

Programming Principles in Python

Spring 2022

CSCI 503-2/490-K3

TTh 12:30-1:45 PM

PM 153

Instructor: Dr. Reva Freedman
Email: rfreedman@niu.edu
Phone: My office has no phone. In emergency (i.e., if email not available), call the CSCI office at (815) 753-0378, and they will forward a message.
Office hours: Wed. 4-5 PM, Fri 11:30 -1 PM. See Blackboard for Zoom link.
TA: Satya Srikar Nittala, z1914030@students.niu.edu, MWF 10:30 AM - 12:30 PM. See Blackboard for Zoom link.

Course web sites:

- 1) Reference material and assignments at <http://faculty.cs.niu.edu/~freedman/503/>
- 2) Blackboard under CSCI 503 for slides and other information
- 3) turing/hopper at ~t90rkf1/d503 for some sample code

Textbook: Recommended book, Paul Deitel and Harvey Deitel. (2019). *Python for Programmers: With Introductory AI Case Studies*. ISBN 9780135224335. Extensive information about the topics covered in class can be found in the slides, on the class website and/or on websites of your choice. Class attendance will be necessary to keep up.

Course goals: To become a competent Python programmer using a clean, modern style, including functional programming constructs. To become a competent user of the most important standards, packages and system design concepts needed to use Python today.

Contacting the instructor: I will be happy to talk to you about questions or concerns at any time, including any topic relating to this course or other relevant topics. I encourage you to address small problems before they become big problems, not the day before the exam.

I try to respond to email by the next business day, but there are occasional exceptions. Questions that can be answered from reference material may not be answered. Questions requiring major debugging are best handled in person.

If you need debugging assistance or need to send code for other reasons, send your complete program using the same format as for submissions. Do not send pictures of text, i.e., copy and paste the text instead.

Late-breaking news, e.g., errors in assignments and weather emergencies, will be posted on Blackboard. Personal messages will be sent to your NIU email. I suggest you check both every morning.

Your TA is generally your best first reference for homework issues.

Class schedule: If the university is closed for weather or other reasons, class will automatically be cancelled. If weather or other emergencies arise, class cancellations will be announced as soon as possible via Blackboard.

Class attendance: Attendance is required. However, I will not explicitly take attendance. You are responsible for all material covered in class. If you miss a class, you must get notes from another

student before the next class, *not from the instructor*. Research has shown that students who attend class regularly do better regardless of other behaviors.

Although many or most class materials will be posted on Blackboard, that is for your convenience. This is *not* an online class, and there is no assumption that you can learn everything without attending class.

Class participation: Class participation is encouraged and will make the class more interesting for you and for other students. If you have a question, there are probably three other people with the same question who are even more shy than you.

Please ask ASAP if you don't understand, if I make a mistake, or if you are just curious about something. Questions about details, big ideas, concepts, algorithms, examples, related ideas and applications are all welcome.

Health and safety: Masks are required at all times in class. If the university changes the mask policy during the semester, masks may continue to be required in this class.

Class decorum: In classes for freshmen, I state the following rule on the syllabus: "No activity that interferes with learning, i.e., one that may distract other students or the instructor, is permitted in class. For example, eating, talking (whether in person or on the phone), newspaper reading, and regularly being late or leaving early are not permitted." In a class for seniors and graduate students, I assume it is not necessary to state such a rule explicitly; however, the rule remains in force.

Research has shown that activities such as texting and checking your email interfere with *your* retention of the material, however, they in general do not interfere with other people's ability to concentrate. Therefore these are permitted if you need to indulge in them. Please do not sit in the front row if you intend to engage in these activities, as it is distracting.

Quizzes: There will be approximately 3 quizzes. Quizzes will be announced one class period in advance. If you arrive after the quiz, you have missed the quiz. There are no makeup quizzes except under the rules given under exams.

Exams: There will be two midterm exams and a final. Dates of the midterms will be announced approximately one week in advance. The final exam will take place during the final exam slot, Tuesday, May 10, 12:00-1:45 PM. The exams will be traditional closed-book, closed-notes exams. Exams will be conducted in accordance with the department's academic integrity policy, which is available on the course web site.

All quizzes and exams should include your assigned 4-letter ID in upper case. For most people, your 4-letter ID will be the first four characters of the first word of your last name as it is recorded on myNIU. If that word contains less than 4 letters, fill it out with 0's. If two students would otherwise have the same 4-letter ID, I will assign each of you a different ID.

Programming is inherently a cumulative activity, so the exams may include material from earlier in the course.

Exams will include material from the lecture notes, written assignments and programs. Exam formats may include multiple choice, fill-in-the-blank and similar formats. They may also include some short functions to write (10-15 lines or so) and short essay questions. You will not be required to memorize names of libraries or similar issues. Slides used in class will be posted

at some point after the lectures in which they are used.

Examples for the programming questions on the exams will be available from the slides, sample code and the homework. Programming questions will assume that you have not only done the homework but learned from it, i.e., copying code from the sample programs used in class without understanding them may give you a working program but is less likely to give you the level of understanding you will need for the exams.

You are expected to take the exams on the assigned time and date. Missing an exam is an extremely serious matter: makeup exams will only be given if either (a) or *all* of (b), (c) and (d) are satisfied: (a) an unavoidable reason (e.g. car accident) with notice as soon as possible, (b) advance notification, (c) written documentation, (d) permission of instructor. For the final exam, permission of the department is also required.

Please notify me as soon as possible if you meet the university's criterion for rescheduling a final exam, i.e., you have three finals on the same day and this course is the highest-numbered of the three, or if you have another final exam at the same time. The university deadline for scheduling a makeup final is Monday of the last week of classes. Documentation will be required.

Assignments: There will be approximately eight programming assignments. There will also be additional work for graduate students.

Assignments must be submitted as defined in the assignment writeup. You have 72 late to use as you wish. After your late hours are used up, you will receive $(100 - 10 * n / 6) \%$ of your grade, rounded to the nearest integer, where n is the number of hours (rounded up) after the stated deadline, $n \leq 48$. Weekends count. I suggest you submit your assignments by 11:57 PM to make sure they are received on time.

In general, there are no waivers of the late penalty or extensions beyond this period. No assignments may be submitted after the last day of classes.

There may be penalties if your program does not follow the coding, layout, documentation, naming conventions or submission rules referred to in the assignment. See the class Python style guide.

To receive full credit, programs must (a) run as specified in the assignment, (b) follow the specifications, (c) be comprehensible to humans, (d) be accompanied by any requested writeup. If multiple versions (e.g., source, object, and/or output) are required, they must be consistent.

You may not use external code (from other people or from the web) without permission, with the exception of code from the official Python libraries. All programs must run on the class Jupyter server. If you develop them elsewhere, make sure you test them on the class server before you submit them.

If you believe your assignment has been graded incorrectly, you must see the instructor or the T.A., as appropriate, within one week after the assignments have been returned.

Grading: Each homework will be assigned a point count according to difficulty and the amount of time required. Grades will be calculated as follows: Exams 50% (first exam 15%, second exam 15%, final 20%), assignments 40%, quizzes 10% (grades will not be curved or rounded).

Grade	Average
A	≥ 92
A-	≥ 90
B+	≥ 88
B	≥ 82
B-	≥ 80
C+	≥ 78
C	≥ 70
D	≥ 60
F	< 60

Special circumstances: Students with special needs (disability accommodation, religious observances, required military service, major illness or other unexpected events) are encouraged to contact the instructor as soon as possible. Commuting, having a lot of work for your other classes, being busy at your job, and network problems are *not* special circumstances; they are normal circumstances that everyone has.

Disability accommodations: The instructor will provide all of the accommodations to which you are entitled by law. If you need an accommodation for this class, you must provide a notification letter from the Disability Resource Center. Once you provide a copy of the notification letter, we will have a private conference to determine how your approved accommodations will be handled in this class. This conference must be held and agreement reached before any accommodations can take effect. No accommodations will be allowed retroactively.

If you wish to take your exams at the DRC office, you must also follow DRC regulations with regard to exam scheduling.

For these reasons you should contact the DRC as soon as possible. They are located on the first floor (room 180) of the Campus Life Building, and can be reached at 815-753-1303 or drc@niu.edu. Also, please contact me privately as soon as possible to discuss possible accommodations – there is no need to wait until you have received the notification letter.

Academic integrity: You are encouraged to study together, however, that does not mean doing assignments together. Practice on problems from class, from the slides, or your own problems. Do the programs and any written assignments yourself.

You are expected to do your own work on the homework, programs and exams. Cheating includes, but is not limited to, copying work from other students, copying work from other textbooks, copying work from the Internet, or allowing others to do the same, whether deliberately or not.

You may not post material from this class, including answers to the homework assignments, on any public web site.

All cheating will result in the filing of an academic misconduct form and will affect your course grade, with the possibility of failing the course and/or losing your student job. The penalty for a first offense is usually two letter grades. Note that a second academic misconduct offense may result in your expulsion from the university.

We may use mechanized source comparison on the programs.