**INSY 5336: Python Programming**

**Fall 2020**

**Updated on important changes for international students.**

**Due to the reversal of SEVP policy regarding international students, this course is switched to online modality as of August 16, 2020. The health and well-being of the students remains the top priority during this unusual time. To ensure that students are not adversely affected, those students who are not currently in the US and have no plan to return to the US in the near future through the end of the semester, please let the instructor know by e-mail as soon as possible. The instructor reserves the right to make additional changes to the assignments or grading schema as needed to complete this course on time, and respond to university policies.**

**Instructor:** Ruochen Liao

**Office Room Number:** Not Applicable/No Face-to-face meeting for this semester

**Email Address:** ruochen.liao@uta.edu

**Office Hours:** Wednesday 7:30 to 8:30 pmvia Canvas Conferences tool (also available by appointment)

**Section Information:** INSY 5336 / Section 003

**Time and Place of Class Meetings:** Mondays and Wednesdays 4:00 – 5:20 pm for exams. Video of lectures will be uploaded on Monday and Wednesday 4:00 pm weekly.

**Catalog Description**: An introductory programming course that teaches students how to solve business problems using the scripting language, Python. Students will be exposed to object-oriented programming concepts, file handling, database access, and graphical user interfaces.

**Student Learning Outcomes:** Python is a simple yet powerful scripting language that has been growing in popularity. It has been used widely for web development, game programming, general application development, and, more recently, for data analytics. The aim of this course is to acquaint students with the key aspects of the Python language. Upon successful completion of the course, students will be able to:

1. apply data structures and programming constructs in the Python language, such as lists, tuples, dictionaries, classes, selection (e.g., if..else), and iteration (e.g., while and for loops), to solve business problems;
2. access different file formats (e.g., csv);
3. perform basic text analysis; and
4. use APIs to access external data.

**Required Textbooks and Other Course Materials:**

# Python for Everybody: Exploring Data in Python 3 by Dr. Charles Severance, 2009. The book is free and can be downloaded from <https://www.py4e.com/book.php>

**Other Materials/Resources/Readings:**

1. Instructor Notes
2. Python for Data Analysis by Wes McKinney
3. <https://www.kevinsheppard.com/Main_Page>
4. <https://developers.google.com/edu/python/>
5. Also check out [www.coursera.org](http://www.coursera.org) and [www.udacity.com](http://www.udacity.com) for introductory Python courses

**Technology:** A Windows PC, laptop, or Mac with internet connection. A webcam is not required for the lectures but is required for exams (please check the schedule for exam dates and plan accordingly).

**Software:** Install Python 3 and Jupyter Notebook using the link: [Anaconda Distribution](https://www.anaconda.com/downloads), which includes Python, the Jupyter Notebook, and other commonly used packages for scientific computing and data science.

More details will be given in class.

**Description of major assignments and examinations:**

The distribution of points will be as follows:

Homework Assignments 15%

Exam 1 25%

Exam 2 25%

Final Exam 25%

Project 10%

**Grading:** The following criteria will be used to assess your grade:

A (>=90%), B (>=80%), C (>=70%), D (>=60%), F (<60%)

**Final Project:** Details will be provided in Canvas.

**Online Office Hours:** I will hold online office hours every Wednesday 7:30 to 8:30 pmvia Canvas Conferences tool. Anyone is free to come and go as you like and drop in to ask any questions you might have. If you are not able to go online during that time, please email me and I will try my best to accommodate your request.

**Attendance:** At The University of Texas at Arlington, taking attendance is not required but attendance is a critical indicator of student success. Each faculty member is free to develop his or her own methods of evaluating students’ academic performance, which includes establishing course-specific policies on attendance. As the instructor of this section,this course is delivered in asynchronous mode, which means that lectures are recorded and uploaded each week. You are not required to watch the video at the exact time of the class and I will not take attendance for any lecture session. However, **lectures will cover materials outside of the textbook** and you are responsible for the materials covered. It is expected that you will watch the video before the beginning of the next class. However, while UT Arlington does not require instructors to take attendance in their courses, the U.S. Department of Education requires that the University have a mechanism in place to mark when Federal Student Aid recipients “begin attendance in a course.” UT Arlington instructors will report when students begin attendance in a course as part of the final grading process. Specifically, when assigning a student a grade of F, faculty report must the last date a student attended their class based on evidence such as a test, participation in a class project or presentation, or an engagement online via Canvas. This date is reported to the Department of Education for federal financial aid recipients.

**Exams**: You are responsible for everything that is covered in the class, including additional materials that the instructor may discuss in class. There are **no make-up exams**. Under extenuating circumstances (e.g., medical emergency, family emergency, work-related travel, etc. with documented evidence), the average score of other exams will replace the missed exam score. You can only use this excuse for one exam. **Exams are cumulative**, i.e. the exam will test you on all portions covered in this course previously up to that point in the schedule (as described in Course Schedule).

**Online Exams:** Online exams will be conducted in Canvas in Lockdown browsers, you will not be allowed to go to other websites, search the internet, or switch to another program during the exam. Please make sure you are familiarized with the use of LockDown browsers before the exam, a brief tutorial video is available at <https://www.youtube.com/watch?v=XuX8WoeAycs&feature=youtu.be>

**Homework Assignments**: You will have 3 individual homework assignments. You will have about a week to complete the exercises. Homework must be turned in electronically (via Canvas) by the due date and time specified by the instructor. Late submissions will receive a score of 0 (no exceptions). Computer errors, internet interruptions, power outages, etc. do not constitute valid reasons for late assignments, do **not** wait till the last minute to submit your homework, **plan ahead!**

**Project:** You will have one individual project to be completed at the end of the semester. Late submissions will receive a score of 0 (no exceptions).

**Academic integrity:** You are expected of a high level of responsibility and academic honesty. All assignments and projects should be completed individually. You are allowed to work with others to solve problems, but make sure you create your own submission file on your machine, write your own code, run it on your own machine, and take screenshots (if any) of your own machine. **Do not** attempt to copy answers from online sources of previous years’ assignment solutions. Assignment and exam questions are updated each semester. If you gave wrong answers that match previous year’s solutions, that assignment or exam will receive a score of 0 (no exceptions).

**Expectations for Out-of-Class Study**: Beyond the time required to attend each class meeting, students enrolled in this course should expect to spend at least an additional **5** hours per week of their own time in course-related activities, including reading required materials, completing assignments, and preparing for exams/quizzes.

**Tentative Course Schedule**

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| --- | --- | --- | --- |
| **Day** | **Assignments and Topics** | **Readings** | **Assignments** |
| Week 1  Aug 26 | Syllabus; Introduction; | Syllabus; Chapter 1 |  |
| Week 2  Aug 31, Sep 2 | Getting Started with Jupyter Notebook; Variables, Expressions, Statements; Conditional execution | Chapters 2 & 3 |  |
| Week 3  Sep 7, 9 | Labor day holiday on Sep 7  Functions; Iterations | Chapters 4 & 5 |  |
| Week 4  Sep 14, 16 | Iterations; Homework1 discussion; Strings | Chapters 5 & 6 | Homework1 Due on Sep 16 |
| Week 5  Sep 21, 23 | Strings; Files Exam 1 review | Chapters 6 & 7 |  |
| Week 6  **Sep 28**, 30 | **Exam 1 (Chapters 1, 2, 3, 4, 5, 6, 7) on Sep 28**; Files | Chapters 7 | Exam 1 |
| Week 7  Oct 5, 7 | Lists; | Chapters 8 |  |
| Week 8 Oct 12, 14 | Lists; Dictionaries; Homework 2 discussion | Chapters 8 & 9 | Homework2 Due on Oct 14 |
| Week 9  Oct 19, 21 | Regular Expressions; Exam2 review | Chapters 9, 11 |  |
| Week 10  Oct 26, **28** | Regular Expressions; Exam2 Review; **Exam 2 (Chapters 2 to 11) on Oct 28;** | Chapters 11 | Exam 2 |
| Week 11  Nov 2, 4 | Regular expressions; Networked Programs; Homework3 discussion | Chapter 11, 12 | Homework3 due on Nov 4 |
| Week 12  Nov 9, 11 | Tuples; Sets; Project discussion | Chapter 10 |  |
| Week 13  Nov 16, 18 | Introduction to Databases & SQL implementation in Python | Chapter 15; Slides |  |
| Week 14  Nov 23, 25 | Project discussion  Happy Holiday! No class on Nov 25 |  | Project Due Nov 23 |
| Week 15  Nov 30, Dec 2 | Wishing the holiday could be longer? Wish granted! No class on Nov 30  Special Topics; Final Exam Review | Slides |  |
| Week 16  Dec 7, 9 | No class, study week for final exam |  |  |
| **Dec 14th** | **Comprehensive Final Exam 4:00 PM to 5:20 PM exam for 60 minutes via Canvas Quizzes with Lockdown Browser** |  | Final exam |

NOTE: *This is a tentative schedule and may be changed to serve the educational needs of the students enrolled in the course. Students are responsible to be aware of changes announced in class and/or via Canvas.*

**Kindly check the Academic Calendar for important dates**.

**UNIVERSITY and COLLEGE POLICIES**

**Grade Grievances**: Any appeal of a grade in this course must follow the procedures and deadlines for grade-related grievances as published in the current University Catalog. Policy details may be obtained from:

<http://catalog.uta.edu/academicregulations/grades/#graduatetext>. <http://www.uta.edu/deanofstudents/student-complaints/index.php>.

**Drop Policy:** Students may drop or swap (adding and dropping a class concurrently) classes through self-service in MyMav from the beginning of the registration period through the late registration period. After the late registration period, students must see their academic advisor to drop a class or withdraw. Undeclared students must see an advisor in the University Advising Center. Drops can continue through a point two-thirds of the way through the term or session. It is the student's responsibility to officially withdraw if they do not plan to attend after registering. **Students will not be automatically dropped for non-attendance**. Repayment of certain types of financial aid administered through the University may be required as the result of dropping classes or withdrawing. For more information, contact the Office of Financial Aid and Scholarships (<http://wweb.uta.edu/aao/fao/>).

**Disability Accommodations:** UTArlington is on record as being committed to both the spirit and letter of all federal equal opportunity legislation, including *The Americans with Disabilities Act (ADA), The Americans with Disabilities Amendments Act (ADAAA),* and *Section 504 of the Rehabilitation Act.* All instructors at UT Arlington are required by law to provide “reasonable accommodations” to students with disabilities, so as not to discriminate on the basis of disability. Students are responsible for providing the instructor with official notification in the form of **a letter certified** by the Office for Students with Disabilities (OSD).Only those students who have officially documented a need for an accommodation will have their request honored. Students experiencing a range of conditions (Physical, Learning, Chronic Health, Mental Health, and Sensory) that may cause diminished academic performance or other barriers to learning may seek services and/or accommodations by contacting: **The Office for Students with Disabilities, (OSD)** <http://www.uta.edu/disability/> or calling 817-272-3364. Information regarding diagnostic criteria and policies for obtaining disability-based academic accommodations can be found at [www.uta.edu/disability](http://www.uta.edu/disability).

Only those students who have officially documented a need for an accommodation will have their request honored. Information regarding diagnostic criteria and policies for obtaining disability-based academic accommodations can be found at [www.uta.edu/disability](http://www.uta.edu/disability) or by calling the Office for Students with Disabilities at (817) 272-3364.

**Counseling and Psychological Services (CAPS)** [www.uta.edu/caps/](http://www.uta.edu/caps/) or calling 817-272-3671 is also available to all students to help increase their understanding of personal issues, address mental and behavioral health problems and make positive changes in their lives.

**Non-Discrimination Policy:** The University of Texas at Arlington does not discriminate on the basis of race, color, national origin, religion, age, gender, sexual orientation, disabilities, genetic information, and/or veteran status in its educational programs or activities it operates. For more information, visit [uta.edu/eos](http://www.uta.edu/hr/eos/index.php).

**Title IX:** The University of Texas at Arlington (“University”) is committed to maintaining a learning and working environment that is free from discrimination based on sex in accordance with Title IX of the Higher Education Amendments of 1972 (Title IX), which prohibits discrimination on the basis of sex in educational programs or activities; Title VII of the Civil Rights Act of 1964 (Title VII), which prohibits sex discrimination in employment; and the Campus Sexual Violence Elimination Act (SaVE Act). Sexual misconduct is a form of sex discrimination and will not be tolerated.*For information regarding Title IX, visit* [www.uta.edu/titleIX](http://www.uta.edu/titleIX) or contact Ms. Michelle Willbanks, Title IX Coordinator at (817) 272-4585 or [titleix@uta.edu](mailto:titleix@uta.edu)

**Academic Integrity:** Students enrolled all UT Arlington courses are expected to adhere to the UT Arlington Honor Code:

*I pledge, on my honor, to uphold UT Arlington’s tradition of academic integrity, a tradition that values hard work and honest effort in the pursuit of academic excellence.*

*I promise that I will submit only work that I personally create or contribute to group collaborations, and I will appropriately reference any work from other sources. I will follow the highest standards of integrity and uphold the spirit of the Honor Code.*

UT Arlington faculty members may employ the Honor Code in their courses by having students acknowledge the honor code as part of an examination or requiring students to incorporate the honor code into any work submitted. Per UT System *Regents’ Rule* 50101, §2.2, suspected violations of university’s standards for academic integrity (including the Honor Code) will be referred to the Office of Student Conduct. Violators will be disciplined in accordance with University policy, which may result in the student’s suspension or expulsion from the University. Additional information is available at <https://www.uta.edu/conduct/>. Faculty are encouraged to discuss plagiarism and share the following library tutorials <http://libguides.uta.edu/copyright/plagiarism> and <http://library.uta.edu/plagiarism/>

**Electronic Communication:** UT Arlington has adopted MavMail as its official means to communicate with students about important deadlines and events, as well as to transact university-related business regarding financial aid, tuition, grades, graduation, etc. All students are assigned a MavMail account and are responsible for checking the inbox regularly. There is no additional charge to students for using this account, which remains active even after graduation. Information about activating and using MavMail is available at <http://www.uta.edu/oit/cs/email/mavmail.php>.

**Campus Carry:** Effective August 1, 2016, the Campus Carry law (Senate Bill 11) allows those licensed individuals to carry a concealed handgun in buildings on public university campuses, except in locations the University establishes as prohibited. Under the new law, openly carrying handguns is not allowed on college campuses. For more information, visit <http://www.uta.edu/news/info/campus-carry/>

**Student Feedback Survey:** At the end of each term, students enrolled in classes categorized as “lecture,” “seminar,” or “laboratory” shall be directed to complete an online Student Feedback Survey (SFS). Instructions on how to access the SFS for this course will be sent directly to each student through MavMail approximately 10 days before the end of the term. Each student’s feedback enters the SFS database anonymously and is aggregated with that of other students enrolled in the course. UT Arlington’s effort to solicit, gather, tabulate, and publish student feedback is required by state law; students are strongly urged to participate. For more information, visit <http://www.uta.edu/sfs>.

**Final Review Week:** A period of five class days prior to the first day of final examinations in the long sessions shall be designated as Final Review Week. The purpose of this week is to allow students sufficient time to prepare for final examinations. During this week, there shall be no scheduled activities such as required field trips or performances; and no instructor shall assign any themes, research problems or exercises of similar scope that have a completion date during or following this week *unless specified in the class syllabus*. During Final Review Week, an instructor shall not give any examinations constituting 10% or more of the final grade, except makeup tests and laboratory examinations. In addition, no instructor shall give any portion of the final examination during Final Review Week. During this week, classes are held as scheduled. In addition, instructors are not required to limit content to topics that have been previously covered; they may introduce new concepts as appropriate.

**Emergency Exit Procedures:** Should we experience an emergency event that requires us to vacate the building, students should exit the room and move toward the nearest exit. When exiting the building during an emergency, one should never take an elevator but should use the stairwells. Faculty members and instructional staff will assist students in selecting the safest route for evacuation and will make arrangements to assist individuals with disabilities.

**Student Support Services**:UT Arlington provides a variety of resources and programs designed to help students develop academic skills, deal with personal situations, and better understand concepts and information related to their courses. Resources include tutoring, major-based learning centers, developmental education, advising and mentoring, personal counseling, and federally funded programs. For individualized referrals, students may visit the reception desk at University College (Ransom Hall), call the Maverick Resource Hotline at 817-272-6107, send a message to [resources@uta.edu](mailto:resources@uta.edu), or view the information at <http://www.uta.edu/universitycollege/resources/index.php>

University Tutorial & Supplemental Instruction (Ransom Hall 205): UTSI offers a variety of academic support services for undergraduate students, including: 60 minute one-on-one [tutoring](http://www.uta.edu/universitycollege/current/academic-support/learning-center/tutoring/index.php) sessions, [Start Strong](http://www.uta.edu/universitycollege/current/academic-support/learning-center/tutoring/start-strong.php) Freshman tutoring program, and [Supplemental Instruction](http://www.uta.edu/universitycollege/current/academic-support/learning-center/si/index.php). Office hours are Monday-Friday 8:00am-5:00pm. For more information visit [www.uta.edu/utsi](http://www.uta.edu/utsi) or call 817-272-2617.

The IDEAS Center (2nd Floor of Central Library) offers FREE tutoring to all students with a focus on transfer students, sophomores, veterans and others undergoing a transition to UT Arlington. Students can drop in, or check the schedule of available peer tutors at www.uta.edu/IDEAS, or call (817) 272-6593.

The English Writing Center (411LIBR): The Writing Center offers FREE tutoring in 15-, 30-, 45-, and 60-minute face-to-face and online sessions to all UTA students on any phase of their UTA coursework. Register and make appointments online at https://uta.mywconline.com. Classroom visits, workshops, and specialized services for graduate students and faculty are also available. Please see [www.uta.edu/owl](http://www.uta.edu/owl) for detailed information on all our programs and services.

The Library’s 2nd floor Academic Plaza offers students a central hub of support services, including IDEAS Center, University Advising Services, Transfer UTA and various college/school advising hours. Services are available during the library’s hours of operation. <http://library.uta.edu/academic-plaza>

You may also find the following information useful:

Library Home Page <http://www.uta.edu/library>

Subject Guides <http://libguides.uta.edu>

Subject Librarians <http://www.uta.edu/library/help/subject-librarians.php>

Course Reserves <http://pulse.uta.edu/vwebv/enterCourseReserve.do>

Library Tutorials <http://www.uta.edu/library/help/tutorials.php>

Connecting from Off- Campus <http://libguides.uta.edu/offcampus>

Ask A Librarian [http://ask.uta.edu](http://ask.uta.edu/)

**Emergency Phone Numbers**: In case of an on-campus emergency, call the UT Arlington Police Department at **817-272-3003** (non-campus phone), **2-3003** (campus phone). You may also dial 911. Non-emergency number 817-272-3381