

# CSC 401: Introduction to Programming

Instructor: [Brian Dellabetta](#)

Fall 2023-2024

Section: 702

Class/Lecture Hours: W 5:45-9pm

Office Hours: M/T 5-5:30pm (Zoom) & W 5-5:45pm (In Classroom)

Room: Lewis Center 1111

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Syllabus last updated: September 2, 2023

## Course Description

An introduction to programming with a focus on problem solving, structured programming, and algorithm design. Covered concepts include data types, expressions, variables, assignments, conditional and iterative structures, functions, file input/output, exceptions, arrays and an introduction to object-oriented programming. See Course Calendar for more detail.

## Suggested Text

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

The textbook is recommended but will not be required to do any homework. Please note that this is the ebook version of the 2nd edition. It contains some material that is not in the printed book.

## Prerequisites

Students are not expected to have any prior programming experience. Please install software before the start of the course.

## Software

Python, version 3.9 or higher. Python is available as a free download for any operating system from <http://www.python.org/downloads> and it comes with a simple development environment called IDLE.

## Course Objectives

Successful students:

1. will have stronger problem solving skills;
2. will understand fundamental programming structures such as expressions, assignments, conditionals, and functions;
3. will understand basic data types and built-in container types;
4. will know how develop algorithmic solutions for basic computational problems;
5. will understand how to use the Python Standard Library;
6. will know how to design classes and understand the fundamental principles of object-oriented programming.

## Course Structure

### Desire2Learn

I will use Desire2Learn (<https://d2l.depaul.edu/>) to post and share:

1. Assignments with discussion forums<sup>†</sup>
2. Lecture Notes
3. Announcements

#### 4. Helpful Links

#### 5. Class Recordings

<sup>†</sup>Because the class only meets once a week, and office hours are the same day as the course, we'll be leveraging D2L's forum feature to discuss assignments or offer tips when people are stuck.

Class-wide announcements and updates will be sent to the e-mail address on file with Campus Connection, so please make sure it is correct.

### Class Structure

I will alternate between powerpoint slides and live code examples during class. Students are encouraged (but not required) to bring their own laptop to code along, as long as it is not a distraction. Please be courteous to other students by silencing laptops/phones and eating before class or during breaks. I will break up the 3-hour time-slot with a couple 10-minute breaks.

I will go through examples throughout class, and ask for or pick volunteers to answer questions as we go. **The best way to learn how to program is to practice.**

### Assignments

Assignments will be posted weekly to the course website. Assignments will be due before the start of class so that we can discuss start class by discussing them. Late assignments will receive a grade of 0. Your lowest grade will be dropped in the calculation of your grade.

Professional developers work in teams. You are allowed to collaborate on assignments in a small group of at most 3 people. Please see the posted HW Guidelines for details. In particular, 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.

This is a graduate level course, so I expect you to understand the homework you submit and not copy something you found online. This course covers foundational concepts needed for anyone pursuing a degree in a computing field, so lack of understanding will show through on exams, in class exercises, or in future courses.

### Midterm and Final Exam

Each exam will test on the material that was taught up until the week prior to the exam. The concepts in the second half of the semester tend to build on the concepts in the first half of the semester, so much of the first half of the course will inherently be a part of the final exam.

### Grading Policy

Point scores and letter grades for the course will be computed accordingly:

Assignments	35%	A	$\geq 90\%$
Midterm Exam	30%	B	$\geq 80\%$
Final Exam	35%	C	$\geq 70\%$
		D	$\geq 60\%$
		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-)

### Drop Dates

See <https://academics.depaul.edu/calendar/Pages/default.aspx> for drop and withdraw dates.

### Communication

Email is the primary means of communication outside of class time. When sending email to me, please send it to [brian.dellabetta@depaul.edu](mailto:brian.dellabetta@depaul.edu) and begin the subject with "CSC 401". I will generally respond to email in the evening, within 24 hours.

## **Course Calendar**

The schedule is tentative and subject to minor changes. The learning goals below should be viewed as the key concepts you should grasp after each week, and also as a study guide before each exam.

Week	Topics	Chapter(s)
1	The Python Interpreter Variables, expressions, and assignments Basic Data Types (Boolean, int, float, string) The list container type Implicit and Explicit Type Conversion	1-2
2	1-way and 2-way conditional statements Iteration through list, string, range User-Defined Functions and Parameter Passing	3
3	String Processing File I/O Exceptions The Python math module	4
4	Multi-way conditional structures Iteration patterns Nested Loops	5
5	while loops break, continue statements The Python random module	5
6	<b>Midterm Exam</b>	
7	Multi-dimensional lists Containers cont'd. – Dictionaries, Sets, Tuples Namespaces and Scope	7-8
8	Object-oriented programming (OOP) The class keyword Constructors, Methods, and Fields	8
9	OOP Concepts - Inheritance OOP Concepts - Polymorphism	8
10	Comprehensive Examples Open Questions Final Review	1-8
Exam Week	<b>Final Exam</b>	

## **School Policies**

### **Change to Syllabus**

This syllabus is subject to change as necessary during the quarter. If a change occurs, it will be thoroughly addressed during class, posted under Announcements in D2L and sent via email.

### **Online Course 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. Please see <https://resources.depaul.edu/teaching-commons/teaching/Pages/online-teaching-evaluations.aspx> for additional information.

### **Academic Integrity and Plagiarism**

This course will be subject to the university's academic integrity policy. More information can be found at <https://offices.depaul.edu/oaa/faculty-resources/teaching/academic-integrity/Pages/default.aspx>.

### **Academic Policies**

All students are required to manage their class schedules each term in accordance with the deadlines for enrolling and withdrawing as indicated in the University Academic Calendar. Information on enrollment, withdrawal, grading and incompletes can be found at <http://www.cdm.depaul.edu/Current%20Students/Pages/PoliciesandProcedures.aspx>.

## **Incomplete Grades**

An incomplete grade is a special, temporary grade that may be assigned by an instructor when unforeseeable circumstances prevent a student from completing course requirements by the end of the term and when otherwise the student had a record of satisfactory progress in the course. All incomplete requests must be approved by the instructor of the course and a CDM Associate Dean. Only exceptions cases will receive such approval. Information about the Incomplete Grades policy can be found at <http://www.cdm.depaul.edu/Current%20Students/Pages/Grading-Policies.aspx>

## **Resources for Students with Disabilities**

DePaul University is committed to ensuring equal access to its educational and extracurricular opportunities for students with disabilities. The Center for Students with Disabilities (CSD) offers reasonable academic accommodations and services to support our students. We also serve as a resource to the many university departments that have a responsibility to accommodate students. Please see <https://offices.depaul.edu/student-affairs/about/departments/Pages/csd.aspx> for Services and Contact Information.