



Applied Probability and Statistics for Engineers 2017/2018

[Statistical Science 2141A Section 001](#)

Course Outline

Instructor Information

Instructor	Hao Yu
Office	WSC 217
Email	hyu@uwo.ca
Phone	519-661-3622 ext 83622
Office Hours	Tue,Thu 9:00 AM-10:30 AM;

Course Information

Course Description	An introduction to statistics with emphasis on the applied probability models used in Electrical and Civil Engineering and elsewhere. Topics covered include samples, probability, probability distributions, estimation (including comparison of means), correlation and regression. Cannot be taken for credit in any 3-year or honors program or in any module in Statistics, Actuarial Science, or Financial Modelling.
Prerequisites	Applied Mathematics 1413, or either Calculus 1000A/B or 1100A/B plus either Calculus 1301A/B or 1501A/B. Applied Mathematics 1413 (026), or either Calculus 1000A/B. or 1100A/B (050a/b) plus either Calculus 1301A/B (051a/b) or 1501A/B (081a/b).
Antirequisites	All other courses or half courses in Introductory Statistics except Statistical Sciences 1023A/B, Statistical Sciences 1024A/B. All other courses or half courses in Introductory Statistics except Statistical Sciences 1023A/B, Statistical Sciences 1024A/B.
Pre,Co-requisites Warning	Unless you have either the requisites for this course or written special permission from your Dean to enroll in it, you may be removed from this course and it will be deleted from your record. You can be deregistered at any time even after writing the final exam. This decision may not be appealed. You will receive no adjustment to your fees in the event that you are dropped from a course for failing to have the necessary prerequisites
Lecture Hours	Mon,Wed,Fri 1:30 PM-2:30 PM NS 1;
Tutorial Hours	Wed 5:30 PM-6:30 PM SSC 2050

Book Information

Text Book(s)

Probability and Statistics for Engineers and Scientists, 4th ed., by Anthony Hayter.

Course Objectives

At the end of the course, students should be able to:



- state fundamental concepts of applied probability and statistics,
- see how the concepts are related and interact with each other,
- decide where and under what circumstances a given concept is applicable,
- combine the concepts to produce solutions for real-life problems,
- make appropriate inferences and decisions.

Assessment

Assignments and/or Quizzes

There will be four quizzes held during the tutorials on the following:

Location: SSC-2050. **Date:**

1 -- September 27

2 -- October 18

3 -- November 15

4 -- November 29

The topics to be covered for each quiz will be stated in class and on the course website on Monday before the quiz date. The best 3 out of the 4 quizzes will count toward your final mark. If you miss a quiz for ANY reason (including valid reasons like: sickness, death in family, or non-valid reasons like: you decide not to show up to write), that will be the quiz that will NOT count.

Midterms or Tests

Two-hours multiple-choice exam - Scheduled on Wednesday, November 1, 2017 from 5:00 PM to 7:00 PM in SEB 2099, EC 2168A, EC 2168B and EC 2155.

If you have any conflict, you must check with your instructor as soon as possible (and prior to the exam). The policy of the department of Statistical and Actuarial Sciences is that there will be no make-up exams for a missed midterm. For those that do legitimately miss a midterm and provide the required supporting documentation, the standard practice will be that the weight of the midterm will be reassigned to the final exam. If your reason is not deemed valid, then you will receive a mark of 0.

Final Exam

The final exam will be a three-hour multiple-choice examination covering all material in the course, with emphasis on material covered since the midterm. It will be scheduled in December by the Registrar's office. Do not make travel arrangements until you know your exam schedule. Holding an airline ticket is not an acceptable reason to miss the final exam.

Evaluation

	Weight
Quizzes (best 3 out of 4)	15%
Midterm	35%
Final Exam	50%

Course Website Information

We will have an OWL website set up on <http://owl.uwo.ca>. Login in using your Student ID and your password. You should check the website a couple of times each week for periodic updates and



information relevant to the course. I hope to be able to post the class overheads the day before or after each class.

Computing and/or Calculator Requirement

You will also need a non-programmable calculator for quizzes, the midterm and the final exam. Only non-programmable calculators may be used.

Department Policy on Missed Course Requirements and Student Health and Wellness

If you are unable to meet a course requirement due to illness or other serious circumstances, you must provide valid medical or other supporting documentation to your Dean's office as soon as possible, and contact your instructor immediately. If accommodation is approved by your Dean's office, your instructor will be notified, then it is your responsibility to make alternative arrangements with your instructor. In the event of a missed final exam, a "Recommendation of Special Examination" form must be obtained from the Dean's Office immediately. For further information please see: http://www.stats.uwo.ca/accommodation_medical.pdf. A student requiring academic accommodation due to illness, should use the Student Medical Certificate when visiting an off-campus medical facility. The form can be found at: <http://www.stats.uwo.ca/medicalform.pdf>. Or, request a Record's Release Form (located in the Dean's Office) for visits to Student Health Services.

Missed Midterm or Test: The policy of the department of Statistical and Actuarial Sciences is that there will be no make-up exams for a missed midterm. For those that do legitimately miss a midterm and provide the required supporting documentation, the standard practice will be that the weight of the midterm will be reassigned to the final exam. If your reason is not deemed valid, then you will receive a mark of 0.

Student Health and Wellness: As part of a successful student experience at Western, we encourage students to make their health and wellness a priority. Western provides several on campus health-related services to help you achieve optimum health and engage in healthy living while pursuing your degree. For example, to support physical activity, all students, as part of their registration, receive membership in Western's Campus Recreation Centre. Numerous cultural events are offered throughout the year. Please check out the Faculty of Music web page <http://www.music.uwo.ca/>, and our own McIntosh Gallery <http://www.mcintoshgallery.ca>. Information regarding health- and wellness-related services available to students may be found at <http://www.health.uwo.ca/>.

Students seeking help regarding mental health concerns are advised to speak to someone they feel comfortable confiding in, such as their faculty supervisor, their program director (graduate chair), or other relevant administrators in their unit. Campus mental health resources may be found at http://www.health.uwo.ca/mental_health/resources.html.

To help you learn more about mental health, Western has developed an interactive mental health learning module, found here: http://www.health.uwo.ca/mental_health/module.html. This module is 30 minutes in length and provides participants with a basic understanding of mental health issues and of available campus and community resources. Topics include stress, anxiety, depression, suicide and eating disorders. After successful completion of the module, participants receive a certificate confirming their participation.

Accessibility: Please contact the course instructor if you require lecture or printed material in an alternate format or if any other arrangements can make this course more accessible to you. You may also



wish to contact Services for Students with Disabilities (SSD) at 661-2111 ext. 82147 if you have questions regarding accommodation.

Support Services: Learning-skills counsellors at the Student Development Centre (SDC) (<http://www.sdc.uwo.ca>) are ready to help you improve your learning skills. They offer presentations on strategies for improving time management, multiple-choice exam preparation/writing, textbook reading, and more. Individual support is offered throughout the Fall/Winter terms in the drop-in Learning Help Centre, and year-round through individual counselling.

Additional student-run support services are offered by the USC, <http://westernusc.ca/services>.

The website for Registrarial Services is <http://www.registrar.uwo.ca>.

Email Communication

You are welcome to communicate with your instructor by email, but email communication should only be used to provide them with information or to ask a question that requires a brief response. For more lengthy discussions and for discussions on lectures/course material please see your instructor during their scheduled office hours or by appointment. If you do email them, please use your UWO account, as these are often the only emails read (as emails sent from other addresses often get spammed).

Attendance

Classroom attendance is viewed as an important part of the learning process. Students are advised that excessive absenteeism may result in the student being disbarred from the final exam.

Attendance at all lectures is required. If you must miss a lecture, it's your responsibility to get notes and any other information you may have missed from a classmate.

You are expected to read the text sections covered in class, and will be tested on material from the text whether or not it was covered in the lectures, and sometimes I will lecture "outside of the text." Your key to success is coming to class and taking good notes. If you are going to miss a class, find a way to get the notes from a classmate.

Classroom Environment

The Department has adopted a "Mutual Expectations" policy governing the classroom environment and all work submitted by students. The full text of the policy can be found at: http://www.stats.uwo.ca/mutual_expectations.pdf. In summary, the policy was developed under the premise that all interactions between students and faculty should be governed by the principles of courtesy, respect and honesty. Students who are in emotional/mental distress should refer to Mental Health@Western <http://www.uwo.ca/uwocom/mentalhealth/> for a complete list of options about how to obtain help.