# STA 4321 Section U01 (Class # 81928) Course Outline*
## Introduction To Mathematical Statistics I

**Semester:** Fall 2014  **Days:** Mo & We  **Time:** 2:00 PM - 3:15 PM  **Room:** CBC 254  **Credit Hours:** 3  **Prerequisite:** Calculus III

**Instructor:**
Dr. H. Zahedi  **Office:** DM 403A  **Phone:** (305)348-2927  **Fax:** (305)348-6895  **Email:** zahedih@fiu.edu

Web Page: [http://www.fiu.edu/~zahedih/](http://www.fiu.edu/~zahedih/)  **Blackboard login:** [http://online.fiu.edu/login_uts.html](http://online.fiu.edu/login_uts.html)

**Tentative Exams**
- Exam I: Wednesday September 24,
- Exam II: Wednesday October 29,
- Final Exam: Wednesday December 10; 12:00 - 2:00PM

*You should not register for courses that have a final examination conflict with this course.

**Assignments:**
- Weekly Homework (about 8 to 12 problems each).  (See the list of the suggested problems.)

**Text Book:**

**References:**
1. Mathematical Statistics by Freund.
2. Introduction to Mathematical Statistics by Hoel.

(For further references consult the instructor.)

**Coverage & Objectives:**
Most of the topics in chapters 1-7, plus some additional related topics in form of class notes. This is the first of the two most fundamental undergraduate, calculus based, courses in probability theory and mathematical statistics which are required for all of our undergraduate Statistics Majors. The emphasis of this course is on basic probability and distribution theory, which are the foundation of mathematical statistics. This includes the following topics: introduction to statistics, sample space and probability, discrete random variables and their probability distributions, continuous random variable and their distributions, multivariate (mainly bivariate) probability distributions, functions of random variables and probability integral transformation, sampling distributions and the central limit theorem.  **(See the course syllabus on the second page for details.)**

**Approximate Grade Scaling:**
- [93 - 100] A  
- [90 - 93) A-  
- [85 - 90) B+  
- [80 - 85) B  
- [75 - 80) B-  
- [70 - 75) C+  
- [65 - 70) C  
- [60 - 65) C-  
- [55 - 60) D+  
- [50 - 55) D  
- [45 - 50) D-  
- [0 - 45) F

**Policies & Remarks:**
1. This is a Web Assisted Course. The students enrolled in this course are expected to have an FIU email account and to be familiar with basics of internet use. The purpose of web-based materials in this course is to enhance and compliment the classroom and book materials and to facilitate the learning of the concepts.  **They are not intended to substitute classroom 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/quiz will receive an F for that exam/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 an F grade for that project.
5. A make up 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 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. Any failing student who has missed 60% of the classes will receive F0 instead of F. Since it may not be feasible to take attendance all the time, any student who does not take at least 2 of the 3 main exams (Exam I, Exam II, & Final Exam) will also receive an F0 instead of F for the course.

8. Plagiarism and cheating are serious offenses punishable by expulsion from the university.

9. 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 learning of the concepts. They are not intended to substitute classroom lectures and you are expected to attend classes regularly.

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

**In case of any possible changes you will be notified in advance.**

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**Some Important Dates:**
- **August 25 Monday:** Classes Begin
- **September 1 Monday:** Labor Day Holiday (University Closed).
- **September 2 Tuesday:** Last day to change a grading option, drop courses, or withdraw from the University without incurring a financial liability.
- **September 19 Friday:** Last day to withdraw from the University with a 25% refund of tuition.
- **November 3 Monday:** Last day to drop a course with a DR grade. Last day to withdraw from the university with a WI grade.
- **November 11 Tuesday:** Veterans Day Holiday (University Closed)
- **November 27 & 29:** Thanksgiving Holiday (University Closed)
- **December 8 - 13:** Final week of the semester-modified class schedule: Final exams and other course assessment activities are scheduled during this week.
- **December 18 Thursday:** Complete grade report available to students by web

For Complete FIU Academic Calendar please visit: [http://onestop.fiu.edu/academic-calendar](http://onestop.fiu.edu/academic-calendar)
Prerequisites:  
MAC 2313 (Calculus III)

Text:  

1. What is statistics  
Introduction, Characterizing A set of Measurements: Graphical and Numerical Methods, How Inference are Made, Theory and Reality, Summary

2. Probability  

3. Discrete Random variables and Their Probability distributions  

4. Continuous random variables and Their Probability Distributions  

5. Multivariate Probability Distributions (Main Emphasis on Bivariate Case)  

6. Functions of Random Variables  

7. Sampling Distributions and the Central Limit Theorem  

Suggested Homework Problems From the Text Book:  
TBA