

CMSC 140 (Spring 2019)
Introduction to Programming (3 credits)
<http://marmorstein.org/Spring2019/cs140.html>

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Lecture:

Section 01: 10:00am-10:50am MWF (Ruffner G54)
Section 02: 12:00pm-12:50pm MWF (Ruffner G54)

Office Hours:

MWF 1:00-2:00pm
TR 3:00-4:00pm

I am also available by appointment. To schedule an appointment, contact me by e-mail and list times you are free. Please be aware that, in general, I need at least 24 hours of notice to schedule a meeting (though you can always ask).

Course Description:

A first course in computer programming, intended for students with no previous experience in writing computer programs. Emphasis will be placed on practical programming skills; assignments will primarily use the Python programming language. Students will cover the fundamental control structures and will learn to process real data stored in sequential lists and in key-value pairs. Students may not enroll in this course if CMSC 160 has already been completed.

Prerequisites: This course has no prerequisites.

Course Objectives:

By the end of the course, the successful student will be able to:

1. Write a Python program that takes inputs, transforms them, and produces output.
2. Use iterative and conditional constructs in a program.
3. Describe the representation of data values on a computer system.

Core Curriculum Objectives:

Students will:

1. Engage in creative inquiry and cultivate curiosity.
2. Develop foundational knowledge and skills such as (how to communicate, study, and read texts) in Computer Science.
3. Create and deliver writing appropriate to audience, purpose, and context.

Quantitative Reasoning Pillar Objectives

Students will be able to:

1. Formulate a question/issue using appropriate mathematical, algorithmic, and/or statistical terms, and explain the decision process behind the choices made in that formulation.
2. Use mathematical, algorithmic, and/or statistical methods to gather and/or analyze data.
3. Determine the reasonableness of an answer and/or evaluate the explanations of data for reasonableness. Understand the limitations behind the methods used in objective 2.
4. Interpret the results of a mathematical, algorithmic, and/or statistical analysis. Present the interpretation in a context appropriate for a broader audience.

Textbook and Other Resources:

The textbook for this class is "Fundamentals of Python: First Programs, Second Edition" by Kenneth A. Lambert, 2012, ISBN: 978-1-337-56009-2, published by Cengage books. There are two versions of this book: a hardback book and a somewhat cheaper looseleaf book.

If you order the looseleaf book, you will receive a set of hole-punched pages with no binding. You are welcome to do so, but PLEASE buy a 2-ring binder to hold the pages – I will not grant extensions or other accommodations to students who lose pages from their textbook.

Course Requirements:

Your grade will depend largely on completion of the lab sessions. I will assign a project roughly every other week. These projects will comprise 50% of your grade. The remainder of your grade will come from homework assignments and quizzes (30%), the participation(5%), and the final exam (15%).

Grading Policy:

Late work will not be accepted unless you have a serious medical or family emergency which prevents you from completing the assignment on time. In such cases, you do not need a doctor's note, but you must send me **e-mail** within twelve hours of the assignment due date to explain your circumstances and to make arrangements for the work to be completed.

Slip Days:

You will be allocated a fixed number of slip days at the start of the semester. You may use your slip days to extend the due date of one or more *programming projects* (slip days cannot be used on homework assignments, quizzes, or other graded work). You can use all of your slip days on one programming assignment or you may use them over multiple assignments.

Slip days are calculated from the minute the assignment is due until you turn it in. They are rounded *up* to the nearest integer value. That means that if you turn an assignment in 24 hours and 1 minute late, you will use up *two* slip days. The slip day clock runs over weekends and holidays. If a lab is due on Friday and you turn it in on Monday, you will have used three slip days, not one. Slip days cannot be shared, traded, bought, or sold, but can occasionally be earned through extracurricular activities I designate.

Grading Scale:

100-91:	A	90:	A-
89:	B+	88-81:	B
79:	C+	78-71:	C
69:	D+	68-64:	D
63 or lower:	F	(There is no grade of D- in this course.)	

Attendance:

I expect you to attend class unless you are sick or engaged in a school-sponsored sport or extracurricular activity. Please do NOT come to class if you are sick. Instead, contact me within 12 hours of the absence to check whether you've missed any work and then make arrangements to get notes from another student in the class. You should also check the course web site for announcements, new assignments, and other important updates.

I will rely primarily on your honor for enforcement of the attendance policy. However, I will keep a record of your attendance as required by Longwood policy. In accordance with campus policy, missing more than 10% of scheduled class time (about 4 class sessions) to unexcused absences may, at my discretion, result in loss of one letter grade. Missing 25% of class or more (about 10 class sessions), whether excused or not may result in an automatic failing grade.

Food and Drink:

You may bring non-alcoholic beverages, including soft drinks, to class. However, please do not eat in class (it distracts me and the other students). Violations of this policy will be considered an unexcused absence.

I occasionally grant exceptions to this rule for students who must otherwise forgo lunch or have medical needs that require them to eat in class. If you feel that you need such an exception, you must make arrangements with me in advance (i.e. before bringing food to class).

Cell Phones and Laptops:

Cell phones, music players, and laptops are to be turned off and put away during class, except as needed for the lab sessions. Violations of this policy will be considered an unexcused absence.

Collaboration:

Exams and quizzes are to be completed entirely on your own. You may discuss the homework and lab projects with other students subject to these restrictions:

1. You must turn in a copy of your own work which YOU have typed or hand-written.

The work you submit should, in general, be your own original work or material which I have provided and you have suitably modified by yourself. You MAY assist other students or get assistance with simple problems like syntax errors, but you may NOT copy large blocks of code from each other. A good guideline of what "large" means is that copying one or two lines of code is usually okay, but copying more than three complete statements is usually too much. If you are working in an assigned group, you may turn in one copy of the assignment for all the members of your group as long as you are careful to make sure that the name of each group member appears in a comment at the top of the files to which they contributed.

2. You may NOT copy code electronically from other students or the Internet.

This doesn't mean you can't look online for help with a project. It just means that you must re-type any code you find (again subject to the three line limit) and not download it or copy/paste it. You may not share code with other students using flash drives, cell phones, e-mail, web sites, floppies, CDs, or any other electronic storage or communication device unless you are both assigned to the same group for a project. You may not print out copies of your code to share with other students (personal copies or copies for other students in your group are fine).

3. You must give proper attribution.

Whenever you receive help or use an online resource, you should comment your code to give proper credit. A simple comment like "/ based on <http://codewarrior.com> */" is fine. This comment should go directly above or directly after the place that you used the resource or received help to make it clear which parts of your program are not entirely original.*

4. You are responsible for securing your code.

Helping other students to cheat is also cheating. Furthermore, it is your responsibility to make sure that other students do not use your work to cheat. Be careful with who you let access your computer and report any missing files, flash drives, or other devices to me promptly.

Infractions of these policies will be dealt with harshly under the Longwood Honor Code. Any student convicted of an honor offense involving this class will automatically receive a final course grade of **F** in addition to any penalties imposed by the Honor Board. You should consider all work in this class to be pledged work, whether or not the pledge appears on the assignment.

Computing Environment:

In order to complete the programming assignments, you will need to install and configure a Python development environment on your laptop. ***You are responsible for getting a development environment set up and working correctly on your system.***

To do this, you have two options. One option is to install Python and IDLE directly in your existing operating system. This has the advantage of simplicity, but can make turning in work somewhat more difficult. A second option is to run a version of the Linux operating system on your computer either by dual-booting your system or by installing Linux on a Live USB disk.

Tentative Course Schedule:

Jan. 16 – 18	Algorithms and Programming, Reading and Understanding Computer Science Writing (Read Chapter 1)
Jan. 21	Martin Luther King Day: No Class
Jan. 23 – 25	Data Types and Expressions, The Quantitative Reasoning Process, (Read Chapter 2)
Jan. 23	Last day of add/drop
Jan. 28-Feb. 1	Control Statements, Formulating a problem (Read Chapter 3)
Feb. 4 – 8	Strings and Text Files (Read Chapter 4)
Feb. 11 – 15	Lists and Dictionaries (Read Chapter 5)
Feb. 18 – 22	Spreadsheets and Structured Files, Gathering and Analyzing Data
Feb. 25 – Mar. 1	Functions, Recursion, and Design (Read Chapter 6)
Mar. 4 – 8	Spring Break: No Class
Mar. 11 – 15	Testing for Reasonableness
Mar. 18 – 22	Graphics, Charts, and Images (Read Chapter 7)
Mar. 25 – 29	Communicating Results
Apr. 1 – 5	Object-Oriented Programming (Read Chapter 8)
Apr. 2	Deadline to withdraw without an F
Apr. 8 – 12	Retrieving Data from the Web, Citing Sources in Computer Science
Apr. 15 – 19	Searching and Sorting Algorithms (Read Chapter 11)
Apr. 22 – 26 Apr. 23	Project Work Week Research Day: No Class
Apr. 29	Catchup and Review
May 3 (Friday) May 6 (Monday)	Section 02 Final Exam (11:30am, Ruffner G54) Section 01 Final Exam (3pm, Ruffner G54)