

STA 3024 SAS for Data and Statistical Analyses Spring 2022 Course Syllabus

Instructor: Dr. Steven Ramsier

Office: 102B OSB

Office Hours: 2:00 PM to 3:00 PM on Wednesdays (Virtual through Zoom, see Canvas)
11:30 AM to 12:30 PM on Thursdays. (In-person in office)

E-mail: ramsier@stat.fsu.edu

Phone: 644-3218 (Main Statistics office phone – currently no direct line to the instructor)

Fax: 644-5271

TAs/Graders: Yi Chen

E-mail: yc19i@my.fsu.edu

Weekly Virtual Help Hour: TBA

Grading: Assignments 1, 3, 5, Project B

Nathaniel Simone **E-mail:** nos21@my.fsu.edu

Weekly Virtual Help Hour: TBA

Grading: Starter, Assignments 2, 4, 6, Project A

Class Meeting Times: 9:45 AM - 11:00 AM* Tu Th in CSL 1003 Auditorium

*Due to the classroom being on loan from the Chemistry Department, we will need to stop a few minutes before 11 AM on Thursdays in order to clear out for the department's seminar.

Final Period: Tuesday, April. 26, 7:30 AM – 9:30 AM (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 laptop 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.

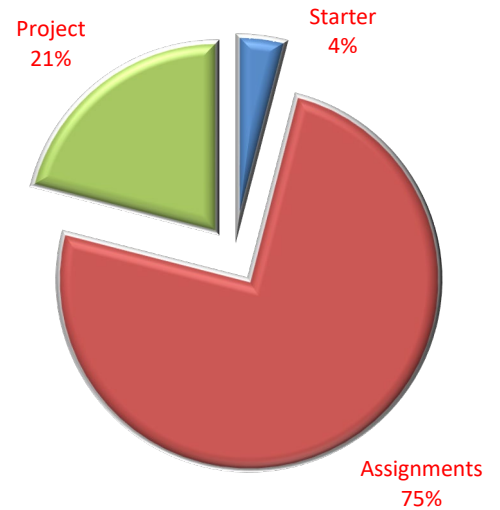
Grades

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).

Other Grade Issues: All course work that was granted extensions for medical reasons, etc., must be completed by the agreed upon deadline. Under no circumstances will modified due dates extend beyond last day of classes (before finals week). Final course point totals will be assigned letter grades according to the Grade Assignments scale given above. There will be **no rounding up of final point totals**. Please do not send messages asking for your point total to be rounded up as the policy is set and you will not get a response.

Tentative Course Outline:

Week of	Topics	Assignments/Project
Jan. 5	Introduction, Reading Data	
Jan. 10	Modified Read, Calculations, Ext. Data	Starter Assignment due 1/14
Jan. 17	Conditionals, Data Types	Assignment #1 due 1/21
Jan. 24	Combining Data, SQL for Data Mgt.	Assignment #2 due 1/28
Jan. 31	Dates, Functions, Project A Setup	Team Sign-Ups 2/4
Feb. 7	Norm. Dist., Basic Stats	Project A due 2/11
Feb. 14	Charting, Iterative Methods	
Feb. 21	Simulations, Arrays, X vs. Y Plots	Assignment #3 due 2/25
Feb. 28	Series Plots, Scatterplot Enhancements	Assignment #4 due 3/4
Mar. 7	Stat. Graphics, Macros, Project B Setup	
Mar. 14	<i>Spring Break</i>	
Mar. 21	Hypothesis Testing, T-Tests	Project B due 3/25
Mar. 28	ANOVA, Correlation, Regression	Assignment #5 due 4/1
Apr. 4	More Regression, Project C Setup	Assignment #6 due 4/8
Apr. 11	Multiple Regression, Project C Prep	
Apr. 18	Project Presentations/Uploads	Project C Upload due 4/22
Apr. 25	Apr. 26: Presentations if necessary	

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/Academics/Academic-Honor-Policy> .

Academic Success:

Your academic success is a top priority for Florida State University. University resources to help you succeed include tutoring centers, computer labs, counseling and health services, and services for designated groups, such as veterans and students with disabilities. The following information is not exhaustive, so please check with your advisor or the Department of Student Support and Transitions to learn more.

Americans with Disabilities Act:

Students with disabilities needing academic accommodation should: (1) register with and provide documentation to the Office of Accessibility Services; and (2) request a letter from the Office of Accessibility Services to be sent to the instructor indicating the need for accommodation and what type; and (3) meet (in person, via phone, email, skype, zoom, etc...) with each instructor to whom a letter of accommodation was sent to review approved accommodations. This syllabus and other class materials are available in alternative format upon request. For the latest version of this statement and 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,
Room 4100, (850) 644-7161,
Available 24/7/365,
Office Hours: M-F 8-5
<https://dsst.fsu.edu/vap>

Counseling & Psychological Services
Askew Student Life Center,
2ndFloor,
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.