Course Syllabus

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Section and Instructor Information	**Section A meeting times/location:** Wed 10:05am-11:25am (032 Shideler), Fri 10:05am-11:25am (314 Upham) • Professor: Michael Hughes • Office: 301 Upham • Email: *hughesmr@miamioh.edu (mailto:hughesmr@miamioh.edu)* • Phone: (513) 529-5148 • Office hours: Tue 10:05am-11:30am, Wed 11:30am-12:30pm, Fri 11:30am-12:30pm **Section B meeting times/location:** Wed 1:15pm-2:35pm (361 Upham), Fri 1:15pm-2:35pm (314 Upham) • Professor: Thomas Fisher • Office: 305BUpham • Email: *fishert4@miamioh.edu (mailto:fishert4@miamioh.edu)* • Phone: (513) 529-2176 • Office hours: Mon 1:30pm-3:00pm, Wed 2:35pm-3:00pm *You must attend the section in which you are registered!*
Class Materials	Laptop (bring it every day!), notes and textbook
Class Format	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. • *Wednesday:* we will meet in a classroom and the class period will consist primarily of instruction and class examples. Occasional assignments may be given. • *Friday:* we will meet in the SCALE-UP room and some instruction and examples will take place but primarily you will be working on group assignments. *IMPORTANT! Absolutely No Food or Drink is allowed in the Upham SCALE-UP rooms.*
Textbook	Introduction to Statistics Modeling Using R (http://www.users.miamioh.edu/fishert4/sta363/) (2nd edition) by Hughes and Fisher (available through canvas site)

	IMPORTANT NOTE -- We are in the process of updating and editing the lecture note workbook. If you find any errors (minor typos to major issues), please let us know!
References	- An R Companion to Linear Statistical Models, Hay-Jahans. - Practicing Statistics: Guided Investigations for the Second Course, Kuiper & Sklar - Using R for Introductory Statistics, Verzani - The R Book by Crawley - www.datacamp.com **(http://www.datacamp.com)** - www.youtube.com **(http://www.youtube.com)** -- Can search for R or RStudio help
Software	In this course, we will be utilizing R and RStudio extensively. You can download both pieces of software for free from: - http://cran.r-project.org/ **(http://cran.r-project.org/)** - http://www.rstudio.com/ **(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	The class will essentially cover the following topics ~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: Generalized Linear Modeling (GLM), logistic and Poisson regression
In-class Assignments	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).
Homework	We anticipate assigning graded homework typically due every week or so. Late homework will be accepted only with prior permission from the instructor. The first assignment has already been posted and consists of completing some online tutorials and building a basic RMarkdown document.
Exams	**In-class midterm exam:** Wednesday, October 10 (both sections at usual class meeting time/location)

Comprehensive final exam:

- Friday, December 14 at 10:15am *(section A)*
- Monday, December 10 at 12:45pm *(section B)*

Attendance	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. - When you are absent, it will be **your** responsibility to contact another student for the notes and announcements. - While attendance does not factor into your grade, we may take attendance for our own records. - You are expected to be an active participant for the entire 75-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	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.
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	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 two sections so cheating across sections will be caught! 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 (http://www.miamioh.edu/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 (http://miamioh.edu/academics/bulletin/) for additional details: *http://miamioh.edu/academics/bulletin/* **(http://miamioh.edu/academics/bulletin/)** *http://www.miamioh.edu/handbook* **(http://www.miamioh.edu/handbook)**

Final Grades	At the conclusion of the semester, final grades will be compiled using the following point distribution: • In-class Assignments: 20% • Homework: 40% • Midterm Exam: 20% • Final Exam: 20%

Grades will be assigned based on:

[97, 100) A+ [93, 97) A [90, 92) A-

[87, 90)   B+ [83, 87) B [80, 82) B-

[77, 80)   C+ [73, 77) C [70, 72) C-

[67, 70)   D+ [63, 67) D [60, 62) D-

[0, 60)   F

Important Dates:

- Friday, September 14 - Drop date (no grade on transcript)
- Friday, October 10 - Midterm Exam
- Friday, October 12 - Last day to apply for May graduation
- Monday, October 29 - Last day to drop with a "W"
- Friday, November 2 - Last day to apply for December Graduation
- Wednesday-Friday, November 21-23 - No class, Thanksgiving break
- Friday, December 7 - Last day of classes (and final date to withdraw from the University)