

# CSc 120: Introduction to Computer Programming II

MWF 8:00am-8:50am, Integrated Learning Center 120

SYLLABUS: Fall 2017

## Course Description

This course provides a continuing introduction to programming with an emphasis on problem-solving. It considers problems drawn from a variety of domains, including Computer Science, and emphasizes both the broader applicability of the relevant data structures and programming concepts, as well as the implementation of those structures and concepts in software. Topics include: arrays, lists, stacks, queues, recursion, trees, searching and sorting; classes and objects; invariants and pre-/post-conditions; incremental program development, testing, and debugging.

## Course Prerequisites

**CSc 110** or prior programming experience with Python or comparable programming language. Students should be able to decompose simple problems, write short programs (20-50 lines) incorporating simple control and data structures (**if**, **for**, **while** statements; array and list data structures), and test and debug simple programs.

## Instructor and Contact Information

**Name:** Janalee O'Bagy  
**Email:** [jobagy@email.arizona.edu](mailto:jobagy@email.arizona.edu)  
**Office:** Gould-Simpson 854;  
**Office Hours:** Mon, Wed 10:00am – 12:00pm;  
or by appointment

**Section Leaders:** This class has 7 section leaders. Their contact information and study center hours can be found on the class website.

**Class website:** <https://www2.cs.arizona.edu/classes/cs120/fall17>

## Expected Learning Outcomes

Students who successfully complete this course should be able to:

- effectively decompose simple programming problems;
- comfortably write moderate-sized (100–300 line) programs incorporating a variety of control and data structures; and
- debug and test programs.

## Absence and Class Participation Policy

Attendance is expected at all lectures and discussion section meetings. Students who miss class or exams due to illness or emergency are required to bring documentation from their health-care provider or other relevant professional third parties. Failure to submit third-party documentation will result in unexcused absences.

The UA's policy concerning Class Attendance, Participation, and Administrative Drops is available at: <http://catalog.arizona.edu/policy/class-attendance-participation-and-administrative-drop>

The UA policy regarding absences for any sincerely held religious belief, observance or practice will be accommodated where reasonable, <http://policy.arizona.edu/human-resources/religious-accommodation-policy>.

Absences pre-approved by the UA Dean of Students (or Dean Designee) will be honored. See: <https://deanofstudents.arizona.edu/absences>

## **Makeup Policy for Students Who Register Late**

Students who register late may not make up any missed work.

## **Course Communications**

Course communications will be made through the Piazza website for this class, at <https://piazza.com/arizona/fall2017/csc120>.

It is your responsibility to make sure that you are signed up for this class in Piazza and to read postings and announcements in a timely manner. Not doing so is not an acceptable reason for failing to meet any announced changes to assignment specifications or deadlines.

## **Required Texts or Readings**

The class has no required text.

Optional text: *Problem Solving with Algorithms and Data Structures using Python (2<sup>nd</sup> ed.)*, by Bradley Miller and David Ranum. Franklin Beedle & Associates, 2011. ISBN 978-1-59028-257-1.

Nothing will be assigned out of this book; it is mentioned here as a possible reference for students who would like one. Students will receive all the information they need to complete their assignments through class resources.

## **Assignments and Examinations: Schedule/Due Dates**

### **I. Programming Assignments**

Students will be required to complete 10 programming assignments. Programming assignments will typically be given weekly, making for a total of 11 or 12 assignments over the course of the semester, and the best 10 scores will be used for computing the student's grade.

Assignments will generally be given on Wednesdays and will consist of two components: a set of short problems due on Saturday; and a set of larger problems due the following Thursday. Students will receive their grades and feedback by the end of the day on the following Monday.

Assignments are due at the time stated on the assignment announcement. Late submissions will not be accepted.

### **II. Midterms**

There will be two midterms in class on the following dates:

Midterm 1: Sept. 27, 2017

Midterm 2: Nov. 8, 2017

Make-up exams will not be given except for unforeseeable emergencies, and only when supported by documentation from an appropriate source such as a doctor's note.

## **Final Examination**

Wednesday, 12/13/2017, 8:00am – 10:00am (in the regular classroom)

Information on final exam schedules and regulations is available at <http://www.registrar.arizona.edu/schedules/finals.htm> and <https://www.registrar.arizona.edu/courses/final-examination-regulations-and-information>.

## Grading Scale and Policies

Grades will be computed using the following weighting for the graded components of the class:

- 40% Weekly programming assignments
- 5% Weekly section participation
- 30% Midterms
- 25% Final

The weighted scores computed using this scheme will translate to letter grades as follows:

- 90% and above: A
- 80% and above, but below 90%: B
- 65% and above, but below 80%: C
- 55% and above, but below 65%: D
- Below 55%: E

University policy regarding grades and grading systems is available at <http://catalog.arizona.edu/policy/grades-and-grading-system>

**Requests for incomplete (I) or withdrawal (W)** must be made in accordance with University policies, which are available at <http://catalog.arizona.edu/policy/grades-and-grading-system#incomplete> and <http://catalog.arizona.edu/policy/grades-and-grading-system#Withdrawal> respectively.

**Dispute of Grade Policy** All regrade requests for programming projects must be made within two weeks of when the grade is returned. All regrade requests for exams must be made within one week of when the graded exam is returned.

## Scheduled Topics/Activities

Week no.	Week of	Topic	Other
1	08/21/2017	Syllabus; Python review	Quiz
2	08/28/2017	Python review	
3	09/04/2017	Classes and objects (OOP)	
4	09/11/2017	Top Down Design; Debugging	
5	09/18/2017	Invariants, pre-/post-conditions	
6	09/25/2017	Exceptions; Testing	Midterm 1 9/27
7	10/02/2017	Array-based lists; Big-O	
8	10/19/2017	Big-O; linked lists	
9	10/16/2017	Linked lists	
10	10/23/2017	Hash tables; list comprehensions	
11	10/30/2017	Recursion	
12	11/06/2017	Sorting; generator, iterators	Midterm 2 11/8
13	11/13/2017	Trees; searching trees	
14	11/20/2017	Binary search trees	
15	11/27/2017	Stacks, queues, circular structures	
16	12/04/2017	Graphs	

## Department of Computer Science Code of Conduct

The Department of Computer Science is committed to providing and maintaining a supportive educational environment for all. We strive to be welcoming and inclusive, respect privacy and

confidentiality, behave respectfully and courteously, and practice intellectual honesty. Disruptive behaviors (such as physical or emotional harassment, dismissive attitudes, and abuse of department resources) will not be tolerated. The complete Code of Conduct is available on our department web site.

We expect that you will adhere to this code, as well as the UA Student Code of Conduct, while you are a member of this class.

## **Classroom Behavior Policy**

To foster a positive learning environment, students and instructors have a shared responsibility. We want a safe, welcoming, and inclusive environment where all of us feel comfortable with each other and where we can challenge ourselves to succeed. To that end, our focus is on the tasks at hand and not on extraneous or disruptive activities (e.g., texting, chatting, reading a newspaper, making phone calls, web surfing, etc.). Students observed engaging in disruptive activity will be asked to cease this behavior. Those who continue to disrupt the class will be asked to leave lecture or discussion and may be reported to the Dean of Students.

## **Threatening Behavior Policy**

The UA Threatening Behavior by Students Policy prohibits threats of physical harm to any member of the University community, including to oneself. See <http://policy.arizona.edu/education-and-student-affairs/threatening-behavior-students>.

## **Accessibility and Accommodations**

Our goal in this classroom is that learning experiences be as accessible as possible. If you anticipate or experience physical or academic barriers based on disability, please let me know immediately so that we can discuss options. You are also welcome to contact the Disability Resource Center (520-621-3268) to establish reasonable accommodations. For additional information on the Disability Resource Center and reasonable accommodations, please visit <http://drc.arizona.edu>.

If you have reasonable accommodations, please plan to meet with me by appointment or during office hours to discuss accommodations and how my course requirements and activities may impact your ability to fully participate.

Please be aware that the accessible table and chairs in this room should remain available for students who find that standard classroom seating is not usable.

## **Code of Academic Integrity**

Students are encouraged to share intellectual views and discuss freely the principles and applications of course materials. However, graded work/exercises must be the product of independent effort unless otherwise instructed. Students are expected to adhere to the UA Code of Academic Integrity as described in the UA General Catalog. See: <http://deanofstudents.arizona.edu/academic-integrity/students/academic-integrity>.

Programming assignments must be completed individually; all code you submit must be your own work. You may discuss general ideas of how to approach an assignment, but never specific details about the code to write. Any help you receive from or provide to classmates should be limited and should never involve details of how to code a solution. You must abide by the following rules:

- You may not work as a partner with another student on an assignment.
- You may not show another student your solution to an assignment, nor look at another student's solution, for any reason.
- You may not have another person "walk you through" an assignment, describe in detail how to solve it, or sit with you as you write it. You also may not provide such help to

another student. This includes current or former students, tutors, friends, SLs, paid consultants, people on the Internet, or anyone else.

- You may not post your homework solution code online to ask others for help. This includes public message boards, forums, file sharing sites and services, or any other online system.

If you are retaking the course, you may resubmit a previous solution unless that program was involved in an academic misconduct case. If misconduct was found, you must write a new version of that program.

Under our policy, a student who gives inappropriate help is equally guilty with one who receives it. Instead of providing such help to someone who does not understand an assignment, please point them to other class resources such as lecture examples, the textbook, the IPL, or a SL or instructor. You must not share your solution and ideas with others. You must also ensure that your work is not copied by others, such as making sure to log out of shared computers, not leaving printouts of your code in public places, and not emailing your code to other students or posting it on the web. Please be careful, and contact the instructor if you are unsure whether a particular behavior falls within our policy.

Selling class notes and/or other course materials to other students or to a third party for resale is not permitted without the instructor's express written consent. Violations to this and other course rules are subject to the Code of Academic Integrity and may result in course sanctions. Additionally, students who use D2L or UA e-mail to sell or buy these copyrighted materials are subject to Code of Conduct Violations for misuse of student e-mail addresses. This conduct may also constitute copyright infringement.

The penalty for a violation of the policy is, at a minimum, a reduction in grade; depending on the seriousness of the violation it may be as high as an overall failing grade for the course.

## **UA Nondiscrimination and Anti-harassment Policy**

The University is committed to creating and maintaining an environment free of discrimination; see <http://policy.arizona.edu/human-resources/nondiscrimination-and-anti-harassment-policy>

## **Additional Resources for Students**

UA Academic policies and procedures are available at <http://catalog.arizona.edu/policies>

Student Assistance and Advocacy information is available at

<http://deanofstudents.arizona.edu/student-assistance/students/student-assistance>

## **Subject to Change Statement**

Information contained in the course syllabus, other than the grade and absence policy, may be subject to change with advance notice, as deemed appropriate by the instructor.