CSCI 1410: Fundamentals of Computing

Spring 2022

Contact Information

- Iris Linck

- Email: iris.linck@ucdenver.edu

- Office Hours

  – Monday 10:00 AM to 12:00 PM

  – https://ucdenver.zoom.us/j/94837591388

  – All office hours are by appointment only

Course Description

- This is the first course in computing for those who will take additional computer science courses as well as for student interested in learning computer programming. This course covers the capabilities of a computer, the elements of a modern programming language, and basic techniques for solving problems using a computer.

Prerequisites

- Course Prerequisites: None

- Course Co-requisites: CSCI 1411

Prerequisites

- Note: Each student must sign the online Prerequisites Agreement form to receive credit for the course. If this form is not completed by Friday, Jan 21, 2022 @ 11:59 PM then the student will be administratively dropped from the course. (Link is on Canvas)

Expected Knowledge at the Start of the Course

- Basic Math, including algebra and trigonometry.

- How to use a computer and associated peripherals such as printers and other I/O devices.

- How to use software programs, such as word processors and text editors.

Expected Knowledge Gained at the end of the Course

- Skills in problem solving.

- Skills in computer programming.

- Skills using an operating system.

- Skills using a basic editor and compiler.

Topics

- Introduction to Computers and Programming, Pseudocode, Flow Chart.

- Introduction to Input, Output, Processing

- Variable, Statement, Expression

- Decision Structure and Boolean Logic

- Repetition Structure

- List, Tuple, String

Topics

- Dictionary, Sets

- File Input / Output

- Functions, Abstractions

- Testing, Debugging, Exception, Assertions

- Recursion

Topics

- Sorting / Searching

- Introduction to Object Oriented Programming

- GUI programming

Books

- *Python Programming: An Introduction to Computer Science* by John Zelle, Published by Franklin, Beedle, & Associates ISBN 978-1-59028-275-5

On Line Resources

- Think Python 2e by Allen B. Downey

- Python Programming: An Introduction to Computer Science by John Zelle – Book Resources

- Python Programming – Video on YouTube

- All links are available on Canvas

Programming Resources

- Python 3.8.X with IDLE

   – Integrated DeveLopment Environment

   – Integrated Development and Learning Environment

- All links are available on Canvas

Course Format

- Course is divided into 15 modules

- We will cover one module per week

- Each module will be divided into sub topics

- There will be a mini quiz after each class

Course Format

- I will give short lecture during class time

- We will work on practical exercises (Class Work) during the classes that worths 15% of your grade.

Grading Policy

Attendance	5%
Class Participation	15%
Mini Quizzes	20%
Midterm Exam	30%
Final Exam	30%

Grading Policy

- A: Total Score ≥ 94%
- A-: 94% > Total Score ≥ 90%
- B+: 90% > Total Score ≥ 87%
- B: 87% > Total Score ≥ 84%
- B-: 84% > Total Score ≥ 80%

- C+: 80% > Total Score ≥ 77%
- C: 77% > Total Score ≥ 74%
- C-: 74% > Total Score ≥ 70%
- D+: 70% > Total Score ≥ 67%
- D: 67% > Total Score ≥ 64%
- D-: 64% > Total Score ≥ 60%
- F: 60% > Total Score

Class Participation/Class Work

- Class work assigned and submitted through Canvas during the class

- You will have a problem/algorithm/code for each chapter in the book that corresponds to the material covered in that chapter.

- Assignments are due by the end of the class.

Exams

- Two exams – Midterm and Final

- Exams will cover all materials including lectures, videos, reading material in the text, HW assignments, and handouts

- Format and process will be announced later

Class Communication

- Include CSCI 1410 - section in the subject line
- Your name in the body of email