Completely randomized designs, randomized complete and incomplete block designs, factorial and fractional factorial designs, Latin square designs, hierarchical designs, random and fixed effect models.

To become familiar with the use of different statistical experimental designs, and to be able to perform detailed statistical analyses in connection with standard designed experiments.

- 1. Introduction
- 2. Review of linear models
- 3. Completely randomized designs
- 4. Randomized complete and incomplete block designs
- 5. Latin square designs
- 6. Factorial and fractional factorial designs
- 7. Hierarchical designs
- 8. Random and fixed effect models

Classes begin: September 8 Reading Week: November 1 7 Classes end: December 8, 2021

In the event of a COVID-19 resurgence during the course that necessitates the course delivery moving away from face-to-face interaction, all remaining course content will be delivered entirely online synchronously (i.e., at the times indicated in the timetable). The grading scheme will change. Any remaining assessments will also be conducted online as determined by the course instructor.

## Textbook:

- 1. Design and Analysis of Experiments, by D. C. Montgomery, John Wiley
- 2. Statistics for Experimenters, Design, Innovation and Discovery, 2nd edition by George E. P. Box,
  - J. Stuart Hunter and William G. Hunter

Students are responsible for checking the course OWL site

The overall course grade will be calculated as listed below:

Students who experience an extenuating circumstance (illness, injury or other extenuating circumstance) sufficiently significant to temporarily render them unable to meet academic requirements may submit a request for academic consideration through the following routes:

- (i) Submitting a Self-Reported Absence (SRA) form provided that the conditions for submission are met. To be eligible for a Self-Reported Absence:
  - an absence must be no more than 48 hours

  - no more than two SRAs may be submitted during the Fall term across all the courses the student takes.
  - SRA is applicable to undergraduate students only
- (ii) For medical absences, submitting a Student Medical Certificate (SMC) signed by a licensed medical or mental health practitioner to the Academic Counselling office of their Faculty of Registration.
- (iii) Submitting appropriate documentation for non-medical absences to the Academic Counselling office in their Faculty of Registration.

Note that in all cases, students are required to contact their instructors within 24 hours of the end of the period covered. The student will get a confirmation from the instructor within 48 hours after receiving

Students should also note that individual instructors are not permitted to receive documentation directly from a student, whether in support of an application for consideration on medical grounds, or for other reasons.

For the policy on Academic Consideration for Student Absences Undergraduate Students in First Entry Programs, see:

https://www.uwo.ca/univsec/pdf/academic\_policies/appeals/accommodation\_illness.pdf and for the Student Medical Certificate (SMC), see:

http://www.uwo.ca/univsec/pdf/academic\_policies/appeals/medicalform.pdf.

When a course requirement conflicts with a religious holiday that requires an absence from the University or prohibits certain activities, students should reque51.28 .18 Tsy s

If you miss the Final Exam, please contact the

Learning-skills counsellors at the Student Development Centre (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.

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

Additional student-run support services are offered by the USC,