

B - Course Revision Form V. 7.2022 : Entry # 3488**DEAN Decision**

Approved

Today's Date

04/17/2025

DEAN Comments

This is a very helpful course to add to the gen ed for students in the School of Engineering.

GEC Decision

Approved

Today's Date

01/09/2026

APIRC Decision

Approved

Today's Date

02/02/2026

Begin Form**Today's Date**

04/17/2025

Your Name

Jenny Sharpe

Your Email:jsharp1@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

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

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No, just one

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

Course Prefix	Course Number	Course Title
MTH	3010	Cryptography

What would you like to revise?

- Learning Outcomes
- Prerequisites

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?

- Integrative Course [ITG]

Please provide a rationale for how your course is integrative. Please explain how you weave in different disciplines or fields of study. If your course is housed within one discipline, please explain how the epistemologies you integrate within the course are different from one another.

MTH/CSC 3010 combines the intellectual traditions of mathematics and computer science to provide a comprehensive introduction to cryptography. It begins with the mathematical foundations of number theory, including prime numbers, modular arithmetic, and modular exponentiation, and the basics of finite fields. These mathematical concepts form the basis for both classical and modern cryptosystems. The course also includes key computational concepts such as symmetric key cryptosystems, public key cryptography, hash functions, and digital signatures, emphasizing algorithmic design and security analysis. The focus here shifts from mathematical theory to algorithmic efficiency and practical problem-solving in real-world security contexts.

The course fosters an integrative approach by teaching students to merge mathematical reasoning with computational thinking. While students are learning the mathematical principles which underpin the design of cryptographic systems, they also learn how these ideas are implemented in algorithms which must be efficient and secure in practical applications. The interplay between theory and practice is central. By bridging these two disciplines, the course provides students with a well-rounded perspective on cryptography, equipping them to navigate both the abstract mathematical foundations and the applied computational techniques essential to the field.

Will this course be team-taught?

No

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?

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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.

Course Prefix/Number	Name of Major and/or Minor?	Required or Elective?
MTH/CSC 3010	Mathematics (BS, BA, minor)	Elective
MTH/CSC 3010	Computer Science (BS, BA, minor)	Elective
MTH/CSC 3010	Cybersecurity	Required

Is this course cross listed?

Yes

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

MTH

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

CSC

Current course number

3010

Current course title

Cryptography

Revisions to course number, title, credits, prerequisites**Please list the changes to the prerequisites and the rationale for the change**

The current course prerequisite is: CSC 1710 and (MTH 2210 or CSC 2342).

We wish to update the prerequisite to be: (CSC 1705 or CSC 1710) and (MTH 2210 or CSC 2342). The reason for this change is that the Computer Science department will now be offering a parallel option (CSC 1705) pathway to CSC 1710 for students to learn introductory programming skills in Python. This course will provide sufficient programming skills for Cryptography.

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

The only update to learning outcomes will be to add the Integrative learning outcome:

Synthesize concepts, theories, or frameworks of fields of study and apply them to situations or problems.

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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 rationale provided earlier in the form indicates how this course is integrative in nature and support the integrative learning outcome. Every assessment in the course requires students to simultaneously approach problems from a mathematical and computer science perspective.

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)

Full seat time will be used.

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.

This proposal has sought and received support from the Department of Computer Science.

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

No

Sample Syllabus

- [MTH3010_Jan2_2026.pdf](#)