Syllabus – Winter Intersession 2020 (Section Z20, Class Number 1007)
(12/26/2019 – 01/17/2020)

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> **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.**
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> **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
Format: Online
Recommended Preparation: MATH 1011 (Introductory College Algebra and Mathematical Modeling)

Instructor and Teaching Assistants
Dr. Suman Majumdar, WebEx Personal Room, (203)286-5631
Mr. Yakov Khariton, WebEx Personal Room, (248)420-4146
Mr. Biju Wang, WebEx Personal Room, (860)617-8836

While Dr. Majumdar is the Instructor of Record and developed the course, and Messrs. Khariton and Wang are nominally Teaching Assistants, this is going to be more like a team taught course.

It is extremely important that all of us are copied on any e-mail that you may send. To make that work, all you have to do is click on the hyperlink in the previous sentence to initiate a conversation and remember to use the "Reply All" feature while responding to an e-mail. If you adhere to this protocol of keeping all three of us in the loop, you can expect a very quick response.

If your query is time sensitive, please don't hesitate to call us. If your call to one of the listed numbers is not answered, please leave a voicemail, and then call one of the other numbers. Dr. Majumdar will be traveling during the term and will be somewhat limited in his ability to take calls, but he will be checking his voicemail very frequently, so if you cannot reach Mr. Khariton or Mr. Wang, you should call Dr. Majumdar. We will coordinate among ourselves to provide you with nearly 24/7 phone access. If you leave us a voicemail, we'll get back to you as soon as possible.

During the term, we plan to hold 60 virtual office hours using WebEx. Please review the office hours schedule carefully and make sure that during any 24 hour period you are able to make it to one of the office hours should the need arise.

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Minimum Technical Skills

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

- Use electronic mail with attachments.
- Be familiar 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

Course materials should be obtained before the first day of class. For more information, see the Enrolled Students page. The UConn Bookstore carries the required textbook and the recommended workbook (you have to search for this course under the Storrs campus), **but you do not need the supplement for our course**.

Required Textbook
Mind on Statistics, **5th Edition**, by **Jessica M. Utts** and **Robert F. Heckard**
Published by Brooks / Cole, Cengage Learning; ISBN 978-1-285-463186 (for the hardcover 5th Edition) and 978-1-305-756236 (for the UConn Custom Edition).
The UConn Bookstore only carries the UConn Custom Edition. The hardcover 5th Edition may be available at a cheaper price online.

Recommended Workbook
An Introduction to Data Analysis using Minitab 18, **6th Edition**, by **Kathleen M. McLaughlin** and **Dorothy B. Wakefield**
Published by Pearson / Prentice Hall; ISBN 978-1-323-923009.

Hardware
A fully functional computer running on the Windows or the Mac OS is **required**. Using a computer running on the Linux or the Android OS to complete the coursework is **strongly discouraged**. A Scientific / Graphing Calculator is **required**. A microphone and a webcam are **recommended** for participating in WebEx office hours.

Software
Click here to download the **required** plug-in Acrobat Reader to your computer. Your computer should be able to play this video. If you are using a Mac, the video may not play if the link opens in Safari. In that case, open Chrome on your Mac and copy the link from the address bar in Safari to the address bar in Chrome. If you cannot play the video on your computer, please let us know.

You will need Microsoft WORD to work on the **assignments**. If you do not have Microsoft WORD installed on your computer, you can get it (and other software included in the Microsoft Office Suite) here. Please install Microsoft WORD on your computer. **Assignments submitted using any other file format will not be graded**.

You will be using the statistical software Minitab extensively in this course. Minitab released its latest version, Minitab 19, last summer. The previous version, Minitab 18, was not supported on the Mac OS and Mac users had to use the UConn AnyWare Desktop to gain access to Minitab. Minitab 19 is supported on the Mac OS (version 10.14 or higher), though some of the functionalities of the Windows version are not yet available on the Mac Version. You can download Minitab 19 here and the installation instructions here.

Unfortunately, our Minitab Workbook has not yet been updated to be fully compatible with Minitab 19. You can broadly use the Workbook to navigate your way through Minitab 19, but there will be instances when the steps outlined in the Workbook will not apply to Minitab 19. Minitab 18 is still available on the UConn AnyWare Desktop and you may decide to bypass Minitab 19 altogether, but there are definite advantages to having Minitab installed on your computer. If the UConn AnyWare Desktop link does not work for you, connect to the UCONN VPN and try again. If you run into any problem with the UConn AnyWare Desktop, please report it to helpcenter@uconn.edu or call (860)486-4357 during normal business hours. **It is extremely important that you determine how you are going to access Minitab well ahead of time**.

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 1-3 and 7-13 of the Textbook, *Mind on Statistics*. Please note that these 10 chapters span 411 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 9 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 18*.

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 and 3	1-3 and 11
4	Random Variables and Probability Distributions	8	5 and 6
5	Sampling Distributions	9	7
6	Methods and Principles of Inference	N/A	N/A
7	Normality Assessment	N/A	N/A
8	Inference on Qualitative Variables	10 and 12	8-9
9	Inference on Quantitative Variables	11 and 13	8-10

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 limited 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.

Click here to access the **Course Schedule**.

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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.

Every assignment will have a deadline (the due by time), 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**. Every 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.

Timed Quizzes

You will be quizzed on the material of each ***Learning Module* except 7**, for a total of **80 points**. Please note that your total score on these quizzes is by far the larger component of what determines your course grade.

We will give you two quizzes on each module, Version A followed by Version B. Each of the two quizzes on a particular module will have the same number of questions and you will get the same amount of time to complete each of the two quizzes. The level of difficulty of the questions on the Version B Quiz will be comparable to that of the questions on the Version A Quiz, but you should not expect that any question would be repeated. We will post detailed solutions to the Version A Quiz. To calculate your quiz score for a module, we will take the higher of your Version A and Version B scores. 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**. Every 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 to complete the quizzes*. Note that you are allowed to use any inanimate resource, including your calculator and Minitab, while completing the quizzes.

Summary of Course Grading

Course Components	Weight (scaling factor)
Computer Assignments	20% (6)
Timed Quizzes	80% (1)
Total	**100%***

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

Grade	Letter Grade	GPA
92-100	A	4.0
87-91	A-	3.7
81-86	B+	3.3
73-80	B	3.0
67-72	B-	2.7
62-66	C+	2.3
57-61	C	2.0
52-56	C-	1.7
48-51	D+	1.3
44-47	D	1.0
40-43	D-	0.7
<40	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. *We reserve the right to change the various dates as the term progresses.* Please pay attention to HuskyCT Announcements.

Feedback

We 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 weighted course grade on an ongoing basis, 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 and the teaching assistants 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 us that 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 contact the University's Center for Students with Disabilities (CSD) as soon as possible, preferably right after enrolling in the course. You may contact CSD by calling (860) 486-2020 or by emailing. If your request for accommodation is approved, CSD will send an accommodation letter directly to us so that special arrangements can be made. 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)

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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 Related Interpersonal Violence 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 Institutional Equity under the Policy against Discrimination, Harassment, and Related Interpersonal Violence. 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 Policy against Discrimination, Harassment, and Related Interpersonal Violence for more information.

Course Policy on Technology Related Issues

While we will try to help you resolve any technology related issues you may encounter, you are ultimately responsible for ensuring that your computer and internet connection are equipped to deal with what this online course requires; in particular, **we cannot let you make-up an assessment because of a technology related issue at your end**. Since we are not specialists in information technology, for many of your issues our role will be confined to putting you in touch with appropriate support personnel within the University. Since we have no control over how quickly your issue will be addressed, please bring your concerns to our attention as soon as they surface.

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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