

CSC 243-501/510 Python for Programmers

Overview

This is an accelerated course covering the essentials of programming, with a focus on problem solving, structured programming, and algorithm design. The concepts covered include collection types, conditional and iterative structures, functions, file input/output, exceptions, namespaces, recursion, an introduction to object-oriented programming, and Internet-client programming.

Instructor

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Class hours

Winter 2020

Mondays/Wednesdays, 11:50am - 1:20pm, CDM 220

Office hours

Mondays 3pm - 4:30pm
Wednesdays 3pm - 4:30pm

My office hours are held in room 735 of the CDM building. I am available during office hours in person, by phone, or by e-mail. Since students may be present in person during those hours, it is possible that there will be some delay before I respond to e-mail, or phone calls. When you call, please leave a message that indicates the number you can be reached at and gives the best time to return your call.

Please make use of my office hours. Asking questions about the assessments, course notes, or the readings can improve your understanding enormously. It will also let me know if I need to review a topic with the class. If you want to talk to me during my office hours but are unable to do so for any reasons, please contact me to make an appointment outside those hours.

Course website

The website for this course is Desire2Learn (D2L). To log onto the D2L page visit <https://d2l.depaul.edu/>. Course notes, programming assignments, study guides for the midterm and final exam, and other course materials will be available through the D2L site. There will also be links to course recordings which are useful for review.

Prerequisites

In order to take this class you are required to have taken MAT 130: Precalculus or an equivalent high-school or college course covering algebra and precalculus. You also should have successfully completed (with a grade of B- or better) at least one quarter/semester of a high-level, object-oriented programming language such as Java or C++.

Learning goals

This course covers most of the material from CSC 241: Introduction to Computer Science I and selected topics from CSC 242: Introduction to Computer Science II in one quarter. As such, it is a course that should not be taken by novice programmers. At the same time, it is a course that is too fundamental for anyone who has already had a data structures class or has developed a significant number of recursive functions. Please talk to me if you're not sure about your placement in this class.

After you have taken this class:

1. You will understand that a main focus of computer science is developing applications for computer systems.
2. You will have stronger problem-solving skills.
3. You will know how to develop algorithmic solutions for computational problems.

4. You will understand fundamental Python programming structures such as decision and iteration structures, functions, modules, collections, and classes from the API.
5. You will be able to apply recursion as a problem-solving and programming technique.
6. You will understand how to use and modify programmer-defined classes.
7. You will be able to write simple Internet client programs.

Course calendar

The following gives all the important dates for this course. The topics covered are subject to change.

Week	Date	Topic/Deadline
1	Monday, January 6, 2020	Basic data types (numeric types, strings, lists), identifiers, input from the user, defining functions
	Wednesday, January 8, 2020	Parameter passing, iteration through sequence objects, and conditional statements
2	Monday, January 13, 2020	File I/O, formatting output, and the math module
	Wednesday, January 15, 2020	Character encodings, loop patterns (iterated and counter loops)
	Friday, January 17, 2020	<i>The last day to drop classes with no penalty</i>
3	Monday, January 20, 2020	Loop patterns (accumulator and nested loops) and multidimensional lists
	Wednesday, January 22, 2020	Loop patterns (nested, while, and infinite loops)
4	Monday, January 27, 2020	Loop patterns (interactive loops)
	Wednesday, January 29, 2020	Exceptions and the random module
5	Monday, February 3, 2020	Dictionaries
	Wednesday, February 5, 2020	Collection classes (sets, tuples)
6	Monday, February 10, 2020	Midterm exam: 11:50am - 1:20pm
	Wednesday, February 12, 2020	Discussion of the midterm exam and recursion
7	Monday, February 17, 2020	Recursion
	Wednesday, February 19, 2020	Recursion
	Friday, February 21, 2020	<i>Last day to withdraw from classes</i>
8	Monday, February 24, 2020	Recursion
	Wednesday, February 26, 2020	Using and modifying programmer-defined classes
9	Monday, March 2, 2020	Using and modifying programmer-defined classes
	Wednesday, March 4, 2020	Web search fundamentals
10	Monday, March 9, 2020	Web search fundamentals
	Wednesday, March 11, 2020	Web search fundamentals
11	Monday, March 16, 2020	Final exam: 11:30am - 1:45pm

Textbook

The required textbook for the course is **Introduction to Computing using Python: An Application Development Focus, Second Edition**, Ljubomir Perković, John Wiley & Sons, 2015. Please buy the electronic version of the text since it contains case studies that we will be using. The electronic text has ISBN 978-1-118-89105-6. You can buy the ebook directly from the publisher if you like:

<http://www.wiley.com/WileyCDA/WileyTitle/productCd-EHEP003201.html#student>

Grading policy

Course assessments include programming assignments, a midterm, and final exam. The course grade will be computed as follows:

Assessment	Percentage
Programming assignments	30 %
Midterm exam	35 %
Final exam	35 %

All students will be required to sign and return an Academic Integrity pledge at the start of the quarter. The Academic Integrity pledge will be posted on the D2L site. The pledge must be signed and returned as a part of the first homework assignment. Students who violate this agreement are violating the Academic Integrity policy of DePaul University. See the section on Academic Integrity below for more information about that policy and penalties for violating it.

In order to do well in this class, you must attend the class sessions regularly, participate in class discussions, read the chapters in the book as

indicated in the homework assignment, start work on the assignments early, and ask questions early and often. The answers to the programming assignments and exam questions should be written in a way that is rigorous, clear, and concise.

Programming assignments

Each week you will have a programming assignment. You can consult with your homework partners, the instructor, and the CDM tutors on the programming assignments, but you may not under any circumstances submit code that you have not helped to write nor may you consult anyone beyond those specified when completing your assignments. Each programming assignment will have a posted deadline, specified on the assignment. No late assignments are accepted for any reason. Your lowest assignment score will be dropped in the calculation of your course grade.

Midterm and final exams

The midterm and final exams will be cumulative. The midterm exam will take place on Monday, February 10, 2020, 11:50am - 1:20pm in a lab to be determined. The final exam will take place on Monday, March 16, 2020, 11:30am - 1:45pm in a lab to be determined. Both exams will be conducted in a lab and will require you to write Python code.

Make-up exams will not be given. If you wish to petition for a make-up exam, you must notify me in advance and provide documented evidence of the emergency that will cause you to miss the exam. Failure to contact me in advance of the exam date and time will disqualify you from being allowed to take a make-up exam. If a make-up exam is granted, it will be of a form of my choosing.

Online course evaluations

Evaluations are a way for students to provide valuable feedback regarding their instructor and the course. Detailed feedback will enable the instructor to continuously tailor teaching methods and course content to meet the learning goals of the course and the academic needs of the students. They are a requirement of the course and are key to continue to provide you with the highest quality of teaching. The evaluations are anonymous; the instructor and administration do not track who entered what responses. A program is used to check if the student completed the evaluations, but the evaluation is completely separate from the student's identity. Since 100% participation is our goal, students are sent periodic reminders over three weeks. Students do not receive reminders once they complete the evaluation. Students complete the evaluation online in Campus Connect: <http://campusconnect.depaul.edu/>

Academic integrity

The course adheres to the DePaul University's Academic Integrity Policy. For complete information about Academic Integrity at DePaul University, please see: <http://academicintegrity.depaul.edu/>.

Cheating is any action that violates university norms or instructor's guidelines for the preparation and submission of assignments. This includes, but is not limited to, unauthorized access to examination materials prior to the examination itself; use or possession of unauthorized materials during the examination or quiz; having someone take an examination in one's place; copying from another student; unauthorized assistance to another student; or acceptance of such assistance. Plagiarism involves the presentation of the work of another as one's own. Plagiarism includes, but is not limited to the following: the direct copying of any source, such as written and verbal material, computer files, audio disks, video programs or musical scores, whether published or unpublished, in whole or part, without proper acknowledgment that it is someone else's; copying of any source in whole or part with only minor changes in wording or syntax, even with acknowledgment; submitting as one's own work a report, examination paper, computer file, lab report or other assignment that has been prepared by someone else (including research papers purchased from any other person or agency); the paraphrasing of another's work or ideas without proper acknowledgment; working so closely with another person so as to produce identical code.

The use of others' web/publication content (text, graphics, code) is regarded as plagiarism if credit is not given (see the above description of plagiarism). When you directly quote someone's work, you must put it in quotation marks. Without such quotations and reference, it is regarded as an act of plagiarism (see the above description of plagiarism). Using materials that the student prepared for other purposes (e.g., for another course or for his/her work) needs the course instructor's prior permission.

A charge of cheating and/or plagiarism is always a serious matter. It can result in an automatic F in the course and possible expulsion.

Incomplete

An incomplete grade is given only for an exceptional reason such as a death in the family, a serious illness, etc. Any such reason must be documented. Any incomplete request must be made at least two weeks before the final, and approved by the Dean of the College of Computing and Digital Media. Any consequences resulting from a poor grade for the course will not be considered as valid reasons for such a request.