UNIVERSITY OF WINDSOR
Term: Fall 2016
03-65-250-01 Introduction to Probability

Instructor: Dr. Rajibul Mian
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Lectures: MW 11:30 - 12:50 BB 113
Labs: F 08:30 - 09:20 BB 113
Office Hours: held in Lambton Tower Room 10-112 – Friday, 09:30 am- 11:30 and by appointment

Attendances in both regular lectures and labs are expected as well as highly recommended.

Text book: John E. Freund's Mathematical Statistics With Applications, 8th edition, by I. Miller and M. Miller

Course Outline: Chapters 1, 2, 3(except 3.5), 4, 5 (except 5.8, 5.9), 6 (except 6.4, 6.7), 8 (only 8.1, 8.2), 10 (only 10.2), 11(only 11.1, 11.2, 11.3 and if time permits).

Grading Scheme:

Complete, clear and well-written answers are required for full marks.

Exam	Date	Time	Location	Worth
Quiz # 1	Friday, Sep 23, 2016	08:30 am- 09:20 am	BB 113	05%
Quiz # 2	Friday, Oct 07, 2016	08:30 am- 09:20 am	BB 113	05%
Test # 1	Monday, Oct 17, 2016	11:30 am- 12:50 am	BB 113	15%
Quiz # 3	Friday, Nov 04, 2016	08:30 am- 09:20 am	BB 113	05%
Test # 2	Monday, Nov 14, 2016	11:30 pm - 12:50 pm	BB 113	15%
Quiz # 4	Friday, Nov 25, 2016	08:30 am- 09:20 am	BB 113	05%
Final	TBA	TBA	TBA	50%

Note: If test/quiz(s) are missed for legitimate documented medical reason, the weight of the final exam will be increased proportionately. Students should use the official university medical documentation form available at http://www.uwindsor.ca/secretariat/48/senate-policies. (For details please see the university regulations and may contact to registrars office)

Writing Three or More Exams on the Same Day:

A student scheduled for three final examinations in one calendar day may apply to have one examination rescheduled on an alternate examination day. The determination of which examination and the date shall be made by the Vice-Provost. Download the appropriate form at http://www.uwindsor.ca/secretariat/48/senate-policies and submit to the Registrar's Office. (For details please see the university regulations and may contact to registrar's office)

Exam Conflicts due to Observance of Religious Holidays:

Students who are unable to write a final examination(s) in the scheduled time slot because of a religious conflict must apply for alternative examination(s) by the end of the normal add/drop period. The Registrar's Office will schedule alternative examination(s) in another slot(s) within the regular examination period. Please download the appropriate form at http://www.uwindsor.ca/secretariat/48/senate-policies and submit to the Registrar's Office. Applications must be submitted by the end of the 4th week of classes. (For details please see the university regulations and may contact to registrar's office)

Student Evaluation of Teaching:

The Student Evaluation of Teaching will be administered on the last two weeks of classes.

Note: The last day to withdraw voluntarily from class is November 16, 2016. After this date, students remaining registered in courses will receive final grades as appropriate. (For details please see the university regulations and may contact to registrar's office)

Learning Outcomes:

At the end of this course, the successful student will know and be able to:

- Define and describe statistical experiments, events (outcomes of experiments), probability of events; random variables;
- Distinguish between discrete and continuous random variables
- Define and describe distribution of random variables such as: Bernoulli, Binomial, Negative binomial, Geometric, hypergeometric, Uniform discrete, Uniform continuous, Beta family, Gamma family, Normal, Student's t, Chi square, and F-distribution.
- Define and describe quantities such as mean, variance, and standard deviation of random variables(distributions)
- Define and describe moments of random variables

- Compute moments of some commonly used distributions
- Utilize the above concepts to perform the analysis required in the second part of this course (03-65-251)
- Identify the types of outcomes of interest for a given real-life experiment (phenomena) and describe a suitable distribution for the outcomes identified.
- Compute means, variances and probabilities related to the outcomes of interest
- critically evaluate the adequacy and accuracy of probability models used in describing real-life phenomena in area such as finance
- analyze and evaluate probability models and apply them to real life data problems when reading applied and empirical statistics and financial literature.
- Asses carefully any application of statistical methods to the analysis of data knowing that the conclusions thereof are to be used in making decisions that influence the society
- communicate the findings of the analysis and application of probability models in a clear and understandable way. This is usually assessed through assignments and reports to small projects
- independently formulate applied problems in probability theory.
- expand his or her knowledge of probability theory by reading academic papers involving financial models.

Updated: September 07, 2016