



Course Name: MATLAB Programming

Course Number: CSC* E267

Credits: 3

Catalog description: A comprehensive introduction to MATLAB programming. Topics covered include the MATLAB programming environment, variables, conditional statements, loops, arrays, functions, matrix and vector operations, data types, symbolic logic, data plotting, and file management. The course is continually updated to remain current with the state of the art in MATLAB programming.

Substantial hands-on use of computers in a computerized classroom environment is required.

Prerequisite: Mathematics placement above MAT*E095 *or* permission of instructor.

Students should have the ability to perform basic file management and word processing tasks using Microsoft Windows.

Corequisite or Parallel:

General Education Competencies Satisfied:

HCC General Education Requirement Designated Competency Attribute Code(s):

None

Additional CSCU General Education Requirements for CSCU Transfer Degree Programs:

None

Embedded Competency(ies):

None

Discipline-Specific Attribute Code(s):

COMP Computer Science Elective



Course objectives:

General Education Goals and Outcomes:

None

Course Specific Objectives:

1. Develop MATLAB programs that demonstrate an understanding of the MATLAB programming environment and the MATLAB built-in functions
2. Develop user-defined functions using MATLAB
3. Develop MATLAB programs that implement fundamental programming concepts such as loops and conditional statements
4. Develop programs that incorporate MATLAB's unique matrix and vector capabilities
5. Develop MATLAB programs that incorporate 2D and 3D data plots
6. Develop MATLAB programs that import, export, and manage data files
7. Develop MATLAB programs that incorporate symbolic logic
8. Develop MATLAB programs that incorporate MATLAB's broad range of data types

Course Content:

- The MATLAB programming environment
- Variables, arrays, and operators
- Vector and matrix operations
- Scripts
- Built-in functions
- User-defined functions
- Explicit loops and implicit loops
- Conditional statements
- 2D and 3D plotting
- Data types
- Symbolic logic
- File management, import and export

Date Course Created: Spring 2015

Date of Last Revision: 04/03/2017