

Calculus 2502A - Advanced Calculus I

Fall 2021

This course outline is as of August 28. It may be updated later

- **Instructor:** Masoud Khalkhali, Professor of Mathematics, UWO
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Office: MC 137, Phone: 661-2111 x 86524.
Office hours: Fridays 12:30-1:30 PM, or by appointment.
Important: Please make sure to use your Western email address when contacting me. I cannot answer to other emails.
- **Lectures:** In person, MWF 1:30 - 2:20 PM. Classroom: NCB-114.
- **Textbook:** Multivariable Calculus 9th ed., by J. Stewart. (required). *Student solution manual is recommended.*
Note: older editions of Stewart are not compatible with the current edition 9.
- **Course Website:** The official website for the course is the course page on OWL. All information about this course including the course outline, assignments, exams, lectures, etc. will be posted only on OWL.
- **Teaching Assistant:** TBA
- **Help center:** TBA
- **Course Outline:** The course material corresponds to Chapters 12, 13, 14, and Sections 16.1 and 16.5 from your textbook. Quick review of vectors in space from Chapter 12, vector valued functions (Chapter 13), Differential calculus of functions of several variables: level curves and surfaces; limits; continuity; partial derivatives; total differentials; Jacobian matrix; chain rule; implicit functions; inverse functions; curvilinear coordinates; derivatives; the Laplacian; ; extrema; Lagrange multipliers; vector and scalar fields; divergence and curl (from Chapter 14 and Sections 16.1, 16.5 of Chapter 16).
- **Antirequisite(s):** Calculus 2302A/B.
- **Prerequisite(s):** A minimum mark of 60% in Calculus 1501A/B or Applied Mathematics 1413, or Calculus 1301A/B with a mark of at least 85%.

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):** Mathematics 1600A/B
- **WHAT IS EXPECTED OF THE STUDENT:**
Students are expected to attend all class meetings, review all learning materials in timely fashion, follow class announcements, complete all assignments and write all examinations. Solutions of collected homework problems must be written neatly, and handed in by the deadline.

Students are responsible for checking the course owl site (<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.

All course material will be posted to OWL: <http://owl.uwo.ca>.

If students need assistance with the course OWL site, 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.

- **ACCOMMODATED EVALUATIONS:** late homework will not be accepted. Please submit any time before the deadline. If there is a proper documentation for a missed assignment, then the homework component of the grade will be adjusted accordingly. In order to obtain a passing numerical course grade, a student must write a proctored assessment. If a student missed the midterm online test and accommodation is approved by academic counseling, then a make up test will be given.

- **Grading: Your course grade will be calculated as follows.**

Final exam: 40%

Midterm: 30%

Homework: 30%.

There are two tests: a midterm and a final. Dates will be posted on OWL. The final exam is cumulative and covers the entire semester.

Details for each exam will be announced as the date approaches. Your midterm will roughly cover Chapters 12 and 13 (this is unofficial and may change depending on circumstances). All exams will be closed book: notes or class material are not permitted. Calculators or other electronic devices (cell phones, ipads, tablets, etc.) are not permitted.

- **Homework: There will be 3 sets of homeworks. They will be announced via OWL. You will upload your assignments on gradscope.**

- **CONTINGENCY PLAN FOR AN IN-PERSON CLASS PIVOTING TO 100% ONLINE LEARNING:** In an event during the course that necessitates the course delivery moving away from face-to-face interaction, all remaining course content will be delivered entirely online. Any synchronous content will be delivered on zoom during the times indicated in the timetable. Any asynchronous content will be posted on the owl site. The grading scheme will not change. Any remaining assessments will also be conducted online as determined by the course instructor. For the online mode of course delivery the following technical requirements will be applicable: computer with a microphone and webcam, stable internet connection, a scanner or an alternative. Any remote learning sessions will not be recorded. Any online proctored assessments will not be recorded.

STUDENT ABSENCES: Academic Consideration for Student Absences. Students who experience an extenuating circumstance (illness, injury or other extenuating circumstance) sufficiently significant to temporarily render them unable to meet academic requirements may submit a request for academic consideration through the following routes:

(i) Submitting a Self-Reported Absence (SRA) form provided that the conditions for submission are met. To be eligible for a Self-Reported Absence:

- an absence must be no more than 48 hours
- the assessments must be worth no more than 30% of the students final grade
- no more than two SRAs may be submitted during the Fall/Winter term

(ii) For medical absences, submitting a Student Medical Certificate (SMC) signed by a licensed medical or mental health practitioner to the Academic Counselling office of their Faculty of Registration.

(iii) Submitting appropriate documentation for non-medical absences to the Academic Counselling office in their Faculty of Registration. Note that in all cases, students are required to contact their instructors within 24 hours of the end of the period covered, unless otherwise instructed in the course outline.

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.**

Observe that Self-Reported Absences may not be used to request accommodation for a missed midterm exam (or a missed final exam) in Calculus 2302A.

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

https://www.uwo.ca/univsec/pdf/academic_policies/appeals/accommodation_illness.pdf

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

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

RELIGIOUS ACCOMMODATION: When a course requirement conflicts with a religious holiday that requires an absence from the University or prohibits certain activities, students should request accommodation for their absence in writing at least two weeks prior to the holiday to the course instructor and/or the Academic Counselling office of their Faculty of Registration. Please consult University's list of recognized religious holidays (updated annually) at <https://multiculturalcalendar.com/ecal/index.php?s=c-univwo>.

ABSENCES FROM FINAL EXAMINATION: If you miss the Final Exam, please contact the Academic Counselling office of your Faculty of Registration as soon as you are able to do so. They will assess your eligibility to write the Special Examination (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 (e.g., more than 2 exams in 23-hour period, more than 3 exams in a 47-hour period).

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 the Academic Calendar for details (under Special Examinations).

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 policy on Academic Accommodation for Students with Disabilities can be found at:

https://www.uwo.ca/univsec/pdf/academic_policies/appeals/Academic_Accommodation_disabilities.pdf

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

In accordance with policy,

https://www.uwo.ca/univsec/pdf/policies_procedures/section1/mapp113.pdf

the centrally administered e-mail account provided to students will be considered the individuals 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.

No aids will be permitted on tests and exams. Electronic devices, including calculators, will not be permitted on in-person tests and exams. In case of pivoting to tests and exams administered on zoom, instructions for the use of electronic devices during the examination will be provided by the course 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

SUPPORT SERVICES: Please visit the Science and Basic Medical Sciences Academic Counselling webpage for information on adding/dropping 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 Accessible Education 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/mentalhealth>) 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>