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Description generated with very high confidence]()

BIOF 309 An introduction to Python(Thursdays)

Number of Credits

Term and Year

Syllabus

Instructor: John Lee

Preferred Method of Communication: gitter (https://gitter.im/biof309)

Prerequisites, if any: A desire to learn how to program using Python

Course Description: An introduction to programming for scientific analysis using Python

Course Website (Canvas): The course materials and basic information is available at https://github.com/biof309/spring\_2020\_thursdays

Learning Materials: Description of learning materials are available at the course website

Course Goals: When you complete the course successfully, you will be able to:

1. Look at a task and determine if you can or should automate it
2. Use [git](https://git-scm.com/) for keeping track of changes in your project and collaborating with others
3. Create working Python programs
4. Develop strategies for leveraging pre-existing solutions to analyzing your scientific data
5. Be aware of tools and strategies that help sustainably develop robust software for scientific analysis
6. Have a deep understanding of the basic structures in Python (e.g. lists, dicts, etc)
7. Perform data analysis and visualization with Python
8. Demonstrate your Python skills with a project

Structure of the Course: The course is roughly divided into 3 parts: an online component on Datacamp to acquire a broad overview of Python (with different tracks depending on your learning preferences) and some hands-on exercises with real time feedback, approximately 10 weeks of hands on class instruction to become proficient foundational skills required for scientific computing, 4 weeks troubleshooting a project to bring everything together and demonstrate everything you have learnt!

Teaching and learning philosophy: The most effective use of class time are the gritty, and not so glamorous, details of getting a working installation for scientific computing on a laptop, developing code in a sustainable, reproducible manner, troubleshooting when things go wrong, having a strategy for tackling longer term projects. This is emphasized during in class time.

Methods for students to achieve success: Completing the assignments helps. Being careful to follow the rubric during the final project is important for achieving a high grade. A complicated scientific analysis may be interesting (and indeed be an effective use of time since you have the instructors at hand to help troubleshoot your problems), fun, and useful but the bottom line for the grading is the rubric. Ask questions if you are unsure of whether you are adequately meeting the rubric (before the last week of the course!)

Time commitment: The more time you put into the course, the more you get out of it. A pass, and basic proficiency in a python and project planning can be achieved by attending the classes each week and putting in a few extra hours during the class project. To usefully internalize the details of what we teach and to gain expertise in python programming you will have to do at least a couple of extra hours a week outside of class.

Important Dates:

Mid-course project submission: Exact date TBD

Online learning: 2020-04-22

Audit and withdrawal deadline: TBD

Holidays: TBD

Final project submission: Midday following the final class

Communication: https://gitter.im/biof309

Etiquette for communication: See course website. Additionally for the gitter channel… Questions are good. Messaging the whole group with a “silly question” is a good thing too: it is likely that many other people would benefit from the answer. Please do not ask a question that has already been asked on the group gitter channel.

Policies:

Academic Policies

This course adheres to all FAES policies described in the academic catalog and student handbook, including the Academic Integrity policy listed on page 11 of the academic catalog and student handbook. Be certain that you are knowledgeable about all of the policies listed in this syllabus, in the academic catalog and student handbook, and on the FAES website. As a student in this program, you are bound by those policies.

Copyright

All course materials are the property of FAES and are to be used for the student’s individual academic purpose only. Any dissemination, copying, reproducing, modification, displaying, or transmitting of any course material for any other purpose is prohibited, will be considered misconduct, and may be cause for disciplinary action. In addition, encouraging academic dishonesty by distributing information about course materials or assignments which would give an unfair advantage to others may violate the FAES Academic Integrity policy. Course materials may not be exchanged or distributed for commercial purposes, for compensation, or for any purpose other than use by students enrolled in the course. Distributions of course materials may be subject to disciplinary action.

Guidelines for Disability Accommodations

FAES is committed to providing reasonable and appropriate accommodations to students with disabilities. Students with documented disabilities should contact Dr. Mindy Maris, Assistant Dean of Academic Programs.

Dropping the Course

Students are responsible for understanding FAES policies, procedures, and deadlines regarding dropping or withdrawing from the course or switching to audit status.

Harassment

FAES adheres to the NIH’s harassment policies, which can be found at the following link:

<https://hr.nih.gov/working-nih/civil/statement-workplace-harassment>

Faculty and students in FAES courses are responsible for being familiar with the NIH’s harassment policies and adhering to them.

Attendance: You are encouraged to attend each class in person. This is not enforced or tracked. You are a free agent. Depending on demand, the early classes may have a remote attendance option/be recorded. Based on the hands-on approach to the class this will be considerably less useful though.

Participation: Questions are encouraged, it is how we learn. Please don’t be shy. If you think your question is silly, you’d be surprised to discover that it is usually not. Others will benefit from it.

Late Submission Policies: Think of the early deadlines as amenable to change. Think of the final deadline (midday following the last class) as written in stone.

Expectations for instructor’s feedback on assignments: The classes of the final weeks of the course will be solely dedicated to one on one guidance and help with the instructors. One week prior to the deadline, feedback will be provided on pre-existing work if any.

Major Assignments: See course website

Grading Scale: A: 90-100, B: 80-89, C: 70-79, D: 60-69, F: 0-59

Weekly Schedule: See course website