CSC-K108: Introduction to Programming

Fall 2019

August 25, 2019

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Description This course provides an introduction to computing logic, algorithmic thinking, computing processes, the Python programming language and the programming environment. The knowledge obtained in this course enables the use of the computer as an instrument to solve computing problems.

Instructor Dr. Joseph Johnson

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Course Meeting Times Online, asynchronous. Lectures and assignments will be made available on Monday mornings.

Contacting Me The best way to reach me is through email. However, I will also be monitoring the Discussion boards, where it is encouraged that you post questions to the entire class so that others can benefit from the discussion, as well. (Please don't post code, though!)

Textbook We will use an electronic textbook published by zyBooks (http://www.zybooks.com), called Programming in Python with zyLabs. Brief instructions for accessing the textbook are as follows.

1. Sign up at http://www.zybooks.com
2. Enter the zyBooks code, "COMMNETCSC108JohnsonFall2019" (without the quotes).
3. Click Subscribe.

Programming in Python with zyLabs is an interactive online textbook, meaning that as you proceed through the material, you will complete Participation and Challenge Activities that will help you learn the concepts. This approach is based on the philosophy that the best way to learn is by doing. In keeping with this approach, it is extremely important to keep up with the assigned readings and assignments during this course.

Communication Videos, readings, and homework assignments will be posted on BBLearn on a weekly basis, typically on Monday mornings each week. Please ensure you receive emails from BBLearn so you get announcements.

Video Assignments Each lecture includes a collection of video segments, each video ranging in length from about 4 minutes to 12 minutes. Most lectures consist of between 10 and 15 video segments. It is important for your success in the course that you view these videos as there is material and examples covered in the videos not covered in the text that you'll be expected to know in your programming assignments and on the midterm and final exams. Video viewing assignments will be posted in BBLearn. Your video viewing will be verified through the tracking functionality built in to BBLearn.

Reading Assignments The zybooks textbook contains Participation Activities and Challenge Activities. Participation activities are graded only in terms of whether you complete them, and are meant merely as a means for you to engage with the concepts presented. The Challenge Activities are graded with a numeric score, however, and assess your understanding. Taken together the Participation and Challenge Activities will count 10% toward your final grade.

Programming Assignments There will be problem sets throughout the semester, typically once per week. However, the schedule may vary due to holidays and/or the need to keep sections moving together. These assignments will consist of problem sets published in zyLabs, and will be automatically graded. Each program you write will be run through a series of unit tests for which you will receive credit toward your assignment with each unit test your code passes. As you work each problem, you will have the ability to resubmit code to improve your score, until the due date for the assignment. **Late work will <u>not</u> be accepted. The lowest programming assignment grade will be dropped.**

Exams There will be two online multiple choice exams - a midterm and a final - based on the material covered in the videos, readings, and programming assignments.

Grading The class will be graded as follows:

- 10% video assignments
- 10% reading assignnments (Participation and Challenge Activities)
- 40% programming assignments
- 20% midterm exam
- 20% final exam

Withdrawing from the course A student who simply stops submitting work will receive the grade earned on that work, usually a failing grade. To receive a "W" grade instead, apply for a withdrawal through the registrar's office by November 5^{th}. A "W" will be entered on the student transcript but will not be included in the calculation of the GPA.

Number Grade	Assigned Grade	Grade Points
93-100	A	4.0
90-92	A-	3.7
87-89	B+	3.3
83-86	B	3.0
80-82	B-	2.7
77-79	C+	2.3
73-76	C	2.0
70-72	C-	1.7
67-69	D+	1.3
63-66	D	1.0
60-62	D-	0.7
0-59	F	0

Table 1: Grading Scale

Collaboration All homework assignments must be completed individually. It is okay for you to discuss a problem with a classmate as long you abide by the following condition:

- You may discuss problems and ideas jointly. The goal of collaboration is to understand the high level ideas of the problem. Do not go further than this.
- You must write solutions completely on your own.
- Do not use other resources (outside of your textbooks and collaborators) to attempt to find the problem or the solution. This includes using the internet to search for parts of the problem.

2 Course content

This course will focus on the fundamentals of computer programming, using the Python progamming language.

Course Objectives By the end of this course, you will be able to:

- Use variables, operators, and library functions in your programs.
- Use relational expressions to accomplish selection, and loops to enable repetition in their programs.
- Use various built-in datatypes of Python, including value, list, string, dictionary, and tuple.
- Properly and efficiently utilize Python programming features such as classes (and inheritance), iterators, and generators.
- Decompose programming problems into smaller pieces and codify a solution to each such piece as a method, which when combined into a larger program consistute a software solution.

- Plan, design, code, test, and debug solutions to programming problems using the Python programming language.

Tentative Class Schedule Table 2 contains a tentative schedule/sequence of topics. This list is tentative and subject to change.

Sequence	Topic
1	Introduction to Python
2	Variables and Expressions
3	Types
4	Branching
5	Loops
6	Functions
7	Strings
8	Lists and Dictionaries
Week of 10/21	Midterm Exam
9	Classes
10	Exceptions
11	Modules
12	Files
13	Inheritance
14	Recursion
15	Plotting
Week of 12/02	Final Exam

Table 2: Tentative class schedule

3 Policies

Academic Integrity Students are expected to do their own work in this class. Working together to better understand the material is acceptable. Submitting duplicate work is not and will adversely affect the assignment grade. Actively participating in the discussion boards both to ask and to answer questions is expected of all students. Posting of detailed instructions for "how to" responses to questions is encouraged but posting of a complete solution is not. Example violations include but are not limited to:

- Copying or sharing a file or any portion of a file from another student.
- Sharing or allowing another student to copy your files or any portion of a file.
- Duplicating or distributing copies licenses for software programs and/or services.

Students with Disabilities If you are a student with a disability and believe you will need support services and/or accommodations for this class, please contact the Disabilities Support Services. Please note that the instructor cannot provide accommodations based upon disability until the instructor has received an accommodation letter from the Disabilities Counselor.

Sexual Misconduct BOARD OF REGENTS FOR HIGHTER EDUCATION AND CONNECTICUT STATE COLLEGES AND UNIVERSITIES POLICY REGARDING SEXUAL MISCONDUCT REPORTING, SUPPORT SERVICES AND PROCESSES POLICY:

Statement of Policy for Public Act No. 14-11: An Act Concerning Sexual Assault, Stalking and Intimate Partner Violence on Campus: "The Board of Regents for Higher Education (BOR) in conjunction with the Connecticut State Colleges and Universities (CSCU) is committed to insuring that each member of every BOR governed college and university community has the opportunity to participate fully in the process of education free from acts of sexual misconduct, intimate partner violence and stalking. It is the intent of the BOR and each of its colleges or universities to provide safety, privacy and support to victims of sexual misconduct and intimate partner violence."

UNITED STATES DEPARTMENT OF EDUCATION AND OFFICE OF CIVIL RIGHTS TITLE IX STATEMENT OF POLICY:

"Title IX of the Education Amendments of 1972 (Title IX) prohibits discrimination based on sex in education programs and activities in federally funded schools at all levels. If any part of a school district or college receives any Federal funds for any purpose, all of the operations of the district or college are covered by Title IX.

Title IX protects students, employees, applicants for admission and employment, and other persons from all forms of sex discrimination, including discrimination based on gender identity or failure to conform to stereotypical notions of masculinity or femininity. All students (as well as other persons) at recipient institutions are protected by Title IX – regardless of their sex, sexual orientation, gender identity, part-or full-time status, disability, race, or national origin-in all aspects of a recipient's educational programs and activities."

If any student experiences sexual misconduct or harassment, and/or racial or ethnic discrimination on Three Rivers Community College campus, or fears for their safety from a threat while on campus, please contact the Diversity Officer and Title IX Coordinator.