**INSY 3300: Introduction to Programming**

**Fall 2015**

**Instructor:** Sridhar Nerur

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**Office Hours: TR 9:30 – 10:30 a.m. and 4:30 – 5:25 p.m.**

**Section Information:** INSY 3300 Section 001

**Time and Place of Class Meetings: TR 8:00 – 9:20 A.M. COBA 255**

**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.

**Prerequisite**: INSY 2303.

**Learning Objectives:** 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 familiar with:

a. Data structures and programming constructs in the Python language. Specifically, students will have a good grasp of lists, tuples, dictionaries, classes, selection (e.g., if ..else), and iteration (e.g., while and for loops).

b. Accessing data from files and databases. Students will also be exposed to the fundamentals of SQL (Structured Query Language).

c. Basics of Graphical User Interfaces (GUIs) in Python.

c. Map-Reduce, the abstraction from Google that inspired Hadoop.

d. Web search and rudimentary web crawlers.

**Required Textbooks and Other Course Materials: *Introduction to Computing Using Python: An Application Development Focus, Second Edition* by Ljubomir Perkovic, John Wiley & Sons, Inc., 2015, ISBN: 978-1-118-89094-3 (e-Text ISBN:** 978-1-118-89105-6)

**Description of major assignments and examinations:**

The distribution of points will be as follows:

Exam 1 20%

Exam 2 20%

Exam 3 20%

Finals 20%

Homework 20%

The following criteria will be used to assess your grade:

>= 90 A

>= 80 B

>= 70 C

>= 60 D

< 60 F

**EXAMS**: You are responsible for everything that is covered in the classroom, including additional materials that the instructor may discuss in class.

**HOMEWORKS**: You will have 7 to 8 sets of homework exercises. You will have about a week to complete the exercises. Homeworks must be turned in electronically by the due date and time specified by the instructor. Late submissions will receive a score of 0 (no exceptions).

**Make-up Exams**: Only under extenuating circumstances (e.g., medical emergency, work-related travel) would make-up exams/quizzes be given.

**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 9 hours per week of their own time in course-related activities, including reading required materials, completing assignments, and preparing for exams/quizzes.

**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.

**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/>).

**Americans with Disabilities Act:** The University of Texas at Arlington 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)*. 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 that disability. Any student requiring an accommodation for this course must provide the instructor with official documentation in the form of a letter certified by the staff in the Office for Students with Disabilities, University Hall 102. 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.

**Title IX:** The University of Texas at Arlington is committed to upholding U.S. Federal Law “Title IX” such that no member of the UT Arlington community shall, on the basis of sex, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any education program or activity. For more information, visit [www.uta.edu/titleIX](http://www.uta.edu/titleIX).

**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 as they see fit in their courses, including (but not limited to) 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.

**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>.

**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.

<https://www.uta.edu/policy/procedure/7-6)>

**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 [www.uta.edu/resources](http://www.uta.edu/resources).

**Tentative Course Outline**

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| **Week** | **Topics** | **Chapter**  **Readings** |
| **1** | Introduction | Chapter 1 |
| **2** | Python Data Types | Chapter 2 |
| **3** | Imperative Programming | Chapters 3 |
| **4** | Text data, Files, and Exceptions; **EXAM 1 (2 and 3)** | Chapter 4 |
| **5** | Execution Control Structures | Chapter 5 |
| **6** | Containers and Randomness | Chapter 6 |
| **7** | Containers and Randomness | Chapter 6 |
| **8** | Namespaces; **EXAM 2 (4, 5 and 6)** | Chapter 7 |
| **9** | Object-Oriented Programming | Chapter 8 |
| **10** | Object-oriented programming; Graphical User Interfaces | Chapters 8, 9 |
| **11** | Graphical User Interface; Databases and Data Processing; | Chapters 9, 12 |
| **12** | Databases and Data Processing; **EXAM 3 (7, 8 and 9)** | Chapter 12 |
| **13** | The Web and Search; | Chapter 11 |
| **14** | Recursion | Chapter 10 |
| **15** | Advanced Topics (will not be on Finals) |  |
| **16** | Review for finals; **CHECK FINAL EXAM SCHEDULE** |  |

NOTE: *As the instructor for this course, I reserve the right to adjust this schedule in any way that serves the educational needs of the students enrolled in this course. – Sridhar P Nerur*

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

**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.