

STA 3930 Section U01 (Class # 11519), Spring Term 2024, Main Session (16 Weeks)

Special Topics in Mathematics, Probability & Statistics for Certificate Program in Actuarial Studies *Course Syllabus & Policies Outlines:*

Days: Fridays
Time: 10:00AM - 12:00PM
Classroom: DM193
Credit hours: 2
Prerequisite: STA 4321
Modality: face-to-face (in-person on Campus)
Note: This is a 2-credit hours course that is equivalent to the combined 1-credit hour STA3930 & the 1-credit hour MAS3931 Courses.

Important Comments About the Course:

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

Instructor:

Dr. H. Zahedi
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Canvas login: http://online.fiu.edu/login_uts.html

Formal Office hours:

Mondays & Wednesdays: 2:00 PM – 3:00 & 6:30 PM - 7:00 PM (No Appointments Needed)
Fr: 9:25AM- 9:55AM
Other Times: by appointments only subject to availability
Feel free to consult with me as often as you need and whenever problems arise.

Textbook:

No Formal Textbook Required.

The course will be based on Class notes, Notes on Canvas and Sample Problems on Probability part of past Society Of Actuaries Course/Exam P & CAS Course 1 Examination (see www.soa.org for more information.)

Optional Supporting Materials:

1. ***"Mathematical Statistics with Applications" by Wackerly, Mendenhall, and Scheaffer, 7th edition, Duxbury.***
2. **AACTEX Study Manual for the SOA Exam P and CAS Exam 1** by Samuel A. Broverman, , latest Edition.
3. **AActex Calculus Review** by Samuel A. Broverman, latest edition.
4. **A Study Manual for Exam P and Exam 1"** by Averbach & Mehta, latest edition.
For further references visit Society of Actuaries at www.soa.org , and www.actexamdriver.com for ACTEX Publications.

Course Description s& Objectives:

The professional services of actuaries are used in almost every major field related to providing insurance and benefit programs. Forecasting the future "patterns of Claims" and the probabilities of related with such events such as

natural disasters, fire, illness, death, etc., study of overall operation of insurance companies to determine future company practices, an optimal cost to the provider as well as the consumer, require a thorough appreciation and analysis of the underlying probabilistic and statistical structures of these problems. This one credit course is designed to give the student enrolled in the "Actuarial Certificate Program" an overall review of basic concepts in probability and statistics. Students enrolled in this course are expected to have already taken the STA 4321. The emphasis of this course is on the interpretation and application of the theory for problem solving, especially nonstandard problems that may require nonstandard techniques. Topics for the course vary, depending on the changes in the requirements of the Actuarial Society, especially the Society's Course P/ CAS Exam 1 on Probability. In general, topics reviewed include the following:

- I) Review of some basic topics from discrete mathematics and calculus courses such as commonly used geometric series, single and multiple integrations, and differentiations.
- II) Basic Probability, Conditional Probability, Random Variable, Distribution, Conditional Distribution, Expectation and Conditional Expectation, Conditional Mean and Variance, Joint Distribution and Correlation, Common Discrete probability Models, Common Continuous Probability Models. Because of almost total deletion of the inference topics from Exam P, if time permits, there will be only a very brief review on statistical topics such as Estimation, Testing Hypothesis, Regression and Contingency Tables.

Assignments:

Weekly Assignment Set: 10-15 problems each.

Tentative Exams:

Possible Quizzes: TBA

Midterm Exam: Friday, February 21, 2024

Final Exam*: Friday April 26, 2024, 9:45AM – 11:45AM in DM193

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

Grade Structure:

35% Weekly Assignments, Attendance, and any possible Quizzes, 30% Midterm Exam, 35% Final Exam.

Approximate Grade Scaling:

[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 - 49) F.

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 class lectures, to post review notes and formulas, and to do web-based review quizzes on Canvas environment and hence to facilitate and enhance teaching and learning. Note, the Canvas materials **are not intended to substitute the classroom lectures and students are expected to attend classes regularly.**
3. Exams are based on all materials covered and discussed in lectures, homework, review quizzes, assignments, and any possible web-based projects. So, students are strongly advised to attend all lectures and 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 for a makeup, such as, student's illness. For more details, see the FIU Students' Handbook.
6. Failure to complete and submit any **web-based graded review assignment or quiz within the Given Deadline would Result in an F (score of 0) grade for that graded review assignment or quiz.**
7. **No active Beepers, Cellular phones, or any other Smart Media's are allowed during exams. Students are**

expected to turn off their cell phones during the class lectures.

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

Student Honesty Statement:

FIU defines academic misconduct in the Student Conduct and Honor Code (Code) as, Any act or omission by a student, which violates the concept of academic integrity and undermines the academic mission of university in violation of the Code. @ Code violations include, but are not limited to academic dishonesty, bribery, cheating, commercial use, complicity, falsification, and plagiarism. The codes are available here: <https://studentaffairs.fiu.edu/get-support/student-conduct-and-academic-integrity/student-conduct-and-honor-code/index.php>.

Some Important Dates for the Main Session:

January 8 Monday: Classes Start

January 15 Monday: Martin Luther King Holiday (University Closed).

January 16 Tuesday: last day to Add/Drop

Feb. 26 - March 2: Spring Break. No classes

Monday, March 18: Last Day to Drop with a DR Grade

Saturday April 20: Last Regular Class Day

April 22 - April 27: Finals week - modified class schedule: (Final Exams and other course assessment activities are scheduled during this week.) *

***If a final exam is not required, classes are expected to be held during finals week**

Saturday, April 27: End of Term

Thursday, May 2: Grades Available for Students

Saturday, May 4: Degree Conferral Date

For further information and other important dates please visit the Florida International University's Home Page at <http://www.fiu.edu>.

Note: The course outline is subject to possible changes. In case of any possible changes, you will be notified in advance.