CS 161 : COMPUTER SCIENCE I

Transcript title
Computer Science I

Credits
4

Grading mode
Standard letter grades

Total contact hours
50

Lecture hours
30

Other hours
20

Prerequisites
MTH 112Z or MTH 251.

Recommended preparation
CS 160.

Course Description
Examines the nature of computer programming; includes discussion of a computer model, methods of problem solving and programming structures; information representation; algorithm construction; object-oriented design.

Course learning outcomes
1. Translate a problem statement into an appropriate algorithm containing arithmetic, relational, and logical expressions.
2. Translate the semantics of an algorithm into the syntax of a computer programming language.
3. Develop an object-oriented solution to a problem using classes, methods, and objects.
4. Develop proper error handling for possible run-time errors.
5. Develop the debugging skills to help determine errors in a computer program.
6. Understand how to effectively test a solution for correctness.
7. Describe a program implementation in terms of a natural language.

Content outline
- Algorithms
- Introduction to Python
- Decision Structures
- Iteration
- Functions
- Arrays and Vectors
- Searching

Required materials
Textbook is required.

General education/Related instruction lists
- Science not Lab