

Mathematical Statistics (MATH 5352)

Meeting Times: 10:10-11:05 am MWF in RBN 4032

Last day to withdraw: Monday, March 29, 2021.

Instructor: Nathan Smith

Office: RBN 4007

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Office Hours: Tentatively 11:15-12:15 MWF

Text: Up on canvas.

Course Topics: Statistical modeling, emphasizing regression and classification models. I will begin, though, with a quick tour through STAT101 type topics assuming you don't know a p -value from a z -score just to make sure we've got the right background.

Student Learning Outcomes: By the end of the course students should be able to:

1. Fit explanatory models appropriate to a data set and draw conclusions from the model produced.
2. Fit predictive models appropriate to a data set and make predictions from the model produced.
3. Analyze models for violation of assumptions, make appropriate necessary transformations, and compare and contrast competing models.

Computing: Statistics today is done on a computer. We will be using the statistical package/programming language R, which is an implementation of the S programming language designed at Bell Labs. R is available for free from <http://www.r-project.org/> for windows, mac, and unix platforms, and is available for your use in the computer lab in RBN 4021. R is the lingua franca of modern statistics. If you have a laptop or a computer available to you for use at home, you are encouraged to obtain and install R for use in this course.

Grading: Two thirds of your grade will be based on homework, graded either by file submission of an assignment or by grading a presentation made by you in class. The remaining third will be determined by a take-home midterm (which I know is really just a glorified homework assignment) and final exam or some sort of project. I want to leave some leeway here due to uncertainty as to how the semester is going to unfold.

Missed work policy: Don't.

Important Covid-19 Information for Classrooms: Students are required to wear face masks covering their nose and mouth, and to follow social distancing guidelines, at all times in public settings (including classrooms and laboratories), as specified by Procedures for Fall

2020 Return to Normal Operations. The UT Tyler community of Patriots views adoption of these practices consistent with its Honor Code and a sign of good citizenship and respectful care of fellow classmates, faculty, and staff.

Students who are feeling ill or experiencing symptoms such as sneezing, coughing, or a higher than normal temperature will be excused from class and should stay at home and may join the class remotely. Students who have difficulty adhering to the Covid 19 safety policies for health reasons are also encouraged to join the class remotely. Students needing additional accommodations may contact the Office of Student Accessibility and Resources at University Center 3150, or call (903) 566-7079 or email saroffice@uttyler.edu.

Recording of Class Sessions: Class sessions may be recorded by the instructor for use by students enrolled in this course. Recordings that contain personally identifiable information or other information subject to FERPA shall not be shared with individuals not enrolled in this course unless appropriate consent is obtained from all relevant students. Class recordings are reserved for the use of students enrolled in the course and only for educational purposes. Course recordings should not be shared outside of the course in any form without express permission.

Student Academic Conduct: It is your responsibility to learn the material in this course for your own benefit. You should not let this discourage you from working together on your homework but in the end what you turn in should reflect your understanding, not just be copied from someone else. *During the midterm exams and the final exam, a code of honor will apply under which students are to work alone and neither give help to others nor receive help from any sources.* Students are also expected to help enforce this code. Students are encouraged to obtain a copy of *A Student Guide to Conduct and Discipline at UT Tyler*, available in the Office of Student Affairs.

University Policies: For University policies concerning Students' Rights and Responsibilities, Grade Replacement/Forgiveness, State-Mandated Course Drop Policy, Disability Services, Student Absence due to Religious Observance, Student Absence for University-Sponsored Events and Activities, and the Social Security and FERPA Statement please see: <http://www.uttyler.edu/academicaffairs/syllabuspolicies.pdf>.