DESCRIPTION
Course 6 at MIT houses electrical engineering, computer science, and combinations of computer science with other areas. Computer scientists use computers to conceive, design, and test logical structures for solving problems with focuses on program efficiency and performance. Computer scientists often work as programmers or computer systems analysts, attempting to build and maintain complex technological systems. They may also work to develop control software, mobile applications, websites, and numerical analysis software.

SKILLS
Proficiency in programming languages
Familiarity with relevant math concepts
Problem-solving and troubleshooting
Ability to work in interdisciplinary teams

POSSIBLE FUTURE POSITIONS
- **Network systems and data communications analyst/specialist**: Plan, design, build, maintain, and test networks and other data communications systems.
- **Computer programmer**: Write and test code that allows computer applications and software programs to function and turn program designs created by software developers into instructions a computer can follow.
- **Information security analyst**: Plan and carry out security measures to protect an organization’s computer networks and systems. Responsibilities are continually expanding as the number of cyberattacks increases.
- **Software developer**: Develop computer programs and applications that allow people to do specific tasks on a computer or another device. Others develop the underlying systems that run the devices or that control networks.

CAREER INDUSTRY EXAMPLES
Automation | Laser and electro-optics | RF communications
Automotive | Magnetics | Robotics
Circuits and systems | Medical technologies | Telecommunications
Electrical insulation | Power electronics | Ultrasonics

SAMPLE EMPLOYERS
Amazon | Citadel LLC | iRobot
Apple | Facebook | Lockheed Martin
Boeing | Formlabs | Twitter
**INSIDE COMPUTER SCIENCE**

6-2 Electrical Engineering and Computer Science  
Undergraduates: 378

6-3 Computer Science and Engineering  
Undergraduates: 769

6-7 Computer Science and Molecular Biology  
Undergraduates: 34

6-11 Urban Science and Planning with Computer Science  
Undergraduates: 6.5

6-14 Computer Science, Economics, and Data Science  
Undergraduates: 52

6.009 **Fundamentals of Programming**  
Introduces fundamental concepts of programming. Designed to develop skills in applying basic methods from programming languages to abstract problems. Topics include programming and Python basics, computational concepts, software engineering, algorithmic techniques, data types, and recursion.

6.006 **Introduction to Algorithms**  
Introduction to mathematical modeling of computational problems, as well as common algorithms, algorithmic paradigms, and data structures used to solve these problems. Emphasizes the relationship between algorithms and programming, and introduces basic performance measures and analysis techniques for these problems.

6.036 **Introduction to Machine Learning**  
Introduces principles, algorithms, and applications of machine learning from the point of view of modeling and prediction; formulation of learning problems; representation, over-fitting, generalization; clustering, classification, probabilistic modeling; and methods such as support vector machines, hidden Markov models, and neural networks.

**COMPUTER SCIENCE-FRIENDLY LABS**

- Computer Science and Artificial Intelligence Laboratory (CSAIL)
- Research Laboratory of Electronics (RLE)
- Laboratory for Information and Decision Systems (LIDS)

**GET INVOLVED WITH COMPUTER SCIENCE**

- CSAIL Student Social Committee  
  Student Information Processing Team
- Electric Vehicle Team  
  AR/VR @ MIT
- Robotics Team  
  Women in EECS


UPOP is here to help you! Come talk to us in 1-123 or email us at upopstudentprogram@mit.edu