

CSC 241 Introduction to Computer Science I

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Course homepage: <https://d2l.depaul.edu/d2l/home>

Summary

An introduction to problem solving, algorithms and structured programming using a higher-level programming language. The course will focus on skills for developing algorithms, and for writing and debugging programs. Students will learn how and when to use loops, conditionals, and functional abstractions in the context of problems motivated by real world applications.

Prerequisites:

MAT 130 Mathematics Diagnostic Test placement into MAT 140.

Texts

[*Introduction to Computer Science with Python, 2nd edition*](#) (ebook) Ljubomir Perkovic, Wiley, 2015. ISBN (ebook): 978-1-118-89105-6

Please note that this is the ***ebook version of the 2nd edition***. It contains some material that is not in the printed book.

Grading

Point scores and letter grades for the course will be computed according to the following tables:

Lab attendance and exercises	5%	A	≥90%
Assignments	25%	B	≥80%
Quizzes	10%	C	≥70%
Midterm Exam	30%	D	≥60%
Final Exam	30%	F	<60%

Plus and minus scores will be assigned at the high and low ends of each of these ranges at the instructor's discretion. (No A+ or D-)

Lab

Each week you will attend a lab session conducted by our teaching assistant. Your lab grade will be based on your attendance and completion of the exercises. No late submissions are accepted. Your lowest grade will be dropped in the calculation of your lab score. During labs you are allowed to freely collaborate and discuss material.

Assignments

Assignments will be posted weekly to the course website. Late assignments will receive a grade of 0. Your lowest grade will be dropped in the calculation of your grade.

Collaboration

You are allowed to collaborate on assignments in a small group of at most 3 people. If you collaborate, you must:

- 1) Type and submit your own file.
- 2) Include the name(s) of your collaborators in a comment at the top of your hw submission.
- 3) Be able to explain your code in class and/or to the instructor.

Course Goals and Topics

This course is the first of a two-course sequence introducing computer science. The focus of the course is on problem solving, algorithm development, and structured and object-oriented programming using Python and the Python API (application programming interface), all in the context of building computer applications. In the first course we will focus on structured programming and learn how and when to use conditionals, loops, and functional and modular abstractions.

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 basic computational problems.
- 4) You will understand fundamental programming structures such as expressions, assignments, decision and iteration structures, functions and modules.
- 5) You will have basic Python programming skills.
- 6) You will be prepared for the second course in the sequence, CSC 242: Introduction to Computer Science II

Course Calendar

The following gives a tentative schedule for this course.

Week Topic/Deadline

- 1 Introduction to the course and Python
Input structures, type operators, and numeric types

- 2 Decision structures, strings, and lists
Iteration structures
- 3 Functions and strings
Modules and objects, formatted output
- 4 File processing
Exceptions and error handling
- 5 More about decision structures and loop patterns (iterated loops)
Loop patterns (counter and accumulator loops) and review for the midterm
- 6 **Midterm exam: usual room and time**
Discussion of the midterm and more loop patterns (nested loops)
- 7 More loop patterns (multidimensional lists and while loops)
More loop patterns (infinite and interactive loops) and specialized statements (break, continue, pass)
- 8 Dictionaries
- 9 Other collection types (tuples and sets) and character encodings
More functions, modules, and module namespaces
- 10 More about module namespaces and the random module
The random module and review for the final exam

School policies:

Online Teaching Evaluation

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 [CampusConnect](#)

Email

Email is the primary means of communication between faculty and students enrolled in this course outside of class time. Students should be sure their email listed under "demographic information" at CampusConnect is correct.

Academic Integrity Policy

This course will be subject to the academic integrity policy passed by faculty. More information can be found at <http://academicintegrity.depaul.edu/>

Plagiarism

The university and school policy on plagiarism can be summarized as follows: Students in this course should be aware of the strong sanctions that can be imposed against someone guilty of plagiarism. If proven, a charge of plagiarism could result in an automatic F in the course and possible expulsion. The strongest of sanctions will be imposed on anyone who submits as his/her own work any assignment which has been prepared by someone else. If you have any questions or doubts about what plagiarism entails or how to properly acknowledge source materials be sure to consult the instructor.

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.

Resources for Students with Disabilities

Students who feel they may need an accommodation based on the impact of a disability should contact the instructor privately to discuss their specific needs. All discussions will remain confidential. To ensure that you receive the most appropriate accommodation based on your needs, contact the instructor as early as possible in the quarter (preferably within the first week of class), and make sure that you have contacted the Center for Students with Disabilities (CSD) at:

Student Center, LPC, Suite #370

Phone number: (773)325.1677

Fax: (773)325.3720

TTY: (773)325.7296