## Curriculum Proposal

### MATH 17-18 #29

<table>
<thead>
<tr>
<th>Packet Contents</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.1 Summary</td>
</tr>
</tbody>
</table>

### Program Modification

| 1.2 Mathematics, B.S. major Actuarial Emphasis |

| 1.6 Signatures |
BSU Curriculum Forms

Form 1

Curriculum Modification Summary

College: Arts and Sciences
Department: Mathematics and Computer Science
Proposer: Derek Webb
Proposer’s position: Chair of department
Describe the modification(s) you propose, and how it (/they) will work to students’ advantage. (This description and explanation will be included in Curriculum Report packets forwarded to the Faculty Senate.): Update list of course options under Actuarial Emphasis, “Select One of the Following Courses” to include MATH 2490, Differential Equations. This addition will give students one more course option in fulfilling the requirements of the Actuarial Emphasis which will potentially aid students in completing their degree in a timely manner and MATH 2490 is a useful applied course for students entering the actuarial sciences.

Modifications proposed (specify number of each):

_____Course Modification(s) (form 2)
_____New Course(s) (form 3)
_____Course Drop(s) (form 4)
_1___ Program Modification(s) (form 5)
_____New Program(s) (form 6)
_____Program Drop(s) (form 7)

The modifications affect (check):

_____Liberal Education
__X__ Undergraduate Curriculum
_____Graduate Curriculum
_____Teacher Licensure Program(s)
BSU Curriculum Forms

Form 5

Program Modification Form

Program to be modified: Mathematics, B.S. major Actuarial Emphasis

List all proposed change(s): Update list of course options under Actuarial Emphasis, “Select One of the Following Courses” to include MATH 2490, Differential Equations.

Reason(s) for the change(s): This addition will give students one more course option in fulfilling the requirements of the Actuarial Emphasis which will potentially aid students in completing their degree in a timely manner and MATH 2490 is a useful applied course for students entering the actuarial sciences.

Note: In order to avoid hidden prerequisites, if a course is being dropped from this program (but not from the entire curriculum), please check for which remaining courses may include this dropped course as a prerequisite. Course prerequisites may be found in the online catalog (http://www.bemidjistate.edu/academics/catalog/). Remedies for hidden prerequisites may be found under Curriculum Forms at (http://www.bemidjistate.edu/faculty_staff/faculty_association/forms/).

Note: If a course from another department/program was either added to or dropped from this program, please notify the chair/coordinator of that course's department/program and indicate the following:
The course’s home department/program was notified of the addition or dropping of their course(s) on _________ (date) by ___________________ (mail, email, or phone).

Please check one of the items below:

______ No comments were received from other programs or departments within one week of the notification.

______ Comments were received within one week of the notification, and are attached.

Note: If this is a joint program, the signatures of both department chairs (and both deans, if different colleges) must be provided.

Alert: Attach a copy of the current program showing the marked changes. Please copy the current program from the online catalog (http://www.bemidjistate.edu/academics/catalog/) and paste it into Word. Then use either the Track Changes feature under Tools, or the underline and strikethrough Font feature under Format. (Please note that the Track Changes feature may be easily switched on and off by holding down the Ctrl+Shift+E keys.)
Mathematics, B.S. major

Note: If the student’s high school mathematics courses and/or the Mathematics Placement Test indicate a lack of readiness for calculus, the student will be placed in one of the following precalculus sequences: MATH 1470; or MATH 1170 and MATH 1180; or MATH 1170 and MATH 1470.

Required Credits: 57
Required GPA: 2.25

I REQUIRED CORE COURSES

COMPLETE THE FOLLOWING COURSES:

- MATH 2210 Discrete Mathematics (4 credits)
- MATH 2471 Calculus I (5 credits)
- MATH 2472 Calculus II (5 credits)
- MATH 2480 Multivariable Calculus (4 credits)
- MATH 3310 Linear Algebra (4 credits)

ACTUARIAL EMPHASIS

COMPLETE THE FOLLOWING COURSES:

- ACCT 1101 Principles of Accounting I (3 credits)
- ACCT 1102 Principles of Accounting II (3 credits)
- BUAD 3771 Financial Management (3 credits)
- BUAD 3772 Advanced Financial Management (3 credits)
- CS 2321 Computer Science I (4 credits)
- ECON 2000 Markets and Resource Allocation (3 credits)
- ECON 2100 Macroeconomics and the Business Cycle (3 credits)
- STAT 3610 Time Series Analysis (3 credits)
- STAT 3631 Probability And Statistics I (4 credits)
- STAT 3632 Probability And Statistics II (3 credits)

SELECT ONE OF THE FOLLOWING COURSES:

- MATH 2490 Differential Equations (4 credits)
- MATH 3710 Mathematical Modeling (3 credits)
- MATH 3720 Numerical Methods (3 credits)
- MATH 4760 Topics in Applied Mathematics (3 credits)
Clean Copy

Mathematics, B.S. major

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SUGGESTED SEMESTER SCHEDULE FOR MATHEMATICS MAJOR, B.S.

The following is a list of required Mathematics Major, B.S. courses by year. This schedule is intended to help students plan their courses in an orderly fashion; however, these are only suggestions and this schedule is flexible.

Freshman

- MATH 1470 Precalculus (5 credits)
- MATH 2471 Calculus I (5 credits)
- MATH 2472 Calculus II (5 credits)
- Liberal Education requirements

Sophomore

- MATH 2210 Discrete Mathematics (4 credits)
- MATH 2480 Multivariable Calculus (4 credits)
- MATH 3310 Linear Algebra (4 credits)
- Courses in the Field of Emphasis (consult with advisor)
- Liberal Education requirements

Junior/Senior

- Courses in the Field of Emphasis (consult with advisor)
- Complete Liberal Education requirements
BSU Curriculum Forms

Form 8
Updated: 09.18.15

Signatures

Derek Webb / Chair of Dept. of Mathematics and Computer Science / 27 November 2017
Proposer / Title / Date

Derek Webb / Chair of Dept. of Mathematics and Computer Science / 27 November 2017
Chair or Director / Department or Program / Date
Note: "All departmental recommendations [on curriculum] must be reviewed and approved by the department's faculty."--IFO/MnSCU Master Agreement 2009-2011, 20.A.3 (p. 80).

At this point, packet goes to Records Office/Curriculum Coordinator to be logged in to the Curriculum Proposal Progress Grid.

Colleen Greer / Dean of College of Arts and Sciences / 01.19.2018
Dean / College / Date

Note: If proposal is sent back to the Proposer, please notify the Curriculum Coordinator. If approved, packet goes to Academic Affairs Office.