

STA 3024 SAS for Data and Statistical Analyses Fall 2021 Course Syllabus

Instructor: Dr. Steven Ramsier

Office: 102B OSB

Office Hours: 1:00 PM to 2:00 PM on Wednesdays
11:30 AM to 12:30 PM on Thursdays.

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TAs/Graders: Alejandro Rojas **E-mail:** ar14@my.fsu.edu
Weekly Virtual Help Hour: Wednesdays, 11 AM to 12 Noon
Grading: Assignments 1, 3, 5, Project B

Savannah Sharp **E-mail:** ss16bh@my.fsu.edu
Weekly Virtual Help Hour: Tuesdays, 3 to 4 PM
Grading: Starter, Assignments 2, 4, 6, Project A

Class Meeting Times: 3:05 PM - 4:20 PM Mo We in HWC 3504

Final Period: Thursday, Dec. 9, 3:00 PM – 5:00 PM (if needed for presentations)

Optional Text: Elliott, R.J. (2010), *Learning SAS in the Computer Lab*, Third Edition, Brooks/Cole.
(ISBN 0-495-55968-7).

Other references will be provided during the course of the semester.

Internet: Online access required for SAS programs and learning management system

Prerequisite: Introductory statistics course at or above the 2000 level or consent of the instructor.

Software: Access to *SAS Studio* (online, on-demand version), *SAS University Edition* (local computer version), or *SAS 9.4* (Windows version available on campus computer labs but differs slightly from the other two versions which will be used in class).

Strongly Recommended: A computer with a large enough screen to have both Canvas and SAS Studio windows opened while you can bring it to class.

Course Description: This course will introduce the student to the SAS programming language in a lab-based format. The objective is for the student to develop programming and statistical computing skills to address data management and analysis issues using SAS. The course will also provide a survey of some of the most common data analysis tools in use today and provide decision-making strategies in selecting the appropriate methods for extracting information from data.

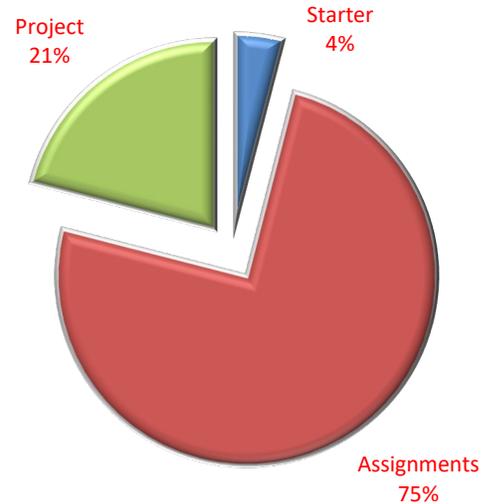
Course Objectives: Students who complete this course will be able to:

- Manipulate data sets including as inputting raw data from external files.
- Create data subsets.
- Implement if...then...else structures, and loops.
- Write SAS numeric, character, and probability functions.
- Produce descriptive statistics with graphics.
- Conduct basic statistical estimation and testing using SAS.
- Employ statistical modeling on both qualitative and quantitative data in the SAS environment.

Grades

Grade Composition (1000 Points Total):

Starter Assignment	40
6 Assignments (125 pts. each)	750
Project	210
Total	1000



Grade Assignments for Course Points Earned (No Rounding):

A 930-1000	B- 800-829	D+ 670-699
A- 900- 929	C+ 770-799	D 630-669
B+ 870-899	C 730-769	D- 600-629
B 830-869	C- 700-729	F 0-599

Assignments and Responsibilities

Assignments

The assignments will consist of problems that will be solved using SAS. There will be one smaller (starter) assignment and six (6) more extensive assignments given. All assignments are to be turned in on the Friday that they are **due no later than 5:00 PM**. Assignment documents are uploaded via Canvas and **no emailed assignments** will be accepted.

Late, unexcused assignments will be penalized as follows: turned in by 5:00 PM the following Saturday (or 24 hours past time due) – 90% of grade, turned in by 5:00 PM the following Sunday (or 48 hours past time due) – 75% of grade, thereafter – no credit. Assignments are graded on several components: Correct functions and/or procedures, correct data format, properly executable, correct results, interpretations, and adequate commenting. Assignments will be submitted electronically through Canvas.

You are free to discuss the assignment with any of your classmates; however, the activity of students “working together” is not permitted. Your programming, interpretation, and write-up must be done independently. That is, all code, output, and explanations must be generated by you. Your interpretations must be in your own words. Sharing documents and using any portion of another student’s (past or present) work, representing it as your own, will result in a score of zero on the assignment.

Warning about Using SAS Studio Online: Access to SAS Studio is done through a web browser and is mostly reliable. However, the program is run on SAS’s servers and SAS allocates the resources in order for the program to run smoothly. In the past students have experienced outages and, although these are generally temporary, these can cause students to take longer to complete tasks than would normally be anticipated. Around assignment due dates and times can be especially problematic as several people are attempting to get on the server at once and therefore experience more outages. Understanding this, **a temporary server outage is not a valid excuse to turning in an assignment late**. Good advice is to allow yourself plenty of time to complete your assignments. Please start assignments early to avoid the frustration that a server outage can cause. Trying to complete an assignment at the last minute is a formula for creating extreme stress and potentially adversely affecting your grade.

Project

Students will work in groups of three or four on a project. For program evaluation purposes, we will try to place statistics majors in groups with other statistics majors wherever possible. Groups will account for each student’s contribution and students not giving a fair share of effort can be penalized individually. The project consists of finding a data set of interest, determining, and implementing appropriate graphical methods for presenting the data, using appropriate statistical tools to analyze the data, generating appropriate SAS code, and interpreting the results. The data set, to the best of your knowledge, should not have been previously

analyzed in the way you plan to use it for your project. There will be short written reports required and a brief presentation in the final phase. Late projects will have the same penalty imposed as with assignments. If some emergency prevents you from turning project materials in on time, written documentation must be submitted to the instructor for consideration.

Grade Complaints:

Address your work in question first to the TA responsible for grading it (may be a different person for assignments and projects). Provide a **clear, brief, written explanation** of why you think you deserve additional credit. The written statement must be provided **within one week** after the work is graded and available to the class in general. All grade disputes must be resolved by the last day of normal classes (before finals week).

Tentative Course Outline:

Week of	Topics	Assignments/Project
Aug. 23	Introduction, Reading Data	
Aug. 30	Modified Read, Calculations, Ext. Data	Starter Assignment due 9/3
Sep. 6	<i>Labor Day</i> , Conditionals, Data Types	Assignment #1 due 9/10
Sep. 13	Combining Data, SQL for Data Mgt.	Assignment #2 due 9/17
Sep. 20	Dates, Functions, Project A Setup	Team Sign-Ups 9/24
Sep. 27	Norm. Dist., Basic Stats	Project A due 10/1
Oct. 4	Charting, Iterative Methods	
Oct. 11	Simulations, Arrays, X vs. Y Plots	Assignment #3 due 10/15
Oct. 18	Series Plots, Scatterplot Enhancements	Assignment #4 due 10/22
Oct. 25	Stat. Graphics, Macros, Project B Setup	
Nov. 1	Hypothesis Testing, T-Tests	Project B due 11/5
Nov. 8	ANOVA, Correlation, Regression	Assignment #5 due 11/12
Nov. 15	More Regression, Project C Setup	Assignment #6 due 11/19
Nov. 22	Multiple Regression, <i>Thanksgiving</i>	
Nov. 29	Project C Prep and Presentations	
	Project Materials Uploaded	Project C Upload due 12/3

Certificate in SAS Programming and Data Analysis:

This is the core course that is required (plus three elective courses) for the SAS Programming and Data certificate offered by FSU and recognized as an academic specialization by the SAS Institute. **Students** interested in the program **must apply to the program before** the end of the semester in which **the second course in the program is taken**. In addition, a portfolio is required to be submitted in the last semester of program and a representative assignment and/or project from this course must be included. For more details see <http://stat.fsu.edu/sas-certificate>.

Computer Competency for Statistics Majors:

In order to fulfill FSU's Computer Competency Requirement, the student must earn a "C-" or better in the course.

University Attendance Policy:

Excused absences include documented illness, deaths in the family and other documented crises, call to active military duty or jury duty, religious holy days, and official University activities. These absences will be accommodated in a way that does not arbitrarily penalize students who have a valid excuse. Consideration will also be given to students whose dependent children experience serious illness.

Academic Honor System:

The Florida State University Academic Honor Policy outlines the University's expectations for the integrity of students' academic work, the procedures for resolving alleged violations of those expectations, and the rights and responsibilities of students and faculty members throughout the process. Students are responsible for reading the Academic Honor Policy and for living up to their pledge to "...be honest and truthful and...[to] strive for personal and institutional integrity at Florida State University." (Florida State University Academic Honor Policy, found at <http://fda.fsu.edu/academic-resources/academic-integrity-and-grievances/academic-honor-policy>).

Americans with Disabilities Act:

Florida State University (FSU) values diversity and inclusion; we are committed to a climate of mutual respect and full participation. Our goal is to create learning environments that are usable, equitable, inclusive, and welcoming. FSU is committed to providing reasonable accommodations for all persons with disabilities in a manner that is consistent with academic standards of the course while empowering the student to meet integral requirements of the course.

To receive academic accommodations, a student:

- (1) must register with and provide documentation to the Office of Accessibility Services (OAS);
- (2) must provide a letter from OAS to the instructor indicating the need for accommodation and what type; and,
- (3) should communicate with the instructor, as needed, to discuss recommended accommodations. A request for a meeting may be initiated by the student or the instructor.

Please note that instructors are not allowed to provide classroom accommodations to a student until appropriate verification from the Office of Accessibility Services has been provided.

This syllabus and other class materials are available in alternative format upon request.

For more information about services available to FSU students with disabilities, contact the

Office of Accessibility Services
874 Traditions Way
108 Student Services Building
Florida State University
Tallahassee, FL 32306-4167
(850) 644-9566 (voice)
(850) 644-8504 (TDD)
oas@fsu.edu
<https://dsst.fsu.edu/oas>

Confidential Campus Resources:

Various centers and programs are available to assist students with navigating stressors that might impact academic success. These include the following:

Victim Advocate Program
University Center A, Rm. 4100
(850) 644-7161
Available 24/7/365
Office Hours: M-F 8-5
<https://dsst.fsu.edu/vap>

Counseling and Psychological Services
Askew Student Life Center, 2nd floor
942 Learning Way
(850) 644-8255
<https://counseling.fsu.edu/>

University Health Services
Health and Wellness Center
(850) 644-6230
<https://uhs.fsu.edu/>

Syllabus Change Policy:

Except for changes that substantially affect implementation of the evaluation (grading) statement, this syllabus is a guide for the course and is subject to change with advance notice.

Statement On In-Class Masking:

To maintain consistency with state law, FSU is not requiring face-coverings, but public health experts strongly recommend that we continue to wear proper masks in public indoor spaces, like classrooms, where social distancing is not possible and large numbers of participants remain unvaccinated. While many of us are now vaccinated, others of us cannot be vaccinated, remain extremely vulnerable to the virus, or have family members in these situations. Moreover, Florida has become an epicenter of the COVID-19 Delta variant, which we now know can infect even vaccinated individuals and be spread by vaccinated individuals to others. For that reason, we strongly urge class participants to remain masked in the classroom. If any class members inform me that they are vulnerable in these ways, I may specifically request masks in the classroom. Please remember that you should NOT attend class in person if you have tested positive for COVID-19 or are quarantining after exposure. Finally, please bear in mind that the Covid-19 situation is fast moving and that guidance may change at any time.