CMPE 150 Introduction to Computing

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Office Hours: Monday 15:00-17:00 Room: 16B

Course Overview

This course aims to introduce concepts of computing to students as well as teaching logics of programming. With this course students will gain understanding of key computing concepts such as algorithms, data structures and problem-solving strategies. Additionally, students will learn fundamentals of the python programming language which is widely used in academia and industry.

Text Book

Guttag, John. Introduction to Computation and Programming Using Python. Spring 2013 edition. MIT Press, 2013. ISBN: 9780262519632.

Grading

%40 final exam
%30 midterm exam
%30 lab sessions

Lab Session

For questions and details about lab sessions please contact the teaching assistants of this course.

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TOPICS

WEEK1

What is computation ?, Introduction to python

WEEK 2

Branching and iteration

WEEK 3

String manipulation, Guess and check, Approximations, Bisectio

WEEK 4

Functions

WEEK 5

Tuples, Lists, Aliasing, Mutability, Cloning

WEEK 6

Recursion, Dictionaries

WEEK 7

Testing, Debugging, Exceptions, Assertions

WEEK 8

Object Oriented Programming

WEEK 9

Python Classes

WEEK 10

Efficiency of programs

WEEK 11

Efficiency of programs

WEEK 12

searching and sorting