

INLS 560 002
Programming for Information Professionals

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Welcome

Welcome to INLS 560. This course, offered by the [UNC School of Information and Library Science](#), provides an introduction to computer programming focusing on language fundamentals and programming techniques for library and information science applications. Course content emphasizes problem-solving through the development of practical applications.

This course is taught with a focus on the [Python programming language](#). However, the core concepts are relevant to most modern programming languages such as Java, JavaScript and C++.

Please note that this course is designed for students with no prior programming experience. If you already know how to program, this is not the course for you.

Course Design and Approach

Computer programming is about problem solving. It is about breaking down a problem into smaller pieces, developing solutions for those sub-problems, and connecting them together to address the overall challenge. As Steve Jobs, the founder of Apple Computer said, "Everybody in this country should learn to program a computer... because it teaches you to think."

This class will provide an introduction to programming with a focus on the Python programming language. The course will teach you how to use Python, its syntax, and its features. However, the course will present material that is much more fundamental. You will learn a bit about how computers work. You will learn about data representations and structures. You will learn about flow control concepts including conditionals and iteration. You will learn design techniques, best practices, and debugging methods.

However, this course is not just about concepts. Throughout the semester, you'll be given opportunities for hands-on practice. This includes both in-class exercises and homework assignments. This follows a "learning by doing" philosophy which motivates much of this course's design. Given this design, you'll find that many class sessions include classroom exercises on your own laptop. You'll also find that the course schedule includes a large number of assignments, each designed to reinforce different course topics.

BEWARE: This class will require you to invest a significant amount of time to succeed. As a student in this course, you will be asked to complete readings in our text book, perform in-class exercises, and code up solutions to homework assignments. There will also be a final exam. Students who invest the required time in these activities will succeed. However, do not wait until

the last minute to complete your assignments. If you do, you may find that you simply don't have enough time to do the required work.

Books and Readings

Required Textbook

The organization for this course will adhere closely to the required textbook: *"Starting out with Python" by Tony Gaddis (published by Pearson)*. This book is sometimes referenced as SOWP elsewhere on this website. Copies of the textbook should be available in the Student Bookstore. The book is also available from online retailers in two versions (both with the same content):

- Bound paperback (more expensive): [Amazon](#); [Barnes and Noble](#)
- Loose leaf paperback (slightly less expensive): [Amazon](#)

Which Edition?

Officially, this course requires the most recent edition of Starting out with Python, which is the 5th edition. However, all recent versions of the book are essentially the same. If you search online, you might find earlier versions (e.g., the 3rd or 4th editions) for a much cheaper price. Though the page numbers and chapters may be organized slightly differently, the content is essentially the same. You will be perfectly well prepared for this course if you use one of these earlier editions.

You are free to use the 3rd, 4th, or 5th edition of the textbook. The 5th edition is the officially required version and any page numbers and section numbers reference that book. However, the earlier versions are fine as long as you make sure that the chapter sections you read map to the material we are covering in class for the day. If you have questions, please ask the instructor!

An Investment

I recognize that this book requires an investment on your part. This particular book has been selected because of the positive reviews from past INLS 560 students here at UNC. Those students strongly recommended this book, and it will be used extensively throughout the semester.

Optional References You Might Find Useful

In addition to the required textbook, there many other resources available to students who are interested in learning more. Many of these resources are available online. Good places to look for more about programming and Python include:

- Google (or DuckDuckGo). The search engines you use every day are perhaps the best place to go to find examples, code snippets, documentation, and more. I myself use

Google every day that I program to look things up. The web is the first place I go for help. You'll see this in class as we go through exercises together.

- ["Think Python" by Allen Downey](#). Available online and in print from O'Reilly.
- ["Learn Python", an online interactive tutorial](#).
- ["Learn Python the Hard Way" by Zed Shaw](#). Available online and in print from Addison-Wesley.

Class Policies

Attendance and Scheduling

Mostly-asynchronous?

This is a "mostly-asynchronous" class. Most of the lectures are in the form of pre-recorded videos by lead instructor David Gotz, which you are expected to watch on your own.

However, **where noted on the schedule, you are required to attend synchronous Zoom class sessions.**

For live sessions, I'll take attendance by name. For self-paced content, you will demonstrate "attendance" by participation on the Piazza forum in the form of "Required Lecture Review Questions" for each module. Attendance count towards your participation grade.

Class format and scheduling

Our official class time is Tuesday evenings, 5:45pm to 8:30pm. The official scheduling of the class drives the timing of course module releases, assignment due dates, etc. When live course sessions take place, they will meet at the scheduled time via Zoom.

The content of this class is intended to fit a course of two 75-minute sessions per week. The course modules are designed around this structure, so typically you will be expected to complete two modules every week. The week's modules will become available Friday before our scheduled class session at 8:00am, and materials for the current week will be due the Friday after our class session at 11:59pm, unless otherwise indicated.

What about the three hours that you have blocked off in your schedule every Tuesday evening?

One of my goals in offering this course as a mostly-asynchronous class is to ensure that you have time set aside to work on lecture content, while allowing you the flexibility to work on the content when it fits your life. Consider the time scheduled for our regular class session to be a work block to use for this course's content, or for any other purpose (as long as you ensure you review the course materials before the due date!).

At the same time, I want to ensure that we can meet as a live group a few times a semester -- for the introductory lectures and for important course milestone reviews.

In addition, I will ensure that I am available every Tuesday night during our normal class session if you would like to meet with me via Zoom. Please email me or message me on Piazza if you would like to have a one-on-one during our regular class period. I'm also happy to meet outside our regular class time if the need arises.

Participation

Class participation is a key element of this course, above and beyond the attendance requirements noted in the previous section. All students are expected to be fully engaged in the course. For an online course such as this, **participation is primarily reflected in your participation in the online Piazza discussion forum** (see the External Resources section of this syllabus below).

- If you don't understand something from class, **ask questions!**
- "Quality is better than quantity." Don't waste time posting trivial or irrelevant comments to Piazza just to be active. You won't be graded on the raw number of posts that you make over the course of the semester. If you have a question, post it to Piazza. If you can answer a classmate's question, post your answer. If you don't post at all, it will be reflected as a low participation score. However, your grade in the end will not simply reflect the volume of your posts. Instead, the value of your contributions to the discussion forum will be what determine your participation grade.

You can also earn extra credit for class participation by correctly answering the questions of other students. Students who are especially active in answering other students' questions throughout the semester can earn a 1% extra bonus on their final semester average for this course.

Assignments

Assignments are due by 11:59pm on the day they are due unless otherwise specified. **All due times are local to Chapel Hill, NC.** If you are taking this online course from another location, be sure to consider differences in time zones.

Assignments are to be submitted using Canvas unless instructed otherwise. Detailed instructions and grading criteria will be posted as part of the Canvas assignment.

Late assignments will be penalized 10% for each day late, up to a maximum of three days. A "day" here refers to a 24 hour period, or fraction thereof, after the due date. For example, a late assignment turned in 25 hours late will be penalized as two days late. No assignments will be accepted if more than 72 hours (3 days) late.

Start early and ask questions. Many assignments may turn out to be more time consuming than expected. It is strongly suggested that you start working on assignments as soon as they are assigned. In this way, you'll have time to ask questions and complete your assignment before the due date.

Exceptions due to special circumstances will be considered on a case-by-case basis. When deemed appropriate, limited extensions may be granted. However, be sure to inform the instructor AS SOON AS POSSIBLE should you require a special accommodation. If a problem is known about in advance, then the instructor should be told before it occurs. Exceptions are much less likely to be provided if requests for accommodation are not made in a timely fashion.

Getting Help

All discussion for this course should take place via Piazza. Piazza discussion forums allow you to post questions and answers to a forum shared by all of your classmates. Chances are that others in our class will have the same questions or problems that you are facing when seeking help. You are encouraged to post questions publicly as long as they don't provide solutions to graded assignments. You are also encouraged to post answers to questions from other students.

Piazza also allows private questions for issues that are not appropriate to post to the entire class.

The Piazza forum is the best way to reach your instructor during the semester, and questions posted to Piazza will be answered more quickly than questions sent via email.

Visit the "Home" or "Modules" sections of this Canvas site for a link the Piazza forum for this semester. It is recommended that you bookmark the Piazza forum to make it easy to access throughout the semester.

You can also schedule meetings with the instructor for additional help. To schedule a help session, you should contact the instructor by email or (preferably) using a private message on Piazza. Meetings will take place via Zoom.

You can contact the instructor at akorphan@ncsu.edu.

Honor Code

All assignments and exams are expected to be completed individually. Students are expected to adhere to the [UNC Honor Code](#).

Grading

Your grade for this course will be determined by a combination of three distinct elements: programming assignments, exams, and class participation. The approximate contributions of these three elements to your grade are as follows:

- 60% - Assignments
- 25% - Final Exam
- 15% - Class Participation

Please note that class participation grades will be based primarily on your participation in class discussions on Piazza, including the lecture review questions.

In addition, please note that assignments are not all weighted equally when determining your final grade.

This course also has an **optional ungraded midterm exam**. The midterm is not graded for correctness, but it provides an excellent opportunity to test your knowledge of the course material up to that point, and to familiarize yourself with the format and structure of the final.

Grades will follow the standard UNC grading system as outlined by the [Office of the University Registrar](#). The grading scale will be curved, with the highest grades reserved (as outlined by the Registrar) for those with "the highest level of attainment that can be expected."

External Resources

The Canvas system (where you are reading this syllabus) will be used for most class activities including lectures, assignments, and grading. However, there are other resources which will be useful throughout the semester:

- **Piazza Discussion Form**: A [class discussion forum](#) has been created at Piazza. Use this forum as the first place to go when seeking help. In this way, questions and answers will be visible to the entire class, allowing us all to learn from each other. Moreover, you'll often get a faster answer via Piazza because your classmates can help provide answers via Piazza as well. In fact, active participation in the Piazza forum is expected and will contribute to your final grade in the course. For this reason, you might find that I respond to any emails that you to me by telling you to "ask on Piazza" before I provide an answer. A link to the Piazza forum for this class can be found on the Canvas "Home" page. To visit that page, click "Home" on the left sidebar of this webpage.
- **Python Documentation**: Official documentation for the Python language can be found at <https://www.python.org/doc/>. We are using Python 3, so be sure to use the right section of the documentation. You'll find that most things between Python 2 and 3 are the same, but there are some differences that can trip you up if you read the wrong documentation.
- **PyCharm Documentation**: You are free to use any development environment you choose to complete your assignments for this course. However, the only "officially supported" IDE for this course is PyCharm (see below). Documentation and demonstrations are available online: <https://www.jetbrains.com/pycharm/documentation/>
- **Zoom**: You'll need the Zoom videoconferencing client to attend our synchronous class sessions. <https://zoom.us/support/download>

Development Environment

PyCharm by JetBrains

The officially supported IDE for this course will be PyCharm Community Edition 5, from JetBrains software. It is available for free from the JetBrains website: <https://www.jetbrains.com/pycharm/download/>. While the free Community Edition is sufficient for this course, JetBrains provides free licenses to students for their Professional Edition products. To use the professional edition, you'll need to apply for a free student license key by following the instructions found in this webpage: <https://www.jetbrains.com/student/>.

Python 3.x

Before using PyCharm, however, you'll need to have the Python interpreter installed. This can be downloaded for free from the official Python website: <https://www.python.org/downloads/>. Complicating things slightly is the fact that there are two major branches of Python language: version 3.x and version 2.x. If you want to know why, and what the differences are, reach this article titled "[Should I use Python 2 or Python 3 for my development activity?](#)". For our class, we'll use the Python 3.x branch. Therefore, please download the latest version of Python 3.x and install it on your computer.

Programming Assignment Instructions

Naming Your PyCharm Project

You should create a new PyCharm project for each assignment. This can be done by clicking the "Create New Project" button on the window that appears when first launching the PyCharm application. Your project must be named according to the following convention:

`assignment<n>_<onyen>`, where `<onyen>` is replaced with your onyen and `<n>` is replaced with the assignment number. For example, my onyen is "ako". Therefore, I would name my project for Assignment 3 as follows: `assignment3_ako`

Submitting Your Source Code

For each programming assignment, your submission will consist of a zip folder containing your source code for your solution. You are to submit your zip file via the Assignments section of Canvas. To make this process easier, [I've posted instructions for creating the required zip file from PyCharm for both Windows and Mac computers](#). (This document refers to Sakai, but the important steps are all in PyCharm / your operating system, so the procedure is the same in Sakai as in Canvas.)

Submission Dates and Times

All assignments are must be submitted on time (11:59pm unless otherwise noted) to receive full credit (see the late policy outlined in the course syllabus). The time due is listed in the Assignments section of Canvas. Note that Canvas (and your instructor) enforce the **due time** very strictly. A submission that is even 1 second late is considered late. Be sure to plan accordingly. **All due times are local to Chapel Hill, NC**. If you are taking this online course from another location, be sure to consider differences in time zones.

Accessibility Resources

The University of North Carolina at Chapel Hill facilitates the implementation of reasonable accommodations, including resources and services, for students with disabilities, chronic medical conditions, a temporary disability or pregnancy complications resulting in barriers to fully accessing University courses, programs and activities.

Accommodations are determined through the Office of Accessibility Resources and Service (ARS) for individuals with documented qualifying disabilities in accordance with applicable state and federal laws. See the ARS Website for contact information: <https://ars.unc.edu> or email ars@unc.edu.

Counseling and Psychological Services

Counseling and Psychological Services (CAPS) is strongly committed to addressing the mental health needs of a diverse student body through timely access to consultation and connection to clinically appropriate services, whether for short or long-term needs. Go to their website: <https://caps.unc.edu/> or visit their facilities on the third floor of the Campus Health Services building for a walk-in evaluation to learn more.

Title IX

Any student who is impacted by discrimination, harassment, interpersonal (relationship) violence, sexual violence, sexual exploitation, or stalking is encouraged to seek resources on campus or in the community. Please contact the Director of Title IX Compliance (Adrienne Allison – Adrienne.Allison@unc.edu), Report and Response Coordinators in the Equal Opportunity and Compliance Office (reportandresponse@unc.edu), Counseling and Psychological Services (confidential), or the Gender Violence Services Coordinators (gvscc@unc.edu; confidential) to discuss your specific needs. Additional resources are available at safe.unc.edu.