DATA 3401 – Fall 2021

INSTRUCTOR: Keaton Hamm

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Webpage: https://github.com/UTA-DataScience/DATA3401.2021.Fall This is a private repository, and an invitation will be sent to registered students in the first week of class.

OFFICE HOURS:	PREREQUISITES:	TEXTBOOK:
To Be Determined	None	None

COURSE DESCRIPTION: This is the first of a two-course sequence offering the foundations of Python programming in the context of data science. It introduces the full syntax of the Python language as it overviews structured, functional, and object-oriented programming methodologies. It also provides a basic conceptual understanding of computing and introduces Unix command-line tools, software employed in data science, such as git and Jupyter, and Python libraries such as numpy, matplotlib, and Pandas.

COURSE MATERIALS: There is no textbook for this course. Instead, lectures and labs in the form of Jupyter notebooks will be posted on the course GitHub page (above), and additional freely available readings will be provided occasionally as supplementary material.

It is strongly encouraged that students have a laptop that can at least run a standard web browser. A limited number of laptops are available for checkout specifically for this course from the UTA library.

IMPORTANT DATES:
August 25: First day of class
September 6: Labor day, no classes
November 5: Last day to drop class
November 24-26: Thanksgiving Break, no classes
December 7: Last day of classes

GRADING POLICY: Your final grade in this course will consist of weekly homework/lab assignments, random pop quizzes, a midterm exam, and a final exam. The breakdown of points will be as follows:

Lab Assignments	50%
Quizzes	10%
Midterm Exam	20%
Final Exam	20%

Your final grade will be calculated on the usual grade scale of A: 90-100, B: 80-89, C: 70-79, D: 60-69, F: < 60.

Grades for all assignments will be posted in Canvas: https://uta.instructure.com/login/saml

LABS: There will be weekly lab assignments given during the Friday lab session and due the following lab unless otherwise specified. Students are welcome to work together on lab assignments, but do not simply copy/paste another person's code. Each student must turn in their own solution on their GitHub project for the class (setup in the first lab). If you work with someone else on a problem or assignment, give them credit in the comments of your code (e.g., "I worked with X on this problem/assignment"). Additionally, sharing and/or copying solutions from an electronic solutions manual or similar source is prohibited; note that this includes consulting and/or posting a question to an online forum. The lowest lab will be dropped.

QUIZZES: There will be random pop quizzes throughout the semester during lecture. These are meant to be easy and serve as attendance. The lowest quiz will be dropped.

MIDTERM EXAM: There will be 1 midterm exam which will be structured similar to a lab. The exam will be take-home, and students will have 24-48 hours to complete the exam.

FINAL EXAM: At the end of the course, there will be a comprehensive final exam structured similarly to the midterm.

TENTATIVE COURSE SCHEDULE:
- Class Intro (8/25)
- What is Data Science? (8/30)
- Intro to Computing (Hardware, Programming, Software) (9/3-9/8)
- Basic tools: Version control systems, Unix, Jupyter (9/10)
- Python Basics: variable types, syntax, conditional statements, loops, functions, modules, I/O (9/10-9/27)
- Python Basics – Redux: advanced topics from previous section (9/27-10/6)
- Object Oriented Programming (10/11-10/29)
- Probability distributions and random numbers (11/1-11/5)
- Linear algebra: arrays, matrices, and numpy (11/8-11/12)
- Visualization and matplotlib (11/17-11/22)

- ⊕ Data manipulation and pandas (11/29-12/6)

COPYRIGHT POLICY:
Any material that I produce throughout the course is copyrighted, including (but not limited to) syllabi, quizzes, worksheets, exams, reviews, or any in-class material.

DISCLAIMER:
The information here is subject to change at my discretion for the purpose of better facilitating student learning and success.

BOILERPLATE UTA STUFF

INSTITUTIONAL INFORMATION: UTA students are encouraged to review the below institutional policies and informational sections and reach out to the specific office with any questions. To view this institutional information, please visit the Institutional Information page (https://resources.uta.edu/provost/course-related-info/institutional-policies.php) which includes the following policies among others:
- ⊕ Drop Policy
- ⊕ Disability Accommodations
- ⊕ Title IX Policy
- ⊕ Academic Integrity
- ⊕ Student Feedback Survey
- ⊕ Final Exam Schedule

FACE COVERING POLICY: While the use of face coverings on campus is no longer mandatory, all students and instructional staff are strongly encouraged to wear face coverings while they are on campus. This is particularly true inside buildings and within classrooms and labs where social distancing is not possible due to limited space. If a student needs accommodations to ensure social distancing in the classroom due to being at high risk they are encouraged to work directly with the Student Access and Resource Center to assist in these accommodations. If students need masks, they may obtain them at the Central Library, the E.H. Hereford University Center's front desk or in their department.

GRIEVANCES: If you experience a conflict with your instructor, first try and resolve the matter with your instructor. For issues that remain unresolved after this contact, including grade discrepancies or complaints, a grievance may be filed with the Mathematics Department by completing the departmental Grievance form at https://go.uta.edu/mathgrievance. Students not satisfied with the departmental decision may appeal to the College of Science. It is imperative for students to follow the proper procedure for their grievance to be reviewed.