# Syllabus – Summer 2025 (Section 820, Class Number 1309)
# (07/14/2025 – 08/16/2025)[1]

**This course is developed by Dr. Suman Majumdar, Associate Professor of Statistics at the University of Connecticut, and is facilitated online using HuskyCT, UConn's Learning Management System powered by Blackboard Learn, and WebEx, UConn's Video Conferencing Platform powered by Cisco Systems.**

**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:** | **Introduction to Statistics I** |
| **Credits:** | **4** |
| **Format:** | **Online Asynchronous** |
| **Recommended Preparation:** | **MATH 1011 (Introductory College Algebra and Mathematical Modeling)** |
| **Instructor:** | **Dr. Suman Majumdar**, WebEx Personal Room, (203)286-5631 |

E-mail is the best way to reach me. While I am able to respond to student e-mails promptly most of the time, **please note that in our discipline exchange of e-mails is almost always a poor and inefficient method for answering content related questions**. As such, I strongly encourage you to come to one of the scheduled office hours or make an appointment to discuss such questions.

Starting with 07/15/25 and ending on 08/15/25, I will be holding office hours in my WebEx Personal Room from 8:00 PM to 9:00 PM on Tuesdays, Thursdays, and Saturdays, and 11:30 AM to 12:30 PM on Mondays, Wednesdays, and Fridays. Above and beyond these regularly scheduled office hours, during the term I will typically be available to meet with students in my WebEx Personal Room by appointment between 2 PM and 5 PM everyday (including Sundays). Any request for an appointment must be submitted by e-mail at least 12 hours in advance. Technology related issues may necessitate moving some of these meetings to the Zoom platform; if and when that happens, details needed to join the meeting will be provided in a HuskyCT Announcement.

If you have a time sensitive question, please don't hesitate to call me. If your call is not answered, please leave a voicemail. If you leave me a voicemail, I will get back to you as soon as possible.

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[1] Session 2 in Summer 2025 ends on 08/15/25, but the last two assessments are not due until 08/16/25.

## Minimum Technical Skills

You must have the technical skills to perform the following tasks:

- 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.

## Course Materials

**Course materials should be obtained before the first day of class or as soon as possible thereafter**. For more information, see the UConn page for Online Students.

**Required Books**

1. **The Textbook:** ***Statistics for Business and Economics*, 14th Edition**
   **James T. McClave, P. George Benson, and Terry Sincich**
   Published by Pearson
   ISBN 978-0-136-855354

At the UConn Bookstore you have to search for our course under the Storrs campus, **but you do not need any supplement for our course**. You may be able to obtain the textbook at a cheaper price by globally searching using the ISBN number.

2. **The Workbook:** ***An Introduction to Data Analysis using Minitab***
   **Dorothy B. Wakefield, Kathleen M. McLaughlin,** and **Tuhin Sheikh**

**I will provide you with the chapters of the Workbook through HuskyCT**.

**Hardware**
A fully functional computer running on the Windows or the Mac OS is **required** (see the Device Requirements for Students). Using a computer running on the Linux or the Android OS to complete the coursework is **strongly discouraged**. A Scientific / Graphing Calculator is **required**.

Since our course will rely exclusively on WebEx (or Zoom) for hosting all the office hours, I strongly recommend using a computer that is equipped with a microphone, a pair of headphones, and a webcam. Almost any laptop these days has a microphone and a webcam built into it and you most likely have a pair of headphones that you use with your phone. However, if you are going to use a desktop computer, you should purchase an external webcam, which typically comes with a microphone built into it. While on the subject of webcam, please note that due to concerns surrounding student authentication in **online** courses, I will expect you to turn on your webcam during office hours. I understand that you will be forced to turn off your webcam from time to time because of lack of bandwidth (that can happen to me as well) and there will be occasions when you will not want to turn on your webcam because of what is happening in your surroundings, but turning on your webcam should be the norm rather than the exception. Also, my experience suggests that online synchronous interaction results in a better learning outcome if we all have our webcams turned on.

**Software**
Click here to download the 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 or Firefox on your Mac and copy the link from the address bar in Safari to the address bar in your alternative browser. Please let me know if you cannot play the video on your computer.

For a seamless WebEx experience, download the WebEx Desktop App.

We will be using the software **Minitab** extensively in this course, as well as Microsoft WORD and EXCEL.

## Course Description

### From the UConn Catalog:

**A standard approach to statistical analysis primarily for students of business and economics; elementary probability, sampling distributions, normal theory estimation and hypothesis testing, regression and correlation, exploratory data analysis. Learning to do statistical analysis on a personal computer is an integral part of the course.**

The course is developed around Chapters 1-8 and 11 of the Textbook, ***Statistics for Business and Economics***. Please note that these 9 chapters span more than 570 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 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***.

| |
|---|
| **Module 1 - The Science of Statistics** This module corresponds very closely to Chapter 1 of the Textbook. |
| **Module 2 - Methods for Describing Data** This module is developed around Chapter 2 of the Textbook and Chapters 1-3 of the Workbook. Module notes contain additional material. |
| **Module 3 – Probability** This module is developed around Chapter 3 of the Textbook and Chapter 4 of the Workbook. Module notes contain additional material. |
| **Module 4 - Random Variables and Probability Distributions** This module is developed around Chapter 4 of the Textbook. The Module notes indicate how to use the Textbook. Chapters 4, 5, and 6 of the Workbook play a pivotal role in this module. |
| **Module 5 - Sampling Distributions** This module is developed around Chapter 5 of the Textbook (which should be read in conjunction with the Module notes). It contains considerable amount of additional material and makes substantial use of Chapter 7 of the Workbook. |
| **Module 6 - Introduction to Estimation with Confidence Intervals** This module makes no direct use of the Textbook or the Workbook. |
| **Module 7 - Introduction to Hypotheses Testing** This module, like Module 6, makes no direct use of the Textbook or the Workbook. |
| **Module 8 - The One Sample Problem** This module is related to Sections 6.1-3 and 7.1-5 of the Textbook, but my pedagogy is radically different. I believe separating what the Textbook covers in Chapters 6 and 7 impedes the process of learning. I de-emphasize the formulas for calculating various statistical estimators - using Minitab (Chapters 8 and 9 of the Workbook) is a much more efficient process. |
| **Module 9 - The One Proportion Problem** This module is related to Sections 6.4 and 7.6 of the Textbook, but pedagogical considerations outlined above cause me to develop it around Chapters 8 and 9 of the Workbook. |
| **Module 10 - The Paired Difference Experiment Problem** This module is related to Section 8.3, but I am going to de-emphasize the formulas again and develop it around Chapter 10 of the Workbook. |
| **Module 11 - The Two Sample Problem** This module is related to Section 8.2, but continuing with the approach of using Minitab to do the numerical work, I am going to develop the module around Chapter 10 of the Workbook. |
| **Module 12 - The Two Proportion Problem** This module is related to Section 8.4. Again, I am going to shun formulas and use Minitab, and I'll post material that will illustrate how to handle this problem using Minitab. |
| **Module 13 - Relationships Between Quantitative Variables, Correlation and Regression** This module deals with what is covered in Chapter 11 of the Textbook, but I typically do not cover everything that is there in the Textbook. Chapter 11 of the Workbook plays a pivotal role to deliver the content of this module. |

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## 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: 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.

## Course Schedule

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

## Course Assessments

### Assignments

Corresponding to each of the 11 chapters of the Workbook, there will be an assignment worth 100 points, for a total of 1100 points. Collaboration among students on these assignments is *strictly* prohibited. Please review the Assignment Details document for more information.

There is *a Learning Module* titled **Assignments** in the **Course Content** page on HuskyCT. Every assignment will be placed inside that module.

### Timed Quizzes

You will be quizzed on the material of each ***Learning Module* except 1,6, and 7**, for a total of **60 points**. Please note that your total score on these quizzes is by far the larger component of what determines your course grade.

I 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 will be repeated. I will post a detailed solution *only* to the Version A Quiz. To calculate your quiz score for a module, I will take the higher of your Version A and Version B scores. Please review the Quiz Details document for more information.

There is *a Learning Module* titled **Quizzes** in the **Course Content** page on HuskyCT. Every quiz and solution will be placed inside that module. 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.

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## Course Grading

**Summary of Course Grading**

| Assessment Components | Weight (scaling factor) |
|---|---|
| Assignments (lowest score is dropped) | 20% (50) |
| Timed Quizzes | 80% (4/3) |
| Total | **100%** |

**Grading Scale: (If your weighted course grade is a fraction, round it up to the next 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 |

At the end of the semester, I **may** decide to adjust the Grading Scale above, but only to your advantage. In other words, **I will never raise any of the cut-off points in the above table**.

**Due Dates and Late Policy**

All course due dates are specified in the Assignment Details and the Quiz Details. Deadlines are based on Eastern Time; if you are in a different time zone, please adjust accordingly. *I reserve the right to change the various dates as the term progresses.* Please pay attention to HuskyCT Announcements.

**Feedback**

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 weighted course grade on an ongoing basis, use this Excel Template.

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## 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
- Scholarly 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 instructors are to be professional and courteous. It is expected that you will proofread all your written communication, including discussion posts, assignment submissions, and mail messages. If you 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 me 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

Please be aware of the important dates and deadlines for Session 2 in Summer 2025.

### Academic Support Resources

Technology and Academic Help provides a guide to technical and academic assistance.

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**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 me 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.

**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 I 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 Asynchronous course requires; in particular, **I cannot let you make up an assessment because of a technology related issue at your end**. Since I am not a specialist in information technology, for many of your issues my role will be confined to putting you in touch with appropriate support personnel within the University. Since I have no control over how quickly your issue will be addressed, please bring your concerns to my attention as soon as they surface.

## Evaluation of the Course

You will be provided an opportunity to record your experience of 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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