

STA 6166
Statistical Methods in Research I
Summer A 2010
(MTWRF Period 4 / 12:30 – 1:45 pm)
Sections 0611, 0619, 0631

PREREQUISITE STA 2023 or equivalent

INSTRUCTOR: Salvador A. Gezan
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Office hours: Monday and Wednesday 9:30 - 10:30 am.

TEACHING ASSISTANT TBA

CLASS WEBSITE <https://elearning.courses.ufl.edu/webct/>

COMPUTING LABS You should plan to attend to ONE of the following sessions weekly (lab is located at McCarty Hall B 2103):

Tuesday	9:30 am – 10:45 am	(Period 2) – Section 0611
Tuesday	2:00 pm – 3:15 pm	(Period 5) – Section 0619
Thursday	9:30 pm – 10:45 pm	(Period 2) – Section 0631

COURSE OBJECTIVES Train graduate students in basic statistical tools with the aim of promoting sound scientific research based on good statistical thinking and practice.

TEXTBOOK McClave, J.T. and Sincich, T. 2009. *Statistics*, 11th Edition. Pearson Prentice Hall. ISBN 978-0-13-206951-9.
(10th Edition is very similar but with some differences in exercise problems, you can opt for this edition but at YOUR OWN RISK).

EXAMS There will be 3 exams. These will be implemented outside of normal classes hours from 5:00 to 7:00 pm. No final exam will be required, but exams will be cumulative with greater emphasis in later/newer material. Each exam will be worth 100 points. Exams are closed book; however, you will be allowed to bring your own formula's sheet on a SINGLE paper (only 1 side and written with your OWN HAND, i.e. no printed pages) and you will need a calculator. *No make up exams will be given under ANY circumstance!*

EXAM DATES	Exam 1 (5:00-7:00 pm)	May 21
	Exam 2 (5:00-7:00 pm)	June 03
	Exam 3 (5:00-7:00 pm)	June 16

HOMEWORK

There will be 5 assignments. Each will be worth 25 points, and only the best 4 will be considered for grading. Homework is due at 6:00 pm and should be presented ON PAPER (i.e. not electronically). *Late homework will NOT be accepted!* Homework assignments can be worked and presented on pairs (no trios).

HOMEWORK DATES

Homework 1	May 17 (6:00 pm)
Homework 2	May 24 (6:00 pm)
Homework 3	June 01 (6:00 pm)
Homework 4	June 07 (6:00 pm)
Homework 5	June 14 (6:00 pm)

GRADING

Grades will be based on a total of 400 points, with 300 points from the exams and 100 points from homework. The following are the letter grades considered and their corresponding ranges

A (381-400)	A- (361-380)	
B+ (347-360)	B (334-346)	B- (321-333)
C+ (307-320)	C (294-306)	C- (281-293)
D+ (267-280)	D (254-266)	D- (241-253)
E (0-240)		

Note: In order to obtain a grade of B or above ALL exams have to be above 64 points, regardless of the total points.

SOFTWARE

You will need a computer for some of the homework assignments. The main software used will be SAS 9.2. To obtain it you may join into a pilot Student Home-Use Program as described on UF's website (www.software.ufl.edu/sas/index.html). To get a student copy you must first go to the UF bookstore. JMP is also available (check ifasstat.ifas.ufl.edu/Resources/verify.php). In addition, there is a version of SAS installed in the IFAS laboratory (McCarty Hall B 2103). It is YOUR RESPONSABILITY to make sure that you have access to a statistical package.

WARNING

This class assumes that you have a basic level of mathematics and statistics (as a basic undergraduate statistic class) where some of the topics were forgotten and/or not well understood. In this class we will review/clarify/explain/expand these basic topics; however, we will be stopping only BRIEFLY in mathematical details as they are assumed to be known. If you consider that your prior statistical background is very weak then we recommend you to not take this class and first register for an undergraduate class (e.g. STA2023) to avoid some future struggle (i.e. a C or D grade). However, regardless of your background, if you are willing to dedicate time by doing the suggested exercises and by assisting to classes, then you are very likely to do well in this class. In addition, we assume that you are self motivated and an independent graduate student that will be performing/reading statistical analysis in the future (dissertation, research papers).

SUMMER WARNING

This course, when given over the summer, has lower average grades, higher failing rate and a large proportion of drop outs in comparison to the regular semester class (spring or fall). Be aware that this class goes at a much quicker pace. Every day a new topic is covered and you will need, daily, in addition to the 75 minutes lecture, around 2 to 4 hours of time to study and do the practice exercises and/or homework! If you feel that you would not have that time, as you might be taking other classes or doing research then it is recommended that you take the class over a regular semester period. So, it is YOUR RESPONSIBILITY to make sure that you have enough time to do the required course work!

UNIVERSITY POLICIES

Academic Dishonesty: All members of the University Community share the responsibility to challenge and make known acts of apparent academic dishonesty. Acts of academic dishonesty will not be tolerated and will be referred to the Student Honor Council.

Academic Accommodations: If you have a documented disability and wish to discuss academic accommodations, please CONTACT ME as soon as possible.

OUTLINE OF TOPICS

Topics	Chapter
Statistics, Data, and Statistical Thinking #	1
Methods for Describing Sets of Data / Probability #	2, 3
Discrete and Continuous Random Variables #	4, 5
Sampling Distributions	6
Inferences Based on a Single Sample: Confidence Intervals	7
Inferences Based on a Single Sample: Hypothesis	8
Inferences Based on a Two Samples: Confidence Intervals	9
Inferences Based on a Two Samples: Hypothesis	9
Analysis of Variance: Basics	10
Analysis of Variance: Design of Experiments	10
Simple Linear Regression	11
Multiple Linear Regression	12
Categorical Data Analysis	13
Nonparametric Statistics	14 +
Logistic Regression *	×

Topics that assume prior statistical knowledge.

* Time permitting.

+ Chapter included in additional CD of required textbook.

× Additional material not presented in required textbook.