

COURSE OUTLINES

SS2864 A – Statistical Programming Fall 2020

1. Course Information

This course will be offered online Synchronously.

Lecture hours: Tuesday 8:30am-10:30am; Thursday 8:30am-9:30am

Tutorial Hours: Thursday 9:30 AM-10:30 AM online

Classes Start	Reading Week	Classes End	Study day(s)	Exam Period
September 9	November 2 - 8	December 9	December 10	December 11 - 22

* November 12, 2020: Last day to drop a first-term half course or a first-term full course without penalty

Prerequisite Requirements

A minimum mark of 60% in [Statistical Sciences 2857A/B](#) (or the former Statistical Sciences 2657A/B) or a minimum mark of 70% in one of [Statistical Sciences 2035](#), [Statistical Sciences 2141A/B](#), [Statistical Sciences 2143A/B](#), [Statistical Sciences 2244A/B](#), [Biology 2244A/B](#), [Economics 2222A/B](#), [MOS 2242A/B](#), [Psychology 2810](#); and enrollment in a module offered by the departments of Applied Mathematics; Mathematics; and Statistical and Actuarial Sciences.

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.

Pre-or Corequisite(s): [Statistical Sciences 2858A/B](#) for those using Statistical Sciences 2857A to meet the prerequisites.

Technical Requirements

Since the course is offered online, students will need stable internet connection and a computer with working microphone and webcam. Due to the nature of the materials of the course, each student needs a computer (desktop or laptop) with the latest version of R and R Studio installed.

2. Instructor Information

Instructor: Jiandong Ren

Office: WSC 219

Email: jren6@uwo.ca

Phone: 519-661-2111, Ext 88209

Office hours: Tue 2-3:30pm, Thu 2-3:30pm. Conducted through ZOOM

3. Course Materials

Topics covered

1. Elementary statistical data management.
2. Elementary statistical graphics.
3. R programming.
4. Simulation.

Reference books

- (1) The basics of S-Plus 4th ed. By Andreas Klause and Melvin Olson. Springer. The textbook can be downloaded from Western Library.
- (2) R for Data Science (2016), by Hadley Wickham and Garrett Grolemund, O'Reilly Media, 1st Edition. The book is available at <https://r4ds.had.co.nz/>
- (3) Braun and Murdoch (2016) A First Course in Statistical Programming with R, Cambridge University Press. 2nd Edition. The textbook can be downloaded from Western Library
- (4) An Introduction to R Version 4.0.2. Available online at www.r-project.org.

Course Website

Students should check OWL (<http://owl.uwo.ca>) on a regular basis for news and updates. This is the primary method by which information will be disseminated to all students in the class. Students are responsible for checking OWL on a regular basis.

All course material will be posted to OWL: <http://owl.uwo.ca>. Any changes will be indicated on the OWL site and discussed with the class.

If students need assistance, they can seek support on the [OWL Help page](#). Alternatively, they can contact the [Western Technology Services Helpdesk](#). They can be contacted by phone at 519-661-3800 or ext. 83800.

[Google Chrome](#) or [Mozilla Firefox](#) are the preferred browsers to optimally use OWL; update your browsers frequently. Students interested in evaluating their internet speed, please click [here](#).

4. Methods of Evaluation

Assignments

There will be three assignments, which students need to finish independently and submit before due time.

Group Project

There will be a group project, which students in group of 4 need to complete. In the project, students may learn a R package of interest or identify a dataset and perform elementary data analysis. The project will be evaluated by a 12-minutes group presentation. The group presentations will be conducted online through ZOOM.

Individual Project

There will be an individual project, which students are required to complete individually. The format of this individual project could be similar to the group project, however the materials have to be significantly different. Students are expected to demonstrate the ability to learn and apply techniques related to those covered in class or R packages of their interests independently. The project will be evaluated by a term project report (5 to 10 pages) due at the final exam date.

Midterms or Tests

One 110-minute midterm (open book) test will be given on October 20 during regular class time.

Please note that the registrar's office may require us to change the midterm time to ensure that capacity for proctored online exams is not exceeded.

Final Exam

There will be an open-book final exam. The date and time for the 3-hour final exam will be announced by the registrar's office, usually near the first part of November. Students are required to wait until the final exam schedule is posted before making arrangements for travel over the Christmas period. Exams will NOT be moved to accommodate students who ignore this requirement.

The overall course grade will be calculated as listed below:

Assignments	15%
Midterm Exam	20%
Group Project	15%
Individual Project	15%
Final Exam	35%

Format of the midterm and final exam

Both the midterm and the final will be open book. Students are required to complete the test using R-Markdown, compile it and submit the compiled pdf/word/html file.

Tests and examinations in this course will be conducted using Zoom. You will be required to keep your camera on for the entire session, hold up your student card for identification purposes, and share your screen with the invigilator if asked to do so at any time during the exam. The exam session will **not** be recorded.*

More information about the use of Zoom for exam invigilation is available in the Online Proctoring Guidelines at the following link:

<https://www.uwo.ca/univsec/pdf/onlineproctorguidelines.pdf>

Completion of this course will require you to have a reliable internet connection and a device that meets the system requirements for Zoom. Information about the system requirements are available at the following link:

<https://support.zoom.us/hc/en-us>

Please note that Zoom servers are located outside Canada. If you would prefer to use only your first name or a nickname to login to Zoom, please provide this information to the instructor in advance of the test or examination.

5. Accommodated Evaluations

Missed Midterm or Test: The policy of the department of Statistical and Actuarial Sciences is that there will be no make-up exams for a missed midterm. For those that do legitimately miss a midterm and provide the required supporting documentation, the standard practice will be that the weight of the midterm will be reassigned to the final exam. If your reason is not deemed valid, then you will receive a mark of 0.

If you miss the Final Exam, please contact your faculty's Academic Counselling Office as soon as you are able to do so. They will assess your eligibility to write the Special Exam (the name given by the university to a makeup Final Exam).

You may also be eligible to write the Special Exam if you are in a "Multiple Exam Situation" (see http://www.registrar.uwo.ca/examinations/exam_schedule.html).

Missed Assignment/Project report: Late assignment/project report with illness self-reports should be submitted within 24 hours of submission of the last illness self-report. Late assignment/project reports without illness self-report are NOT accepted.

Students who do not attend the group presentation without illness self-report will get a zero for the group project.

6. Accommodation and Accessibility

Accommodation Policies

Students with disabilities work with Accessible Education (formerly SSD) which provides recommendations for accommodation based on medical documentation or psychological and cognitive testing. The Academic Accommodation for Students with Disabilities policy can be found at:

[https://www.uwo.ca/univsec/pdf/academic_policies/appeals/Academic Accommodation_disabilities.pdf](https://www.uwo.ca/univsec/pdf/academic_policies/appeals/Academic_Accommodation_disabilities.pdf)

Academic Consideration for Student Absence

Students will have up to two (2) opportunities during the regular academic year to use an on-line portal to self-report an absence during the semester, provided the following conditions are met: the absence is no more than 48 hours in duration, and the assessment for which consideration is being sought is worth 30% or less of the student's final grade. Students are expected to contact their instructors within 24 hours of the end of the period of the self-reported absence, unless noted on the syllabus. Students are not able to use the self-reporting option in the following circumstances:

- for exams scheduled by the Office of the Registrar (e.g., December and April exams)
- absence of a duration greater than 48 hours,
- assessments worth more than 30% of the student's final grade,
- if a student has already used the self-reporting portal twice during the academic year

If the conditions for a Self-Reported Absence are *not* met, students will need to provide a Student Medical Certificate if the absence is medical, or provide appropriate documentation if there are compassionate grounds for the absence in question. Students are encouraged to contact their Faculty academic counselling office to obtain more information about the relevant documentation.

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. **All documentation required for absences that are not covered by the Self-Reported Absence Policy must be submitted to the Academic Counselling office of a student's Home Faculty.**

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

[https://www.uwo.ca/univsec/pdf/academic_policies/appeals/Academic Consideration for absences.pdf](https://www.uwo.ca/univsec/pdf/academic_policies/appeals/Academic_Consideration_for_absences.pdf)

and for the Student Medical Certificate (SMC), see:

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

Religious Accommodation

Students should consult the University's list of recognized religious holidays, and should give reasonable notice in writing, prior to the holiday, to the Instructor and an Academic Counsellor

if their course requirements will be affected by a religious observance. Additional information is given in the Western Multicultural Calendar:

<https://multiculturalcalendar.com/ecal/index.php?s=c-univwo>

You may also be eligible to write the Special Exam if you are in a “Multiple Exam Situation” (see http://www.registrar.uwo.ca/examinations/exam_schedule.html).

If a student fails to write a scheduled Special Examination, the date of the next Special Examination (if granted) normally will be the scheduled date for the final exam the next time this course is offered. The maximum course load for that term will be reduced by the credit of the course(s) for which the final examination has been deferred. See Academic Calendar for details (under [Special Examinations](#)).

7. Academic Policies

The website for Registrarial Services is <http://www.registrar.uwo.ca>.

In accordance with policy, <http://www.uwo.ca/its/identity/activatenonstudent.html>, 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 his/her official university address is attended to in a timely manner.

All of the remote learning sessions for this course will be recorded.

The data captured during these recordings may include your image, voice recordings, chat logs and personal identifiers (name displayed on the screen). The recordings will be used for educational purposes related to this course, including evaluations. The recordings may be disclosed to other individuals participating in the course for their private or group study purposes. Please contact the instructor if you have any concerns related to session recordings.

Participants in this course are not permitted to record the sessions, except where recording is an approved accommodation, or the participant has the prior written permission of the instructor.

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.

Attendance

Attendance in the online sessions is viewed as an important part of the learning process. Students are strongly encouraged to do so).

Conduct and Ethics for Candidates in the CIA Education System.

In addition to the university's internal policies on conduct, including academic misconduct, candidates pursuing credits for writing professional examinations shall also be subject to the Code of Conduct and Ethics for Candidates in the CIA Education System and the associated Policy on Conduct and Ethics for Candidates in the CIA Education System. For more information, please visit Obtaining UAP Credits and the CIA FAQ

8. Support Services

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 Services for Students with Disabilities (SSD) at 661-2111 ext. 82147 if you have questions regarding accommodation.

The policy on Accommodation for Students with Disabilities can be found here:

www.uwo.ca/univsec/pdf/academic_policies/appeals/accommodation_disabilities.pdf

The policy on Accommodation for Religious Holidays can be found here:

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

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/mental_health) for a complete list of options about how to obtain help.

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

Students must use their Western (@uwo.ca) email addresses when contacting their instructors. Email communication should only be used to provide them with information or to ask a question that requires a brief response. For more lengthy discussions and for discussions on lectures/course material please see your instructor during their scheduled office hours or by appointment. If you do email them, please use your UWO account, as these are often the only emails read (as emails sent from other addresses often get spammed).