

Statistics 2141 - Course Outline

1. Course Information

Course Name: Applied Probability & Statistics for Engineers
 Course Number: SS2141
 Term: Summer 2025

List of Prerequisites

Applied Mathematics 1413 or Calculus 1000A/B or 1100A/B plus either Calculus 1501A/B or 1301A/B

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. 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.

2. Instructor Information

Instructor	Email
Dr. Hristo Sendov	hsendov@uwo.ca
Teaching Assistants	
Daniel Mauricio Guerrero Santaren	dguerre4@uwo.ca
Mengqi Wang	mwan259@uwo.ca
Peiheng Gao	pgao47@uwo.ca
William Robert McGaw Groff	wgroff@uwo.ca

Office Hours

Please refer to the zoom links posted on Brightspace.

Dr. Hristo Sendov	Monday - Thursday 9-10:30am	from May 5 until June 20, 2025
Daniel Mauricio Guerrero Santaren	Monday - Friday 12-1pm	from May 5 until June 20, 2025
William Robert McGaw Groff	Monday - Friday 4-5pm	from May 5 until June 20, 2025

OWL Discussion Board

All subject-specific questions must be asked in the OWL Discussion Board (under the Communications tab) – this way all students can benefit from seeing the questions and help their peers by providing responses. The discussion will be monitored on a regular basis and the TAs will interject with corrections or responses as necessary. Please be respectful of your peers, instructor(s), and TAs.

Derogatory, discriminatory, or otherwise inappropriate language or topics will be removed and dealt with at the instructor's discretion.

Email

Emails are reserved strictly for private and confidential communications. Your instructor will not answer any course-related questions via email. Students must use their Western (@uwo.ca) email addresses when contacting their instructor and be sure to indicate the course number (SS 2141) in the subject line.

3. Course Syllabus, Schedule, Delivery Mode

Week	Chapter	Topics
1	Chapter 1	Probability: Events, Union, Intersection, Conditional Probability, Bayes Rule, Chebyshev's Theorem
1/2	Chapter 2 (exclude 2.5)	Random Variables: Discrete and Continuous, Expectation, Variance, Combinations and Functions
2	Chapter 3 (3.1 to 3.4)	Discrete Probability Distributions: Binomial, Poisson, Geometric, Negative Binomial, and Hypergeometric Distributions
3	Chapter 4 (4.1 to 4.3)	Continuous Probability Distributions: Uniform, Exponential, and Gamma
3/4	Chapter 5 (5.1 to 5.3)	Normal Distribution: Normal Curve Calculations, Linear Combinations, Normal Approx. to Binomial
4	Chapter 6 (6.1 to 6.3)	Descriptive Statistics: Graphing Data, Sample Statistics: Mean, Median, Variance, IQR, Percentiles, Outliers
5	Chapter 8 (8.1 and 8.2)	Inference About a Population Mean: One Sample Confidence Intervals and Hypothesis Testing (Variance known/unknown)
5/6	Chapter 9 (9.1 to 9.3)	Inference About Two Population Means: Two Independent Samples Confidence Intervals and Hypothesis Testing; Paired Samples
6	Chapter 12	Simple Linear Regression and Correlation: Regression, Inferences About Slope, Prediction Intervals, Coefficient of Determination, Residual Analysis, Correlation Analysis

Delivery Mode

This is an asynchronous distance course. Students are responsible for learning the material at their own pace. All assessments will be conducted online.

Format of Exams: Online, closed-book, short answer questions. A double-sided handwritten letter-sized cheat sheet can be used.

Rounding of Marks Statement

Across the Sciences Undergraduate Education programs, we strive to maintain high standards that reflect the effort that both students and faculty put into the teaching and learning experience during this course. All students will be treated equally and evaluated based only on their actual achievement. Final grades on this course, irrespective of the number of decimal places used in marking individual assignments and tests, will be calculated to one decimal place and rounded to the nearest integer, e.g., 74.4 becomes 74, and 74.5 becomes 75. Marks WILL NOT be bumped to the next grade or GPA, e.g. a 79 WILL NOT be bumped up to an 80, an 84 WILL NOT be bumped up to an 85, etc. The mark attained is the mark you achieved, and the mark assigned; requests for mark “bumping” will be denied.

6. Student Absences

If you are unable to meet a course requirement due to illness or other serious circumstances, please follow the procedures below.

Assessments worth less than 10% of the overall course grade:

Not applicable for this course.

Assessments worth 10% or more of the overall course grade:

If you miss a midterm, you must provide valid medical or supporting documentation to the Academic Counselling Office of your Faculty of Registration as soon as possible. For further information, please consult the University’s medical illness policy at

https://www.uwo.ca/univsec/pdf/academic_policies/appeals/accommodation_medical.pdf.

The Student Medical Certificate is available at

https://www.uwo.ca/univsec/pdf/academic_policies/appeals/medicalform.pdf.

Students who obtain appropriate accommodation will have the weight of the midterm redistributed to the final exam (i.e. missing one midterm would make your final exam worth 75% of your total grade).

There will be no make-up for the midterms.

Absences from Final Examinations

If you miss the Final Exam, please contact the Academic Counselling Office of your Faculty of Registration as soon as possible. They will assess your eligibility to write the Special Examination (the name given by the University for a make-up Final Exam).

You may also be eligible to write the Special Exam if you are in a “Multiple Exam Situation” (e.g. more

than 2 exams in 23-hour period or more than 3 exams in a 47-hour period).

7. Accommodation and Accessibility

Religious Accommodation

When conflicts with a religious holiday that requires an absence from the University or prohibits certain activities, students should request an accommodation for their absence in writing to the course instructor and/or the Academic Advising office of their Faculty of Registration. This notice should be made as early as possible but not later than two weeks prior to the writing or the examination (or one week prior to the writing of the test).

Please visit the Diversity Calendars posted on our university's EDID website for the recognized religious holidays:

<https://www.edi.uwo.ca>.

Accommodation Policies

Students with disabilities are encouraged to contact Accessible Education, which provides recommendations for accommodation based on medical documentation or psychological and cognitive testing. The policy on Academic Accommodation for Students with Disabilities can be found at:

https://www.uwo.ca/univsec/pdf/academic_policies/appeals/Academic_Accommodation_disabilities.pdf.

8. Academic Policies

The website for Registrar Services is <https://www.registrar.uwo.ca/>.

In accordance with policy,

https://www.uwo.ca/univsec/pdf/policies_procedures/section1/mapp113.pdf,

the centrally administered e-mail account provided to students will be considered the individual's official university e-mail address. It is the responsibility of the account holder to ensure that e-mail received from the University at their official university address is attended to in a timely manner.

Scholastic offences are taken seriously and students are directed to read the appropriate policy, specifically, the definition of what constitutes a Scholastic Offence, at the following Web site:

https://www.uwo.ca/univsec/pdf/academic_policies/appeals/scholastic_discipline_undergrad.pdf.

9. Support Services

Please visit the Science & Basic Medical Sciences Academic Advising webpage for information on adding/dropping courses, academic considerations for absences, appeals, exam conflicts, and many other academic-related matters: <https://www.uwo.ca/sci/advising/>

Students who are in emotional/mental distress should refer to Mental Health@Western (<https://uwo.ca/health/>) for a complete list of options about how to obtain help.

Western is committed to reducing incidents of gender-based and sexual violence and providing compassionate support to anyone who has gone through these traumatic events. If you have experienced sexual or gender-based violence (either recently or in the past), you will find information about support services for survivors, including emergency contacts at

https://www.uwo.ca/health/student_support/survivor_support/get-help.html.

To connect with a case manager or set up an appointment, please contact support@uwo.ca.

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 Accessible Education at

http://academicsupport.uwo.ca/accessible_education/index.html

if you have any questions regarding accommodations.

Learning-skills counsellors at Learning Development and Success (<https://learning.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.

Western University is committed to a thriving campus as we deliver our courses in the mixed model of both virtual and face-to-face formats. We encourage you to check out the Digital Student Experience website to manage your academics and well-being: <https://www.uwo.ca/se/digital/>.

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