Tentative Course Syllabus
(the most updated version of this syllabus is maintained on the eCollege course shell)
TEXAS A&M UNIVERSITY – COMMERCE
CSCI 502
STATISTICS FOR COMPUTATIONAL SCIENCE AND ANALYSIS
CSCI 502 001 82825
Fall 2014 (8/25/2014 through 12/12/2014)

CLASS MEETINGS: **Time:** Tues & Thurs 2:00PM-3:15PM **Location:** Jour104	Instructor Office Hours (Jour209): Tues & Thurs: 11:15AM – 2:00PM and 3:15 – 4:30PM, or by appointment via email. Include "CSCI 502" in the subject line of your course-related email. (For your visits during the office hours, please still go ahead and drop me an email in advance in order to notify me that you will stop by, since I might have occasionally mandatory meetings to attend which might occasionally overlap with my office hours.)

INSTRUCTOR:
Ünal "Zak" Sakoglu, Ph.D.
Assistant Professor, Department of Computer Science
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TEXTBOOK:
Probability and Statistics for Engineers and Scientists, 9th Edition by Walpole, Myers, Myers, and Ye, Prentice Hall. ISBN-13: 978-0-321-62911-1

COURSE DESCRIPTION:
This course provides an introductory framework for the statistical background required for scientific computation and data analysis. The course introduces fundamental statistical concepts such as probability, random variables, probability distributions, statistical expectation, sampling distributions, hypothesis testing, linear regression, correlation, and visualization/plotting of data, with emphasis on applications to scientific computing and computational science problems. Concepts will be reinforced by having students use a statistical/scientific computing & visualization software in order to apply the concepts that they learn by solving problems from various disciplines.

STUDENT LEARNING OUTCOMES:
Students will be able to
(SLO #1) demonstrate understanding of the probability, random variables and probability distributions
(SLO #2) demonstrate understanding of hypothesis testing and inference
(SLO #3) demonstrate understanding of linear regression and correlation
(SLO #4) demonstrate understanding of using statistical descriptors of data for analysis and visualization
(SLO #5) demonstrate the ability to use a statistical analysis toolbox/software and apply to real data for statistical analysis and visualization

COURSE OUTLINE/CONTENT:
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Week 1: 8/26, 8/28	Chapter 1. Introduction to Statistics and Data Analysis
Week 2: 9/2, 9/4	Chapter 2. Probability
Week 3: 9/9, 9/11	Chapter 2. Probability (continued)
Week 4: 9/16, 9/18	Chapter 3. Random Variables and Probability Distributions
Week 5: 9/23, 9/25	Chapter 4. Mathematical Expectation
Week 6: 9/30, 10/2	Chapter 5. Some Discrete Probability Distributions
Week 7: 10/7, 10/9	Chapter 6. Some Continuous Probability Distributions
Week 8: 10/14,	Chapter 6. Some Continuous Probability Distributions (continued)
10/16, Thursday	**Midterm Exam**
Week 9: 10/21, 10/23	Chapter 7. Functions of Random Variables
Week 10: 10/28, 10/30	Chapter 8. Fundamental Sampling Distributions and Data Descriptions
Week 11: 11/4, 11/6	Chapter 9. One- and Two-Sample Estimation Problems
Week 12: 11/11, 11/1	Chapter 10. One- and Two-Sample Tests of Hypotheses
Week 13: 11/18, 11/20	Chapter 11. Simple Linear Regression and Correlation
Week 14: 11/25,	Chapter 13. One-factor Experiments: General
11/27, Thursday	**Thanksgiving Day, University Closed (No Class Meeting, No office hours)**
Week 15: 12/2, 12/4	Last week of classes. The last week will be used for covering the course materials for missing days, covering any unfinished course materials from the days before, possible new course material if necessary, and Q&A/review session if time permits; and possible participation in other course students' project presentations.
Finals week: 12/9 Tuesday	**Final Exam at 1:15pm-3:15pm, in class, comprehensive of all material covered. As per the final exam schedule at:** http://www.tamuc.edu/admissions/registrar/academicCalendars/final-exam-schedule.aspx

EXAMS & GRADING:

Attendance & In-Class Quizzes	20%
Homework Assignments & Projects	30%
Midterm Exam	20%
Final Exam (Comprehensive of all the material covered)	30%

COURSE REQUIREMENTS:
Web-enhancements / eCollege: The course may be supplemented with activities via eCollege course shell: https://secure.ecollege.com/tamuc. Assignments will be uploaded to eCollege course shell. Students are responsible for obtaining and setting up their eCollege account using their TAMUC student login. They need to follow the eCollege course shell daily for the course announcements, downloading and uploading the assignments, and other course activities.

Study: To plan a minimum of three hours of outside preparation for each hour of class is a safe time allocation for successfully completing the course.
Assignments: There will be regularly assigned homework problems. These assignments may require the application of various software packages. Assignments will be given and returned via the online eCollege system as a convenience to the students and the instructor. It is the student's responsibility to

login and check the course eCollege site daily for announcements, assignments and course-related content. ***It is very important that students follow the instructions carefully on the assignments.*** It is the student's responsibility to have all assignments ready on time by the given due date. Late assignment may *not* be accepted or may be *penalized* and assignment may not be accepted beyond a certain time. Important material from the text and outside sources will be covered in class. Students should plan to take careful notes as not all material can be found in the texts or readings. Discussion is encouraged as student-procured outside material relevant to topics being covered. End of chapter activities and online activities may be assigned to reinforce material in the text.

Exams: Two exams will be given, one midterm exam and one final exam. The exams will be closed book/notes and will test assigned readings and material discussed in class. The instructor may add other necessary exams if he sees necessary.

Attendance: Student participation will be graded by the level of class participation and attendance. Students are expected to attend every class. The student may fail the course if the attendance is below certain percentage.

Quizzes: *Unannounced* pop-quizzes will be given to help ensure students stay up with assigned material.

Project: In some of the assignments, there will be applied statistical analysis projects in which the concepts will be reinforced by having students learn to use a statistical /scientific computing & visualization software and apply it to analyze data from various disciplines.

*Students can see their graded assignment, quiz, exam papers and project reports during the office hours. The students have **one week** to see their graded papers after the grades are announced (announced either via email or uploaded to eCollege). The overall course grades are finalized after all the exams, assignments, quizzes and attendances are weighed and evaluated at the end of the semester on the instructor's excel spreadsheet.*

The instructor maintains the right to modify the course syllabus & policies within the semester if need arises.

ACADEMIC ETHICS:
"All students enrolled at the University shall follow the tenets of common decency and acceptable behavior conducive to a positive learning environment." (See Student's Guide Handbook, Policies and Procedures, Conduct). Ethics include the issue of plagiarism, and copying parts or whole of assignments, quizzes and exams is just as serious as any other type of plagiarism. If you are caught sharing or using other people's work, you will receive a 0 grade and a warning on the first instance. A subsequent instance will result in receiving an F grade for the course, and possible disciplinary proceedings. The student who shares as well as the one who copies will both receive a 0.

ATTENDANCE POLICY :
Student participation will be graded by the level of class participation and attendance. Students are expected to attend every class. The student may fail the course if the attendance is below a certain percentage. If a student is absent from class on the due date of any assignment, they are expected to make alternative arrangements to assure that the assignment is turned in ON TIME. Any student wishing to withdraw from the course must do so officially as outlined in the class schedule. THE INSTRUCTOR CANNOT DROP OR WITHDRAW ANY STUDENT.

COURSE REQUIREMENT DEADLINES:
Credit will be given for ONLY those exam(s), program(s), and/or project(s) turned in no later than the deadline(s) as announced by the instructor of this class unless prior arrangement has been made with the instructor. Late assignments will be penalized, and the instructor may not accept late assignments after a specified period.

METHOD OF EVALUATION (Tentative):
Final average Letter grade
90.00 – 100   A
80 – 89.99   B
70 – 79.99   C
60 – 69.99   D
Below 60   F

STUDENTS WITH DISABILITIES REQUIRING ASSISTANCE:
The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you have a disability requiring an accommodation, please contact:
Office of Student Disability Resources and Services
Texas A&M University-Commerce
Gee Library, Room 132
Phone (903) 886-5150 or (903) 886-5835
Fax (903) 468-8148
StudentDisabilityServices@tamuc.edu

SMOKE, VAPOR & TOBACCO FREE ENVIRONMENT:
University Procedure 34.05.99.R1 now prohibits the use of vapor/electronic cigarettes, smokeless tobacco, snuff and chewing tobacco inside and adjacent to any building owned, leased, or operated by A&M – Commerce.

UNIVERSITY RULES AND PROCEDURES can be accessed at
http://www.tamuc.edu/aboutUs/policiesProceduresStandardsStatements/rulesProcedures/

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