

STAT 3375-003: INTRODUCTION TO MATHEMATICAL STATISTICS I

Fall 2019

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| Instructor, TA, and Grader: | Md Tuhin Sheikh |
| Email: | mdtuhin.sheikh@uconn.edu |
| Class: | Mo/We/Fr 11:15 – 12:05 (GENT 140) |
| Discussion: | Fr 12:20 – 1:10 (GENT 140) |
| Office Hour: | Mo 12:30 pm - 1:30 pm (AUST 337) |

Course Pages:

1. <https://lms.uconn.edu/>

Prerequisites: A grade of C+ or better in MATH 2110Q or 2130Q. Students may not receive credit for both STAT 3345Q and 3375Q, or both STAT 3375Q and 5585. An Honors conversion in this course may be given upon request by assigning material and problems at a higher level.

Textbooks:

- Wackerly, D., Mendenhall, W., and Scheaffer, R. L. (2014). Mathematical statistics with applications. Cengage Learning.

Objectives: This course is primarily designed for undergraduate students to broadly cover the mathematical theory underlying statistical methods, probability spaces, distributions in one and several dimensions, generating functions, and limit theorems.

Course Activities & Grading:

• Homework:

- Approximately 10-11 homeworks will be assigned during the semester. Students may consult amongst themselves or with the instructor, but each student must submit his/her own work.
- All homeworks are to be typed in Word or pdf documents, formatted according to the TAs instructions (posted on HuskyCT course website), and submitted through the HuskyCT course website. Students may submit each assignment only once.
- All completed assignments are to be submitted by the indicated due date to be graded for full credit.
- No credit will be given for submitted assignments exhibiting duplication or copying of solutions (from peers or existing solutions). See UConn's Academic Integrity policy below.

• Participation:

- We will have active learning in the classroom via discussion, Q&A, and problem solving. You are highly encouraged to read the materials (reading from the textbook and notes posted on the course HuskyCT site) before coming to class, and participate.

• Style:

- If the grader or instructor has to reread a solution several times to find a train of thought, or if a solution was illegible, ambiguous, or incoherent, Style Points will be affected.

Grading Policy:

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| Homework | 25% |
| Participation/Style | 5% |
| Mid-term | 30% |
| Final | 40% |

Tentative Course Outline:

| Week | Topics Covered | HW |
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| Week 1: 8/26–8/30 | Ch1 – Sec 2.3 | |
| Week 2: 9/2–9/6 | Sec 2.4–2.7 | HW 1 (Fr, 9/6) |
| Week 3: 9/9–9/13 | Sec 2.8–3.1 | HW 2 (Fr, 9/13) |
| Week 4: 9/16–9/20 | Sec 3.2–3.4 | HW 3 (Fr, 9/20) |
| Week 5: 9/23–9/27 | Sec 3.5–3.8 | HW 4 (Fr, 9/27) |
| Week 6: 9/30–10/4 | Midterm Review, Midterm | HW 5 We, (10/2) |
| Week 7: 10/7–10/11 | Sec 4.1–4.4 | |
| Week 8: 10/14–10/18 | Sec 4.5–4.8 | HW 6 (10/18) |
| Week 9: 10/21–10/25 | Sec 4.9–4.12 | HW 7 (10/25) |
| Week 10: 10/28–11/1 | Sec 5.1–5.4 | HW 8 (11/1) |
| Week 11: 11/4–11/8 | 5.5–5.9 | HW 9 (11/8) |
| Week 12: 11/11–11/15 | Sec 6.1–6.3 | HW 10 (11/15) |
| Week 13: 11/18–11/22 | Sec 6.4–6.7 | HW 11 (11/22) |
| Week 14: | THANKSGIVING BREAK | |
| Week 15: 12/2–12/6 | Final Review | |

Important Dates:

Midterm 04, October, 2019 (In class, 90 minutes)
 Last class 06, December, 2019
 Final Exam TBA

Class Policy:

- Regular attendance is essential and expected.

Academic Honesty: Lack of knowledge of the academic honesty policy is not a reasonable explanation for a violation.

Honors conversion: Independent study of the following additional materials with guidance from the instructor is required:

- Sections 3.9, 6.5, 6.6 of the textbook
- 6 Problems from each of the above sections. For example:
 - Section 3.9: 3.153, 3.155, 3.158, 3.160, 3.162, 3.163
 - Section 6.5: 6.41, 6.45, 6.46, 6.52, 6.53, 6.60
 - Section 6.6: 6.63, 6.64, 6.66, 6.67, 6.68, 6.69
 - 2 extra homework problems per week, from the same sections covered in the homework

Grading Scale:

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| A: | ≥ 93 |
| A-: | 90-92 |
| B+: | 87-89 |
| B: | 83-86 |
| B-: | 80-82 |
| C+: | 77-79 |
| C: | 73-76 |
| C-: | 70-72 |
| D: | 60-69 |
| F: | < 60 |

Academic Integrity: The more you collaborate, the better! Statistics is a field in which working in isolation is detrimental to success. That being said, the university policy regarding plagiarism is as always in effect for submitted assignments. You may find the university's policy here: <https://lib.uconn.edu/about/get-help/writing/plagiarism-resources/>. However, I fully support students collaborating and sharing ideas before forming their own responses for submission.

Disabilities: Disabilities are happily accounted for in this course. If you have any special requirements for lectures, labs, exams, or assignments I will be happy to make the arrangements necessary. However, as per UCONN policy, you must first contact the Center for Students with Disabilities (CSD). Their website can be found here: www.csd.uconn.edu. If you need any special accommodations, I strongly recommend contacting them as soon as possible (read: not the night before an exam) in order to ensure a smooth process. If you do not have the proper documentation from the CSD, then I'm afraid I cannot give any accommodation. Additionally, accommodations will not be made retroactively.

Tutoring: The department offers free tutoring services for students. All tutoring hours are held in AUST 303. Please refer to the schedule posted on the door of AUST 303 for the logistics.

A Note On Success: Ideally, to succeed in this course, I suggest you review the lecture notes covered that day before coming to class. Then, print the lecture notes and take notes on those printouts as we discuss. Finally, review the lecture notes again once after the lecture. Don't waste your time writing down what's on the PowerPoint. The class is only 50 minutes each lecture, so we will only be covering about 8 pages of notes each day. This is quite do-able, and I believe that if you follow this schedule you'll have a firm understanding of the material. Then, review the notes again for the midterm/final to make a strong review sheet. If you engage in the discussion sections, the homework assignments shouldn't be too challenging.

****The instructor reserves the right to modify the above mentioned dates, policies, and procedures as he sees fit. Please pay attention and keep a look out for any such changes.****