STT 441 - 001 & 003: Probability and Statistics I

Fall, 2019

E-mail: `ikpedenn@msu.edu`   **Web:** https://d2l.msu.edu/d2l/home/963672
Class Hours: M W F 3:00 - 3:50pm   **Class Room:** 226 Erickson Hall
Office: C401 Wells Hall   **Office Hours:** M W 1:45 - 2:45 p.m.
Instructor: Dennis Ikpe   and by appointment

Course Description

This is the first course in a two-course sequence of introductory probability and statistical inference for students with calculus background. STT 441 covers the introductory probability theory and models part of the sequence at an intermediate mathematics level. The course covers basic Probability, conditional probability and independence. Random variables - Discrete and continuous; univariate and multivariate distributions; Expectation and its properties; Moment generating functions; Law of large numbers and central limit theorem. The course will cover Chapters: 1-10 of the textbook. We will make use of computers where they will help to improve our understanding of fundamental concepts of the course, or where they will perform tedious calculations quickly. We will use applications from a statistical package (such as MINITAB and R).

    Prerequisite: MTH 234 or MTH 254H or LB 220 or approval of college.

Required Materials

- **Book:**
  Introduction to Probability
  Author: David F. Anderson, Timo Seppäläinen, Benedek Valkó
  ISBN: 9781108415859
  Publisher: Cambridge University Press

Quizzes & Homework

There will be **three** quizzes for 2.5%, 2.5% and 5% respectively. There will be **ten** homework assignments for 3% each during the semester. On or before the specified due date, all homework are to be turned in on d2l. All homework and quizzes will be graded and the due date will be posted on D2L when they are assigned. Homework will be due mostly on Fridays of every week

except during an exam week. Late homework will not be accepted and there will be no make-up for homework. Quizzes can be in class or online depending on how well the class is going.

Examinations

There will be two midterm exams and one cumulative final exam. All exams will be closed notes and taken in-class on the schedule day. Please see the tentative dates for the exams on the schedule below:

Midterm 1	Friday, Sept. 27, 2019	3:00 - 3:50pm
Midterm 2	Friday, Nov. 01, 2019	3:00 - 3:50pm
Final Exam	Monday, Dec. 9, 2019	3:00 - 5:00pm

Extra Credits: There will be a 3% extra credit for attendance and participation. There is no other form of extra credits. This class will not be curved. Attendance will be taken at the instructor's discretion.

Grading Policy

The grade will count the assessments using the following proportions:

- **30%** of your grade will be determined by **ten** homework assignments.

- **30%** of your grade will be determined by **two** in class midterm exams.

- **10%** of your grade will be determined by **three** in class/online quizzes

- **30%** of your grade will be determined by the final exam

The final grade would be based on your total grade percentage and will be determined roughly as:

Percentage	90-100	80-90	70-80	65-70	60-65	55-60	50-55	0-50
Grade	4.0	3.5	3.0	2.5	2.0	1.5	1.0	0.0

Course Policies

During Class

I understand that the electronic recording of notes will be important for class and so computers will be allowed in class. Please refrain from using computers for anything but activities related to the class. Phones are prohibited as they are rarely useful for anything in the course. Eating and drinking are allowed in class but please refrain from it affecting the course.

Attendance Policy

Attendance is expected in all lecture. Valid excuses for absence will be accepted before class. In extenuating circumstances, valid excuses with proof will be accepted after class.

Feedbacks and Communications

- All course announcements will be made in class or using D2L. Please check D2L regularly.

- Pease DO NOT reply to mass emails sent via D2L, you should create an email with new subject line in case you wish to respond to mass emails.

- The best way to contact me is via my work email : ikpedenn@msu.edu. Please give me up to 24 hours for email response. Emails sent over the weekend may have a longer waiting time.

Academic Integrity and Honesty

The Department of Statistics and Probability adheres to the policies of academic honesty as specified in the General Student Regulations 1.0, Protection of Scholarships and Grades, and in the All-University of Integrity of Scholarship and Grades which are included in Spartan Life: Student Handbook and Resource Guide. Student who plagiarize will receive a grade 0.0 on the assignment.

ADA:

- To arrange for accommodation, students with disabilities should contact the Resource Center for People with Disabilities.

- Resource Center for Persons with Disabilities (RCPD): Telephone: 355-9642; Website: http://www.rcpd.msu.edu

- Once you obtain a RCPD VISA please contact the instructor via email to arrange for a meeting to discuss your accommodation options.

Disclaimer

The instructor reserves the right to make small or large scale changes to this syllabus as he sees academically appropriate without any consultation. If and when such changes occur, the instructor will make a formal announcement to the class via multiple media.

Schedule and weekly learning goals

The schedule is tentative and subject to change. All homework assignments should be submitted through d2l on the respective due dates.

Week 01, 08/26 - 08/30: Section 1.1 - 1.3

Week 02, 09/02 - 09/06: Section 1.4 - 1.5 , 2.1, & **HW01: Due - 09/06**

Week 03, 09/09 - 09/13: Section 2.2 - 2.5 & **HW02: Due - 09/13**

Week 04, 09/16 - 09/20: Section 3.1 - 3.2, & **HW03: Due - 09/20**

Week 05, 09/23 - 09/27: Section 3.3 - 3.4, & **Quiz 1 & Exam 1 (09/27, 3:00pm–3:50pm)**

Week 06, 09/30 - 10/04: Section 3.5, 4.1 - 4.2 & **HW04: Due - 10/04**

Week 07, 10/07 - 10/11: Section 4.3 - 4.5 & **HW05: Due - 10/11**

Week 08, 10/14 - 10/18: Section 5.1 - 5.2, 6.1 & **HW06: Due - 10/18**

Week 09, 10/21 - 10/25: Section 6.2-6.3, 7.1, & **HW07: Due - 10/25**

Week 10, 10/28 - 11/01: Section 7.2, 8.1, & **Quiz 2 & Exam 2 (11/01, 3:00pm–3:50pm)**

Week 11, 11/04 - 11/08: Section 8.2 -8.4 & **HW08: Due - 11/08**

Week 12, 11/11 - 11/15: Section 9.1 - 9.3, & **HW09: Due - 11/15**

Week 13, 11/18 - 11/22: Section 10.1 - 10.2

Week 14, 11/25 - 11/29: Section 10.3 & **HW10: Due - 12/29**

Week 15, 12/02 - 12/06: Review & catching up & **Quiz 3**

Week 16, 12/09 - 12/13: Exam week & **Final Exam (Dec 9, 2019, 3:00pm–5:00pm)**

Important Dates Fall, 2019

Last day to drop with refund (8:00pm)　　　　　　　**9/23/2019**

Wednesday, 8/28	Classes begin
Monday, 9/2	Holiday – University closed
Wednesday, 10/16	Middle of semester
Thursday, 11/28 – Friday, 11/29	Holiday – University closed
Friday, 12/6	Classes End
Monday, 12/9	Final Exam