New York University Tandon School of Engineering
Department of Computer Science and Engineering
Course Outline CS-UY 1114
Intro to Programming and Problem Solving
Spring 2020
Professors Dr. DePasquale and Dr. Callahan

Section	Class # / Days	Times	Location	Instructor
ALEC	16687 - M / W	4.30 PM - 5.50 PM	Rogers 315	Callahan
BLEC	17268 - M / W	3.00 PM - 4.20 PM	2 MetroTech Center - Room 9.009	DePasquale
CLEC	17366 - M / W	9.00 AM - 10.20 AM	JABS 774	DePasquale
DLEC	17367 - M /W	10.30 AM - 11.50 AM	JABS 774	DePasquale

* for lab times, see Albert
** Exam hour: Tuesday 12:30PM - 1:45PM

To contact the professor:

	Email address	Office	Phone
DePasquale	peter.depasquale@nyu.edu	370 Jay Street, 8th Floor, Room 841	646-997-3357
Callahan	ejc369@nyu.edu	370 Jay Street, 8th Floor, Room 844	646-997-3476

Office hours:

	Office Hours
DePasquale	Mondays 1pm-2pm, Wednesdays 1pm-3pm, and by appointment
Callahan	By appointment, please contact via email

Course Prerequisites (none)

Course Description This course introduces problem solving and computer programming and is for undergraduate Computer Science and Computer Engineering majors who have limited prior experience in programming in any language. The course covers fundamentals of computer programming and its underlying principles using the Python programming language. Concepts and methods introduced in the course are illustrated by examples from various disciplines.

In addition to the lectures, you must be registered for one of the mandatory lab sections that correspond to your lecture.

Course Objectives - By successfully completing this course, you will be able to demonstrate

- an ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics
- an ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors
- an ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions, and
- an ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in a global, economic, environmental, and societal context

Course Structure
This course includes 2 weekly lecture sections and a mandatory weekly lab section.

Readings
The required text for the course is: The Practice of Computing Using Python, 3rd Edition, 2016, by Punch and Enbody, Pearson Inc, ISBN 0-13-437976-4

The location of books and readings - NYU bookstore

Required software for this course: You will need a Python editor (Thonny, Idle, PyCharm, etc.) and compiler (Python 3). Please see the editor's installation instructions to determine if you need a compiler (some editors include the compiler) or how to install a compiler if you need one.

Course requirements - You are expected to take notes during class, based on our discussions and lectures. Please come prepared to do so.

Active participation in class discussion is strongly encouraged. This is the best time for students to ask questions or clarify any confusing concepts. In addition, you are responsible for any material covered in class, even if it isn't in the textbook. If you miss a class, you should contact a classmate to recover the missed content and assignments.

You may use your computer during lecture only for note-taking, unless otherwise specified. Please do not use your phone during class time. Playing games and watching videos during lectures is strongly discouraged.

Course Assessments
Homework: 20% - Assigned throughout the semester, homeworks are to be completed independently, outside of class time. Your grade reflects to what extent your solution is correct.

Lab: 15% - Weekly lab assignments are given in a supervised environment. You may discuss your work with other students and with teaching assistants. Your grade is based on attendance and effort. All lab grade disputes must be addressed no later than two weeks following the lab in question or the date of the final exam, whichever comes first.

Highest exam: 30% - Note that your most successful exam carries more weight toward your final grade than the other exams.

Second highest exam: 20%

Third highest exam: 15%

Exam dates are as follows (3/10/20, 4/14/20, and the final exam is TBD)

Tutoring

In addition to help from the class TAs, you may wish to seek tutoring help from the Polytechnic Tutoring Center (PTC) in JAB 373. Free, unlimited tutoring will be offered to Tandon students starting on February 3rd. PTC is a student-centered, walk-in tutoring center. The PTC schedules for this semester is shown below. Note that the schedule may change depending on tutor availability.

Monday	11:00am—8:00pm
Tuesday	11:00am—8:00pm
Wednesday	12:30pm—8:00pm
Thursday	11:00am—4:30pm and 6:00pm—8:00pm
Friday	11:00am—5:00pm

Course Schedule

Week	Day	Date	Lecture Topic	Lab Topic
1	Mon	27-Jan	Introduction (Chapter 0)	Getting Started, simple Python programs, uploading to Gradescope
	Wed	29-Jan	Parts of a program, Variables (1.1 - 1.5), Basic Data Types (1.6)	
2	Mon	3-Feb	Basic Operators and Expressions (with Booleans) (1.7, 1.9, 1.11, 2.1.2, 2.2.1 - 2.2.4)	User IO, types, expressions, operators
	Wed	5-Feb	Binary representation and other number system (0.8)	

3	Mon	10-Feb	Using modules: Math, random, Turtle (1.8 - 1.10, 2.3)	Binary Representation, Math, Turtle
	Wed	12-Feb	Booleans and Advanced Expressions (2.2.4 - 2.2.7)	
4	Mon	17-Feb	NO CLASS, PRESIDENT'S DAY	Conditionals
	Wed	19-Feb	Selection statements: if, if-else, if-elif,else (2.1, 2.2.8 - 2.2.9)	
5	Mon	24-Feb	Selection statements: if, if-else, if-elif,else	While / For loops
	Wed	26-Feb	Iterative statements: while, for (2.1, 2.2.10 - 2.2.15, 2.2.5)	
6	Mon	2-Mar	Iterative statements	Review Exam (3/10)
	Wed	4-Mar	Iterative statements	
7	Mon	9-Mar	Strings (4)	While / For loops, Strings
	Tues	10-Mar	**MIDTERM #1**	
	Wed	11-Mar	Strings	
16-Mar to 20-Mar			SPRING BREAK - NO CLASSES / LABS	
8	Mon	23-Mar	Functions (5, 8)	Functions
	Wed	25-Mar	Functions	
9	Mon	30-Mar	Functions	Functions, Lists / Tuples
	Wed	1-Apr	Lists and Tuples (7)	
10	Mon	6-Apr	Lists and Tuples	Review Exam (4/14)
	Wed	8-Apr	Lists and Tuples	
11	Mon	13-Apr	Complex examples of lists and functions	Lists, tuples and files
	Tues	14-Apr	**MIDTERM #2**	
	Wed	15-Apr	Files, input / output and exceptions (6)	
12	Mon	20-Apr	Files, input / output and exceptions	Files, i / o, exceptions
	Wed	22-Apr	Files, input / output and exceptions	
13	Mon	27-Apr	Dictionaries (9.1 - 9.3)	Dictionaries
	Wed	29-Apr	Dictionaries	
14	Mon	4-May	Object Oriented Programming (11.1 - 11.7)	OOP
	Wed	6-May	Object Oriented Programming	
15	Mon	11-May	Review	

Moses Center Statement of Disability
If you are a student with a disability who is requesting accommodations, please contact New York University's Moses Center for Students with Disabilities (CSD) at 212-998-4980 or mosescsd@nyu.edu. You must be registered with CSD to receive accommodations. Information about the Moses Center can be found at www.nyu.edu/csd. The Moses Center is located at 726 Broadway on the 3rd floor.

NYU School of Engineering Policies and Procedures on Academic Misconduct – complete Student Code of Conduct here

A. Introduction: The School of Engineering encourages academic excellence in an environment that promotes honesty, integrity, and fairness, and students at the School of Engineering are expected to exhibit those qualities in their academic work. It is through the process of submitting their own work and receiving honest feedback on that work that students may progress academically. Any act of academic dishonesty is seen as an attack upon the School and will not be tolerated. Furthermore, those who breach the School's rules on academic integrity will be sanctioned under this Policy. Students are responsible for familiarizing themselves with the School's Policy on Academic Misconduct.

B. Definition: Academic dishonesty may include misrepresentation, deception, dishonesty, or any act of falsification committed by a student to influence a grade or other academic evaluation. Academic dishonesty also includes intentionally damaging the academic work of others or assisting other students in acts of dishonesty. Common examples of academically dishonest behavior include, but are not limited to, the following:

1. Cheating: intentionally using or attempting to use unauthorized notes, books, electronic media, or electronic communications in an exam; talking with fellow students or looking at another person's work during an exam; submitting work prepared in advance for an in-class examination; having someone take an exam for you or taking an exam for someone else; violating other rules governing the administration of examinations.
2. Fabrication: including but not limited to, falsifying experimental data and/or citations.
3. Plagiarism: intentionally or knowingly representing the words or ideas of another as one's own in any academic exercise; failure to attribute direct quotations, paraphrases, or borrowed facts or information.
4. Unauthorized collaboration: working together on work meant to be done individually.

5. Duplicating work: presenting for grading the same work for more than one project or in more than one class, unless express and prior permission has been received from the course instructor(s) or research adviser involved.
6. Forgery: altering any academic document, including, but not limited to, academic records, admissions materials, or medical excuses.

NYU School of Engineering Policies and Procedures on Excused Absences – complete policy here

A. Introduction: An absence can be excused if you have missed no more than **10 days of school**. If an illness or special circumstances cause you to miss more than two weeks of school, please refer to the section labeled Medical Leave of Absence.

B. Students may request special accommodations for an absence to be excused in the following cases:

    1. Medical reasons
    2. Death in immediate family
    3. Personal qualified emergencies (documentation must be provided)
    4. Religious expression or practice

Deanna Rayment, deanna.rayment@nyu.edu, is the Coordinator of Student Advocacy, Compliance and Student Affairs and handles excused absences. She is located in 5 MTC, LC240C and can assist you should it become necessary.

NYU School of Engineering Academic Calendar – complete list here.
The last day of the final exam period is 19-May-2020. Final exam dates for undergraduate courses will not be determined until later in the semester. If you have two final exams at the same time, report the conflict to your professors as soon as possible. Do not make any travel plans until the exam schedule is finalized.

Also, please pay attention to notable dates such as Add/Drop, Withdrawal, etc. For confirmation of dates or further information, please contact Susana: sgarcia@nyu.edu

Additional Policies
Communication
We may occasionally use email to make class announcements. It is your responsibility to check your NYU email account regularly. Assignments will typically be posted on NYU Classes. It is your responsibility to check NYU Classes for assignments, and to submit your work there in a timely manner.

Exam Policy

Your valid NYU ID card will be verified prior to the administration of any exam. Talking during exams is strictly prohibited; a violation of this policy will result in failure. If you have a question during an exam, raise your hand and wait for a professor or proctor to arrive. All electronic devices (phones, laptops, etc.) are banned from use in all tests. If you are caught with one in your possession; a violation of this policy will result in failure. Test entry is prohibited 60 minutes after the start of the test. Exit from the test is prohibited until 60 minutes after the start of the test.

Final Exam

Final exams will be held during the week of May 13th-19th. Exact times will be announced by NYU at a later date. We are unable to provide earlier final exams. Please do not make any travel plans that could potentially conflict with final exams. If you have another final exam that conflicts with this exam, please notify your instructor ASAP.

Late Policy

In general, we do not accept late assignments and do not offer substitute times for exams. Documented special cases may be considered.

Attendance

Students are expected to arrive to every class promptly. You should be actively engaged in the learning process during the duration of the class time. Class attendance is mandatory.

Please disable or silence any device which may audibly disrupt the class. This includes phones, beepers, and tablets. Please do not eat or drink during class.