

STA 363: Intro to Statistical Modeling

Spring 2020

Section and Instructor Information	<p>Section A: Mon & Wed 10:05am-11:25am (032 Shideler)</p> <ul style="list-style-type: none"> • Instructor: Michael Hughes • Office: 301 Upham • Email: hughesmr@miamioh.edu • Office hours: Mon & Wed 2:45pm-4:00pm, or by appointment <p>Section B: Mon & Wed 4:25pm-5:45pm (304 Harrison)</p> <ul style="list-style-type: none"> • Instructor: Dr Thomas Fisher • Office: 305B Upham • Email: fishert4@miamioh.edu • Office hours: Tue & Thu 10:00-11:00am; Mon 1:30pm-2:30pm (until Feb 17); Mon & Wed 2:30-4:00pm (starting Feb 24) <p>Section C: Mon & Wed 11:40am-1:00pm (204 Benton)</p> <ul style="list-style-type: none"> • Instructor: Jeff Messinger • Office: 317 Upham • Email: messinjd@miamioh.edu • Office hours: Fri 11:30am-1:00pm, or by appointment
Class Materials	<ul style="list-style-type: none"> • Laptop (bring it every day!) • Notes and textbook
Class Format	<p>This class will be very interactive requiring daily student participation (hence the need of a laptop). Occasionally we will deviate from the following class format but this is the basic structure of the class.</p> <ul style="list-style-type: none"> • Monday: The class period will consist primarily of instruction and class examples. Occasional assignments may be given. • Wednesday: Some instruction and examples will take place but primarily you will be working on group assignments.

Textbook	Introduction to Statistics Modeling Using R . (2nd edition) by Hughes and Fisher (available through the Canvas site)
Supplemental References	<ul style="list-style-type: none"> • <i>An R Companion to Linear Statistical Models</i>, Hay-Jahans. • <i>Practicing Statistics: Guided Investigations for the Second Course</i>, Kuiper & Sklar • <i>Using R for Introductory Statistics</i>, Verzani • <i>The R Book</i> by Crawley • youtube.com - search for R or RStudio help
Software	<p>In this course, we will be utilizing R and RStudio extensively. You can download both pieces of software for free from:</p> <ul style="list-style-type: none"> • http://cran.r-project.org/ • http://www.rstudio.com/
Bulletin Description	Applications of statistics using regression and design of experiments techniques. Regression topics include simple linear regression, correlation, multiple regression and selection of the best model. Design topics include the completely randomized design, multiple comparisons, blocking, and factorials.
Topic Outline	<p>The class will essentially cover the following topics</p> <ul style="list-style-type: none"> • ≈ 1-2 weeks: Introduction to R, RStudio, RMarkdown; data handling and a review of Intro stat material. • ≈ 3 weeks: Experimental design topics, one-way ANOVA, two-way ANOVA, blocking, repeated measures and within-subjects designs. • ≈ 3 weeks: Multiple regression, models, inference, residual analysis, and related topics • ≈ 3 weeks: Advanced regression ideas, model building, cross-validation • ~2-3 weeks: Statistical odds and their interpretation; logistic and Poisson regression
In-class Assignments	<p>You learn software and statistical methods by doing them! Expect to regularly work on problems during class, generally in pairs or groups (but individual in-class assignments may be assigned). You must be present in class to get credit for in-class assignments. All in-class assignments will be due at 11:59pm on the day of the assignment. (An 8-hour grace period will be offered for half credit. Absolutely no assignments will be accepted</p>

	following the grace period.)
Homework	Graded homework will be due about every two weeks. Late homework will not be accepted unless granted prior permission from the instructor.
Exams	<p>In-class midterm exam:</p> <ul style="list-style-type: none"> • Wednesday March 11 (all sections) • Usual class meeting time/location <p>Comprehensive final exam:</p> <ul style="list-style-type: none"> • Section A (Hughes): Wednesday May 13, 10:15am-12:15pm • Section B (Fisher): Wednesday May 13, 3:00pm-5:00pm • Section C (Messinger): Wednesday May 13, 12:45pm-2:45pm
Attendance	<p>The pace of this class is such that it will not be advisable to miss any sessions. If you know you will be absent, please inform us in advance.</p> <ul style="list-style-type: none"> • When you are absent, it will be your responsibility to contact another student for the notes and announcements. • You must be present in class to get credit for in-class assignments. If know you are going to miss class, notify the instructor at least 24 hours ahead of time, and you may be permitted to submit the assignment as long as it is still turned in on time. • You are expected to be an active participant for the entire 80-minute class. Indications that this is not happening include sleeping, surfing the web or instant messaging on your laptop, text-messaging on your cell phone, studying for another class, etc. Please turn your cell phone to silent before class. • Students are expected to wait quietly for 15 minutes after class is scheduled to begin. If the instructor has not yet appeared after 15 minutes, the students are free to leave.
Letters of Accommodation	<p>If you have a letter stating specific testing accommodations to which you are entitled, please come by your instructor's office to discuss the accommodations that you will need and to give them a copy of the letter. Even if you do not anticipate using any accommodations, it is a good idea to turn in the letter as soon as possible. Please note that unless the instructor has at least one week's notice, they will be unable to provide any accommodation on an exam.</p>

Prerequisites	An introductory statistics course: STA261, 301 or ISA205, 225. STA 363 may NOT be taken after credit has been earned for STA 463/STA 563.
Student Code of Conduct	<p>Most assignments will be submitted on Canvas utilizing the "Turnitin" validation system. All suspected cases of academic dishonesty will be pursued. Note we are sharing a Canvas site between the three sections so cheating across sections will be caught!</p> <p>Any violations of Academic Integrity within the Student Handbook will not be tolerated. This includes cheating, plagiarism, storing information in a calculator, sabotage of another's work and disrupting the class. See the Handbook for a complete listing of the student code of conduct. All violations will be handled in accordance with established procedures and policies concerning student academic responsibility. See the Bulletin for additional details:</p> <ul style="list-style-type: none"> • http://miamioh.edu/academics/bulletin/ • http://www.miamioh.edu/handbook
Final Grades	<p>At the conclusion of the semester, final grades will be compiled using the following point distribution:</p> <ul style="list-style-type: none"> • In-class Assignments: 20% • Homework: 40% • Midterm Exam: 20% • Final Exam: 20% <p>Grading Scale:</p> <ul style="list-style-type: none"> • A+ = [97, 100] A = [93, 97) A- = [90, 92) • B+ = [87, 90] B = [83, 87) B- = [80, 82) • C+ = [77, 80] C = [73, 77) C- = [70, 72) • D+ = [67, 70] D = [63, 67) D- = [60, 62) • F = [0, 60]

Important Dates

- **Thursday, February 13:** Drop date (no grade on transcript)
- **Monday, April 6:** Last day to drop with a "W"
- **Friday, May 8:** Last day of classes (and final date to withdraw from the University)