STAT 4800 MATHEMATICAL FOUNDATIONS IN ACTUARIAL SCIENCE

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OFFICE HOURS: MTWRF 11:00-12:00pm

COURSE DESCRIPTION: A survey of probability theory and an introduction to risk management. Emphasis of the course will be on problem solving with applications in actuarial science.

COURSE OBJECTIVES: The goal of this course is to provide problem solving strategies that are relevant to and useful in the preparation for Exam P in the Society of Actuaries examination sequence.

PREREQUISITES: The prerequisite for this course is MATH/STAT 5843 or consent of the instructor.


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<th>Section</th>
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<td>1</td>
<td>General Probability</td>
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<td>Random Variables and Probability Distributions</td>
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<td>Multivariate Distributions</td>
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<td>Risk Management and Insurance</td>
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GRADING: Grades will be weighted according to the following scale:

Midterm Exam 30%
In-Class Presentations 20%
Homework 20%
Final Exam 30%

The following grading scale will be used:

100–90 A
<90–80 B
<80–70 C
<70–60 D
<60 F

Last day to withdraw with a “W”: Thursday, March 25, 2010

GRADUATE STUDENTS: If you are taking this course as a graduate student, you will be expected to develop and present two or three review lessons on the major topics in probability theory in the SOA syllabus. Possible topics for such lessons include: discrete and continuous distributions, joint distributions, Bayes Theorem, moment generating functions, conditional probability distributions, marginal probability distributions, transformations of random variables, or order statistics. As part of the presentation, you will be expected to outline strategies to identify and solve problems related to that topic. More details on the presentation requirements are forthcoming.
EXAMS: The midterm exam date will be announced approximately one week in advance, and it is your responsibility to be in class and know when the exam will be given. A missed exam can be made up only in the event of an excused, documented absence. If you are going to miss an exam, call my office and leave a message or send me an e-mail before the exam. Arrangements for a make-up must be made before returning to class. Both the midterm and final examination will provide an opportunity to take a sample actuarial examination under “battle conditions.”

NOTIFICATION of CANCELLED CLASS: Notice that this class is being cancelled for any one day because of instructor illness, or other reasons, will be sent to the student address @student.ysu.edu as soon as possible.

HOMEWORK ASSIGNMENTS: Problem sets will be distributed with each unit. These sets will be collected and graded as part of your homework grade or presented in class as part of your presentation grade. Because of this, it is expected that all assignments will be completed on time. Late homework will NOT be accepted.

IN-CLASS PRESENTATIONS: The goal of this seminar is to develop problem solving strategies that promote the successful completion of the actuarial examination sequence. A major component of your grade in this seminar will be based upon your in-class participation and presentation of problems discussed during the seminar or assigned for homework.

ATTENDANCE: Regular attendance is necessary and expected. Attendance will be taken daily and will be one of several factors considered in “borderline” cases. If you know ahead of time that you will have an excused absence, please let me know. All students are expected to participate in class. This means coming to class with your homework completed and ready to ask or answer questions.

CLASSROOM CONDUCT: All students are expected to arrive and be prepared to start class ON TIME. Cell phones, pagers, etc. must be turned off during class. Sending text messages during the class will not be tolerated and is grounds for dismissal from the class.

STUDENT RESPONSIBILITIES: Primary responsibility for learning the material in this course lies with the student. Each student is responsible for attending class regularly, carefully completing daily reading and homework assignments, coming to class on time and prepared, and actively participating in class. Any student having trouble with the material is responsible for seeking help from the instructor, tutors, or fellow students.

All homework assignments are expected to be completed. There is generally a strong correlation between the amount of effort expended on homework and the level of success on exams. It is expected that reading, studying the text and notes, and writing homework problems will require at least two to three hours per day. Any student who chooses not to fulfill the responsibilities outlined here should not expect to succeed in the course.

GETTING HELP: In addition to my scheduled office hours, I am also available at many other times. You are most welcome to drop in at any time. However you may wish to call me or send email to check on my availability if you would like to see me outside of office hours.

STUDENTS WITH DISABILITIES: In accordance with University procedure, if you have a documented disability and require accommodations to obtain equal access in this course, please contact the Office of Equal Opportunity and Disability Services at the beginning of the semester or when given an assignment for which an accommodation is required. Students with disabilities must verify their eligibility through the Office of Disability Service at 36 W. Wood Street (330-941-3370) intake procedure.

PLAGIARISM AND CHEATING: Academic honesty is expected. Cheating on exams, plagiarism, or any kind of unethical behavior may subject the student to severe academic penalties, including expulsion. See “The Code: A Handbook of Student Rights, Responsibilities, and Conduct” for more information.