Rev. 2

STA 6326 Section U01 (Ref # 81307), Fall C 2024 (16 Weeks Term, August 26 – December 7, 2024)

Mathematical Statistics I

Days: Tuesdays & Thursdays

Time: 5:00PM - 6:15 PM

Classroom: DM 193

Credit Hours: 3

Course Syllabus and Policies

Prerequisite:

Calculus III (MAC 2313 or equivalence)

Professor:

Dr. H. Zahedi
Email: zahedih@fiu.edu
Phone: Number: (305)348-2927
Office: DM405
Webpage: http://faculty.fiu.edu/~zahedih , **Canvas Login:** http://online.fiu.edu/login_uts.html

Office Hours:

Tuesdays and Thursdays: 10:00AM – 10:50AM & 4:00PM – 4:50PM & 6:30 – 7:00PM
Other Times and Days: By Appointment
Feel free to consult with me as often as you need and whenever problems arise.

Textbook:

"An Introduction to Probability and Statistics" by V.K. Rohatgi and A.K. Md. Ehsanes Saleh, Third Edition, 2015, John Wiley & Sons

Coverage:

Topics from chapters 1- 6, plus some supplementary class notes. **See page 2 for the SYLLABUS**.

Recommended References if Needed:

a. "Modern Probability Theory and Its Applications" by E. Parzen
b. "An Intro. to Prob. Theory and Its Applications"; by W. Feller; Vol. I.
c. "Statistical Inference" second edition, by George Casella and Roger L. Berger
d. " Graduate Course in Probability", by H.G. Tucker.
Please consult the instructor for further references.

Assignments:

Weekly Assignments (8 -12 Problems each, TBA)

Tentative Exams:

Possible Review Quizzes: TBA
Midterm Exam: Thursday, October 17, 5:00PM - 6:15PM, DM 193
Final Exam*: Tuesday, December 10, 5:00PM - 7:00PM, DM193
*** You should not register for courses that have times conflict with this course.**

Grading:

35% Assignments & Possible Review Quizzes & Attendance,
30% Midterm Exam,
35% Final Exam

Approximate Grade Scales:

[90 - 100] A [85 -90)A- [80- 85) B+ [75 - 80) B
[70 - 75) B- [65 - 70)C+ [60 - 65)C [50 - 59) D [00 – 50)F

Policies & Remarks:

1. This is a **Web Assisted Course**. Students enrolled in this course are expected to have a FIU email account and to be familiar with the basics of internet use. The purpose of web-based materials is to enhance and complement the classroom and book materials and to facilitate the learning of the concepts. **They are not intended to substitute classrooms' lectures and you are expected to attend classes regularly.**

2. Exams are based on all the materials covered and assigned in the classroom, in the homework assignments, and in the web-based projects. So, students are strongly advised to attend all the lectures and to be on time.

3. Anyone who misses any exam/ or quiz will receive an F for that exam/ or quiz. Anyone who misses the final exam will receive an F for the course.

4. Failure to hand in any possible homework assignment on time may result in the reduction of points from the overall grade. Failure to complete any web-based project on time may result in an F grade for that project.

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 a verified student illness, or loss of an immediate family member.

6. No active beepers or cellular phones are allowed in the classroom. If you carry them with you, make sure they are switched off.

7. Academic Misconduct: Florida International University is a community dedicated to generating and imparting knowledge through excellent teaching and research, the rigorous and respectful exchange of ideas, and community service. All students should respect the right of others to have an equitable opportunity to learn and honestly to demonstrate the quality of their learning. Therefore, all students are expected to adhere to a standard of academic conduct, which demonstrates respect for themselves, their fellow students, and the educational mission of the University. All students are deemed by the University to understand that if they are found responsible for academic misconduct, they will be subject to the Academic Misconduct procedures and sanctions, as outlined in the Student Handbook.

8. The Following Statement is Required by the University: Plagiarism and cheating are serious offensive punishable by expulsion from the university.

Some Selected Important Dates (Fall 16-Weeks C Term):

Classes Start:	Monday, August 26, 2024
Labor Day Holiday (No Classes):	*Monday, September 2, 2024*
Last Day to ADD/Drop:	Tuesday, September 3, 2024
Last Day to Drop with a DR Grade:	*Monday, November 4, 2024*
Veteran Day Observed (No Classes):	Monday, November 11, 2024
Thanksgiving Day (No Classes):	*Thursday, November 28, 2024*
Thanksgiving Break (No Classes):	Friday-Saturday, November 29-30, 2024.
Last Regular Class Day (Classes End):	Saturday, December 7, 2024
Final Week of the Term :	*Monday-Saturday, December 9-14, 2024.*
End of Term:	Saturday, December 18, 2024
Grades ***available for Students:***	*Thursday, December 19, 2024*

For a Complete FIU Academic Calendar please visit: http://onestop.fiu.edu/academic-calendar

Important Remark:

This course outline is subject to possible changes. *In case of any possible changes, you will be notified in advance.*

STA 6326
Mathematical Statistics I
Short Course Syllabus

Prerequisites: MAC 2313 (Calculus III)
Terms Offered:
Fall C Term

Current Textbook:
"An Introduction to Probability and Statistics" by V.K. Rohatgi and A.K. Md. Ehsanes Saleh, Third Edition, 2015, John Wiley & Sons

Coverage:

Chapter 1.
Probability
Introduction, Sample Space, Probability Axioms, Combinatorics: Probability on Finite Sample Spaces, Conditional Probability and Bayes Theorem, Independence of Events

Chapter 2.
Random Variables and Their Probability Distributions
Introduction, Random Variables, Probability Distribution of a Random Variable, Discrete and Continuous Random variables, Functions of a Random Variable.

Chapter 3.
Moments and Moment Generating Functions
Introduction, Moments of a Distribution Function, Generating Functions, Some Moment Inequalities.

Chapter 4.
Multiple Random Variables
Introduction, Multiple Random Variables, Independent Random variables, Functions of Several Random Variables, Covariance, Correlation and Moments, Conditional Expectation, Order Statistics and Their Distributions

Chapter 5.
Some Special Distributions
Introduction, Some Discrete Distributions, Some Continuous Distributions, Bivariate and Multivariate Normal Distributions, Exponential Family of Distributions

Chapter 6.
Sample Statistics and Their Distributions
Introduction, Random Sampling, Sample Characteristics and Their Distributions, Chi-Square, t-, F- Distributions (Exact Sampling Distributions), Distribution of a Sample Mean in Sampling from a Normal Population, Sampling from a Bivariate Normal Distribution

***Chapter 7.**
Basic Asymptotic: Large Sample Theory
Introduction, Modes of Convergence, Weak Law of Large Numbers, Strong Law of Large Numbers, Limiting Moment Generating Functions, Central Limit Theorem, Large Sample Theory

*partial coverage (as much as time permits)