

**Syllabus – Summer Session 3, 2016 (Section Z60, Class Number 1635)
(06/27/2016 – 08/19/2016)**

This Honors course is developed by Dr. Suman Majumdar, Associate Professor of Statistics at the University of Connecticut, and is facilitated completely online using [HuskyCT](#), UConn’s learning management system powered by Blackboard Learn. Any content not created by the developer is used with permission of the copyright holder.

For HuskyCT technical support, during regular business hours contact [HuskyTech](#). You also have [24x7 Course Support](#) including access to live chat, phone, and support documents.

Excluding materials for purchase, syllabus information is subject to change.

The most up-to-date syllabus is located within the course in HuskyCT.

Course and Instructor Information

Course Title: Elementary Concepts of Statistics

Credits: 4 (Honors)

Format: Online

Prerequisite: MATH 1011 (Introductory College Algebra and Mathematical Modeling) or equivalent

Key to success: Willingness to think

Instructor: Dr. Suman Majumdar, suman.majumdar@uconn.edu, (203)987-5286

Grader: Mr. Renjie Chen, renjie.chen@uconn.edu

Availability: E-mail is the best way to reach me. You can expect a response in less than 12 hours. If your query is time sensitive, please don't hesitate to call me. If you leave me a voicemail, I'll get back to you as soon as possible.

Office Hours: To bring the enriched learning experience you are expecting in an Honors course and the enhanced learning outcome that I am looking for to fruition will be very difficult using the completely asynchronous mode of instruction of a traditional online course. To circumvent that obstacle, we need to interact face-to-face on a regular basis. To facilitate such interactions, I'll be holding office hours in my [WebEx room](#) according to the following schedule:

Day of the Week	Time
Monday	4:00 PM to 5:00 PM
Tuesday	8:00 PM to 9:00 PM
Thursday	10:00 AM to 11:00 AM
Friday	9:30 PM to 10:30 PM
Sunday	2:00 PM to 3:00 PM

Needless to say that during the 8 week term I won't be able to hold all the 40 office hours – there will be a few cancellations and some office hours will be rescheduled at a relatively short notice. You don't have to attend each and every office hour, but if your summer schedule precludes attending three office hours a week (on average), this course is possibly not a good fit for your academic plan. I'll record the discussions that will take place during these office hours and post them on HuskyCT.

Minimum Technical Skills

To be successful in this course, you will need the following technical skills:

- Use electronic mail with attachments.
- Familiarity with Microsoft WORD and EXCEL.
- Copy and paste text, graphics or hyperlinks.
- Work within two or more browser windows simultaneously.
- Open and access PDF files.

University students are expected to demonstrate competency in Computer Technology. Explore the [Computer Technology Competencies](#) page for more information.

Course Materials

Required course materials should be obtained before the first day of class.

Texts are available through a local or online bookstore. The [UConn Co-op](#) carries the required textbooks that can be shipped via its online [Textbooks To Go](#) service (you have to search for this course under the Stamford campus). For more information, see Textbooks and Materials on the [Enrolled Students](#) page.

Required Materials:

1. ***Mind on Statistics, 5th Edition***, by **Jessica M. Utts** and **Robert F. Heckard**
Published by Brooks / Cole, Cengage Learning
ISBN – 13: [978-1-305-64981-1](#) (for the hardcover 5th Edition)
[978-1-305-75623-6](#) (for the UConn Custom Edition)
The [UConn Co-op](#) only carries the UConn Custom Edition. The hardcover 5th Edition may be available at a cheaper price online.
2. ***An Introduction to Data Analysis using Minitab 17, 5th Edition***, by **Kathleen M. McLaughlin** and **Dorothy B. Wakefield**
Published by Pearson / Prentice Hall
ISBN – 13: [978-1-323-01363-2](#)
3. **A Scientific / Graphing Calculator**
4. **Access to Minitab**
Minitab 17 is available on [the SKYBOX by UCONN](#). To use the SKYBOX, [install](#) it on your computer. You may like to explore the option of [renting](#) Minitab for the duration of the course. Note that Minitab 17 is not supported on the Macintosh platform, but Minitab Express is as long as your OS is 10.8 or higher. Please keep in mind that Minitab Express does not have all the features of Minitab 17, and using it for coursework is not recommended.
5. **Access to WORD**
Office 2013 is available on [the SKYBOX by UCONN](#). Other versions of WORD on Windows should work as well, but I'd advise you not to use WORD on the Macintosh platform.
6. **Plug-ins**
Click [here](#) to download the required plug-in **Acrobat Reader** to your computer. Your computer should be able to play this [video](#). If you run into any problem trying to play the video, follow the [troubleshooting steps](#). If the problem persists, fill out this [form](#).
7. **A microphone and a webcam for taking the proctored exams and participating in virtual office hours.**

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Course Description

From the [UConn Catalog](#):

Standard and nonparametric approaches to statistical analysis; exploratory data analysis, elementary probability, sampling distributions, estimation and hypothesis testing, one- and two-sample procedures, regression and correlation. Learning to do statistical analysis on a personal computer is an integral part of the course.

The course is developed around Chapters 1-14 of the [Textbook](#), *Mind on Statistics*. Please note that these 14 chapters span 581 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 10 modules broadly described below. It is important for you to note how each module relates to Chapters in the Textbook and the [Workbook](#), *An Introduction to Data Analysis using Minitab 17*.

Module #	Module Description	Textbook Chapters	Workbook Chapters
1	Introduction and Fundamental Principles	1	N/A
2	Probability – Definitions, Calculations, and Applications	7	N/A
3	Descriptive Statistical Measures (includes Correlation and Regression)	2 - 4	1-3 and 11
4	Principles and Methods of Data Collection	5-6	N/A
5	Random Variables and Probability Distributions	8	5 and 6
6	Sampling Distributions	9	7
7	Methods and Principles of Inference	N/A	N/A
8	Normality Assessment	N/A	N/A
9	Inference on Qualitative Variables	10 and 12	8-9
10	Inference on Quantitative Variables	11, 13, and 14	8-11

Course 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, but not related to: mean, median, mode, standard deviation, range, percentile, interquartile range, and standardized score.
3. Examine relationships between variables to extract 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. **Design a survey or an experiment for collecting relevant data to answer a simple research question, analyze the data, interpret the results of your analysis, and write a report explaining your answer to the research question.**

Depending on your major (and assuming that we are able to fulfill the sixth objective), you should immensely benefit from this course while writing your senior thesis.

Course Schedule

Click [here](#) to access the **Course Schedule**.

Summary of Course Grading:

Course Components	Weight (scaling factor)
Computer Assignments	20% (6)
Homework Problem Sets	10% (12)
Timed Quizzes	20% (5)
Proctored Midterm Exam	30% (1)
Proctored Final Exam (not cumulative)	30% (1)
Total	110%*

* The 110% above does not result from a numerical or a typographical error. It reflects a 10 point extra-credit opportunity offered to the entire class. There will be no individualized extra credit opportunity.

Computer Assignments

There will be 6 computer assignments, for a total of 120 points. Collaboration among students on these assignments is *strictly* prohibited. Please review the [Assignment Details](#) document for more information.

Each assignment will have a deadline, followed initially by an extended deadline (when it becomes unavailable) and subsequently by an über extended deadline (coinciding with the release of the solution to the assignment).

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 of an assignment will not be accepted once its solution is released.

The Course Menu on the left side of the Home Page contains the link to a folder titled Assignments. Each assignment and its solution will be placed inside that folder. Click on the link for an assignment (*different from the link for an assignment file*) to access and submit it. You can attach the file you intend to submit as your assignment in that page.

Problem Sets

There will be 6 problem sets on HuskyCT, one for each Learning Module sans 1, 4, 7, and 8, for a total of 120 points. Please review the [Problem Set Details](#) document for more information.

You will have two attempts at each problem set and the higher of the two scores will count towards your grade. Each problem set must be submitted by its deadline.

The Course Menu on the left side of the Home Page contains the link to a folder titled **Problem Sets**. Each problem set and its solution will be placed inside that folder. Make it a habit to read the description of a problem set carefully before clicking on its link to access it.

By completing these problem sets, you agree to abide by the **Honor Code**: You will not seek help from anyone to complete the problem sets. Note that you are allowed to use any inanimate resource, including your calculator and Minitab, while completing the problem sets.

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Timed Quizzes

There will be 9 multiple-choice quizzes on HuskyCT, one for each Learning Module sans 8, for a total of 100 points. Please review the [Quiz Details](#) document for more information.

The Course Menu on the left side of the Home Page contains the link to a folder titled **Quizzes**. Each quiz and its solution will be placed inside that folder. Make it a habit to read the description of a quiz carefully before clicking on its link to access it.

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.

Proctored Midterm Exam

The Midterm is a closed book exam, consists of 30 multiple choice questions, and is of 2 hours duration. It will encompass Modules 1-4. You can use **notes on both sides of eight standard letter size, 8.5" by 11.5", sheets** during the exam.

You will take the Midterm **online** with [ProctorU](#), a proctoring service chosen by the University. To do so, you will need a webcam and a microphone on your computer, and a reliable high speed internet connection. You should [check](#) to see if your computer meets the technical requirements of [ProctorU](#). There is no additional cost to you for this service.

Please review the [Course Schedule](#) document carefully for further details about the Midterm.

The Course Menu on the left side of the Home Page contains the link to a folder titled **Exams**. The Midterm will be placed inside that folder.

Proctored Final Exam

The Final is a closed book exam, consists of 30 multiple choice questions, and is of 2 hours duration. It will encompass Modules 5-10. You can use **notes on both sides of eight standard letter size, 8.5" by 11.5", sheets** during the exam.

You will take the Final **online** with [ProctorU](#), a proctoring service chosen by the University. To do so, you will need a webcam and a microphone on your computer, and a reliable high speed internet connection. You should [check](#) to see if your computer meets the technical requirements of [ProctorU](#). There is no additional cost to you for this service.

Please review the [Course Schedule](#) document carefully for further details about the Final.

The Course Menu on the left side of the Home Page contains the link to a folder titled **Exams**. The Final will be placed inside that folder.

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Grading Scale: (If your weighted course grade is a fraction, round it up to the next whole number.)

Grade	Letter Grade	GPA
> 92	A	4.0
89-92	A-	3.7
85-88	B+	3.3
81-84	B	3.0
77-80	B-	2.7
70-76	C+	2.3
66-69	C	2.0
60-65	C-	1.7
55-59	D+	1.3
50-54	D	1.0
44-49	D-	0.7
<44	F	0.0

Due Dates and Late Policy

All course due dates are specified in the [Course Schedule](#). Deadlines are based on Eastern Standard Time; if you are in a different time zone, please adjust your submittal times accordingly. *I reserve the right to change the various dates as the semester progresses.* Please pay attention to HuskyCT Announcements.

Feedback and Grades

I will make every effort to provide feedback and grades as soon as possible and keep you informed in case of unusual delays. To keep track of your performance in the course, use this [Excel Template](#).

Student Responsibilities and Resources

As a member of the University of Connecticut student community, you are held to certain standards and required to abide by the academic policies of the University. Also, there are numerous resources available to help you succeed in your academic work. This section provides a brief overview of important standards, policies and resources.

Student Code

You are responsible for acting in accordance with the [University of Connecticut's Student Code](#). Review and become familiar with the provisions of the code. In particular, make sure you have read the section that applies to you on Academic Integrity:

- [Academic Integrity in Undergraduate Education and Research](#)
- [Academic Integrity in Graduate Education and Research](#)

Cheating and plagiarism are taken very seriously at the University of Connecticut. As a student, it is your responsibility to avoid plagiarism. If you need more information about the subject of plagiarism, use the following resources:

- [Plagiarism: How to Recognize it and How to Avoid It](#)
- [University of Connecticut Libraries' Student Instruction](#) (includes research, citing and writing resources)

Copyright

Materials within the course are only for the use of students enrolled in the course for purposes associated with the course and may not be retained or further disseminated.

Netiquette and Communication

At all times, course communication with fellow students and the instructor are to be professional and courteous. It is expected that you proofread all your written communication, including discussion posts, assignment submissions, and mail messages. If you are new to online learning or need a netiquette refresher, please look at [The Core Rules of Netiquette](#).

Adding or Dropping a Course

If you should decide to add or drop a course, there are official procedures to follow:

- Matriculated students should add or drop a course through the [Student Administration System](#).
- Non-degree students should refer to [Non-Degree Add/Drop Information](#) located on the registrar's website.

You must officially drop a course to avoid receiving an "F" on your permanent transcript. Simply discontinuing class or informing the instructor you want to drop does not constitute an official drop of the course. For more information, refer to the:

- [Undergraduate Catalog](#)
- [Graduate Catalog](#)

Academic Calendar

There are important dates and deadlines for each semester and session classes are offered:

- [Fall and Spring Semester](#)
- [Summer Session](#)
- [Winter Session](#)

Academic Support Resources

[Technology and Academic Help](#) provides a guide to technical and academic assistance.

Students with Disabilities

Students needing special accommodations should work with the University's [Center for Students with Disabilities \(CSD\)](#). You may contact CSD by calling (860) 486-2020 or by emailing csd@uconn.edu. If your request for accommodation is approved, CSD will send an accommodation letter directly to me so that special arrangements can be made. (Note: Student requests for accommodation must be filed each semester.)

Blackboard measures and evaluates accessibility using two sets of standards: the WCAG 2.0 standards issued by the World Wide Web Consortium (W3C) and Section 508 of the Rehabilitation Act issued by the United States federal government." (Retrieved March 24, 2013 from [Blackboard's website](#))

Policy against Discrimination, Harassment and Inappropriate Romantic Relationships

The University is committed to maintaining an environment free of discrimination or discriminatory harassment directed toward any person or group within its community – students, employees, or visitors. Academic and professional excellence can flourish only when each member of our community is assured an atmosphere of mutual respect. All members of the University community are responsible for the maintenance of an academic and work environment in which people are free to learn and work without fear of discrimination or discriminatory harassment. In addition, inappropriate Romantic relationships can undermine the University's mission when those in positions of authority abuse or appear to abuse their authority. To that end, and in accordance with federal and state law, the University prohibits discrimination and discriminatory harassment, as well as inappropriate Romantic relationships, and such behavior will be met with appropriate disciplinary action, up to and including dismissal from the University. Refer to the [Policy against Discrimination, Harassment and Inappropriate Romantic Relationships](#) for more information.

Sexual Assault Reporting Policy

To protect the campus community, all non-confidential University employees (including faculty) are required to report assaults they witness or are told about to the [Office of Diversity & Equity](#) under the [Sexual Assault Response Policy](#). The University takes all reports with the utmost seriousness. Please be aware that while the information you provide will remain private, it will not be confidential and will be shared with University officials who can help. Refer to the [Sexual Assault Reporting Policy](#) for more information.

Evaluation of the Course

You will be provided an opportunity to evaluate instruction in this course using the University's standard procedures, which are [administered](#) by the Office of Institutional Research and Effectiveness.

Additional informal formative surveys may also be administered within the course as an optional evaluation tool.

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