* (e.g., PSYC 2230 and SOCY 2230):	
i.	**Grade Type:** Indicate whether students will be assigned a standard A-F final grade or Credit/No Credit (CR/NCF) grade:	
j.	**Required Course or Elective Course:**	
k.	**Course Fees** (Indicate amount):	

2. **New Course Supplemental/Supporting Documentation**: **N/A**

   a. **Course Catalog Description**: Include, as an appendix, a course catalog description written in complete sentences that will be published in the university catalog. The word length for a catalog description should be less than 80 words. Do not include any prerequisites, corequisites or any other restrictions in the description. **N/A**

   b. **Course Learning Outcomes (CLO's):** These should be stated in terms of what new knowledge and/or skills students should be able to demonstrate upon successful completion of the course. Present course learning outcomes as a bulleted list predicated with "Upon successful completion of this course, students should be able to…" **N/A**

   c. **Course Outline:** Attach a course outline consisting of at least two levels. **N/A**

   d. **Assessments:** Describe generally how student's achievement of the course learning outcomes will be assessed. **N/A**

3. **Shared Course**: If this is a shared course, attach a memo from the Deans of the affected Schools explaining the rationale for course being shared. **N/A**

G. Attach an itemized summary of the present program(s) affected, if any, and of the proposed change(s). **See Appendix A.**

Describe how this proposal affects the hours needed to complete this program. Specifically, what is the net gain or loss in hours? Use the format for Current and Proposed Programs in Appendix A.

III. RATIONALE FOR THE PROPOSAL

A. **Quantitative Assessment**: Indicate the types of assessment data, i.e., surveys, interviews, capstone courses, projects, licensure exams, nationally-normed tests, locally developed measurements, accreditation reports, etc., that were collected and analyzed to determine that curricular changes were warranted. Quantitative data is preferred.

The previous Mathematics Content Standards put forward in 2012 by the National Council of Teachers of Mathematics (NCTM) and the Council for the Accreditation of Education Preparation (CAEP) required middle school mathematics teacher candidates to demonstrate mastery of calculus and mathematics history.

(See 2012 Standards B.1.5, B.2.5, B.3.10, B.4.6, B.5.3, and B.5 in https://www.nctm.org/uploadedFiles/Standards_and_Positions/CAEP_Standards/NCTM%20CAEP%20Standards%202012%20Mathematics%20Content%20-%20Middle%20Grades.pdf)

The current version of the NCTM CAEP Mathematics Content Standards for Middle Grades (2020) do not require middle school mathematics teacher candidates to demonstrate mastery of either of those topics.
(See https://www.nctm.org/uploadedFiles/Standards_and_Positions/NCTM%20Standards%202020%20-%20Middle%20Level.pdf)

Furthermore, neither of these topics are assessed on the Praxis test required by the West Virginia Department of Education (WVDE) to become a certified middle grades mathematics teacher. (See pages 7-10 of https://www.ets.org/s/praxis/pdf/5169.pdf.)

B. **Qualitative Assessment**: Based upon the assessment data above, indicate why a curricular change is justified. Indicate the expected results of the change. Be sure to include an estimate of the increased cost, or reduction in cost of implementation. FOR EXAMPLE: Will new faculty, facilities, equipment, or library materials be required?

The Mathematics (5-9) Teaching Endorsement is required to be obtained in addition to another Education endorsement; it is not a major degree program. The majority of students who pursue this endorsement are also working toward a degree in Elementary Education, a program with very few elective hours. To complete the Elementary Education degree *and* the Mathematics (5-9) Teaching Endorsement in four years, students need to enter college with a substantial number of college-level math credits from high school OR take summer courses and excessively large course loads each term. Reducing the number of hours required to complete the endorsement will make the endorsement more accessible to interested students.

IV. APPROVAL

Should this proposal affect any course or program in another school, a memo must be sent to the Dean of each school impacted and a copy of the memo(s) must be included with this proposal. In

addition, the Deans of the affected schools must sign below to indicate their notification of this proposal.

By signing here, you are indicating your college's/school's notification of this proposal.

College/School	Dean	Signature
SciTech	Steven Roof	Steven Roof
College of Education, Health & Human Performance	Amanda Metcalf	Amanda Metcalf

V. Should this proposal affect any course to be added or deleted from the general studies requirements, a memo from the chair of the General Studies Committee indicating approval of the change must be included with this proposal. **N/A**

VI. ADDITIONAL COMMENTS.

Degree Requirements

Core Curriculum Courses		
For students in this major, list the courses satisfy both core curriculum and major requirements.		
Course Prefix & Number	**Course Name**	**Credit Hours**
MATH 1430/1530	College Algebra	3-4

Pre-Major Courses (0 Credit Hours)		
Course Prefix & Number	**Course Name**	**Credit Hours**
N/A		

Required Major Courses (30-31 Credit Hours)		
Course Prefix & Number	**Course Name**	**Credit Hours**
MATH 1430/1530	College Algebra* **omit if Math ACT is greater than or equal to 23*	3-4
MATH 1540	Trigonometry and Elementary Functions	3
MATH 1550	Applied Statistics	3
MATH 1561	Mathematical Reasoning	3
MATH 2501	Calculus I	4
MATH 2551	Structure of the Real Numbers	3
MATH 2552	Data Analysis & Geometry	3
MATH 2554	Topics in Math History	2
MATH 3553	Math Methods for Elementary Teachers	3
MATH 4531	Methods and Materials in Teaching Mathematics	3

Major Elective Courses (0 Credit Hours) – **IF APPLICABLE**		
[Electives are selected from a specific major or program]		
Course Prefix & Number	**Course Name**	**Credit Hours**
N/A		

Total Core Curriculum Hours	*Satisfied in other B.A. in Education degree*
Total Pre-Major	**N/A**
Total Required Major Courses	**30-31**
Total Electives (If applicable)	**N/A**
Total Free Electives	**N/A**
TOTAL CREDIT HOURS	**30-31**

APPENDIX A
Teaching Endorsement in Mathematics Education (Grades 5-9)
must be combined with another B.A. in Education degree program
Proposed Program

Degree Requirements

Core Curriculum Courses		
For students in this major, list the courses satisfy both core curriculum and major requirements.		
Course Prefix & Number	**Course Name**	**Credit Hours**
MATH 1430/1530	College Algebra	3-4

Pre-Major Courses (0 Credit Hours)		
Course Prefix & Number	**Course Name**	**Credit Hours**
N/A		

Required Major Courses (24-25 Credit Hours)		
Course Prefix & Number	**Course Name**	**Credit Hours**
MATH 1430/1530	College Algebra* *omit if Math ACT is greater than or equal to 23*	3-4
MATH 1540	Trigonometry and Elementary Functions	3
MATH 1550	Applied Statistics	3
MATH 1561	Mathematical Reasoning	3
MATH 2551	Structure of the Real Numbers	3
MATH 2552	Data Analysis & Geometry	3
MATH 3553	Math Methods for Elementary Teachers	3
MATH 4531	Methods and Materials in Teaching Mathematics	3

Major Elective Courses (0 Credit Hours) – IF APPLICABLE		
[Electives are selected from a specific major or program]		
Course Prefix & Number	**Course Name**	**Credit Hours**
N/A		

Total Core Curriculum Hours	*Satisfied in other B.A. in Education degree*
Total Pre-Major	**N/A**
Total Required Major Courses	**24-25**
Total Electives (If applicable)	**N/A**
Total Free Electives	**N/A**
TOTAL CREDIT HOURS	**24-25**