

CSC 120: Introduction to Computer Programming for Non-majors Spring 2020

Instructor: Christine Kikuchi
Office hours: By appointment
Email: cmkikuch@uncg.edu
Prerequisite: None
Credit hours: 3 credits

Email:

When you email me, please use the subject line of CSC 120. Sign your email, using your first *and* last name. When you email me, please use only your UNCG email.

Meeting Times and Locations:

This course has a lecture as well as a lab component.

CSC 120-01 Lecture	Tuesdays	09:30-10:45am	Petty 227
CSC 120-01 Lab	Thursdays	09:30-10:45am	Petty 222

Course Description:

Introduction to computer programming for non-computer science majors, including programming concepts of variables, expressions, decision statements, iteration, functions, and modular design. Language and applications chosen to be relevant to non-majors.

Course Introduction:

This course introduces non-computer science majors to computer programming, an indispensable 21st century skill for many disciplines.

Many of the benefits of this course are derived from practicing the learning techniques with others. Good learning, like good work, is collaborative and social; learning is not competitive, and learning is not achieved in isolation. By sharing your ideas with others, and responding to their reactions, not only will your thinking skills be sharpened, but your understanding of the subject deepened as well.

The topics that will be covered during the course of the semester include:

1. Introduction to Computers and Programming
2. Data: Input, Processing, and Output
3. Decision Structures and Boolean Logic
4. Repetition Structures
5. Functions
6. Files and Exceptions
7. Lists and Tuples

8. Strings
9. Dictionaries and Sets
10. Classes and Object-Oriented Programming
11. Use of third-party libraries (e.g., matplotlib, numpy, pandas, etc.)

Course Materials:

Author	Book	ISBN-13
Gaddis, Tony	<i>Starting Out with Python (4th Edition)</i> . Pearson, 2017	978-0134444321
<p>Software: This class will use the Python programming language, version 3.8.1. This is a free program. Python is installed on all of the UNCG computer lab computers. Download Python by going to https://www.python.org/downloads/.</p> <p>An IDE (integrated development environment) is an application that allows programmers to more easily build their programs. This class will be using IDLE as the IDE. When you downloaded Python, you automatically got IDLE.</p>		
<p>Supplies: You will need to have a portable storage device to save your work. Assignments and program code may not be saved to the computer's hard drives.</p>		

Computer Laboratory Facilities:

The Department of Computer Science and the Department of Mathematics and Statistics manage a lab for computer science and mathematics students in **Room 211** of the Petty Building. The computers in this lab are updated regularly, and contain general software as well as any specialized software needed for computer science classes. This lab is where [computer science tutors](#) are located, and is sometimes used for classes or special events.

In order to use this lab, students must have their computer account configured with the necessary login rights — if you need to have this set up, please check with the Computer Science office in Petty 167.

The University runs a number of [open-access computer labs](#) distributed around campus that any UNCG student can use. These labs contain modern systems and have a lot of useful software installed, including development tools. One lab is conveniently located for computer science students in **Petty 222**, and is open during the day Monday-Friday. For late night and weekend computer access, students can use the “SuperLab” in the Jackson Library. A full list of labs and hours of operations is available at the [ITS Lab Hours web page](#).

No documentation or software may be removed from the Computer Lab and no programs may be installed on the machines.

Methodology:

Classes will assume that you have read the required materials and prepared the assignments. Classes will include lecture, discussion, participation, and opportunities to work with Python to learn programming.

Course Goals/Objectives

After completing this course, you should be able to:

- Describe the structure and use of fundamental programming concepts including variables, expressions, decision structures, and iteration
- Describe properties of fundamental data types (integers, floating point numbers, characters, and strings)
- Predict behavior and outcome of programs
- Create small-scale programs to solve computational problems
- Apply concepts of abstraction and modular design to structure programs cleanly
- Use programming constructs in an interactive tool to explore and analyze data

Grading Information:

Grades will be determined as follows:

(6) homework assignments (5% each)	30%
(6) quizzes (students will take 7 quizzes, but the lowest quiz grade will be dropped – 2.5% each)	15%
(8) Labs (1.25% each)	10%
Midterm Exam	20%
Final Exam	25%
TOTAL	100%

The grading scale, based on 100 points, is:

A+	97 and above
A	93-96.9
A-	90-92.9
B+	87-89.9
B	83-86.9
B-	80-82.9
C+	77-79.9
C	73-76.9
C-	70-72.9
D+	67-69.9
D	63-66.9
D-	60-62.9
F	Below 60

In order to receive full credit, assigned work must be submitted at the start of the class on the scheduled due dates. Late assignments will **not** be accepted. If a homework assignment or test is missed, **documentation must be provided showing the reason for the student's absence**. No makeup test or assignment will be given without sufficient written documentation. **Arrangements for make-ups of the midterm and final exam are made only for official emergencies and must be made prior to the examination. Documentation must be provided showing the reason for the student's absence.** Students who miss a lab have the opportunity to submit the work at the start of the next class session. Any lab that is not submitted by that time period will not be accepted.

EXTRA CREDIT: There is no such thing as Extra Credit.

HOMEWORK PROJECTS: There will be six homework assignments. Submission of the 6 assignment will be counted into the course grade at 30%. All papers must have your full name, class title and section, and assignment number written on them.

The projects are designed to give the student practical experience with the theory presented. Students having trouble with the projects are encouraged to seek help from a classmate, the instructor, or other person. Do not wait until the last minute to begin work on your projects. I will be more than happy to help you with any assignment as long as you come to see me prior to its being due. Please do yourself a favor and come see me when you need help! If you can't come see me, email me.

Group work is encouraged, but only for studying the material discussions. Note that plagiarized programs or exams, whether or not copied in whole or in part, will receive a grade of 0 (zero).

LABS: There will be a number of labs and it is *vital* that students attend the lab and do the work. Successfully accomplishing the lab work will help students be able to complete their homework assignments and be more successful in taking quizzes and exams. Submission of the 8 labs will be counted into the course grade at 10%. **Students who do not finish the assigned lab in the allotted time or those students who were not in class on the lab day will be expected to submit the lab at the start of the next class session.**

QUIZZES: Each quiz will be a combination of short answer, fill-in the blank, multiple choice, essay questions, and problems. Quizzes will be taken on "lab days" and will cover at least one chapter and the lecture notes for those chapters. There will be a total of seven quizzes, covering, usually, one chapter of material. Submission of the 7 quizzes will be counted into the course grade at 30%. The lowest quiz grade will be dropped. If a student misses taking a quiz, then that will be the dropped quiz grade.

EXAMS: Each examination will be a combination of short answer, fill-in the blank, multiple choice, essay questions, and problems. Attention to class discussions, being able to discuss and apply assigned reading materials, participating in class, and completion of assignments and projects will prepare you for the examinations. The midterm will cover Chapters 1 - 4 and the lecture notes and the final exam will be cumulative, covering Chapters 1 - 8 and the lecture notes. The final exam must be taken. If the final is missed without prior arrangement, the student will be given a zero for the exam.

TIME REQUIREMENTS: Students will be spending a considerable amount of non-classroom time researching, reading, and preparing class assignments. A rough estimate, based on the mythical average student, would be 10-12 hours per week in outside class time.

ATTENDANCE: Attendance will be taken during each class. If you come to class late, it is your responsibility to make sure that you have not been put down as absent. An absence is counted as not being in class for any reason. Attendance is taken daily. The instructor reserves the right to drop any student who misses more than 3 classes. Late arrival and early leaving will be counted as an absence. It remains your responsibility to obtain information concerning the material covered and upcoming assignments.

ELECTRONIC DEVICE POLICY: Cell phones and other electronic devices should be turned off prior to the beginning of class.

OFFICE HOURS: Although I do not have an official office hour, I am more than willing to meet with you one-on-one. You may make an appointment with me in class or by emailing me.

WITHDRAWAL: In your time at UNCG, you may encounter a need to withdraw from a class, multiple classes, or from the University, but before you decide it is important that you understand the potential academic and financial impacts of withdrawing. Doing so will ensure that you are able to make an informed choice about the best possible option for you. Undergraduate, degree-seeking students who began at UNCG in fall 2014 or later will be limited to withdrawing from a maximum of 16 semester hours throughout their degree. You will need to drop the class by the drop/add deadline, which is located on the [Academic Calendar](#). The [Students First Office](#) is available to help you understand and interpret the withdrawal policies to help you make an informed decision about next steps.

HEALTH AND WELLNESS: Your health impacts your learning. Throughout your time in college, you may experience a range of health issues that can cause barriers to your learning. These might include physical ailments, illnesses, strained relationships, anxiety, high levels of stress, alcohol/drug problems, feeling down, or loss of motivation. Student Health Services and The Counseling Center can help with these or other issues you may be experiencing. You can learn about the free, confidential mental health services available on campus by calling 336-334-5874, visiting the website at <https://shs.uncg.edu/> or visiting the Anna M. Gove Student Health Center at 107 Gray Drive. Help is always available.

CLASSROOM DECORUM: Disruptive behavior is unacceptable in any classroom. You should arrive on time; habitual tardiness is disruptive. Eating and drinking is not permitted in class. Smoking is strictly prohibited in classrooms. This includes e-cigarettes.

You are adults; I will treat you as such and have expectations that you will not show any disruptive behavior in my classroom. If you are interested, you may see [UNCG's Disruptive Behavior Policy](#).

STUDENT SUCCESS CENTER: The Student Success Center (SSC) was created to offer supplemental assistance to students enrolled in all courses at the College. The SSC offers a variety of services at all

levels, ranging from tutoring for select courses, academic skills for any UNCG student, supplemental instruction, and counseling. The SSC web site can be found at <https://studentsuccess.uncg.edu/home/>. Physically, they are located at the Forney Student Success Commons, Rooms 114 and 214. Telephone 336.334.3878

ACADEMIC INTEGRITY POLICY: The Department of Computer Science seeks to comply fully with the Academic Integrity Policy (<https://osrr.uncg.edu/academic-integrity/>) set forth by the University. As such, any observed violation of this policy will result in the following:

- The instructor will determine a grade related sanction (e.g., zero for the assignment, failure of the course).
- If this is the first noted violation within the department, the instructor may decide to report this violation at the department level only. If the instructor deems this violation to be sufficiently severe, however, it may be reported at the university level regardless of any prior violations.
- In all cases, if there is a record of a previous violation, this violation will be reported to the university.

STUDENT GRIEVANCE POLICY: UNCG provides several means which a student may address complaints and grievances. Students are advised to put their concerns in writing and carefully document the events that led to the complaint or grievance. As it is sometimes confusing as to which of the routes listed below should be followed, students are advised to contact the Dean of Students Office for advice on which procedure to follow. Go to the [Student Grievance and Appeals Policies and Procedures](#) page to get help.

OFFICE OF ACCESSIBILITY RESOURCES & SERVICES: The University of North Carolina at Greensboro respects and welcomes students of all backgrounds and abilities. If you feel you will encounter any barriers to full participation in this course due to the impact of a disability, please contact the Office of Accessibility Resources and Services (OARS). The OARS staff can meet with you to discuss the barriers you are experiencing and explain the eligibility process for establishing academic accommodations UNCG seeks to comply fully with the Americans with Disabilities Act (ADA). Students requesting accommodations based on a disability must be registered with the Office of Accessibility Resources and Services (OARS) in 215 Elliott University Center, 334-5440, oars.uncg.edu.

UNIVERSITY CLOSINGS: If university facilities are closed due to flu outbreak or other emergencies, it does not mean that classes are canceled. In such an event, please check the Canvas site for information about if and how the class will proceed.

DISCLAIMER: This syllabus is intended to give the student guidance in what may be covered and how evaluation is done during the semester. It will be followed as closely as possible. However, the instructor reserves the right to modify, supplement and make changes as needs arise.

Course Schedule: *(This schedule is subject to change)*

Week	Session Dates	Readings, Assignments, and Due Dates
1	January 14 & January 16	Welcome to class & syllabus Mini lectures: No Fear, the PDLC, and The Structure Theorem Chapter #1: Introduction to Computers and Programming Lab One January 17: Last day to withdraw from a course for tuition and fees refund; course withdrawal policy in effect after this date.
2	January 21 & January 23	Mini lectures: Top Down Design and Pseudocode Chapter #2: Data: Input, Processing, and Output Quiz One (Chapter 1 & Mini lectures: No Fear, the PDLC, and The Structure Theorem) Programming Assignment One Assigned
3	January 28 & January 30	Chapter #2: Data: Input, Processing, and Output (continued) Lab Two
4	February 4 & February 6	Chapter #3: Decision Structures and Boolean Logic Quiz Two (Chapter 2 & Mini lectures: Top Down Design and Pseudocode) Programming Assignment One Due (February 6) Programming Assignment Two Assigned March 9: Last day to withdraw from a course without incurring a WF grade (withdraw failing)
5	February 11 & February 13	Chapter #3: Decision Structures and Boolean Logic (continued) Lab Three
6	February 18 & February 20	Chapter #3: Decision Structures and Boolean Logic (continued) Quiz Three (Chapter 3) Programming Assignment Two Due (February 20) Programming Assignment Three Assigned
7	February 25 & February 27	Chapter #4: Repetition Structures Lab Four
8	Week of March 2 – March 6	Spring Break
9	March 10 & March 12	Chapter #4: Repetition Structures (continued) Quiz Four (Chapter 4) Programming Assignment Three Due (February 27) Programming Assignment Four Assigned October 14, 2010: Mid-semester - Last day to drop a class or withdraw from College without penalty
10	March 17 & March 19	Chapter #4: Repetition Structures (continued) & Review for Midterm Midterm (Chapters 1 - 4 and lecture notes)

Week	Session Dates	Readings, Assignments, and Due Dates
		Programming Assignment Four Due (March 12)
11	March 24 & March 26	Chapter #5: Functions Lab Five
12	March 31 & April 2	Chapter #5: Functions (continued) Quiz Five (Chapter 5) Programming Assignment Five Assigned
13	April 7 & April 9	Chapter #6: Files and Exceptions Lab Six
14	April 14 & April 16	Chapter #7.1-7.7: Lists and Tuples Quiz Six (Chapter 6) Programming Assignment Five Due (April 9) Programming Assignment Six Assigned
15	April 21 & April 23	Chapter #7.1-7.7: Lists and Tuples (continued) Lab Seven Quiz Seven (Chapter 7)
16	April 28	Chapter #8: Strings & Lab Eight . Class will be held in Petty 222. Programming Assignment Six Due (April 28)
	Week of May 4 – May 8	Final Examination Week – Date and time to be announced (Chapters 1 – 8 and lecture notes)