

Syllabus for Math 3122
Fall 2020**1. Course Information**

Course Information Real Analysis 3122A, lectures meet MWF 9.30 – 10.30 AM (online via zoom), tutorial session is Thursdays 11.30 AM – 12.30 PM MC-110 (in person).

List of Prerequisites Mathematics 2122A/B or the former Mathematics 2123A/B, each with a minimum mark of 60%.

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.

2. Instructor Information

Instructors Prof. Rasul Shafikov, email: shafikov@uwo.ca; TA: Pranav Chakravarthy, email: pchakrav@uwo.ca

Students must use their Western (@uwo.ca) email addresses when contacting their instructors.

Office Hours Shafikov: via zoom Thursdays, 9 AM – 11 AM or by appointment. Chakravarthy: by appointment.

3. Course Syllabus, Schedule, Delivery Mode

Topics Differentiation and the Mean Value Theorem. Integration and the Fundamental Theorem of Calculus. Metric spaces, including topology, convergence, compactness, completeness, and connectedness. Uniform convergence of functions. Selected additional topics.

Delivery Mode Lectures will be given live via zoom during the regular hours. These lectures will be recorded and then posted on the OWL web page. Tutorials will be in-person. All the examples and other tutorial material will be posted on OWL in PDF format.

Key Sessional Dates

Classes begin: September 9 (First tutorial September 17)

Reading Week: November 2-8

Last day to drop a first-term half course or a first-term full course on campus and Distance Studies without academic penalty: November 12

Classes end: December 9

4. Course Materials

Textbook

1. Real Analysis: Foundations and Functions of One Variable, by Miklós Laczkovich, Vera T. Sós. There is a free download from the Western Library (login required):
https://ocul-uwo.primo.exlibrisgroup.com/permalink/01OCUL_UWO/1hdog6/alma991044362118605163
You will have to login to use the proxy server if you are off campus.
2. Metric Spaces, by Shirali and Vasudeva, Springer-Verlag, London, 2006. There is a free download from the Western Library: At
https://ocul-uwo.primo.exlibrisgroup.com/permalink/01OCUL_UWO/1hdog6/alma991039044409705163
You will have to login to use the proxy server if you are off campus.

Course page <https://owl.uwo.ca/portal/site/cc2e059b-29d6-4d9f-ba37-25d7e6e49e1d>

All course material will be posted to OWL.

Students should check this OWL 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.

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.

Technical Requirements Students are required to have stable and reliable internet connection, particularly during the online exams. Students should be able view view videos in .mp4 format. All assignments should be submitted as a single PDF file. This can be done using a tablet with a e-pencil/stylus, or written on paper and then scanned into a PDF using a scanner, a smart phone, or a tablet with a camera. Submitted PDF files should be of good quality with legible writing.

5. Methods of Evaluation

The overall course grade will be calculated as listed below:

Assignments (5)	29%
Midterm Exam 1	20%
Midterm Exam 2	20%
Final Exam	31%

Homework Homework will be assigned biweekly. Although some discussion of the course material, including homework, is encouraged, all assignments should be written individually. Assignments should be submitted through OWL as a single PDF file. This file can be produced

by scanning a hand-written assignment, or by using a tablet and a stylus, or by typesetting, e.g., using LaTeX.

Exams There will be 2 midterms on October 16 and November 20 pending approval by the Registrar. The Final Exam will be posted by the Registrar. The final exam is cumulative and will cover the material of the whole course.

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

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

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).

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.

Contingency plan for an in-person class pivoting to 100% online learning

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, either synchronously (i.e., at the times indicated in the timetable) or asynchronously (e.g., posted on OWL for students to view at their convenience). The grading scheme will **not** change. Any remaining assessments will also be conducted online as determined by the course instructor.

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.

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.

8. Support Services

Please visit the Science & Basic Medical Sciences Academic Counselling webpage for information on add/drop courses, academic considerations for absences, appeals, exam conflicts, and many other academic related matters: <https://www.uwo.ca/sci/counselling/>

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 Student Accessibility Services (SAS) at (519) 661-2147 if you have any questions regarding accommodations.

Western University is committed to a thriving campus as we deliver our courses in the mixed model of both virtual and face-to-face formats. We encourage you to check out the Digital Student Experience website to manage your academics and well-being: <https://www.uwo.ca/se/digital/>.

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>.