REQUEST TO COLLEGE CURRICULUM COMMITTEE FOR CURRICULAR IMPROVEMENTS

DEPARTMENT: Mathematics
PROPOSED EFFECTIVE SEMESTER: Fall 2019
COLLEGE:

PROPOSED IMPROVEMENTS

Academic Program

☐ New degree*
☐ New major*
☐ New curriculum*
☐ New concentration*
☐ New certificate
☐ New minor
☐ Revised major
☐ Revised minor
☐ Admission requirements
☐ Graduation requirements
☐ Deletion Transfer
☐ Other (explain)**

Substantive Course Changes

☐ New course
☐ Pre or Co-requisites
☐ Deletion (required by others)
☐ Course #, different level
☐ Credit hours
☐ Enrollment restriction
☐ Course-level restriction
☐ Prefix Title and description
☐ General education (select one)
☐ Not Applicable
☐ Other (explain)**

Misc. Course Changes

☐ Title
☐ Description (attach current & proposed)
☐ Deletion (not required by others)
☐ Course #, same level
☐ Variable credit
☐ Credit/no credit
☐ Cross-listing
☐ COGE reapproval
☐ Other (explain)**

** Other:

Title of degree, curriculum, major, minor, concentration, or certificate: Mathematics Minor - General Mathematics Option

Existing course prefix and #: Proposed course prefix and #: Credit hours:

Existing course title:

Proposed course title:

Existing course prerequisite & co-requisite(s):

Proposed course prerequisite(s):
If there are multiple prerequisites, connect with "and" or "or". To remove prerequisites, enter "none."

Proposed course co-requisite(s):
If there are multiple corequisites, they are always joined by "and."

Proposed course prerequisite(s) that can also be taken concurrently:

Is there a minimum grade for the prerequisites or corequisites?
The default grades are D for undergraduates and C for graduates.

Major/minor or classification restrictions:
List the Banner 4 character codes and whether they should be included or excluded.

For 5000 level prerequisites & corequisites: Do these apply to: (circle one) undergraduates graduates both

Specifications for University Schedule of Classes:

a. Course title (maximum of 30 spaces):

b. Multi-topic course: ☐ No ☐ Yes

c. Repeatable for credit: ☐ No ☐ Yes

d. Mandatory credit/no credit: ☐ No ☐ Yes

e. Type of class and contact hours per week (check type and indicate hours as appropriate)

1. ☐ Lecture
2. ☐ Lab or discussion
3. ☐ Lecture/lab/discussion
4. ☐ Seminar or studio
5. ☐ Independent study
6. ☐ Supervision or practicum

CIP Code (Registrar's use only):

Chair/Director: Date 4-19-18

Chair, College Curriculum Committee: Date

Dean: Date
Graduate Dean: Date

Curriculum Manager: Return to dean ☐ Date Forward to Date

Chair, COGE/ PEB / FS President: Date

FOR PROPOSALS REQUIRING GSC/USC REVIEW:

☐ Approve ☐ Disapprove Chair, GSC/USC Date

☐ Approve ☐ Disapprove Provost Date

Revised May 2007. All previous forms are obsolete and should not be used. CAS17-315 MATH
1. Explain briefly and clearly the proposed improvement.

This proposal revises the requirements of the Mathematics Minor.

2. Rationale. Give your reason(s) for the proposed improvement. (If your proposal includes prerequisites, justify those, too.)

The current catalog description is a result of a miscommunication between the department and the catalog manager. It bundles together several courses that should not be in the same group.

3. Effect on other colleges, departments or programs. If consultation with others is required, attach evidence of consultation and support. If objections have been raised, document the resolution. Demonstrate that the program you propose is not a duplication of an existing one.

None. The proposal aims to sanction the current state of affairs.

4. Effect on your department's programs. Show how the proposed change fits with other departmental offerings.

None. The proposal aims to sanction the current state of affairs.

5. Effects on enrolled students: Are program conflicts avoided? Will your proposal make it easier or harder for students to meet graduation requirements? Can students complete the program in a reasonable time? Show that you have considered scheduling needs and demands on students' time. If a required course will be offered during summer only, provide a rationale.

None. The proposal aims to sanction the current state of affairs. If anything, by increasing the number of electives, it will make it easier on students to get a minor in mathematics.

6. Student or external market demand. What is your anticipated student audience? What evidence of student or market demand or need exists? What is the estimated enrollment? What other factors make your proposal beneficial to students?

The minor in mathematics is very common among the engineering and science majors.

7. Effects on resources. Explain how your proposal would affect department and University resources, including faculty, equipment, space, technology, and library holdings. Tell how you will staff additions to the program. If more advising will be needed, how will you provide for it? How often will course(s) be offered? What will be the initial one-time costs and the ongoing base-funding costs for the proposed program? (Attach additional pages, as necessary.)

This is an existing program.

8. General education criteria. For a general education course, indicate how this course will meet the criteria for the area or proficiency. (See the General Education Policy for descriptions of each area and proficiency and the criteria. Attach additional pages as necessary. Attach a syllabus if (a) proposing a new course, (b) requesting certification for baccalaureate-level writing, or (c) requesting reapproval of an existing course.) N.A.

9. List the learning outcomes for the proposed course or the revised or proposed major, minor, or concentration. These are the outcomes that the department will use for future assessments of the course or program. N.A.

10. Describe how this curriculum change is a response to assessment outcomes that are part of a departmental or college assessment plan or informal assessment activities. N.A.

11. (Undergraduate proposals only) Describe, in detail, how this curriculum change affects transfer articulation for Michigan community colleges. For course changes, include detail on necessary changes to transfer articulation from Michigan community college courses. For new majors or minors, describe transfer guidelines to be developed with Michigan community colleges. For revisions to majors or minors, describe necessary revisions to Michigan community college guidelines. Department chairs should seek assistance from college advising directors or from the admissions office in completing this section.

The change affects only courses at the level of 4000 or higher, and we do not expect there to be similar courses offered at the community college level.
Western Michigan University        Undergraduate Catalog 2015-16

[ARCHIVED CATALOG]

Mathematics Minor - General Mathematics Option

Students interested in the General Mathematics Minor Option may plan their program using the information below. An advisor’s approval is not necessary unless a change in the requirements is requested.

Core Requirements

- **MATH 1220 - Calculus I** Credits: 4 hours
  or
- **MATH 1700 - Calculus I, Science and Engineering** Credits: 4 hours

Select Either:

- **MATH 1230 - Calculus II** Credits: 4 hours
  or
- **MATH 1710 - Calculus II, Science and Engineering** Credits: 4 hours

Select Either:

- **MATH 2300 - Elementary Linear Algebra** Credits: 4 hours
  or
- **MATH 3740 - Differential Equations and Linear Algebra** Credits: 4 hours

Electives

Substitutions or exceptions require approval of departmental advisor. Some electives have other prerequisites.

(Choose two)

- **MATH 2720 - Multivariate Calculus and Matrix Algebra** Credits: 4 hours
- **MATH 3300 - Modern Algebra I** Credits: 4 hours
- **MATH 3400 - Fundamental Concepts of Geometry** Credits: 3 hours

Select Either:

- **MATH 1450 - Discrete Mathematical Structures** Credits: 3 hours
  or
• MATH 3140 - Mathematical Proofs Credits: 3 hours

(At most, one of the following:)

• IEE 2610 - Engineering Statistics Credits: 3 hours
• IEE 2620 - Probability and Quality for Engineers Credits: 3 hours
• MATH 4020 - Mathematical Modeling Credits: 3 hours
• MATH 4080 - Linear Programming Credits: 3 hours
• MATH 4400 - Graphs and Mathematical Models Credits: 3 hours

or

• MATH 4450 - Algorithmic and Applied Combinatorics Credits: 3 hours
• MATH 5070 - Numerical Analysis I Credits: 3 hours
• STAT 3620 - Probability Credits: 4 hours
• STAT 3640 - Statistical Methods Credits: 4 hours
• STAT 5610 - Applied Multivariate Statistical Methods Credits: 3 hours
• STAT 5650 - Design of Experiments for Quality Improvement Credits: 3 hours
Mathematics Minor - General Mathematics Option

Students interested in the General Mathematics Minor Option may plan their program using the information below. An advisor’s approval is not necessary unless a change in the requirements is requested.

Required Courses

- Select Either
  MATH 1220 - Calculus I Credits: 4 hours
  or
  MATH 1700 - Calculus I, Science and Engineering Credits: 4 hours

- Select Either
  MATH 1230 - Calculus II Credits: 4 hours
  or
  MATH 1701 - Calculus II, Science and Engineering Credits: 4 hours

- Select Either
  MATH 2300 - Elementary Linear Algebra Credits: 4 hours
  or
  MATH 3740 - Differential Equations and Linear Algebra Credits: 4 hours

Electives (Choose two)

- MATH 2720 - Multivariate Calculus and Matrix Algebra Credits: 4 hours
- MATH 3300 - Modern Algebra I Credits: 4 hours
- MATH 3400 - Fundamental Concepts of Geometry Credits: 3 hours
- At most one of
  MATH 1450 - Discrete Mathematical Structures Credits: 3 hours
  MATH 3140 - Mathematical Proofs Credits: 3 hours
- MATH 4020 - Mathematical Modeling Credits: 3 hours
- MATH 4080 - Linear Programming Credits: 3 hours
- At most one of
  MATH 4400 - Graphs and Mathematical Models Credits: 3 hours
  MATH 4450 - Algorithmic and Applied Combinatorics Credits: 3 hours
- MATH 5070 - Numerical Analysis I Credits: 3 hours
- STAT 5610 - Applied Multivariate Statistical Methods Credits: 3 hours
- STAT 5650 - Design of Experiments for Quality Improvement Credits: 3 hours
- MATH 5720 - Vector Calculus and Complex Variables Credits: 4 hours
- MATH 5740 - Advanced Differential Equations Credits: 3 hours
- At most one of

  IEE 2610 - Engineering Statistics Credits: 3 hours
  IEE 2620 - Probability and Quality for Engineers Credits: 3 hours
  STAT 3620 - Probability Credits: 4 hours
  STAT 3640 - Statistical Methods Credits: 4 hours
Substitutions or exceptions require approval of departmental advisor. Some electives have other prerequisites.