

STA 6166, Section U01, Class Ref # 81357, Fall 2022

Statistical Methods in Research, I

(Time: 5:00 PM - 6:15 PM; Days: MW; Room: DM 193; Credit Hours: 3)

Modality: in-Person (F2F)

(Revised) Short Course Outlines & Policies

**Important Comments About the Course:**

*This is fac to face course offered on MMC and requires that students attend classes regularly. There will be no simultaneous Zoom classes or recording of the lectures. You should take this course only if you intend and are able to attend classes in person. However, the modality may change if the University will cancel classes due to some new emergencies.*

**Instructor:**

**Dr. H. Zahedi**

**Office:** DM 405

**Phone:** (305)348-2927

**Fax:** (305)348-6158

**Email:** [zahedih@fiu.edu](mailto:zahedih@fiu.edu)

**Web Page:** <http://faculty.fiu.edu/~zahedih>

**Canvas login:** [http://online.fiu.edu/login\\_uts.html](http://online.fiu.edu/login_uts.html)

**Formal Office hours:**

**Monday & Wednesday:** 10:00AM – 10:50AM and 3:30 PM – 4:30 PM

**Other Times:** by appointments subject to availability

**Feel free to consult with me as often as you need and whenever problems arise.**

**Prerequisite:**

Graduate Standing

## Required Textbook:

“Introduction to the Practice of Statistics”, by David S. Moore, George P. McCabe, and Bruce A. Craig, 10<sup>th</sup> Edition, 2021, by W. H. Freedman and Company, Macmillan Learning. Consult the bookstore for various formats of the book that they offer.

## Coverage & Objectives

*Statistics is the science of collecting, organizing, and interpreting numerical facts which we call data. That is, statistics is the science of learning from data. Where, data are numerical or qualitative descriptions of objects that we want to study. This is an introductory course on basic statistics with emphasis on working with the data and mastering statistical reasoning at elementary mathematical level but conceptually rich in statistical ideas. After completion of the course, it is expected students to think objectively about conclusions drawn from data and use of statistical methods in their own work. STA 6166 is the part I of a sequence of two courses (STA 6166 and STA 6167). In this course we will cover some selected basic topics from Chapters 1, 2, 4, 5, 6, 7, and 8 of the textbook, plus some additional related topics in form of class notes. A short description of the syllabus is included in the last page.* (For more details, please see the included short course syllabus and read the Introduction for each covered Chapters that are posted on Canvas.)

## Statistical Package Used:

Throughout the course students will be required to use SPSS, a computer program, for data analysis. Students will also be expected to be able to perform the calculations for the methods presented using a calculator as well.

## Assignments:

Graded Review Assignments, and Self-correcting Recommended Homework Problems. The assignments and due dates will be posted on Canvas.

## Tentative Exams:

**Possible Quizzes: TBA (online)**

**Exam I: Wednesday, September 21**

**Exam II: Wednesday, October 26**

**Final Exam: Monday December 5, 5:00 PM – 7:00 PM**

**\* You should not register for courses that have an exam conflict with this course.**

## Grading:

**30% Chapters' Review Assignments, and possible quizzes and class activities,**

**20% Exam I,**

**20% Exam II,**

**30% Final Exam (mandatory\*).**

### Approximate Grade Scaling for those who have taken both Midterm and the Final Exams:

[93 - 100] A	[90 - 93) A-	[85 - 90) B+	[80 - 85) B	[75 - 80) B-
[70 - 75) C+	[60 - 70) C	[50 - 60) D	[0 - 50) F	

**\*Note: Anyone who does not take the final exam could receive an F for the course**

### Course Policies & Remarks:

1. All FIU students enrolled in the class must have a valid FIU (picture) ID card and be ready to show the ID on professor's request, for example, when taking the exams.
2. This is a Web Assisted Course using Canvas, any student enrolled in this course are expected to have a valid FIU Email Account and be familiar with basics of internet use. Note that this is neither an online nor a remote teaching course, the purpose of web-based materials in this course is to enhance and compliment the in-person class lectures and textbook, to post review notes and formulas and to do web-based review quizzes on Canvas environments to facilitate and enhance teaching and. Note that Canvas materials **are not intended to substitute the classroom lectures and students are expected to attend the in-class sessions regularly.**
3. Exams are based on all the materials covered and discussed in lectures, homework, review quizzes, assignments, and any possible web-based projects. So, students are strongly advised to attend all the lectures and to be on time. No late Assignments will be accepted.
4. Anyone who misses any exam/ or review quiz will receive an F (score of 0) for that exam/ or quiz.
5. A makeup exam will be given only if the student misses an exam due to those emergency cases which meet all the University's requirements, such as the student illness. See the FIU students' handbook for details
6. Note that, failure to hand in any possible project assignment on time may result in the reduction of points from the overall grade. Failure to complete and submit any web-based graded Review Quiz or graded Assignment Withing the Given Deadline Would Result in an F (score of 0) grade for that review quiz or assignment.
7. Make sure to keep at least 3 decimal places for all your numerical answers. You could lose points for Quizzes or Exams if fail to do so.
8. Make sure completely cross out any work which you do not want to show to the instructor on your work. If you provide multiple solutions to the same problem, the worst one will be considered for the grading. Do not use red pen. Instructor will use this color for grading.
9. **No active Beepers, Cellular phones or any other Smart Medias are allowed during exams.**
10. Any failing student who has missed more than 60% of the classes may receive F0 instead of F.

# STA 6166

## Statistical Methods in Research, I

### syllabus

#### Prerequisite:

Graduate Standing

#### Textbook:

"Introduction to the Practice of Statistics", by David S. Moore, George P. McCabe, and Bruce A. Craig, 10<sup>th</sup> Edition, 2021, by W. H. Freedman and Company, Macmillan Learning.

#### Summary of Coverage:

- **Introduction: What is Statistics? (Preface)**
- **Looking at Data: Distribution (Chapter 1, Sections 1.1 - 1.4)**  
Measurement; stem-plots, histograms, and time plots for numerical variables; frequency distributions for categorical variables. Measures of central tendency, variability, and boxplots. Density curves; the normal distribution; and assessing normality.
- **Producing Data: (Chapter 3, Sections 3.1 - 3.4)**  
Basic concepts of Experimental Design, Randomization, and simple Random Sample.
- **The Study of Randomness: (Chapter 4, Sections 4.1- 4.3 and 4.5)**  
The basic concepts of probability using two-way tables; probability laws.
- **Sampling Distributions: (Chapter 5, Sections 5.1-5.2)**  
The sampling distribution of the sample mean and the central limit theorem.
- **Introduction to Inference: (Chapter 6, Sections 6.1 - 6.3)**  
Confidence intervals; tests of significance; uses and abuses of tests of significance.
- **Inference for Distributions: (Chapter 7, Section 7.1)**  
Inference for the mean of a population using t-tests.
- **Inference for Proportions: (Chapter 8, Section 8.1)**  
Inferences for a single proportion.