B - Course Revision Form V. 7.2022 : Entry # 3534

DEAN Decision

Approved

Today's Date

09/12/2025

EPC Decision

Approved

GEC Decision

Approved

Today's Date

11/10/2025

APIRC Decision

Approved

Today's Date

02/02/2026

Begin Form

Today's Date

09/08/2025

Your Name

Jenny Sharpe

Your Email:

jsharpe1@highpoint.edu

Are you a Department Chair?

Yes

By checking below, I certify that my department chair has seen and approved the course revisions that are in this proposal

Yes

Please select the appropriate school overseeing this proposal:

Engineering

When should this proposal take effect?

B - Course Revision Form V. 7.2022 : Entry # 3534

Fall 2026

Are you submitting multiple courses for revision from the same department?

No, just one

Please list all of the courses that you are submitting revisions for:

Course Prefix	Course Number	Course Title
MTH	1999	Explorations in Math Research

What would you like to revise?

- Learning Outcomes

Are you also revising any of the following for this course?

- Change course title
- Change course description

Gen Ed & Academic Program Information

Is this a revision to meet new Gen Ed requirements?

Yes

Which area(s) of Gen Ed does your proposal seek for approval?

- Experiential Learning [EXP]

Is this course part of an academic program?

- This course does not currently fulfill academic program requirements

Does this course, as revised, include any community engagement?

No

Is this course part of GoGlobal?

No

Does this course count towards a major or a minor?

Yes

Please list the course(s) and whether they are required or electives for the major/minor.

B - Course Revision Form V. 7.2022 : Entry # 3534

Course Prefix/Number	Name of Major and/or Minor?	Required or Elective?
MTH 1999	Mathematics major	Required

Is this course cross listed?

No

Choose the department designator for your course from the list below.

Curriculum Review Information

Please list all revised student learning outcomes, including Gen Ed outcomes, for this course in the box below.

Students will be able to
- persevere in their use of multiple problem solving strategies to solve difficult problems.
- present clear mathematical solutions, both verbally and in writing, formally and informally.
- describe the beauty of mathematics and mathematical problem solving.
- identify and develop unsolved mathematical problems, including research topics.
- explain and solve typical problems from a variety of fields in the mathematical sciences.
- demonstrate knowledge through applied experience or projects.

There is no spot in the form for the revised course title or description, so I am placing them below:

Revised Title: Explorations in Mathematical Sciences Research
Revised Description: An introduction to utilizing a variety of approaches to solving research problems that arise in the mathematical sciences. Students practice solving problems as well as practice explaining solutions to other people both formally and informally, in words and in writing, across the spectrum of topics in the mathematical sciences. The emphases are to develop students' thinking processes so that they persevere when confronted with challenges, open their minds to various problems that exist, instill in students an appreciation for the beauty of mathematical thinking, and teach students how to expand simple problems into mathematical research.

Please list any revisions to units or content areas that will be required for all sections of this course in the box below.

N/A

If you have Gen Ed learning outcomes, please address the kinds of assessments you may use for each area that you are proposing the course be designated (i.e., Arts, Humanities, Diversity, etc.)

The experiential learning GE outcome will be assessed regularly in the course. During class, students will be presenting ideas and problem solutions to one another, practicing some of the key processes necessary in mathematical sciences research - presenting mathematical ideas and giving and receiving feedback on those ideas. The written homework students submit weekly will be submitted using LaTeX, the typesetting language required for mathematical research, which they will learn in the course. These weekly assessments will provide students low-stakes opportunities upon which to receive feedback and build their skills. Finally, students will be assessed at the end of the course on selecting a problem to research, student, and present.

Please list any revisions to course policies that will be required for all sections of this course.

N/A

If you would like to specify any revisions to requirements for how contact hours must be met for all sections of this course, please indicate below (e.g., if any experiential learning activities will replace seat time)

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This course meets all seat time for a 1-credit course.

If this course proposal affects any other departments, please describe the consultation and approval that you've received and from whom in the box below.

N/A

Is there any additional information that you would like to provide for this proposal?

Rationale for course revision:
This course, first taught in the spring of 2017, was initially designed to initiate math majors in problem-solving techniques and mathematical research techniques. It has been very successful, helping to create a culture of inquiry amongst math majors and inspiring many students to later do mathematical research. Given that success, and hoping to expand the culture of inquiry to all majors in the department, the Department of Mathematical Sciences would like to require this course of all majors in our department. To do so will entail creating a wider variety of topics to cover, making the topics more inclusive to students from the 4 programs in department, as well as strengthening the introduction to mathematical research. However, the core of the course and its goals will remain intact.

Elaboration on how this course aligns with the Experiential Learning GE outcome: This course will satisfy the Experiential Learning outcome of the GE because the course involves research, and introducing students to the thinking processes necessary for doing research, in the mathematical sciences. As part of the course, all students will learn to use mathematical research tools such as LaTeX (for typesetting of mathematics manuscripts) and research techniques (such as doing background research/literature review) and then apply those tools in a research project of their own. As the dissemination of research is important to the academy, students will also have the opportunity to improve their presentation skills by presenting research to the rest of the class.

Sample Syllabus

- MTH-1999-Sample-Syllabus-Revised.pdf