



Evan Couzo, PhD

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Office Hours: by appointment (calendly.com/ecouzo)

828.251.6026 (but I don't answer)

Course Description: An introduction to coding and data analysis in Python. Topics covered may include data types, programming logic, loops, and conditional statements. No prior coding experience is expected or required.

Credit Hours: 3

Class Meetings: TR – 9:55 to 11:10 a.m. – 238 Rhoades Robinson Hall

Online Course Site: classroom.google.com, Class Code: lskxdp7

Suggested Texts: Textbooks are not required for this course, but I will post links to readings in the Course Calendar section of the syllabus. Here is a list of resources you may want to consult throughout the semester (and your career!).

1. Official Python 3 documentation: <https://docs.python.org/3/>
2. J. Wei-Bing Lin (2012). *A Hands-On Introduction to Using Python in the Atmospheric and Oceanic Sciences*. <https://www.johnny-lin.com/pyintro/>
3. H. Fangohr (2022). *Introduction to Python for Computational Science and Engineering*. <https://fangohr.github.io/introduction-to-python-for-computational-science-and-engineering/book.pdf>

Student Learning Outcomes

1. Learn to execute Python code interactively and from scripts
2. Gain fluency with built-in Python data types and common scientific packages
3. Analyze real-world data sets using Python

Covid Health Policy: In-person instruction during this active pandemic is inherently risky, though we can take steps to mitigate some of those risks. While the university no longer

requires protective measures, I hope you will help protect public health. If you have [Covid-like symptoms](#), please do not come to class! Let me know as soon as possible, and I will work with you to ensure you don't miss important class materials and activities.

If you test positive or were exposed to the virus, follow [CDC quarantine and isolation](#) guidance. If you have any questions about what you should do, please reach out to me.

As new variants and waves of infection continue to impact our region, I may require protective measures for our in-person class meetings.

Assignments (100 points total)

1. HW assignments (40 points): You will have weekly assignments to help build fluency with coding skills and concepts. Each HW will vary in complexity; some will be basic practice while others will have more moving parts. You are encouraged to work together, but I expect the work you turn in to be your own and represent your true understanding of the material.
2. In-class presentations (20 points): You will present Python skills and/or concepts to your classmates in a series of short in-class presentations. These presentations will help you experiment with different Python methods/functions and learn navigate the built-in and online help documentation. Details will be given in class.
3. Exams (40 points): You will have one midterm and one final exam, each worth 20 points. Good news - all exams are open notes, including the internet! Your future advisor/boss/client is primarily interested in whether you can complete a particular project, not whether you have all of the analysis tools memorized. The exams are timed, however, so the more you practice and ask questions, the more likely you will complete the exam in the allotted time (just like real life!).

Grading Policy

	B+	88-89	C+	78-79	D+	68-69	F	<60
A	92-100	B	82-87	C	72-77	D	62-67	
A-	90-91	B-	80-81	C-	70-71	D-	60-61	

Expectations

1. Attendance: Active engagement during class is critical to your success, and preparation for class is essential to your ability to be fully engaged. Each unexcused absence may deduct points (two points per absence) from your final grade. Note that I determine whether to excuse an absence – telling me ahead of time is not a guarantee that your absence will be excused, but I do understand the competing demands on your time. I don't mean this to be punitive; rather, this policy is meant to encourage you to learn time management and prioritize class attendance.

2. Readings: Deep learning requires active engagement. Oftentimes, this manifests itself as in-class discussions allowing you to benefit from your classmates' perspectives and vice versa. All readings are to be done before class on the day that topic will be discussed. Assigned readings will be posted to Google Classroom.

3. Ask Questions: Learning a language is frustrating. You may feel lost without being able to articulate your confusion. Embrace the struggle! Learn to use specific language (e.g. "Why am I getting a SyntaxError?" instead of "Why isn't this working?"). Experiment to see how commands work. And, most importantly, don't give up! You *can* learn Python, but don't expect it to always be easy.

Course Calendar

Week 1

Aug 16/18 workspace set up

Week 2

Aug 23/25 strings

Week 3

Aug 30/Sep 1 lists

Week 4

Sep 6/8 NO CLASS (at a conferece)

Week 5

Sep 13/15 arrays

Week 6

Sep 20/22 for loops

Week 7

Sep 27/29 conditional statements

Week 8

Oct 4 NO CLASS (Fall Break)
 Oct 6 midterm exam

Week 9
Oct 11/13 Linux command line tools

Week 10
Oct 18/20 file I/O (pandas)

Week 11
Oct 25/27 file I/O (netCDF)

Week 12
Nov 1/3 data analysis project

Week 13
Nov 8 NO CLASS (Election Day)
Nov 10

Week 14
Nov 15/17 user-defined functions

Week 15
Nov 22 NO CLASS (UG research day)
Nov 24 NO CLASS (Thanksgiving)

Week 16
Nov 29 preview of advanced topics (e.g. matplotlib, modules)

Final Exam **Tuesday, Dec 6, 8:00-10:30**

Accommodations for Students with Disabilities: University of North Carolina at Asheville is committed to making courses, programs and activities accessible to persons with documented disabilities. Students requesting accommodations and/or academic adjustments must do so through the Office of Academic Accessibility and may be required to provide supporting documentation. All information provided will remain confidential. For more information please contact the Office of Academic Accessibility at 828.232.5050 or academicaccess@unca.edu, visit them in the OneStop Student Services Center or at their website <https://oaa.unca.edu/>.

University Academic Policies and Procedures: Students are expected to abide by UNC Asheville academic policies and procedures, especially those regarding academic honesty

and in-class behavior. They can be summarized as *don't cheat* and *come ready to learn*. See <http://catalog.unca.edu/> for the exact wording of the policy.

Promoting Gender Equity, Addressing Sexual Misconduct: UNC Asheville is dedicated to cultivating and maintaining a safe, respectful, and inclusive environment, free from harassment and discrimination. We strive to ensure that all have equal access to the educational and employment opportunities the University provides. If you or someone you know has been affected by sexual misconduct, including sexual or gender-based harassment, sexual assault, dating or domestic violence, or stalking, please know that help and support are available. UNC Asheville strongly encourages all members of the community to take action, seek support, and report incidents of sexual harassment to the Title IX Office. You may contact the Title IX Office or Heather Lindkvist, the Title IX Coordinator, directly at 828.232.5658 or at titleix@unca.edu. Learn more by visiting <https://titleix.unca.edu>.

As a faculty member, I am a “responsible employee” and private resource. This means that if you share any information or discuss an incident with me regarding sexual or gender-based harassment, I must disclose this information to the Title IX Coordinator. Our goal is to ensure you are aware of the range of options available to you and have access to the resources you may need.

If you wish to speak with a confidential resource, contact University Health and Counseling Services at 828.251.6520. Off-campus confidential resources include Our Voice (24-Hour Hotline at 828.255.7576) and HelpMate (24-Hour Hotline at 828.254.0516).