

Western University
Calculus 1301A sec. 001
Calculus II
Course Outline for Summer 2022



Although this academic year might be different, Western University is committed to a thriving campus. We encourage you to check out the [Digital Student Experience](#) website to manage your academics and wellbeing. Additionally, the following link provides available resources to support students on and off-campus: <https://www.uwo.ca/health/>.

1. Technical Requirements:

Calculus 1301A takes place entirely online and therefore it is essential that each student has access to the technology that will be used to deliver the course, including:

- Laptop or computer
- Stable internet connection
- Working microphone
- Working webcam
- Device for scanning (either a scanner or an application that can be used in conjunction with your device's camera).

2. Course Overview and Important Dates:

Classes Start	Classes End	Exam Period
July 04	August 12	After August 13



Delivery Mode	Dates	Time
Lessons and Tutorials: Synchronous and asynchronous sessions via Zoom	M Tu W Th F	11:00 AM - 1:00 PM

Office Hours: Online via Zoom. The details will be posted on OWL.



Instructor	Contact Information
Dr. Zinovi Krougly	zkrougly@uwo.ca
Teaching Assistants	
Artem Troshkov	atrosenko@uwo.ca
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Students can arrange Zoom appointments.

3. Contact Information

Emails: Any email sent MUST say Calc 1301A (section 001) in the subject line. The email must also be sent from the UWO email account. Any email without this, and/or any email sent from a non-UWO email address, could be blocked by a spam filter, or otherwise be deleted unread.

4. Course Description and Design

Required Textbook:

Calculus: Volume 2, by Gilbert Strang and Edwin "Jed" Herman (OpenStax,2016) –
Access for free at
<https://openstax.org/details/books/calculus-volume-2>

Optional

Single Variable Calculus: Early Transcendentals, 9th edition, by J. Stewart, D. Clegg, and S. Watson. This is another text sometimes used for first-year calculus. While it is not required to get access to this text, some students may benefit from additional resources

Course Website: <http://owl.uwo.ca>

This course continues from Calculus 1000A/B and 1100A/B.
We will cover selected topics from chapters 3-7 of Calculus Volume 2:
arc length, techniques of integration (integration by parts, partial fractions, special substitutions, etc.); series, Taylor series, parametric curves, arc length, first-order differential equations with applications. See the list of suggested Exercises on our OWL page for more details.

Textbook Chapters:

Selected topics from chapters 3-7 of the textbook.

Antirequisite(s): CALC 1501A/B, Applied Mathematics 1413.

Prerequisites: A total mark of at least 55% in Calculus 1000A/B or 1500A/B
or the former 1100A/B

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.

5. Learning Outcomes

General learning objectives:

- Techniques of integration, integration by parts, trigonometric integrals
- Trigonometric substitution, partial fraction decomposition, improper integrals
- Infinite sequences and series, tests and convergence of series
- Parametric equations and polar coordinates
- Differential equations, separable and linear differential equations

Specific learning objectives:

- Applications of integration, areas and arc lengths
- Power series, Taylor and Maclaurin series
- Area and length in polar coordinates
- Applications in differential equations, models of population growth
- First order differential equations with applications.

6. Tentative Course Content Schedule

Week	Dates	Topics	Textbook Sections
1	July 4 - 8	3.1 Integration by Parts 3.2 Trigonometric Integrals 3.3 Trigonometric Substitution 3.4 Partial Fraction	3.1, 3.2, 3.3, 3.4
2	July 11 - 15	3.5 Strategy for Integration 3.7 Improper Integral 5.1 Sequences 5.2 Infinite Series 5.3.1 Use the divergence test to determine whether a series converges or diverges 5.3.2 Use the integral test to determine the convergence of a series	3.5.1, 3.7, omit 3.5.2 and 3.6, 5.1, 5.2, 5.3.1, 5.3.2 Omit 5.3.3
3	July 18 - 22	5.4 Comparison Test 5.5 Alternating Series 5.6 Ratio and Root Tests 6.1 Power series and Functions 6.2 Properties of Power Series	5.4, 5.5, 5.6 6.1, 6.2, start 6.3 Midterm, Friday, July 22, 7:00 – 9:00 PM, covering up to and including 5.3.2
4	July 25 - 29	6.3. Taylor and Maclaurin Series 6.4.1 Write the terms of the binomial series 6.4.2 Recognize the Taylor series expansions of common functions. 6.4.3 Recognize and apply techniques to find the Taylor series for a function.	6.3, 6.4.1, 6.4.2, 6.4.3 Omit 6.4.4, 6.4.5
5	August 2 - 5	7.1 Parametric equations 7.2.1 Determine derivatives and equations of tangents for parametric curves. 2.4.1 Determine the length of a curve $y=f(x)$, between two points. 2.4.2 Determine the length of a curve $x=g(y)$, between two points 7.3 Polar Coordinates 7.4 Areas and Arc Length in Polar Coordinates	7.1, 7.2.1, 2.4.1, 2.4.2 In 7.2, areas and surface areas are not covered 7.3, 7.4
6	August 8 - 12	4.1 Basics of Differential Equations 4.3 Separable Equations 4.5 First-order Linear Equations	4.1, 4.3, 4.5, and review August 12: Last day of classes
	After August 13		Final Examination, TBA

Minor adjustments to the above plan may be made as the course progresses.

Other Important Dates:

Classes begin July 4, 2022.

Civic Holiday: August 1, 2022.

Classes end on August 12, 2022.

Study Day: August 13, 2022.

Exam Period: after August 13, 2022.

7. Evaluation

Assessment	Format	Weighting	Date
Assignments	Online, asynchronous	Equally weighted assignments totaling 15% of the final mark	Weekly, 5 assignments in total
Midterm	Online, Proctortrack	35%	Friday, July 22, 7:00 - 9:00 PM
Final exam	Online, Proctortrack	50%	TBA

Assignments

Students do the assignments on OWL, Tests & Quizzes. There are 5 assignments.

- Assignment 1: released 9:00 AM, July 6-due 9:00 AM, July 13, 2022, covers week 1
- Assignment 2: released 9:00 AM, July 13-due 9:00 AM, July 20, 2022, covers week 2
- Assignment 3: released 9:00 AM, July 20-due 9:00 AM, July 27, 2022, covers week 3
- Assignment 4: released 9:00 AM, July 27-due 9:00 AM, August 3, 2022, covers week 4
- Assignment 5: released 9:00 AM, August 3-due 9:00 AM, August 10, 2022, covers week 5

Midterm

The Midterm will take place on Friday, July 22, 2022, 7:00 - 9:00 PM, and will be administered online through OWL. The midterm may consist of a mixture of short-answer and multiple-choice questions. This is a closed-book test.

Final Exam

The date and time of the Final Exam will be determined by the Registrar's Office. The Final exam will be administered online through OWL, takes 3 hours, will be cumulative, and may consist of a mixture of short-answer and multiple-choice questions. This is a closed-book test.

Accommodated Evaluations.

Missing a quiz, term test, the final exam, or the due date of a submitted homework assessment will result in a grade of zero unless appropriate permission is sought and granted (see section 8). In the case of homework assignments, your mark will be re-weighted to exclude the missed assessment. Likewise, if you miss the quiz (and have appropriate permission), your mark will be re-weighted. In the case of a missed term test, a makeup test will be arranged. If you miss a term test and the corresponding makeup test and have the appropriate permission for both, then the final exam will be re-weighted to include the weight of the missed term test.

Proctortrack

Examinations in this course will be conducted using the remote proctoring service, Proctortrack. By taking this course, you are consenting to the use of this software and acknowledge that you will be required to provide personal information (including some biometric data) and the session will be recorded. More information about this remote proctoring service is available in the Online Proctoring Guidelines at <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 technical requirements for this service. Information about the technical requirements is available at

<https://www.proctortrack.com/tech-requirements>.

Communication

A weekly update will be provided on the OWL announcements Emails will be monitored daily; students will receive a response within 24 - 48 hours

8. 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: 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:

- (1) 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 student's final grade
 - no more than two SRAs may be submitted during the Fall/Winter term
- (2) For medical absences, submit a Student Medical Certificate (SMC) signed by a licensed medical or mental health practitioner to the Academic Counselling office of their Faculty of Registration.
- (3) 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.**

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.

Absences from Final Examinations. 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 a 23-hour period, more than 3 exams in a 47-hour period).

9. Accommodation and Accessibility

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 Western University Policy on Academic Accommodation for Students with Disabilities.

10. Professionalism & Privacy:

Western students are expected to follow the [Student Code of Conduct](#). Additionally, the following expectations and professional conduct apply to this course:

Students are expected to follow online etiquette expectations provided on OWL

All course materials created by the instructor(s) are copyrighted and cannot be sold/shared

Recordings are not permitted (audio or video) without explicit permission

Permitted recordings are not to be distributed

Students will be expected to take an academic integrity pledge before some assessments

All recorded sessions will remain within the course site or unlisted if streamed

11. What is expected of the students?

Students are responsible for learning the material presented in lectures, for learning how to solve the recommended practice problems, and for demonstrating that learning on exams, quizzes, and/or assignments. For each hour of lecture, an average student should spend about 2 hours studying the material at home. This includes reading the relevant sections of the textbook and, above all, doing the exercises at the end of each section. Do as many of them as necessary to feel comfortable with the material. This course covers a lot of material and is cumulative, so it will be necessary to work regularly throughout the term to do well.

12. SENATE POLICY ON PREREQUISITES:

Prerequisite checking is the **student's responsibility**. Unless you have the prerequisites for this course or written special permission from the Dean to enroll in it, you may be removed from this course and it will be deleted from your record. This decision cannot be appealed. You will receive no adjustment to your fees if you are dropped from a course for failing to have the prerequisites.

SUPPORT SERVICES

Office of the Registrar:
UWO <http://www.registrar.uwo.ca>

Student Development Services	http://www.sdc.uwo.ca
Learning Skills Services USC	http://www.sds.uwo.ca/learning
Student Development Services	http://westernusc.ca/services
Academic Calendar	http://www.sdc.uwo.ca
ITS	http://www.westerncalendar.uwo.ca
	http://uwo.ca/its/helpdesk