

**STT 351: PROBABILITY & STATISTICS ENGINEERING - SECTION 006**

**FS19 COURSE SYLLABUS**

**Instructor: Dr. Sarah L. Hession**

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**Office: C439 Wells Hall**

**Office Hours: Monday 1 to 3 pm, Wednesday 3 to 4 pm, and by appointment**

- Three weekly Class Meetings:  
Mon Wed Fri 10:20 – 11:10 am,  
Attendance contributes towards your final grade and some extra credit points, see below for details.

**Prerequisites:**

MTH 234 or MTH 254H or LB 220. Not open to STT 430.

**Course Objective:**

This is an introductory course in probability and statistics. Our goals are to:

- Understand at some depth, basic concepts and ideas in certain topics in probability and statistics such as probability models, random variables, estimation, confidence intervals, tests of hypotheses, and simple linear regression.
- Explore applications of these concepts and ideas through examples from diverse real life scenarios, with focus on examples from engineering.
- To learn statistical thinking and problem-solving skills (i.e., thinking logically, analytically, and systematically to solve problems using statistics).
- To acquire experience in statistical tools and methods to help deal with information in daily life and in your chosen profession.

**Course Format:** Class Meetings, In-class Assessments, and Homework Assessments.

**D2L (<https://d2l.msu.edu>)**

- All course related materials and assessment grades will be posted on D2L.
- The STT class pages will not be used.
- Always use the version on D2L; that is, if you downloaded lecture slides and saved a copy earlier, then replace it with the latest version.
- If D2L has issues, please let me know.
- Do not view the PDF files on the D2L viewer as there are bugs.

**Department of Statistics and Probability Help room (A102 Wells Hall):**

- You can go to the Help Room for any content related help.
  - ⊖ Open hours: <https://www.stt.natsci.msu.edu/academics/help-room-schedule/>.
- Rarely, the Graduate Assistants at the help room may misunderstand the problem and give poor advice; however, you are the one responsible for the work that you submit.

### Course Materials:

- **Required Textbook:** Devore, J, Probability and Statistics for Engineering and the Sciences, Custom 8<sup>th</sup> Edition, Cengage Learning, 2015
- **Lectures slides:** We intend to cover selected parts of the textbook. We will follow the textbook closely. Some chapters or sections of some chapters are omitted (the instructor will inform you of these omissions). Your best guide for the content is the Lecture slides, which will be posted on D2L in advance.
- **Top Hat:** The instructor will use Top Hat to record attendance and as a classroom response system. You need access to a smart device for this. Go to [app.tophat.com/register/student/](http://app.tophat.com/register/student/) and enter the **6-digit Join Code: 105060**. For more info contact [support@tophat.com](mailto:support@tophat.com), 1-888-663-5491
- **Computer:** You need access to a computer. Some assignments require the use of a software such as R, Minitab or Matlab.
- **Graphic Calculator:** Required for this course. TI-84 is the recommended model.
- The Instructor will provide some instructions. However, it is your responsibility to learn to use software or calculator.

### Email and Office Hours policy:

- PLEASE EMAIL THROUGH D2L ONLY.
- PLEASE READ EMAILS.
- MAKE SURE THE INSTRUCTOR'S MASS EMAILS ARE NOT GOING TO YOUR EMAIL JUNK FOLDER.
- DO NOT REPLY TO THE MASS EMAILS SENT BY THE INSTRUCTOR WHICH USUALLY STARTS OFF AS "HI EVERYONE", INSTEAD OF "HI YOUR NAME". YOU MUST START A NEW SUBJECT HEADING, STATE YOUR COURSE STT351 AND SEND YOUR EMAIL.
- To see the Instructor outside of office hours, please email and make an appointment.
- Your first point of contact should be the Help Room if you query is content related. However, if after some effort your query is not resolved then please email the instructor or visit during office hours.
- You should contact your Instructor immediately if your query is administration-related or if you have concerns. For example: absences or missing assessments due to 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.

### ADA:

- To arrange for accommodation, 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 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 SIRS, 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 if you give an objective feedback at the end of the course.
- Please feel free to let me know if you find any mistakes in lectures, assignments etc.
- Do not wait until much later in the course to express your concerns. The sooner the instructor is aware of issues the sooner they can be resolved.

**Assessments and Final grade (GPA):**

- You have to write your last name and PID number on all assessments.
- You have to bring your ID for examinations.
- Your final GPA is calculated based on the tables given below.
- Percentages for individual assessments will be rounded off to 2 decimal place and the final percentage rounded up to 1 decimal place.

Type of Assessment	Lecture Attendance and Participation via Top Hat	Homework Assignments/Projects	Mid-term Exams	Final Exam
How many?	All Class meetings	10	2	1
Weightage	5%	10 x 5% = 50%	2 x 10%	25%

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

**Extra Credit:**

There will be several extra credit opportunities. Some of them are offered during class meetings and others through HW. These will be worth about 3% to 5% (TBD) of your final GPA and added as a bonus. You cannot make-up extra credit opportunities.

**Attendance:**

- You are expected to attend class meetings.
- Attendance and Top Hat participation together contributes to 5% of your GPA.
- Responsibility lies with you to learn the course material that you missed due to absences.
- The Instructor will use Top Hat to mark attendance. It's your responsibility to bring a smart device.
- You have to stay the entire duration of the class to be marked present.
- If you need to leave early for a valid reason, please inform the Instructor via email.
- If you have a valid reason for missing lectures, please inform your instructor via email. You may be asked to provide necessary proof or documentation such as Doctor's note, Letter from relevant organizations, etc.

**Top Hat:**

Top Hat (<https://tophat.com/>) will be used as a classroom response system during lectures each week. Selected Top Hat questions and/or attendance will be chosen each week to count towards a weekly participation grade. Questions that are completed during lecture time will be graded for participation and/or correct answers. There will most likely be a 5 question Top Hat quiz available each week that can be completed outside of class time to allow you to make-up any points you missed during lecture.

Except for the first week and the days/weeks where university holidays fall on a lecture day, there will be a participation grade for each week. More details about the grading policy for the participation grade will be provided during the class and the syllabus will be updated likewise.

**IMPORTANT DATES:**

A schedule of IMPORTANT DATES is available in the Syllabus folder on D2L.

**Homework Assignments:**

- There are **ten** homework assignments and each homework assignment must be submitted as a SINGLE PDF file on D2L.
- See IMPORTANT DATES and the cover-page for due dates for the homework assignments.
- Solutions to homework assignments will be posted two days after due date.
- Late submissions within 24 hours will be graded out of 4%. Homework assignments submitted two days after the due date will not be accepted as the solutions would be posted by then.
- In addition to homework assignments, some reading and suggested problems from the textbook will be assigned regularly. 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 her best to return your graded homework assignments once the graders are done grading.

**Mid-term Exams:**

- There are **two** 50-minute long Mid-term exams held during class.
- Exam questions are based on topics (to be announced) covered in class, homework assignments, suggested exercises and sample questions.
- See IMPORTANT DATES for tentative Mid-term exam dates.

**Final Exam:**

- See IMPORTANT DATES for tentative Final exam date.
- The final exam is **not cumulative**. Exact chapters from the textbook and lecture slides will be confirmed later.
- Final exam questions are based on topics (to be announced) covered in lectures, homework assignments, suggested exercises, and sample questions.
- Alternative final exam will be offered only to those students who have clashes or a legitimate reason for missing the exam. The instructor will email the class to organize this nearing the date.

**Absence from Exams:** If you are unable to take an exam for a legitimate reason, you must contact the instructor by email on or before the day of the exam or in advance if you are aware of the situation. You must provide documentation to justify your absence. Make-up exam might be offered at the discretion of the instructor.

**SECTION OVERRIDE:**

The limit for each Section is fixed so that the Instructors have a fair/equal teaching workload. So, students can only change sections if there is a vacancy in the section that they wish to move to. Please use Registrar's Schedule Builder to request for such changes or contact the department.

**RVSM:**

Michigan State University policies regarding sexual harassment will be enforced. As a 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/>

**General Advice:**

- DON'T FALL BEHIND!
- DO NOT HESITATE TO GET HELP!
- Come prepared to class by
  - (i) Reading the relevant chapters from the textbook and lecture slides.
  - (ii) Doing the suggested problems from the textbook.
- This is not an online course. There are no recitations. Therefore, the way this course is structured demands that you attend lectures on a regular basis.
- Form a study group asap to help with your studies.
- Learn to use your graphic calculator and any software as and when they are introduced in lectures.

**Academic 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 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 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 class.
- **Courtesy:** This is a large class, so courtesy is extremely important in maintaining an effective learning environment. If you arrive late or must leave early especially after Exams, please do so in a way that does not disrupt others.
- Disruptive behavior which impedes the teaching/learning process will not be tolerated – other than for Top Hat or class purposes, use of cell phones, audio devices (except tape recorders permitted to record), and abusive language are prohibited. If you need to be reached in an emergency, use a silent setting on your mobile device. Otherwise, please turn them off.
- Discussion is encouraged in class. Please feel free to ask questions. However, please be respectful when the Instructor or other students are speaking.
- Please avoid coming late to class. Do not stand or begin packing up before the class is dismissed.
- Any form of cheating is considered a serious offense and will be dealt with according to Michigan State University guidelines. All persons involved are considered responsible, including the person from whom others copy. Especially during examinations, it is your responsibility to place your materials in such a way that others will not have an opportunity to copy them. You may be asked to sit in specific seats during examinations to ensure the same.

**DISCLAIMER**

The Instructor reserves the right to make any changes to this course syllabus that she considers academically advisable. You will be informed of such changes, if any, in class and by email. Please note that it is your responsibility to attend class meetings and read email to keep track of the proceedings of this course.