STA 402/502 - Statistical Programming

Spring 2025

Professor: Dr. Thomas Fisher
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Office Hours: MW 4:10pm-4:20pm (immediately after class)
MW 10:30am-11:30am (until April 9th)
Tu 10:30am-11:30am
ThF - by appointment

Personal Website: https://tjfisher19.github.io/

Class Materials: Notes and textbook

Textbook: Statistical Programming in SAS by A. John Bailer

References: SAS Website & countless other online resources

Software: SAS 9.4: Commercial Software, Miami University site licensed:
Download SAS for Windows from *https://software.miamioh.edu/store/* using a wired connection. To install SAS on a Mac, you must first install Windows. SAS help is available at the MiTech Center in the Shriver Center.
Please see the canvas site for details on accessing SAS.

R and Python will also be used later in the course.

Bulletin Description: Introduction to the use of computers to process and analyze data. Techniques and strategies for managing, manipulating, and analyzing data are discussed. Emphasis is on the use of the SAS system. Statistical computing topics, such as random number generation, randomization tests, and Monte Carlo simulation, will be used to illustrate these programming ideas.

Topic Outline: Emphasis on programming concepts, techniques and strategies for:

- Managing data – input, output, selection, modification and merging;
- Invoking statistical and mathematical functions or procedures;
- Creating tabular and graphical displays of data and analyses;
- Performing randomized (e.g., Monte Carlo) simulations and resampling (bootstrapping and cross-validation) methods.

In-depth treatment of several SAS programming frameworks (DATA step, macros, IML and select PROCedures) will be discussed.
An overview of R and Python will be discussed at the end of the semester.

SAS Certification: This course will cover nearly all the material covered in the SAS Base Certification exam. Students are encouraged to take the SAS Base Certification exam following this class. As a student the exam cost $90.

Homework: I anticipate assigning several problems as graded homework each week, generally due on Wednesday of the following week.
Late homework will be accepted only with prior permission from the instructor. Homework requirements & expectations are provided in the file on the canvas site.

Project: An individual term project is required in lieu of a final exam. It will consist of several graded phases/milestones. Details will be provided in a few weeks once we have covered some course material.

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 me 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, I may take attendance for my own records. 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 I have not yet appeared the students are free to leave.

Letters of Accommodation: Miami University is committed to ensuring equal access to students with disabilities. Miami's Office of Student Disability Services (SDS) assists students with determining eligibility for services and accommodation planning. Miami's AccessMU provides resources and guidance toward equal opportunity for all individuals. Refer to Miami University's Accessible Technology Policy for definitions and additional information.
Students who are entitled to disability-related academic adjustments, auxiliary aids, etc., must register with SDS to receive accommodations in university courses. Please understand that formal communication from SDS must be presented prior to the coordination of accommodations for this course. For more information, see Student Disability Services and/or the Rinella Learning Center. Students may also contact SDS at (513) 529-1541 or via email at sds@miamioh.edu.
If you have a disability, please contact me, and I will be glad to make any necessary accommodations.

Prerequisites: A second course in Statistics with a C or better: *STA 333, 363, 463/563, 672 or ISA 291*

Student Code of Conduct: 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 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:

http://miamioh.edu/academics/bulletin/
http://www.miamioh.edu/handbook

Final Grades: At the conclusion of the semester, final grades will be compiled using:

Source	Amounts
Homework	75%
Project	25%
Total	100%

Grades will be assigned based on:

[98, 100)	A+	[92, 98)	A	[90, 92)	A-
[88, 90)	B+	[82, 88)	B	[80, 82)	B-
[78, 80)	C+	[72, 78)	C	[70, 72)	C-
[68, 70)	D+	[62, 68)	D	[60, 62)	D-
		[0, 60)	F		

Important Dates:

Thursday, February 13 - Drop date (no grade on transcript)
Monday, February 17 - Dr Fisher may need to miss class
Friday, March 14- Midterm Grades deadline
Monday--Friday, March 24-28 - Spring Break
Friday–Sunday, April 4-6 – DataFest
Monday, April 7 - Last day to drop with a "W"
Friday, May 9 - Last day of classes (and final date to withdraw from university)
Final Exam allocated time - Final Project due date