Fall 2020

# CS 101-015: Introduction to Programming for Engineers

Wallace Rutkowski

**CS 101**
**Introduction to Programming for Engineers**

**Instructor:** Wallace Rutkowski
email: wallace.rutkowski@njit.edu
office: GITC 4413
phone: 973-596-5483

**Textbook:** CS 101: Computer Programming and Problem Solving
This is an on-line book. Subscription instructions:

1. Sign in or create an account at **learn.zybooks.com**
2. Enter zyBook code: NJITCS101RutowskiFall2020
3. Subscribe

**Grading:** Programming projects and other assignments will be posted on canvas Midterm and final exams will be replaced by projects and assignments.

Final grade will be computed as:

| | |
|---|---|
| Programs | 30% |
| Assignments | 30% |
| Final Project | 30% |
| Attendance/Participation | 10% |

**Topics:**

The course will introduce students to the application of computing in engineering. The majority of the course will teach the basic concepts of imperative programming using the MATLAB programming language. We will also have an introduction to Python and C++. The main topics will be:

1. Input/output
2. Translating equations into MATLAB
    - arithmetic operators
    - calling functions
    - plotting
3. Sequence of control flow
4. Selection statements
    - relational operators
    - logical operators
5. Iteration statements
6. Writing functions
    - parameter passing
    - local variables
7. Introduction to Python
8. Introduction to C++