

# STT 441: Probability and Statistics I: Probability

Michigan State University, Fall 2018

Section: 001

Course syllabus

## Instructor Information:

**Name:** Harish Sankaranarayanan

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Email: harish@stt.msu.edu

**Office hours:** Tues 2 to 4 pm and Thurs 3 to 5 pm

## Class Information:

**Weekly Meetings:** Mon, Wed & Fri; 3:00 to 3:50 pm at 226 Erickson Hall

**Help Room:** The Department of Statistics and Probability provides free help sessions for undergraduate students throughout the academic year. The help room is located at A102 Wells Hall. Please visit the [help room website](#) to get further information about scheduling.

**Class Attendance:** Students are expected to attend all class meetings. If you miss a class meeting for any reason, you are responsible for materials covered during that class period. In the event that a graded work is due at that time, you must provide documentation for your absence (for instance, doctors notes indicating you were sick, accident report etc).

**Webpage:** All course materials and Homework will be posted on [D2L](#). Please download course materials from D2L before you attempt to read them. The D2L viewer does not work well with power point slides and PDFs.

## 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 probability models part of the sequence at an intermediate mathematical 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.

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

## Required Textbook:

### *Introduction to Probability*

**Author:** David F. Anderson, Timo Seppäläinen, Benedek Valkó

**ISBN:** 9781108415859

**Publisher:** Cambridge University Press

## Grading Policies:

Grades will be assigned using the following weight:

Quizzes	Homework	Midterm Exam 1	Midterm Exam 2	Final Exam
10%	30%	15%	15%	30%

You final grade will be determined by the following grading scale:

Percentage	90-100	80-89	70-79	65-69	60-64	55-59	50-54	0-49
Grade	4.0	3.5	3.0	2.5	2.0	1.5	1.0	0.0

## Quizzes and Homework:

There will be two quizzes for 5% each and 10 homework assignments for 3% each during the semester. All homework are due in class on the specified due date. All homework and quizzes are compulsory and will be graded by your grader. The date for the quizzes will be confirmed later. The due date for homework assignments will be announced when they are assigned. Homework assignments 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 may be in class or online depending on the class progress.

## 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 midterm exams on the schedule below. The final exam will be held on the date and time assigned by MSURO.

### **Exam Schedule:**

Exam	Dates	Time
Midterm Exam 1	09/28/2018	3:00 – 3:50 p.m.
Midterm Exam 2	11/02/2018	3:00 – 3:50 p.m.
Final Exam	12/10/2018	3:00 – 5:00 p.m.

# Course Policies:

## Classroom Civility

Please set cell phones and other electronic devices on silent mode as you enter the class. Computer use during class should be strictly limited to class activities. Please do not watch videos in class as others might be distracted as well. In general, just be nice!!

## Feedbacks and Communications

All course announcements will be made in class or using D2L or via email. Please check your email and D2L regularly. Please DO NOT reply to mass emails sent via D2L. You should always create an email with a new subject line with the course name STT441 whether you wish to respond to mass emails or in general email the instructor. The best way to get to contact the instructor is via department email. Please give the instructor 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. Additional information can be found at <https://honorcode.msu.edu>. *Student who plagiarize will get a zero for the assignment or quiz.*

## Honors option

Honors option will be offered in this course. Please inform the instructor via email asap if you are interested in pursuing this.

## 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.

## RVSM:

Michigan State University policies regarding sexual harassment will be enforced. As an university employee, the Instructor is a mandatory reporter. Please consult [www.oie.msu.edu](http://www.oie.msu.edu) for the University policy on Relationship Violence and Sexual Misconduct.

**EMERGENCY ACTION PLANS:** Please familiarize yourself with Emergency Classroom Guidelines posted in the Lecture Classroom. For more information, visit <http://police.msu.edu/field-services-bureau/support-services-division/emergency-management/emergency-action-plans/>

## 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 in class and via email.

**Important Dates:** See MSURO website for more details

Aug 29	First day of class
Sep 03	Labor Day Holiday - University Closed
Sep 05	On Line open add period ends (8.00 pm)
Sep 24	Last day to drop a class with refund (8.00 pm)
Sep 28	Exam 1 (3:00 pm to 3:50 pm at usual class meeting venue)
Oct 17	Middle of Semester: last day for withdrawal or dropping courses with no grade (8 pm)
Nov 02	Exam 2 (3:00 pm to 3:50 pm at usual class meeting venue)
Nov 22-23	Thanksgiving Holiday - University Closed
Dec 07	Last day of class
Dec 10	Final Exam (3:00 pm to 5:00 pm at usual class meeting venue)

## Tentative Class Schedule:

Week	Content	Assessments - Due Dates
1 (08/29 – 08/31)	Section 1.1	
2 ( 09/05 – 09/07)	Section 1.2 – 1.5	Hw 1 – 09/10
3 (09/10 – 09/14)	Section 1.5, 2.1 – 2.3	Hw 2 – 09/14
4 ( 09/17 – 09/21)	Section 2.4 – 2.5, 3.1	Hw 3 – 09/21
5 (09/24 – 09/28)	Section 3.2 – 3.4	Exam 1 – 09/28
6 (10/01 – 10/05)	Section 3.5, 4.1 – 4.2	Hw 4 – 10/05
7 (10/08 – 10/12)	Section 4.3 – 4.5	Hw 5 – 10/12
8 ( 10/15 – 10/19)	Section 5.1 – 5.2	Hw 6 – 10/19
9 (10/22 – 10/26)	Section 6.1 – 6.2	Hw 7 – 10/26
10 (10/29 – 11/02)	Section 6.3, 7.1 – 7.2	Exam 2 – 11/02
11 (11/05 – 11/09)	Section 8.1 – 8.2	Hw 8 – 11/09
12 ( 11/12 – 11/16)	Section 8.3 – 8.4	Hw 9 – 11/16
13 ( 11/19 – 11/21)	Section 9.1 – 9.3	No HW this week Thanksgiving holiday
14 (11/26 – 11/30)	Section 10.1 – 10.3	Hw 10 – 11/30
15 (12/03 – 12/07)	Review/Catch up	No homework