

Department of Epidemiology and Biostatistics

Biostatistics 3100A/9509A

Biostatistical Methods for Epidemiology/Principles of Biostatistics

Lecture:

Tuesday 10:30 am - 11:30 am
Thursday 10:30 am - 11:30 am

Instructor: Neil Klar
Office Hour: By appointment
E-mail: nklar@uwo.ca
Phone Extension: 86275

Lab:

Thursday 11:30 am-12:30 pm

Course Description

The purpose of this course is to introduce students to statistical methods used in epidemiology in particular, and medical research in general.

Course Information

Undergraduate Pre-requisites: Biology 2244A/B or Statistical Sciences 2244A/B, and Epidemiology 2200A/B, with a minimum mark of 75% in each.

Undergraduate Policy: 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.

Graduate Policy: Enrollment in this course is restricted to graduate students in the Department of Epidemiology and Biostatistics, as well as any student that has obtained special permission to enroll in this course from the course instructor as well as the Graduate Chair (or equivalent) from the student's home program.

Course Syllabus

Week	Date	Lecture Topic	Chapters
1	Sep 8	Introduction	1
2	Sep 13, 15	Summarizing data	2
3	Sep 20, 22	Probability and distributions	3
4	Sep 27, 29	Sampling and sampling distributions	4
5	Oct 4, 6	Inference for a single group: continuous outcome data	5
6	Oct 11, 13	Inference for two groups: continuous outcome data	6
7	Oct 18, 20	Inference for categorical data	7
8	Oct 25, 27	Comparing Risks in Two Populations	8

Week	Date	Lecture Topic	Chapters
	Oct 31 - Nov 6	Reading Week: No Classes/Labs	
9	Nov 8, 10	Analysis of Variance	9
10	Nov 15, 17	Correlation and Regression	10
11	Nov 22, 24	Logistic Regression	11
12	Nov 29, Dec 1	Nonparametric tests	12
13	Dec 6	Review	
	Dec 10-22	Final Exam Period	

Course Materials

Text: D'Agostino RB et al. Introductory Applied Biostatistics. United States: Thomson, Brooks/Cole, c2006.

Solutions Manual available as a course package from the UWO Bookstore. Lecture notes will be provided on the course WebCT.

Methods of Evaluation

- 30% - Assignments due at the Thursday lab
- 10% - One question quiz
- 20% - Midterm exam (October 20 during 11:30-12:30 lab)
- 40% - Final exam

Note that:

1. to pass the course, students must obtain a minimum of 50% on the final exam
2. if you miss an assignment or a one-question quiz without a valid documented reason (medical or bereavement), you will be assigned a grade of 0%.

Western Academic Policies and Statements

Absence from Course Commitments

Undergraduate Policy: [Policy on Academic Consideration for Student Absences](#)

If you are unable to meet a course requirement due to illness or other serious circumstances, you must seek approval for the absence as soon as possible. Approval can be granted either through a [self-reported absence or via the Academic Counselling unit](#). Students have two self-reports to use throughout the academic year; absence from course commitments including tests, quizzes, presentations, labs, and assignments that are worth 30% or less can be self-reported. Self-reported absences cover a student for 48 hours (yesterday + today or today + tomorrow). Your instructor will receive notification of your consideration; however, you should contact your instructor immediately regarding your absence. Students are expected to submit missed work within 24 hours of the end of the 48-hour period. Please review Western's [Academic Consideration for Student Absences](#) policy for more details.

If a student has used both self-reported absences or will miss more than 48 hours of course requirements, a Student Medical Certificate (SMC) should be signed by a licensed medical or mental health practitioner to be submitted to academic counselling (scibmsac@uwo.ca).

Graduate Policy: All non-medical absences must be approved in advance. In the case of an unexpected absence on compassionate grounds, documentation may be requested. If documentation is required for either medical or non-medical academic accommodation, then such documentation must be submitted by the student to the instructor.

Special Examinations (Undergraduate Policy)

A Special Examination is any examination other than the regular examination, and it may be offered only with the permission of the Dean of the Faculty in which the student is registered, in consultation with the instructor and Department Chair. Permission to write a Special Examination may be given on the basis of compassionate or medical grounds with appropriate supporting documents. To provide an opportunity for students to recover from the circumstances resulting in a Special Examination, the University has implemented Special Examinations dates. These dates as well as other important information about examinations and academic standing can be found [here](#).

Statement on Academic Offences

Undergraduate Policy: 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:

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

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The following policies apply to all students: All required papers may be subject to submission for textual similarity review to the commercial plagiarism detection software under license to the University for the detection of plagiarism. All papers submitted for such checking will be included as source documents in the reference database for the purpose of detecting plagiarism of papers subsequently submitted to the system. Use of the service is subject to the licensing agreement, currently between The University of Western Ontario and Turnitin.com (<http://www.turnitin.com>).

Computer-marked multiple-choice tests and/or exams may be subject to submission for similarity review by software that will check for unusual coincidences in answer patterns that may indicate cheating.

Support Services

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/>.

- Registrarial Services: <http://www.registrar.uwo.ca>
- USC Student Support Services: <http://westernusc.ca/services/>
- Academic Support and Engagement: <http://academicsupport.uwo.ca/>
- SGPS Life & Community web page: https://grad.uwo.ca/life_community/self/index.html

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 or Undergraduate Chair), or other relevant administrators in their unit. Health and Wellness-related information and services are available at <https://www.uwo.ca/health/>.

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

Accessible Education Western (AEW)

Western is committed to achieving barrier-free accessibility for all its members. As part of this commitment, Western provides a variety of services devoted to promoting, advocating, and accommodating persons with disabilities in their respective program.

Students with disabilities (for example, chronic illnesses, mental health conditions, mobility impairments) are strongly encouraged to register with Accessible Education Western (AEW), a confidential service designed to support graduate and undergraduate students through their academic program. With the appropriate documentation, the student will work with both AEW and their programs (normally the Program Chair and/or Course Instructor) to ensure that appropriate academic accommodations to program requirements are arranged. These accommodations include individual counselling, alternative formatted literature, accessible campus transportation, learning strategy instruction, writing exams and assistive technology instruction. More information and access to services is available on the AEW website:

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

Department & Faculty Offices

The Department of Epidemiology and Biostatistics is located on the third floor of the Western Centre for Public Health & Family Medicine (PHFM) on Western University's Main Campus.

Undergraduate Students requiring academic counselling should contact the Science & Basic Medical Sciences Academic Counselling Office: <https://www.uwo.ca/sci/counselling/>.

Technology Requirements

You are responsible for all required course materials and announcements posted to the course's OWL website. Please ensure after the first class that when you log in you are able to access the course site. A copy of the course outline will be available on both OWL and the departmental website.