

STA 3930 Section U01 (Class # 11645), Spring C 2022

Special Topics in Mathematics, Probability & Statistics for Certificate Program in Actuarial Studies

(Days: Fridays; Time: 10:00AM - 12:00PM; Room: PC 425; Credit hours: 2; Prerequisite: STA 43210)

Course Modality: face to face in person on Campus

*(This 2-credit hours course is equivalent to combined 1-credit hour STA3930 and 1-credit hour MAS 3931 Courses)*

### Short Course Policies & Syllabus Outlines

#### **Important Comments About the Course:**

1. 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 new Covid-19 emergencies.

2. If a student misses a quiz or an exam due to Covid-19, that student will be given the opportunity to make up for the missed exam or quiz. However, the student must inform the professor ahead of exam time and submit the necessary documentation from a medical doctor or clinic (similar to procedures used for any for other illnesses).

#### **Instructor:**

**Dr. H. Zahedi**

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**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:**

Fridays: 9:20 AM 9:50 AM

Mo. & Wed.: 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.**

#### **Text Book:**

No Formal Textbook Required.

**The course will be based on** Class notes, Notes on Canvas and Sample Problems on Probability part of past SOA Course/Exam P & CAS Course 1 Examination ( see [www.soa.org](http://www.soa.org) ).

#### **Recommended Optional Supporting Materials:**

1. *"Mathematical Statistics with Applications"* by Wackerly, Mendenhall, and Scheaffer, 7th edition, Duxbury.

2. "ACTEX Study Manual for the SOA Exam P and CAS Exam 1" by Samuel A. Broverman, latest Edition.

3. "Actex Calculus Review" by Samuel A. Broverman, latest edition.

4. "Study Manual for Exam P and Exam 1" by Averbach & Mehta, latest edition.

For further references visit [www.actexamdriver.com](http://www.actexamdriver.com) for ACTEX Publications.

#### **Course Description:**

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 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 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 Assignments: 10-15 problems each.

#### Tentative Exams:

**Possible Quizzes:** BA

**Midterm Exam:** Friday, February 25

**Final Exam\*:** TBA (see your my.fiu.edu)

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

#### **Structure:**

**35%** Weekly Assignments and 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

#### 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 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 learning. 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. No active Beepers, Cellular phones, or any other Smart Media's are allowed during exams.**

**8.** Any failing student who has missed more than 60% of the classes may receive F0 instead of F.

**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 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 is available here:*

*<https://studentaffairs.fiu.edu/get-support/student-conduct-and-academic-integrity/student-conduct-and-honor-code/index.php>.*

**Some Important Dates:**

<b>January 10, Monday:</b>	<b>Classes Begin</b>
<b>January 17, Monday:</b>	Martin Luther King Holiday (University Closed).
<b>January 18, Tuesday:</b>	Last day to add courses; last day to Add/Drop courses or withdraw from the University without incurring a financial liability for Tuition & Fees.
<b>February 4, Friday:</b>	<b>Last day to withdraw from All Courses with a 25% refund of tuition for Spring C Semester.</b>
<b>February 29 - March 5:</b>	Spring Break. (University Open, No classes)
<b>March 21 Monday:</b>	<b>Last day to drop a course with a DR grade and/or Withdraw from the University with a WI grade.</b>
<b>April 25 - April 30:</b>	<b>Finals' week - modified class schedule: (Final Exams and other course assessment activities are scheduled during this week.)</b>
<b>May 5, Thursday:</b>	Grade Post (available at my.fiu.edu)

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.*