



Faculty of Arts
School of Languages, Linguistics, Literatures and Cultures

LING 660
Quantitative Modeling of Linguistic Data
Fall 2021
Online + Asynchronous

COURSE OUTLINE

INSTRUCTOR'S NAME: Stephen Winters

OFFICE HOURS: TuTh 10-11, via Zoom: <https://ucalgary.zoom.us/j/94618867543>

E-MAIL: swinters@ucalgary.ca

DESCRIPTION

This course is an introduction to basic statistical concepts, methods of analysis, and quantitative modeling techniques, with a focus on their application to the unique properties of language research and linguistic data.

OBJECTIVES

The objective of the course is to enable students of linguistics to develop the skills necessary to scientifically analyze the quantitative results of their own research.

OUTCOMES

Students will learn how to conduct statistical analysis and how to present data by working with a statistical software package called R. They will also become proficient in writing up the results of statistical analysis in several formal homework assignments throughout the semester. Grad students in Ling 660 will also prepare a short term paper (5-10 pages) in which they expand upon the knowledge and analytical skills developed in the course by applying a statistical method to a novel set of linguistic data, or by learning a new statistical method for analyzing linguistic data and teaching the basics of that method to the rest of the students in the class.

REQUIRED COURSE MATERIALS

Keith Johnson (2008), *Quantitative Methods in Linguistics*. Malden, MA: Blackwell Publishing.

RECOMMENDED COURSE MATERIALS

Natalia Levshina (2015), *How to do Linguistics with R: Data exploration and statistical analysis*. Amsterdam: John Benjamins Publishing Company.

David S. Moore, George P. McCabe and Bruce A. Craig (2017), *Introduction to the Practice of Statistics*, 9th ed. New York: W.H. Freeman and Company.



Faculty of Arts

School of Languages, Linguistics, Literatures and Cultures

COURSE NOTES

Lectures and Class Meetings: The material for this course will be delivered asynchronously. The lectures for the course will be videorecorded and posted to YouTube; links for these videos will be provided to students throughout the semester--along with links to the corresponding lecture notes--on the course web page listed below.

Course Web Page: uofclinguistics.org/lingstats/

Links to all of the lecture videos will be posted to the course web page listed above. All lecture notes, handouts and homework exercises—along with updated versions of this syllabus—will be posted to this course website, as well. I will also be posting some materials (mostly lecture notes) to the D2L site for this course. You may check your grades through a link on the course web page throughout the semester, as well. Please check these sites on a regular basis if you are interested in having access to these materials.

ASSESSMENT

Your course grade will be based on your performance on homework exercises and a final project.

Homework (75% of final grade) will consist primarily of exercises in which you will apply statistical analysis methods to linguistic data. Students enrolled in Ling 660 will be expected to answer fundamental comprehension questions about the statistical concepts used in each homework exercise. It is acceptable to work with other students on the homework exercises, as long as you make it clear who you have worked with, when you turn in your assignment. Also remember that you must write up your answers to all homework exercises independently--don't just copy what somebody else has already written down. Your lowest homework score over the semester will be dropped when calculating your final grade. Late homeworks will only be accepted in cases of personal medical or family emergencies.

Final Project. (25% of final grade) In addition to the homeworks, students enrolled in Ling 660 will be required to write a short term paper (~5 pages) that expands upon the knowledge and analytical skills developed in this course. The paper can cover one of a variety of topics. For instance, students can (1) investigate a statistical method that is not explicitly covered in the lectures for the course, and learn more about how it has been applied to linguistics research. Alternatively, a student could (2) apply the techniques learned over the semester to an independent statistical analysis of a set of original, language-based data. Also, a student could (3) learn how to work with an R module that we have not used during the semester, and then lead the class through a tutorial on how to use that feature of R.

I am also open to other ideas for final term projects; please see me if you have an idea that you think would be suitable. More details on the expectations for this project will be provided as we proceed through the term.



UNIVERSITY OF
CALGARY

Faculty of Arts

School of Languages, Linguistics, Literatures and Cultures

Technology Requirements. In order to successfully engage in their learning experience for Linguistics 201, students taking this course will need to have reliable access to the following technology:

- A computer with a supported operating system, as well as the latest security, and malware updates;
- A current and updated web browser;
- Webcam/Camera (built-in or external);
- Microphone and speaker (built-in or external), or headset with microphone;
- Current antivirus and/or firewall software enabled;
- Stable internet connection

Most current laptops and computers have a built-in webcam, speaker and microphone.

Students are required to download R and install it on a computer for personal use. R is open-source and is freely available for a variety of computing platforms here: <http://www.r-project.org/>

GRADING SCALE

The grading scale for the course will be as follows:

$98\% \leq A+$	$78 \leq C+ < 80$
$92 \leq A < 98$	$72 \leq C < 78$
$90 \leq A- < 92$	$70 \leq C- < 72$
$88 \leq B+ < 90$	$68 \leq D+ < 70$
$82 \leq B < 88$	$60 \leq D < 68$
$80 \leq B- < 82$	$F < 60$

Please note that I do not round up in calculating final grades.

INTEGRITY AND CONDUCT

All members of the University community have a responsibility to familiarize themselves with the Statement on Principles of Conduct, and to comply with the University of Calgary Code of Conduct and Non-Academic Misconduct policy and procedures (available at: <http://www.ucalgary.ca/pubs/calendar/current/k.html>).

Academic misconduct

Academic Misconduct refers to student behavior which compromises proper assessment of a student's academic activities and includes: cheating; fabrication; falsification; plagiarism; unauthorized assistance; failure to comply with an instructor's expectations regarding conduct required of students completing academic assessments in their courses; and failure to comply with exam regulations applied by the Registrar.

For information on the Student Academic Misconduct Policy and Procedure please visit: <https://ucalgary.ca/policies/files/policies/student-academic-misconduct-policy.pdf>, and <https://ucalgary.ca/policies/files/policies/student-academic-misconduct-procedure.pdf>

Additional information is available on the Academic Integrity Website at <https://ucalgary.ca/student-services/student-success/learning/academic-integrity>



Faculty of Arts

School of Languages, Linguistics, Literatures and Cultures

INTELLECTUAL PROPERTY AND COPYRIGHT LEGISLATION

Course materials created by instructors (including presentations and posted notes, labs, case studies, assignments and exams) remain the intellectual property of the instructor. These materials may not be reproduced, redistributed or copied without the explicit consent of the instructor. All students are required to read the University of Calgary policy on Acceptable Use of Material Protected by Copyright (<https://www.ucalgary.ca/policies/files/policies/acceptable-use-of-material-protected-by-copyright.pdf>) and requirements of the Copyright Act (<https://laws-lois.justice.gc.ca/eng/acts/C-42/index.html>) to ensure they are aware of the consequences of unauthorised sharing of course materials (including instructor notes, electronic versions of textbooks etc.). Students who use material protected by copyright in violation of this policy may be disciplined under the Non-Academic Misconduct Policy.

FREEDOM OF INFORMATION AND PRIVACY (FOIP) ACT

Graded assignments will be retained by the Department for three months and subsequently sent for confidential shredding. Final examinations will be kept for one calendar year and subsequently sent for confidential shredding. Said material is exclusively available to the student and to the department staff requiring to examine it. Please see <https://www.ucalgary.ca/legalservices/foip> for complete information on the disclosure of personal records.

ACADEMIC ACCOMMODATIONS

It is the student's responsibility to request academic accommodations according to the University policies and procedures listed below. The student accommodation policy can be found at: <https://ucalgary.ca/student-services/access/prospective-students/academic-accommodations>.

Students needing an Accommodation because of a Disability or medical condition should communicate this need to Student Accessibility Services in accordance with the Procedure for Accommodations for Students with Disabilities (<https://www.ucalgary.ca/policies/files/policies/procedure-for-accommodations-for-students-with-disabilities.pdf>.)

Students needing an Accommodation in relation to their coursework or to fulfil requirements for a graduate degree, based on a Protected Ground other than Disability, should communicate this need, preferably in writing, to their Instructor or the Department Head/Dean or to the designated contact person in their Faculty.

FACULTY OF ARTS PROGRAM ADVISING AND STUDENT INFORMATION RESOURCES

Have a question, but not sure where to start?

The Arts Students' Centre is the overall headquarters for undergraduate programs in the Faculty of Arts. The key objective of this office is to connect students with whatever academic assistance they may require.

In addition to housing the Associate Dean (Undergraduate Programs and Student Affairs) and the Associate Dean (Teaching, Learning & Student Engagement), the Arts Students' Centre is the specific home to:

- Program advising
- Co-op Education Program
- Arts and Science Honours Academy
- Student Help Desk

Location: Social Sciences Room 102

Phone: 403-220-3580

Email: ascarts@ucalgary.ca

Website: arts.ucalgary.ca/undergraduate.

For registration (add/drop/swap), paying fees and assistance with your Student Centre, contact Enrolment Services at 403-210-ROCK [7625] or visit them at the MacKimmie Block.

Contacts for the Students' Union Representative for the Faculty of Arts: arts1@su.ucalgary.ca, arts2@su.ucalgary.ca, arts3@su.ucalgary.ca, arts4@su.ucalgary.ca.



Faculty of Arts

School of Languages, Linguistics, Literatures and Cultures

INTERNET AND ELECTRONIC COMMUNICATION DEVICES

Devices such as laptops, palmtops and smartbooks are allowed provided that they are used exclusively for instructional purposes and do not cause disruption to the instructor and to fellow students. Cellular telephones, blackberries and other mobile communication tools are not permitted and must be switched off.

SUPPORT AND RESOURCES

Links to information that is not course-specific related to student wellness and safety resources can be found on the Office of the Registrar's website: <https://www.ucalgary.ca/registrar/registration/course-outlines>.