Course Title: Introduction to Statistics I (STAT 1000Q)
Credits: 4 credits
Recommended Preparation: MATH 1010 or equivalent
Instructor: Dr. Suman Majumdar (suman.majumdar@uconn.edu)
TA: Ms. Valerie Pare (valerie.pare@uconn.edu)

The developer of this course is Dr. Suman Majumdar, Associate Professor of Statistics at the University of Connecticut.

All videos, images, charts, and graphs not created by the developer are used with permission of the publisher.

Contact Info:

- HuskyCT E-mail is the best way to reach me. Once the course starts, for course related questions please only use the Messages Tool in the course for e-mail. You can expect a response in less than 12 hours.
- If your query is time sensitive, please don't hesitate to call me at (203) 987-5286. If you leave me a voicemail, I'll get back to you as soon as possible. Valerie can be reached at (860) 486-5804.
- If you encounter technical problems, please contact the Digital Learning Center (DLC) at (860) 486-1187.

Required Softwares and Texts:

Click here to download the required plug-in Acrobat Reader to your computer. You will be required to use Microsoft Word; if it is not installed on your computer, you can use it on the UConn vPC (http://vpc.uconn.edu). You can buy both the Textbook and the Workbook at any UConn Co-Op. You will also need a scientific calculator.

Textbook: A First Course In Business Statistics, 10th Edition

By James T. McClave, P. George Benson and Terry Sincich
Prentice Hall College Division, Publisher
ISBN-10: 0536922012
Workbook: An Introduction to Data Analysis Using Minitab for Windows; 4th Edition

By Kathleen M. McLaughlin and Dorothy B. Wakefield

Pearson / Prentice Hall Publishers
ISBN-10: 1256861847

Please send me a Message using the Messages Tool within the course and my email address shown above saying that you have thoroughly read this Syllabus.

Course Description

The course is developed around Chapters 1-7 and 10 of the Textbook, Statistics for Business and Economics, 10th edition, by James T. McClave, P. George Benson and Terry Sincich. Please note that these 8 chapters span 549 pages and it is impossible to cover these pages verbatim in one semester. That, and other pedagogical considerations, cause me to substantially reorganize the content into the 13 modules listed in the section General Course Outline at the bottom of the syllabus. It is important for you to note how each module relates to the Chapters in the Textbook and the Workbook, An Introduction to Data Analysis using Minitab 16, by Kathleen McLaughlin and Dorothy Wakefield.

This course makes extensive use of the statistical software Minitab (for which the Workbook serves as a manual) and it is extremely important that you figure out a way of accessing Minitab before the start of the semester. Minitab is available on the UConn vPC (http://vpc.uconn.edu). To use the UConn vPC install the VMWare View Client on your computer. Note that the vPC may be rather slow during periods of peak usage. For other ways of accessing Minitab, visit http://www.minitab.com.

Course Goals and Objectives

By the end of the course, you should be able to:

1. Create and read graphs, charts, and tables for classifying, summarizing, and visualizing data.
2. Calculate and interpret descriptive statistical measures including: mean, median, mode, standard deviation, range, percentile, interquartile range, and standardized score.
3. Turn raw data into usable information.
4. Solve elementary probability problems and use random variables for modeling population features.
5. Do calculations involved in the use of inferential statistics, including point and interval estimation and hypothesis testing, and interpret the results of these calculations.
6. Build Regression models for studying relationships between quantitative variables.

Try Out the FYE Ask Ali Study Strategies

Click Ask Ali Videos to listen to Ali, a very successful student at UConn, share study strategies that have worked well for her. To view the videos you will be asked to enter your UConn Net ID (the same username and password you used to log into this course).
UConn Connects and the First Year Programs offer an array of courses, a network for personal support, interactive online resources, and unique living/learning experiences to help students at the University of Connecticut achieve success from the start.

Course Format and Grading

How to Approach Statistics Online (This is IMPORTANT!)

Because you are working at a distance from your instructor and other students, rather than in a physical classroom, the risk of falling behind is higher if you don’t follow the syllabus instructions and keep up with lectures, assignments, discussions, and quizzes. This problem is often compounded by a temptation to procrastinate.

Working at a distance can be a rewarding experience if you become engaged and communicate regularly with other students by using the Messages Tool and Discussion Board in HuskyCT. The Discussion Board area of the course is similar to your physical classroom as it provides a location to meet and talk to other students. Please use it regularly and certainly for course requirements.

Since we will be covering 14 weeks of material over 17 days, you will have to devote a substantial amount of time (on the average about 8-9 hours a day) to the course on each of these 17 days. It will be very overwhelming (and ineffective) if you procrastinate and then try to make up for the lost time.

To help you succeed in this class, I have created a Plan of Study that outlines what you should do on each of these 17 days (and before the start of the semester to get ready, so that we can hit the ground running once the semester starts). Following the plan will protect you against falling behind and let you learn with confidence what you need to.

Discussions

The Discussion Board is available for questions and class participation.

You are graded on the quality of your participation in four specific discussion topics, each worth 10 points. These discussions will be identified in the modules to which they belong. Quality of your participation will be judged by your writing style - you should write complete sentences and check for spelling and grammar - and the content of your posting.

Refer to the Course Orientation for more information on online discussions.

Your first assignment in this area of the course is to submit your introduction in the Discussion Board.

Computer Assignments

There will be 8 computer assignments, for a total of 150 points. Collaboration among students on these assignments is strictly prohibited. These assignments will be distributed electronically and only electronic submissions will be accepted, preferably using the Assignments Tool in HuskyCT. Every assignment will have a deadline, followed initially by an extended deadline and subsequently by an über extended deadline, coinciding with the release of the solution to the assignment. Refer to the Assignment Details for more information. Please note that an assignment submitted after its deadline is considered late and may not be graded for full credit; no matter what, a submission will not be accepted once the solution is released.

Quizzes

There will be ten multiple-choice online quizzes, one for each Learning Module sans 1, 6, and 7, for a total of 60 points. These quizzes are given using the Assessments Tool in HuskyCT. By taking these quizzes, you agree to abide by the Honor Code: You will not seek help from anyone, nor will you use any course resource, including the Textbook, to complete the quizzes. Note that you are allowed to use your calculator and Minitab while taking the quizzes. I will post the solution to each and every quiz once the quiz closes. Refer to the Quiz Details for more information.
Proctored Exams

There will be two in-person and proctored exams (closed book with access to notes on both sides of two standard letter size, 8.5" by 11.5", sheets), midterm and final. The exams are given using the Assessments Tool in HuskyCT. Each exam consists of 30 multiple-choice questions, is worth 30 points, and is of 2 hours duration.

You will have to come to either Room 340 of the CLAS (AUST) Building (the Teaching Lab of the Statistics Department) at the Storrs Campus or Room 3.05G (the Computer Lab on the third floor) at the Stamford campus to take the exams.

You will have the option of taking the exams at home with ProctorCam.

The Midterm exam, encompassing Modules 1 through 4, is scheduled for 1/14/13, and starts at 1:00 PM at Storrs and at 7:00 PM at Stamford. The Final Exam, encompassing Modules 5 through 13, is scheduled for 1/18/13, and starts at 1:00 PM at Storrs and at 7:00 PM at Stamford.

On the first day of class, you must complete a survey (linked from the homepage) to indicate where you will take the proctored exams - at Storrs, at Stamford, or with ProctorCam.

Unfortunately, a make-up exam will be granted to an individual student only in case of a verifiable and extreme emergency. (A schedule conflict does not constitute an extreme emergency.)

No matter where you take the exams, you will have to present a photo ID at the time of taking the exams.

Grading

For each of you, I will calculate a W(weighted)-score, using the formula \( W = \frac{C}{6} + M + F + \frac{D}{20} + \frac{Q}{3} \), where \( C \), \( M \), \( F \), \( D \), and \( Q \) stand for the points you score on the computer assignments, the midterm exam, the final exam, the graded discussions, and the quizzes, respectively, rounded (up) to the next whole number. Your W-score will be converted into a Letter Grade using the following scale. I will give you a template for calculating your W-score.

<table>
<thead>
<tr>
<th>W-Score</th>
<th>Letter Grade</th>
<th>W-Score</th>
<th>Letter Grade</th>
<th>W-Score</th>
<th>Letter Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-29</td>
<td>F</td>
<td>45-49</td>
<td>C-</td>
<td>70-79</td>
<td>B</td>
</tr>
<tr>
<td>30-34</td>
<td>D-</td>
<td>50-54</td>
<td>C</td>
<td>80-84</td>
<td>B+</td>
</tr>
<tr>
<td>35-39</td>
<td>D</td>
<td>55-62</td>
<td>C+</td>
<td>85-89</td>
<td>A-</td>
</tr>
<tr>
<td>40-44</td>
<td>D+</td>
<td>63-69</td>
<td>B-</td>
<td>90-105</td>
<td>A</td>
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Please note that depending on the distribution of the W-score, I may modify the scale, i.e., curve, only to make it more lenient. What that means is your Letter Grade on a modified scale will never be lower than that on the scale above.

Academic Misconduct

Academic misconduct in any form is in violation of The Student Code, which is incorporated into this document by reference, and will not be tolerated. This includes, but is not limited to, copying or sharing answers on tests or assignments, plagiarism, and having someone else do your academic work. Depending on the act, a student can receive an F grade on the test/assignment, F grade for the course, or can be suspended or expelled. In this context, let me emphasize that substantially similar submissions of an assignment from different students will be treated as an instance of academic misconduct by the students involved.

I take plagiarism seriously. If you have questions or concerns, please ask me. If you're not sure how to recognize and avoid plagiarism, click here.

Your Responsibility

For a variety of reasons, I may have to modify the policies and procedures outlined in this document, as well as the various deadlines mentioned in the Assignment Details and the Quiz Details. Such modifications, if any, will be announced using the Announcements Tool in HuskyCT. It is your responsibility to keep track of these announcements.
### General Course Outline

The course is developed around Chapters 1-7 and 10 of the Textbook, Statistics for Business and Economics, 10th edition, by James T. McClave, P. George Benson and Terry Sincich. The content is delivered through thirteen learning modules listed below.

<table>
<thead>
<tr>
<th>Module 1 - The Science of Statistics</th>
<th>Module 8 - The One Sample Problem</th>
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<tbody>
<tr>
<td>This module corresponds very closely to Chapter 1 of the textbook.</td>
<td>This module is nominally related to Sections 5.1-3 and Sections 6.1-4, but my pedagogy is radically different from that of the Textbook. I think what the Textbook covers in Chapters 5 and 6 are joined at the hip and separating them into two chapters impedes the process of learning. I also de-emphasize the many formulas for calculating the values of the various statistical estimators - using Minitab to do the same jobs is a much more efficient process. Chapters 8 and 9 of the Workbook play a pivotal role here.</td>
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<thead>
<tr>
<th>Module 2 - Methods for Describing Data</th>
<th>Module 9 - The One Proportion Problem</th>
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<tbody>
<tr>
<td>This module is developed around Chapter 2 of the Textbook and Chapters 1-3 of the Workbook, but contains additional material that is covered neither by the Textbook nor by the Workbook.</td>
<td>This module is nominally related to Section 5.4 and Section 6.5, but pedagogical considerations (similar to the ones shaping my handling of the content of Module 8) cause me to develop it around Chapters 8 and 9 of the Workbook.</td>
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<tr>
<th>Module 3 - Probability</th>
<th>Module 10 - The Paired Difference Experiment Problem</th>
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<tbody>
<tr>
<td>This module corresponds to Chapter 3 of the Textbook, but there is some divergence between the content of the module and the textbook chapter. You should follow the module plan of study carefully and use the textbook as indicated.</td>
<td>The textbook deals with this material in Section 7.3, but we are going to de-emphasize the formulas again and develop it around Chapter 10 of the Workbook.</td>
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<tr>
<th>Module 4 - Random Variables and Probability Distributions</th>
<th>Module 11 - The Two Sample Problem</th>
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<tr>
<td>This module is developed around Chapter 4 of the Textbook. We do most of the numerical work using Minitab (as opposed to the Textbook, which uses formulas and calculators). As such, Chapters 5 and 6 of the Workbook play a pivotal role in this module.</td>
<td>The textbook deals with this material in Section 7.2, but continuing with the approach of de-emphasizing formulas and using Minitab to do the numerical work, we are going to develop the module around Chapter 10 of the Workbook.</td>
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<tr>
<td>Module 5 - Sampling Distributions</td>
<td>Module 12 - The Two Proportion Problem</td>
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<tr>
<td>This module is nominally related to the last two sections of Chapter 4 of the Textbook. It contains additional material that is covered neither by the Textbook nor by the Workbook. It does make substantial use of Chapter 7 of the Workbook.</td>
<td>The textbook deals with this material in Section 7.4, and the Workbook does not deal with this material at all. Again, we are going to shun formulas and use Minitab, and I'll post material that will illustrate how to handle this problem using Minitab.</td>
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<tr>
<th>Module 6 - Introduction to Estimation with Confidence Intervals</th>
<th>Module 13 - Relationships Between Quantitative Variables, Correlation and Regression</th>
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<tbody>
<tr>
<td>This module makes no direct use of the Textbook or the Workbook.</td>
<td>This module deals with what is covered in Chapter 10 of the Textbook, but I make no use of the textbook. I have a set of lecture notes and use them along with Chapter 11 of the Workbook to deliver the content.</td>
</tr>
</tbody>
</table>

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Updated: 12/10/2012