

Department of Surgery

Surgery 9200A – Research Statistics & Methods

COURSE INFORMATION

September 2026

Course Coordinator:	Dr. Joel Gagnier
Course Instructors:	Drs. J. Gagnier, K. Vogt, and L. Somerville
Course Time:	Fall
Course Weight:	0.5 credit
Course Delivery:	In person (Monday afternoons)

Enrollment Restrictions:

Enrollment in this course is restricted to graduate students in the MSc in Surgery program.

Course Description:

The purpose of this course is to provide statistical expertise pertaining to surgical research. Students in this course will be provided with an introduction to quantitative research methods and statistics in surgical research. The course will specifically address how to design a study, sample size calculation, regression, survival analysis and how to interpret and present research results.

Learning Objectives:

By the end of this course, students will be able to:

- 1) Recognize and correctly classify different types of data used in scientific research.
- 2) Perform basic statistical tests and correctly interpret the outputs of those tests.
- 3) Have a basic understanding and working knowledge of a statistical analysis software package.
- 4) Assess and select the appropriate statistical tests based on the types of data and analysis required.
- 5) Explain the importance of assumptions in statistical tests and when certain tests are not appropriate.
- 6) Communicate the results of statistical tests and data analysis in a clear, correct, and concise manner.

Course Administration:

The course begins on November 2, 2026, and concludes on December 7, 2026. Class sessions are held on Monday afternoons beginning at 4:00 PM **in person at Victoria Hospital, Room E2-128, or University Hospital, BLL-103 (Auditorium D)**. Please check the OWL Brightspace course site for class details.

This course is a mandatory requirement of the MSc in Surgery Program. Course session/lecture dates and topics can be found on pages 3 of this document.

Course Material/Resources:

Course material and assignments will be posted to OWL Brightspace:
<https://westernu.brightspace.com/d2l/home/198468>

Technical Requirements:

You will need a laptop or computer (**it is recommended you bring your laptop to the class sessions so you can work on the material with SPSS during the session**).

Course Evaluation:

For this course students will be graded as Pass/Fail. **To pass the course, you must attend at least 80% of the lectures and successfully pass the six assignments.** Participation at all sessions is expected and advanced notice must be given, supported by valid reason, if you cannot attend a session.

An assignment will be posted in OWL for sessions 1 to 6 and will be **due one week later**. Assignments will be graded as pass/fail.

Late Policy for Assignments:

Please note unless supported by valid reason, any assignment that is more than one week late will not be accepted and will be graded as fail.

Recommended Textbook:

Bland, J.M. (2015). *An Introduction to Medical Statistics*. Oxford University Press (available for purchase through [Amazon](#) and [Chapters](#) and accessible online through [Western Libraries](#)) ISBN 978-0-19-958992-0 (4th edition). The textbook readings are from this book.

Required Software:

Each student is required to purchase the student version of SPSS. SPSS will be used in class and is needed for all assignments. The program costs approximately \$80.00 and is in stock at

the Tech Hub located in the Dellelce Family Bookstore (lower level of UCC) or can be ordered online at the link below: <https://bookstore.uwo.ca/product/88000100026>

Suggested Reading:

Bhandari, M (2009). *Clinical Research for Surgeons*. This book is available to [access online](#) or with [inter-library loan](#) through Western Libraries.

Course Material & Course Notes:

Instructors will select relevant material to be read for each of the topic areas. If any additional material aside from the required textbook reading is needed it will be available in OWL one week prior to the lecture. If any additional material is provided during the lecture the material will be posted after the class on the OWL site for the course.

Lecture Topics 2026:

DATE	TIME/ LOCATION	SESSION NAME	INSTRUCTOR
November 2	In Person Class 4:00 PM, Room E2-128, VH	Introduction, Study Design & Outcome Measures	Dr. Kelly Vogt
November 9	In Person Class 4:00 PM, Room E2-128, VH	Statistical Tests & Interpretation	Dr. Kelly Vogt
November 16	In Person Class 4:00 PM, Room E2-128, VH	Survival Analysis	Dr. Lyndsay Somerville
November 23	In Person Class 4:00 PM, Room BLL-103 (Aud D), UH	Sample Size & Confounding	Dr. Joel Gagnier
November 30	In Person Class 4:00 PM, Room BLL-103 (Aud D), UH	Regression Analysis I	Dr. Joel Gagnier
December 7	In Person Class 4:00 PM, Room BLL-103 (Aud D), UH	Regression Analysis II	Dr. Joel Gagnier

Assignments

Assignment Number	Session Topic	Due Date
1	Study Design & Outcome Measures	November 9
2	Statistical Tests & Interpretation	November 16
3	Survival Analysis	November 23
4	Sample Size & Confounding	November 30
5	Regression Analysis 1	December 7
6	Regression Analysis 2	December 14

Course Instructor Contact Information:

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Statement on Academic Offences:

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_offences.pdf

Health / Wellness Services:

Students who are in emotional/mental distress should refer to [Mental Health Support at Western](#) (<https://www.uwo.ca/health/psych/index.html>) for a complete list of options about how to obtain help.

Accessible Education (AE):

Western is committed to achieving barrier-free accessibility for all its members, including graduate students. As part of this commitment, Western provides a variety of services devoted to promoting, advocating, and accommodating persons with disabilities in their respective graduate program. Graduate students with disabilities (for example, chronic illnesses, mental health conditions, mobility impairments) are strongly encouraged to register with Accessible Education (AE), a confidential service designed to support graduate and undergraduate students through their academic program. With the appropriate documentation, the student will work with both AE and their graduate programs (normally their Graduate Chair and/or Course instructor) to ensure that appropriate academic accommodations to program requirements are arranged. These accommodations may include individual counselling, alternative formatted literature, accessible campus transportation, learning strategy instruction, writing exams and assistive technology instruction. Please visit the [Accessible Education \(https://academicsupport.uwo.ca/accessible_education/index.html\)](https://academicsupport.uwo.ca/accessible_education/index.html) web page for more information.

Statement on Gender-Based and Sexual Violence

Western is committed to reducing incidents of gender-based and sexual violence (GBSV) and providing compassionate support to anyone who is going through or has gone through these traumatic events. If you are experiencing or have experienced GBSV (either recently or in the past), you will find information about support services for survivors, including emergency contacts on the [Wellness and Wellbeing website: https://www.uwo.ca/health/student_support/survivor_support/get-help.html](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.

Guidance for the use of Generative AI in Graduate Studies

Please refer to the Provisional Guidance for the use of Generative AI in Graduate Studies for more information. Further information is available at the [School of Graduate & Postdoctoral Studies website: https://grad.uwo.ca/about_us/policies_procedures_regulations/ai.html](https://grad.uwo.ca/about_us/policies_procedures_regulations/ai.html)