ENGR 3: Introduction to Programming for Engineers
Instructor: Jeff Moehlis

Course Description: General philosophy of programming for engineering majors. Students will be introduced to a modern programming language (Matlab). Specific areas of study will include algorithms, basic decision structures, arrays, matrices, and graphing.

In this course, students will review and learn mathematical techniques necessary for success as an engineer, both in future coursework and on the job. Given the difficulty of solving most realistic engineering problems analytically, the emphasis will be on the understanding and use of computational algorithms. In the process, students will develop a strong working knowledge of programming in Matlab, which is an integrated technical computing environment that combines numeric computation, advanced graphics and visualization, and a high-level programming language. The course will cover:

- A Quick Introduction to Matlab
- Iteration
- Fibonacci
- Debugging
- Plotting

- Matrices
- Linear Equations
- Probability
- Ordinary Differential Equations

All of the course materials will be available online, for free!