

**Western University**  
**Calculus 1301A sec. 001**  
**Calculus II**  
**Course Outline for Summer 2021**



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 well-being. 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 05	August 13	After August 13



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

**Office Hours:** Online via Zoom. The details will be posted on OWL. Student can arrange Zoom appointments.

**3. Contact Information**



Instructor	Contact Information
Dr. Zinovi Krougly	zkrougly@uwo.ca
Teaching Assistant	
Mahmood Mazarei	mmazare@uwo.ca

**Emails:** Any email sent MUST say Calc 1301A (section 001) in the subject line. The email must also be sent from 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:

- Single Variable Calculus: Early Transcendentals, 9th edition, by J. Stewart, D. Clegg, and S. Watson.

### Optional:

- Lecture Notes for Calculus Volume 2, by R. N. Bryan (Custom Course Materials).
- Midterm Tests and Final Exams for Calculus 1301B, by R. N. Bryan (Custom Course Materials).

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

This course continues from Calculus 1000A/B and 1100A/B. We will cover selected topics from Chapters 7-11 of the textbook: 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 **Recommended Practice Problems** for more details.

### Textbook Chapters:

Selected topics from Chapters 7-11 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

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. Course Content and Schedule

Week	Dates	Topic	Text Reference Sections
1	July 5 – 9	Integration by Parts, Trigonometric Identities, Trigonometric Substitution, Integration of Rational Functions by Partial Fractions	7.1, 7.2, 7.3, 7.4.
2	July 12 – 16	Strategy for Integration, Improper Integrals, Sequences, Series, The Integral Test and Estimates of Sums	7.5, 7.8, 11.1, 11.2, 11.3.
3	July 19 – 23	The Comparison Tests, Alternating Series and Absolute Convergence, The Ratio and Root Tests, Power Series, Representations of Functions as Power Series	11.4, 11.5, 11.6, 11.8, 11.9 Midterm, Friday, July 23, 7:00 - 9:00 PM, Covers up to 11.3 included.
4	July 26 - 29	Taylor and Maclaurin Series, Arc Length	11.10, 8.1.
5	Aug 2 - 6	Curves Defined by Parametric Equations, Calculus with Parametric Curves, Polar Coordinates, Calculus in Polar Coordinates	August 2 Civic Holiday 10.1, 10.2, 10.3, 10.4.
6	Aug 9 - 13	Modeling with Differential Equations, Direction Fields and Euler's Method, Separable Equations, Linear Equations	9.1, 9.2, 9.3, 9.5 Friday, August 13, Classes end.
	After Aug 13		Final Examination, TBA.

## 7. Evaluation

Assessment	Format	Weighting	Date
Assignments	Online, asynchronous	Equally weighted assignments totaling 12% of the final mark	Weekly, 5 assignments in total, 4 best will be used in the calculation of the final mark
Midterm	Online, synchronous	38%	Friday, July 23, 7:00 – 9:00 PM
Final exam	Online, synchronous	50%	TBA

### Notes:

#### Assignments

- Students do the assignments on OWL, Tests and Quizzes.
- There are 5 assignments. Best 4 out of 5 will be used in the calculation of the final mark.
- Assignment 1: released July 7-due July 13, 2021, covers 7.1, 7.2, 7.3, 7.4.

- Assignment 2: released July 14-due July 20, 2021, covers 7.5, 7.8, 11.1, 11.2, 11.3.
- Assignment 3: released July 21-due July 27, 2021, covers 11.4, 11.5, 11.6, 11.8, 11.9.
- Assignment 4: released July 28-due August 3, 2021, covers 11.10, 8.1.
- Assignment 5: released August 4-due August 10, 2021, covers 10.1, 10.2, 10.3, 10.4.

### **Midterm**

The Midterm will take place on Friday, July 23, 2021, 7:00 – 9:00 PM and will be administered online through OWL. The midterm will consist of a mixture of short-answer and multiple choice questions. Details about procedure will be provided through OWL announcements.

### **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 will consist of a mixture of short-answer and multiple choice questions. Details about procedure will be provided through OWL announcements.

## **9. Communication:**

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

## **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 student:**

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.

### STATEMENT ON ACADEMIC OFFENCES:

Scholastic offences are taken seriously, 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](http://www.uwo.ca/univsec/pdf/academic_policies/appeals/scholastic_discipline_undergrad.pdf)

Computer-marked multiple-choice tests and/or exams may be subject to submission for similarity review by software that will check for unusual coincidences in answer patterns that may indicate cheating.

### ABSENCE / MISSED WORK:

If you are unable to meet a course requirement due to illness or other serious circumstances, you must provide valid medical or other supporting documentation *to your Dean's Office as soon as possible* and contact *your instructor*. It is the student's responsibility to make alternative arrangements with his or her instructor once the accommodation has been approved and the instructor has been informed. In the event of a missed final exam, a "Recommendation of Special Examination" form must be obtained from the Dean's Office immediately. For information concerning UWO's Policy on Accommodation for Medical Illness please refer to this policy at: [http://www.uwo.ca/univsec/pdf/academic\\_policies/appeals/accommodation\\_medical.pdf](http://www.uwo.ca/univsec/pdf/academic_policies/appeals/accommodation_medical.pdf).

### SUPPORT SERVICES

Office of the Registrar:

UWO <http://www.registrar.uwo.ca>

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