Course 6: Electrical Engineering and Computer Science
Fall 2016

Course 6 Home *CI-M Subjects for Undergraduate Majors* *Evaluations (Certificates Required)*

| 6.00-6.299 | 6.30-6.799 | 6.80-6.ZZZ |

Basic Undergraduate Subjects

6.00 Introduction to Computer Science and Programming

U (,) R
Prereq: None
Units: 3-7-2
Lecture: *MW3* (26-100) **Lab:** *TBA* ***+final***

Introduction to computer science and programming for students with little or no programming experience. Students learn how to program and how to use computational techniques to solve problems. Topics include software design, algorithms, data analysis, and simulation techniques. Assignments are done using the Python programming language. Meets with 6.0001 first half of term and 6.0002 second half of term. Credit cannot also be received for 6.0001 or 6.0002. Final given during final exam week.
J. V. Guttag
No textbook information available

6.0001 Introduction to Computer Science Programming in Python

U (,); first half of term
Prereq: None
Units: 2-3-1
Ends Oct 21. **Lecture:** *MW3* (26-100) **Recitation:** *F10* (36-112, 36-153) or *F11* (36-112, 36-153) or *F12* (36-153) or *F1* (36-153) or *F2* (36-153) or *F3* (36-153) or *F12* (36-112) or *F1* (36-112) or *F2* (36-112)

Introduction to computer science and programming for students with little or no programming experience. Students develop skills to program and use computational techniques to solve problems. Topics include the notion of computation, Python, simple algorithms and data structures, testing and debugging, and algorithmic complexity. Combination of 6.0001 and 6.0002 counts as REST subject. Final given in the seventh week of the term.
J. V. Guttag
Textbooks (Fall 2016)

6.0002 Introduction to Computational Thinking and Data Science

U (,); second half of term
Prereq: 6.0001 or permission of instructor
Units: 2-3-1
Begins Oct 24. **Lecture:** *MW3* (26-100) **Recitation:** *F10* (36-112, 36-153) or *F11* (36-112, 36-153) or *F12* (36-153) or *F1* (36-153) or *F2* (36-153) or *F3* (36-153) or *F12* (36-112) or *F1* (36-112) or *F2* (36-112) ***+final***

Provides an introduction to using computation to understand real-world phenomena. Topics include plotting, stochastic programs, probability and statistics, random walks, Monte Carlo simulations, modeling data, optimization problems, and clustering. Combination of 6.0001 and 6.0002 counts as REST subject. Final given during final exam week.
J. V. Guttag
Textbooks (Fall 2016)

6.002 Circuits and Electronics

U (,) R
Prereq: Physics II (GIR); *Coreq: 18.03 or 2.087*
Units: 4-1-7
Lecture: *TR11* (34-101) **Lab:** *TBA* **Recitation:** *WF11* (26-310) or *WF12* (26-310) or *WF1* (26-310) or *WF2* (26-310) ***+final***

Fundamentals of the lumped circuit abstraction. Resistive elements and networks, independent and dependent sources,