

A - New Course Proposal V. 7.2022 : Entry # 3061**DEAN Decision**

Approved

Date

09/18/2023

Is this course intracollegiate or intercollegiate?

Intracollegiate

DEAN Comments

Introducing 3 new programs: Mechanical, Mechatronic and General Engineering.

SCHOOL EPC Decision

Approved

Date

10/03/2023

Begin Form**Today's Date**

09/17/2023

Your Name:

Michael Oudshoorn

Your Email:moudshoo@highpoint.edu**Are you a Department Chair?**

Yes

By checking below, I certify that my department chair has seen and approved the new course that I am proposing.

Yes

Please select the appropriate school overseeing this proposal:

Engineering

Which semester is this course to be taught for the first time?

Spring 2025

Information for the Registrar

A - New Course Proposal V. 7.2022 : Entry # 3061**Choose the department designator from the list below.**

MME

Proposed Course Number?

1015

Is this course cross listed?

No

Does this course replace a current course?

No

What is the title of the new course?

Programming in MATLAB

Write the catalog description of your proposed course:

This course is universal to all freshmen engineering students. MATLAB is a powerful programming language used throughout many engineering industries. This course provides an introduction to the fundamentals of computer programming and the use of MATLAB. The student will be introduced to the Procedural Programming paradigm and will learn the proper use of the logical building blocks common to all modern computing languages and how to create specific programs using MATLAB syntax.

How many credit hours will this course be?

2

How will the course be graded?

Letter grade

Please select the course repeat option for this course:

Not repeatable for credit

What is the offering cycle for this course?

Spring semester

Does your course have any prerequisites?

No

Is this new course being proposed because of a new or revised major or minor proposal?

Majors:

Mechanical Engineering

Mechatronic Engineering

General Engineering

Submitted by:

Michael Oudshoorn

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Submission date:
9/17/2023

Gen Ed and Academic Programs**Is this course part of Gen Ed?**

- No

Does this course count towards a major or a minor?

Yes

Please list the Major / Minor and if it is Required or Elective

Required: Mechanical/Mechatronic/General Engineering

Is this course part of an academic program?

- This course does not fulfill academic program requirements

Does this course include any community engagement?

No

Does this course participate in the GoGlobal Program?

No

Information for Curriculum Review**Rationale and evidence for new course's consistency with departmental mission:**

This course matches and supports the departmental/program mission by providing students with the necessary background in mechanical engineering in support of the newly proposed programs in Mechanical, Mechatronic and General Engineering. To achieve ABET accreditation for these programs, students must be exposed to breadth and depth within the discipline. All courses either provide foundational content upon which the depth will be built, or provide the depth by utilizing earlier courses. The courses provide students with in-demand skills and knowledge that will prepare them for the workforce.

List all student learning outcomes for this course.

Throughout the semester students will develop an understanding of, and demonstrate their proficiency in the following concepts and principles pertaining to vector mechanics, statics.

1. Understand the MATLAB environment.
2. Utilize MATLAB's built-in functions and create user-defined functions.
3. Write MATLAB scripts.
4. Manipulate data stored in matrices using MATLAB.
5. Show data using graphs and plot functions in MATLAB
6. Create data, read data, and output data in particular forms using MATLAB.
7. Work with logical functions and selection structures in MATLAB.
8. Create loops (for, while, and nested) and implement early breakout in MATLAB.

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9. Solve matrix algebra problems using MATLAB.
10. Utilize MATLAB's symbolic mathematics capabilities

List any units or content areas that will be required for all sections of this course.

- About MATLAB
- MATLAB Environment
- Built-In MATLAB Functions
- Manipulating MATLAB
- Plotting
- User-Defined Functions
- User-Controlled Input and Output
- Logical Functions and Selection Structures
- Repetition Structures
- Matrix Algebra
- Other Kinds of Arrays
- Symbolic Mathematics
- Numerical Techniques

List any assignments, tests, or other assessments that will be required for all sections of this course.

May vary

List any readings or other materials that will be required for all sections of this course.

May vary

List any course policies that will be required for all sections of this course.

May vary

If you would like to specify how requirements for 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)

2 hours of lecture per week
2 hours of lab per week

Sample Syllabus

- [MME1015-Programming-in-MATLAB.pdf](#)