

STT 351-005: Probability and Statistics for Engineering (3 credits)

Spring 2021

COURSE SYLLABUS

INSTRUCTOR: Veronika Skorokhod

E-MAIL: skorokh2@msu.edu (*MANDATORY: always write STT 351-005 in subject line of your email and never reply to the general emails send to the entire course. The emails not meeting these criteria will not be answered.*)

CLASS MEETINGS: M W F 11:30 am - 12:20 am EST (via Zoom)

To join Zoom class meeting:

<https://msu.zoom.us/j/96254946967> Passcode: 503707

Find your local number: <https://msu.zoom.us/j/96254946967>

OFFICE HOURS: M W 12:30 pm – 2:30 pm and by appointment *scheduled in advance.*

To join Zoom office hours:

<https://msu.zoom.us/j/96207940893> Passcode: 308807

Find your local number: <https://msu.zoom.us/j/96207940893>

COURSE OVERVIEW:

Instruction requires interaction online and at the scheduled meeting times. This synchronous class has required attendance and includes deadlines for completion of learning objectives and testing. Each class meeting will contain the theoretical concepts and the corresponding examples. Since this timeframe may not work for everyone, the class meetings will be recorded and posted on D2L for students to view. There are no recitations in this course.

STATISTICS LEARNING CENTER:

Online help from teaching assistants is available in Statistics Learning Center via Zoom. For details go to <https://stt.natsci.msu.edu/academics/statistics-learning-center/>

COURSE WEBSITE:

<https://d2l.msu.edu>

D2L:

D2L is the main source of all course information. You are required to login with your MSU username and password. All course materials including announcements, class meeting recordings, practice problems, homework assignments, exams review materials, exams, and your scores will be posted there.

COURSE DESCRIPTION:

STT 351 is intended to provide a basic introduction of probability and statistics to engineering students. The students will learn the theory behind statistical decision making as well as how to implement statistical techniques for various practical applications. Covered topics include descriptive statistics, probability models, random variables. Estimation, confidence intervals, tests of hypotheses, and simple linear regression (if time permits) with applications to engineering.

PREREQUISITES:

MTH 234 or MTH 254H or LB 220. Not open to students with credit in: STT 430.

SUPPLIES:**INTERNET (required):**

With this being an online class, a decent internet connection is crucial (see Technology Issues section below).

Technology Issues:

Technology issues / Internet issues are a student's responsibility. *Students should complete assignments significantly before their due date/time*, so that any possible technical issues will not become a concern. If you are having extreme Technology / Internet issues, please record the event on your cell phone for evidence, including your attempts to fix the problem. Try to collect as much documentation as possible (such as service report from your internet provider or <https://servicestatus.msu.edu>) to help support your claim. Typically, no extensions (for quizzes and homework assignments) or makeups (for exams) will be provided. However, these will be handled on case-by-case basis.

Textbook (required).

Devore, Probability and Statistics for Engineering and Sciences, 9th edition.
Publisher: Cengage, 2016. *Instant Access Code (IAC) ISBN 9781337765275.*

The book is available via unique STT 351 Cengage URL Microsite for \$70.00.

*IAC provided above gives you access to a platform WebAssign which is used in this class to complete your graded homework assignments.
IAC also provides access to an electronic book (e-book).*

In order to self-enroll yourself to WebAssign:

https://webassign.net/manual/student_guide/t_s_vt_enroll.htm

You will need a class key: msu 7651 9786

CALCULATOR (required):

Graphic calculator is required. TI-83, TI-84, TI-89, TI-Nspire are recommended. Some instructions for TI-83 and TI-84 series calculators will be provided during the class meetings. However, it is your responsibility to learn how to use your calculator.

Note: some questions in multiple choice course assignments will require use of certain calculator functions. Using software, online calculators, or tables instead of required calculators may provide you with different answers.

ATTENDANCE:

You are expected to attend all class meetings. *If you miss a class meeting for whatever reason, it is your responsibility to obtain all materials, assignments, and learn the material that you have missed via recordings of class meetings posted on D2L.*

While the office hours provide an opportunity for *some* clarification of materials covered during class meetings, they cannot substitute for the actual class meetings.

QUIZZES:

There will be six multiple choice quizzes (20 points each). The quizzes will be given via D2L. Duration of each quiz is 30 minutes in the provided 24-hour time period. Opening date is available in the Tentative Course Schedule file. *Late quizzes submission will not be accepted without legitimate reason (medical or family emergency or other exceptional circumstances) with a verifiable proof (you must notify your instructor as soon as possible!). There are no makeups for quizzes. One lowest quiz score will be dropped.* If you get help from any sources for completing your quizzes, remember that *you are the only one responsible for the work that you submit.*

HOMEWORK:

There will be five multiple choice homework assignments (40 points each). The assignments will be given via WebAssign. Their opening and due dates are available in the Tentative Course Schedule file. *Late homework submission will not be accepted without legitimate reason (medical or family emergency or other exceptional circumstances) with a verifiable proof (you must notify your instructor as soon as possible!). There are no makeups for homework assignments. One lowest homework score will be dropped.* If you get help from any sources for completing your assignments, remember that *you are the only one responsible for the work that you submit.*

EXAMS:

There will be three 80 minutes multiple choice midterm exams (70 points each). The exams will be given via D2L in the provided 24-hour time period. Opening and due dates are available in the Tentative Course Schedule file. Review materials for all exams will be posted on D2L. Exam questions will be similar to the examples solved in class, practice problems, and homework assignments questions. If you get help from any sources for preparation for the exams, remember that *you are the only one responsible for the work that you submit.*

MAKEUP EXAMS:

Makeup exams will only be given for *a legitimate reason (medical or family emergency or other exceptional circumstances) with verifiable proof.* You must notify your instructor prior to missing an exam (whenever possible). Missing an exam without valid excuse presented to your instructor will result zero points for this exam.

GRIEF ABSENCE POLICY:

Information is available at <https://reg.msu.edu/ROInfo/Notices/GriefAbsence.aspx>

ACADEMIC INTEGRITY:

The Department of Statistics and Probability adheres to the policies of academic integrity as specified in General Student Regulations 1.0, Protection of Scholarships and Grades, and in the All-University of Integrity of Scholarships and Grades which are included in Spartan Life: Student Handbook and Resources Guide. Additional information is available at <https://ombud.msu.edu/resources-self-help/academic-integrity>

ADA:

To arrange for special needs accommodations, you have to contact the Resource Center for People with Disabilities (RCPD) by phone: (517)353-9642 or by email:

<http://www.rcpd.msu.edu> as soon as possible. Don't wait until just before an exam.

Provide your RCPD VISA to your instructor as soon as you obtain it.

MENTAL HEALTH SERVICES:

Mental health concerns or stressful events may lead to diminished academic performance or reduce a student's ability to participate in daily activities. Services are available to assist you with addressing these and other concerns you may be experiencing. You can learn more about the broad range of confidential mental health services available on campus via the Counseling & Psychiatric Services (CAPS) website at <https://caps.msu.edu/>

RVSM:

Michigan State University policy regarding sexual harassment is enforced.

As a university employee, the instructor is a mandatory reporter. Information on the University policy on Relationship Violence and Sexual Misconduct is available at

www.oie.msu.edu

RELIGIOUS OBSERVANCE POLICY:

Information is available at <http://www.interfaith-calendar.org/2021.htm>

ABSENCES, TECHNOLOGY ISSUES, AND COVID-19 POLICIES:

Given our current COVID-19 situation and a large class size, I anticipate that there will be some students with a variety of worthwhile situations related to these extraordinary times that will require them to miss classes and assignments for potentially extended durations. These include but are not limited to illness of self or loved ones, childcare issues, family obligations, loss of internet, or technology issues. It would be impossible to schedule individual makeups for quizzes and homework assignments, therefore one lowest quiz and homework assignment scores will be dropped. Problems with exams will be handled on the individual basis. Students can miss up to 3 weeks of classes with little impact on their grades, so long as they learn the material they missed and display their knowledge of these topics on the exams. If a student misses more than 3 weeks of classes, it is likely that his/her grade will be negatively affected by these absences. Students missing studying due to illness beyond the flexibility already afforded in the syllabus are advised to meet with an Academic Advisor of their college to discuss the University's Medical Leave Withdrawal Policy and other avenues for support.

In case of my absence a substitute instructor will be assigned by the Department of Statistics and Probability. In such case all course policies described in this syllabus will remain unchanged.

IMPORTANT DATES FOR SPRING 2021

Mon, 01/11	Class begins
Mon, 01/18	Holiday – no class meeting
Mon, 01/25	Open adds end (8:00pm)
Fri, 02/12	Last day to drop with refund (8:00pm)
Wed, 02/24 – Th, 02/25	Midterm 1
Wed, 03/10	Last day to drop with no grade reported (8:00pm)
Wed, 03/10	Middle of the class
Mon, 03/29 – Tue, 03/30	Midterm 2
Tue, 04/20 – Wed, 04/21	Midterm 3
Fri, 04/23	Class ends

GRADING:

The course grade will be based on five quizzes (100 points), four homework assignments (160 points), and three midterm exams (210 points). Therefore, the total number of points for this course is 470. The course grade will be determined according to the following scale:

Percentage (%)	Course Grade
90% - 100%	4.0
85% - 89.99%	3.5
79% - 84.99%	3.0
73% - 78.99%	2.5
65% - 72.99%	2.0
60% - 64.99%	1.5
55% - 59.99%	1.0
0% - 54.99%	0.0

CURVE:

There is no curve in this course. However, every student will have an opportunity to do the curving (for details see Extra Credit Option section below).

EXTRA CREDIT OPTION:

There will be one bonus problem at the end of each homework assignment. Solving these problems is not mandatory. However, points accumulated from these problems may help you to raise your course grade by up to 2.5%.

ADVICE FOR STUDENTS:

I believe that every one of you can be successful in an online style statistics course, but it certainly takes work. This course moves in a rapid pace. *Don't fall behind!*
To be successful in this course you need to keep up with all course materials. Mere understanding of the material is not enough. You have to be able to apply basic principles to solve problems and this requires *self-practice!*
Selected practice problems are posted on D2L in PRACTICE PROBLEMS folder.

DISCLAIMER:

The instructor reserves the right to make any changes considered academically advisable. Changes will be announced in class. *It is your responsibility to keep up with any changed policies.*