Computing for Engineers

Last Updated: Tue, 01/06/2026

Course prefix: CS

Course number: 1371

Section: A, B & GR

CRN
21246 21262 31452

Instructor first name: Cedric

Instructor last name: Stallworth

Semester: Spring

Academic year: 2026

Course description:

This course is intended as an introduction to solving problems by coding solutions in the MATLAB programming environment. It assumes no prior knowledge of programming or coding skills. Students will develop a beginner's skill level for deriving algorithms. This will be complemented by them learning how to use the MATLAB language and integrated development environment in concert to code these algorithms as functions. The development of the students' skills and knowledge base will be done in the context of them encoding data; processing the data with respect to a given problem; and outputting a correct answer in the appropriate format.

The course begins with an introduction to the concepts of data encoding and the methodology of writing functions. There is also a good deal of time spent on getting the students familiar with the programming and evaluation environments. From that foundation, students are exposed to variables, functions, and scope. The course then expands the students' abilities to deal with data collections of vectors and arrays. Next, they learn the power of conditional and iteration statements. They then use these abilities to deal with the more complex data collections of cell arrays, spreadsheets, text files, structures, and directory information. The course also provides instruction on how to make plots of the results of their data analyses. It concludes by exposing students to images.

Academic honesty/integrity statement:

Students are expected to maintain the highest standards of academic integrity. All work submitted must be original and properly cited. Plagiarism, cheating, or any form of academic dishonesty will result in immediate consequences as outlined in the university's academic integrity policy.

Core IMPACTS statement(s) (if applicable):

Core IMPACTS refers to the core curriculum, which provides students with essential knowledge in foundational academic areas. This course will help students master course content, and support students' broad academic and career goals.

This course should direct students toward a broad Orienting Question:

- How does my institution help me to navigate the world?

Completion of this course should enable students to meet the following Learning Outcome:

- Students will demonstrate the ability to think critically and solve problems related to academic priorities at their institution.

Course content, activities and exercises in this course should help students develop the following Career-Ready Competencies:

- Critical Thinking
- Teamwork
- Time Management