

Faculty	Dr. Alireza Boloori Assistant Professor (Dept. Statistics & Probability, Dept. Family Medicine) bolooria@msu.edu
Email Correspondence	Please include STT422 in your email subject. Otherwise, there is a chance that your email may never be addressed. Also, please allow (at least) 1-2 days for your email to be responded (you're always welcome to remind me!).
Class Hours	Format: asynchronous → video lectures will be posted on D2L ahead of time, and you can watch them any time you want during that week. So, technically, there will not be any class held at a specific time/location.
Virtual Office Hours	Time: Monday/Wednesday (5:00 – 6:00 PM EST) or by appointment (if asking for other times) Platform: ZOOM Link: https://msu.zoom.us/j/9844222885 Password: 435882 Note: if asking for other times to meet, you should make an appointment at least 24 hours prior to your desired date/time.
Course Objectives/Goals	• To understand, at some depth, concepts, and ideas in certain topics in statistics and inference such as analysis of variance, linear regression, and logistic regression (to name a few). • To be able to analyze real data and draw conclusion based on that (i.e., rather than talking about methodologies and the mathematics behind them, how statistical analysis tell us something about data). • To explore applications of these concepts and ideas through examples from diverse real-life scenarios. • To acquire statistical skills to help deal with information in daily life and in your chosen profession. • To learn how to think logically, analytically, and systematically using statistics.
Course Format	3-credit course: online format (including classes, meetings, assignments, mid-term and final exams).
D2L (https://d2l.msu.edu)	• All course-related materials and assignments grades will be posted on D2L. • STT class pages will not be used. • Always use the latest version of materials on D2L; i.e., if you downloaded lecture slides and saved/printed a copy earlier, then replace it with the latest version when informed by the instructor. • If D2L has technical issues, please let the instructor know. • Do not view the PDF files on D2L viewer as there are bugs occasionally.

**Statistics Learning Center (SLC)
(formerly known as Help Room)**

- STT Help Room name changed to Statistics Learning Center (SLC). They use Zoom so we can refer to it as “Zoom SLC” going forward. They would like to move away from using the word “Help”.
- The schedule can be found at <https://stt.natsci.msu.edu/academics/statistics-learning-center/>
- **The current opening hours on Sun-Fri (Saturday excluded) are 4-10 pm (starting 1/19/2021).** This schedule is tentative.
- They will monitor student traffic for the first week and finalize the hours. The hours are spread out to accommodate students in different time zones.
- Rarely, you may receive bad advice on certain problems from the Graduate Assistants at the help room. Nevertheless, you are the only one responsible for the work that you submit.

Course Materials

- **Required textbook:** *Introduction to the Practice of Statistics*, 6th ed., (and Chapters 14 and 15 on the CD) by Moore, McCabe, and Craig.
- **Video lectures and lecture slides:** We intend to cover selected parts of the textbook. We will follow the textbook closely. Some sections of some chapters are omitted from lecture slides (instructor will inform you of these omissions). Your best guide for the content is the videos and lecture slides, which are posted on D2L mostly in advance.
- **Computer:** You can use the software of your choice for homework (e.g., Minitab, R-studio, or Matlab).
 - Although we see various software outputs in the lectures, we will use R primarily.
 - You must be able to read software output on assignments and exams.

Email and Office Hours policy

- PLEASE READ ANNOUNCEMENTS/EMAILS SENT BY THE INSTRUCTOR.
- MAKE SURE THE INSTRUCTOR’S MASS EMAILS ARE NOT GOING TO YOUR EMAIL SPAM/JUNK FOLDER.
- DO NOT REPLY TO THE MASS EMAILS SENT BY THE INSTRUCTOR WHICH USUALLY STARTS OFF AS “HI EVERYONE” OR “DEAR ALL”.
- TO EMAIL INSTRUCTOR, YOU MUST START A NEW SUBJECT HEADING, STATE YOUR COURSE AND SEND YOUR EMAIL.
(DON’T FORGET “STT422” IN YOUR SUBJECT; see “Email Correspondence” in page 1).
- To meet the Instructor outside of office hours, please email and make an appointment (see “Office Hours” in page 1).
- Your first point of contact should be an email. However, if your question/concern is not resolved, then we can visit during office hours.
- You should contact your Instructor immediately if your query is administration related. For example: missing assignments due to Michigan State University (MSU) approved activities, illness, grief absence, personal reasons, etc. or you are concerned about your GPA or you are stressed out or if there are issues with fellow students in class.

Assessments and Final grade (GPA)

- You have to write your full name and PID number on all assignments.
- Your final GPA is calculated based on the table given below.
- Percentages for individual assignments will be rounded off to 2 decimal place and the final percentage rounded up to 1 decimal place.

Type of Assessment	How many?	Weight
Homework Assignments	6	6 x 7% = 42%
Mid-term Exams	3	3 x 16% = 48%
Final Exam	1	15%
Total		105% (5% bonus)

GPA	Percentage
4.0	90 or more
3.5	85 - 89.9
3.0	79 - 84.9
2.5	73 - 78.9
2.0	65 - 72.9
1.5	60 - 64.9
1.0	55 - 59.9
0.0	54.9 or below

Homework Assignments

- There are **SIX** homework assignments, and they must be submitted as a SINGLE PDF file on D2L.
- See Full Schedule (page 6) for due dates of the homework assignments.
- Solutions to homework assignments will be posted after due date.
- Unexcused late submissions will be graded out of 75% if they are submitted within 1 day (24 hours) after the due date. Homework assignments submitted two days after the due date (or beyond that) will not be granted any credit.
- In addition to homework assignments, some reading and suggested problems from the textbook may be assigned throughout the semester. These problems will not be graded. However, it is essential that you work through them as some of the exam questions will be based on these questions.
- The instructor will try his best to return your graded homework assignments once the grader is done grading.

Mid-term Exams

- There are **THREE** mid-term exams.
- Exam questions are based on topics covered in video lectures, homework assignments, suggested exercises and sample questions.
- See Full Schedule (page 6) for mid-term exam dates.

Final Exam

- The final exam is cumulative. Exact chapters from the textbook and lecture slides will be confirmed later (in April 2021).
- Final exam questions are based on topics covered in lectures, homework assignments, suggested exercises and sample questions.
- For information on the Final exam date or other important dates, please visit the MSU Registrar's website: <https://reg.msu.edu/roinfo/calendar/academic.aspx>

**Alternative/
Make-up Exams**

- Requests for absences for exams must be made at least 1 week PRIOR to the exam date.
- If granted by the instructor, any absence must be made up prior to the exam date (NOT after that).
- Failure to notify the instructor PRIOR to each exam will result in a 0 for that exam.
- You must provide documentation to justify your absence. Make-up exam might be offered at the discretion of the instructor.

RCPD

- To arrange for accommodations, students with disabilities should contact the Resource Center for People with Disabilities (RCPD).
- Telephone: 355-9642; Website: <http://www.rcpd.msu.edu>
- Once you obtain a RCPD VISA (VISA: Verified Individualized Services and Accommodations), please contact the instructor via email to arrange for a meeting to discuss your accommodation options.

**Feedback and
Concerns**

- Constructive feedback is always welcome. Informal feedback surveys may be conducted.
- Final Course Evaluation of the Instructor and the course is conducted by Student Instructional Rating System (SIRS) at MSU. So, please keep track of organization skills and other characteristics such as willingness to help, preparedness, ability to explain, etc. It will be very helpful to the instructor if you give an objective feedback at the end of the course.
- Please feel free to let the instructor know if you find any mistakes in lectures, homework assignments, online assessments, etc.
- Do not wait until much later in the course to express your concerns. The sooner the instructor is aware of issues you are dealing with, the sooner he can help.

RVSM

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

General Advice

- DON'T FALL BEHIND! DON'T HESITATE TO GET HELP!
- Be prepared by
 - Watching videos regularly.
 - Reading the relevant chapters from the textbook and lecture slides.
 - Doing the suggested problems from the textbook.
- Within the confines of an online course, you can form a study group (if possible) to help with your studies.
- Learn to use related software.

**Academic
Honesty/Integrity**

Any form of cheating is considered a serious offense and will be dealt with according to MSU guidelines. All persons involved are considered responsible, including the person from whom others copy.

The Department of Statistics and Probability adheres to the policies of academic honesty as specified in the General Student Regulations 1.0, Protection of Scholarship and Grades, and in the all-University Policy on Integrity of Scholarship and Grades and Ordinance 17.00, Examinations, which are included in Spartan Life: Student Handbook and Resource Guide. Unless authorized by your Instructor, you are expected to complete homework assignments and exams, without assistance from any source. Students who violate MSU regulations on Protection of Scholarship and Grades will receive a failing grade in the course or on the assignment.

Student Conduct

- The Instructor has the responsibility to teach. Students have the right to learn. Everyone needs to be respectful of the rights of others in any form of communication (e.g., virtual office hours).
- **Courtesy** is extremely important in maintaining an effective learning environment. During virtual office hours, if you join later than other folks, please be mindful of their rights to raise their questions/concerns first.

Disclaimer

The Instructor reserves the right to make any changes to this course syllabus that he considers academically advisable. You will be informed of such changes, if any, in video lectures and/or by email. Please note that it is your responsibility to watch the lecture videos, follow materials, and read email to keep track of the proceedings of this course.

Tentative full schedule (general notes):

- On Fridays, I'll put one video lecture where I demonstrate using the R computing package for the materials covered on Monday/Wednesday in that week (this will not occur every single week).
- During the corresponding week, the HW will become available at the end of Friday (11:59 PM).
- For each HW, you will have 1 week to complete and upload your work to D2L. The due dates will be on Fridays (11:00 PM).
- During the corresponding week, each mid-term exam will become available online on Saturday (12:00 AM), and you will have time until the end of Sunday (11:59 PM) to complete and submit your work. → For each exam, you will have 48 hours.
- Final exam will become available online on Thursday, April 29, 2021 (12:00 AM), and you will have time until the end of Saturday, May 1, 2021 (11:59 PM) to complete and submit your work. → For the final exam, you will have 72 hours.

Part 1

Week	Monday	Wednesday	Comment
1	01/11 – 01/18: <i>Reading, Reviewing, and Reflection</i> 01/15: Video for syllabus review 01/19: classes begin		
2	01/18 ---	01/20 Ch 7.1	
3	01/25 Ch 7.2	01/27 Ch 12.1	HW1 available
4	02/01 Ch 12.1 (continued)	02/03 Ch 12.2	HW1 due date
5	02/08 Ch 15.3	02/10 Ch 13.1	HW2 available
6	02/15 Ch 13.2	02/17 Review	HW2 due date Exam 1 (weekend)

Part 2

Week	Monday	Wednesday	Comment
7	02/22 Ch 2.1 – 2.2	02/24 Ch 2.3 – 2.4	
8	03/01 Ch 10.1	03/03 No lecture (Wellness Day)	HW3 available
9	03/08 Ch 11	03/10 Ch 11 (continued)	HW3 due date HW4 available
10	03/15 Review	03/17 No lecture	HW4 due date Exam 2 (weekend)

Part 3

Week	Monday	Wednesday	Comment
11	03/22 Ch 1.1	03/24 Ch 8.1	HW5 available
12	03/29 Ch 9.1	03/31 Ch 9.2	HW5 due date
13	04/05 Ch 14.1	04/07 Ch 14.1 (continued)	HW6 available
14	04/12 Ch 14.2	04/14 Review	HW6 due date Exam 3 (weekend)
15	04/19 No lecture	04/21 Classes end	

Part 4 (cumulative)

16	04/26 Review	04/28 ---	Final exam Thursday, April 29, 2021 (more information will be provided later)
----	-----------------	--------------	---

Chapter/Section	Description
1.1	Displaying distributions with graphs
2	Looking at data-relationships
7	Inference for distributions
8.1	Inference for proportions: inference for a single proportion
9	Analysis of two-way tables
10.1	Inference for regression: simple linear regression
11	Multiple regression
12	One-way analysis of variance
13	Two-way analysis of variance
14	Logistic regression
15.2	Nonparametric tests: The Kruskal-Wallis test