

THE UNIVERSITY OF WESTERN ONTARIO  
LONDON CANADA  
DEPARTMENT OF MATHEMATICS

**Mathematics 0110A – Sections 001, 550, 570**  
**Introductory Calculus**

September - December 2019

**Mathematics 0110A co-coordinators:** V. Olds ([volds@uwo.ca](mailto:volds@uwo.ca)) and J. Turnbull ([jturnbu7@uwo.ca](mailto:jturnbu7@uwo.ca))

Section	Instructor	Class Day/Time	Class Location	Email
001	A. Tomberg	TuTh 7:00 – 9:00 PM	Main B&G 0165	<a href="mailto:atomberg@uwo.ca">atomberg@uwo.ca</a>
550	M. Mollahajiaghaei	MTWF 1:30 - 2:30	Huron V207	<a href="mailto:mmollaha@uwo.ca">mmollaha@uwo.ca</a>
570	J. Turnbull	TuTh 10:30 - 12:30	King's SA151	<a href="mailto:jturnbu7@uwo.ca">jturnbu7@uwo.ca</a>

**Office location and office hours for each instructor will be posted to OWL.**

**TEXTBOOK:** *Custom package (text and student solutions manual).*  
*Introductory Calculus: Math 0110A/B. ISBN 0176849491.*

**WHAT IS EXPECTED OF THE STUDENT?**

- working knowledge of, and any needed review of, all relevant pre-Calculus concepts; this includes:
  - factoring, expanding (including factoring quadratics, collecting like terms, FOIL, etc)
  - add, subtract, multiply, divide (including with fractions)
  - knowing how the 'number line' works and how to plot (x,y) coordinates on a graph
  - knowing how to solve for x in linear expressions like  $2(3 + 2x) = 7 + 3(x - 1)$
  - using the laws of exponents, including for fractional exponents
- regular attendance at classes. Attendance may be monitored at instructor discretion.
- completion of all assigned work.
- assumption of complete responsibility to follow-up regarding any assessments which are missed.
- awareness of items on the OWL forum and use of materials posted on the course OWL web site.
- it is up to the student to seek out help when needed.

**PREREQUISITES:**

**MCR3U or equivalent.**

Note: Acceptable prerequisites include (but are not limited to): Mathematics 0105A/B, Mathematics 0109A/B, Ontario High School MHF4U. If unsure, please contact the course coordinators for clarification.

**ANTIREQUISITES:**

Mathematics 1225A/B, 1230A/B, Calculus 1000A/B, the former 1100A/B, 1500A/B, Applied Mathematics 1413.

**COURSE OUTLINE:**

Limits, continuity, definition of derivative, rules for differentiation, higher-order derivatives, velocity, acceleration, implicit differentiation, related rates, exponential functions, logarithmic functions, differentiation of exponential and logarithmic functions, maxima and minima, concavity, curve sketching, optimization.

**COURSE WEB SITE:**

Various supplemental materials, such as practice tests, are posted on the course OWL web site. In addition, there are forums on which students may post questions. Important information will be posted on the NEWS forum and/or on the class page on the web site. All students are expected to be aware of information, and make use of materials, posted on the course web site.

**INSTRUCTOR CONTACT INSTRUCTIONS:**

Any email sent to an instructor **SHOULD say Math 0110A in the subject line.**

Note: do not trust email "autocomplete" to default to your instructor's email addresses. Type it in.

Please contact your course instructor if you require 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 for any specific question regarding an accommodation.

**EVALUATION OF STUDENT PERFORMANCE:**

Students will be assessed based on:

- Class Work (10%)
- Test 1 (25%)
- Test 2 (25%)
- Final Exam (40%)

Information about how the Class Work component will be assessed, and details of the timing, will be announced in class and posted on the OWL web site.

The two Term Tests, each 90 minutes in length, will be held on

**Thursday, October 17, 2019**, from 7:00 - 8:30 p.m.

and **Thursday, November 14, 2019**, from 7:00 - 8:30 p.m.

Locations of these tests will be announced in class and/or on the course web site. The Final Exam will be 3 hours in length, covering all the course material. This exam will be scheduled by the Registrar's Office during the December Exam Period. To help you prepare, practice tests and practice exams are available on the course OWL page.

**Your mark in the course will be the mark that you earn based on your demonstrated understanding of the course content, assessed using the outlined criteria. Extra credit assignments are not available, and tests and exams cannot be rewritten to obtain a higher mark.**

## Notes:

1. The Tests and Examination will all have some multiple-choice questions and some written answer questions.
2. **NO calculators or other electronic devices or any other aids are allowed on tests and exams. Use of any electronic communication device during a quiz, test or exam will result in an automatic grade of zero on that assessment, plus any additional penalties applied by the Dean's Office.**
3. See Absence / Missed Work policy on next page.
4. *If the student's final exam mark is higher than a test mark (for a test which the student wrote), the weight from that test will be shifted to the final exam. This may apply to either, or both, of the term tests. This policy does not apply to the class work – the final exam grade will not replace lower-scoring assignments, quizzes, etc.*

## Examples:

Student A: 75% on test 1, 60% on test 2, and 70% on the final exam.  
Result: drop test 2. Exam goes from 40% of total grade to 65% of total grade.

Student B: 75% on test 1, 60% on test 2, and 80% on the final exam.  
Result: drop test 1 and 2. Exam goes from 40% of total grade to 90% of total grade.

Student C: 75% on test 1, 60% on test 2, and 50% on the final exam.  
Result: no change; exam worth default 40% of total grade.

Student D: 75% on test 1, 85% on test 2, and 80% on the final exam.  
Result: drop test 1; exam goes from 40% of total grade to 65% of total grade.

**Student E:** skip test 1, or skip test 2, or skip both test 1 and test 2.  
Result: score of 0 applied for any skipped test, and the weight is NOT shifted to the final exam. If you skip a test, you may also be debarred from the final exam, and you will be advised to drop the course and take it again. Students who miss a test for a valid reason (such as illness): see the absence policy on the next page.

**IMPORTANT NOTE:** The provision in note 4 about the weighting of the final exam is intended to allow students who struggle with the course material, but DO master it by the end of the term, to receive a grade which reflects their understanding at the end of the course. It DOES NOT mean that it's okay to ignore the course until just before the final exam. Most of the students who take this course find that the material does not come easily. Students need to work steadily at this course THROUGHOUT the term to have any realistic hope of a successful result.

## SENATE POLICY ON PREREQUISITES:

Prerequisite checking is the **student's responsibility**. Unless you have either the prerequisites 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.

## STATEMENT ON ACADEMIC OFFENCES:

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](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 immediately*. Students also have two self-reported absences available for the entirety of the academic year (not per course – for all courses, total), which can be used in lieu of medical documentation.

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.

A student requiring academic accommodation due to illness should use the Student Medical Certificate when visiting an off-campus medical facility or request a Record's Release Form (located in the Dean's Office) for visits to Student Health Services. The form can be found here: [https://www.uwo.ca/univsec/pdf/academic\\_policies/appeals/medicalform.pdf](https://www.uwo.ca/univsec/pdf/academic_policies/appeals/medicalform.pdf)

A makeup will be held for each term test as well as for the final exam. **Only students with prior permission from academic counselling will be allowed to write the makeup for a test.** Only students with a Recommendation for Special Exam from their Dean's Office will be allowed to write a makeup for the Final Exam. Any student who misses a portion of the Class Work component of the grade for any legitimate reason should contact your instructor as soon as possible. Supporting documentation may be required to perform any kind of class work re-weighting for missed work. Note: there are no circumstances for which the class grade component can count for more than 10% of the final grade. The final exam will count for a minimum of 40% of the course grade, class work grades cannot substitute for test or exam grades, and test grades cannot substitute for the exam grade.

## SUPPORT SERVICES

Office of the Registrar

UWO

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

King's

<http://www.kings.uwo.ca/academics/academic-deans-office/>

Student Development Services

<http://www.sdc.uwo.ca/>

Learning Skills Services

<http://www.sdc.uwo.ca/learning>

USC

<http://westernusc.ca/your-services>

Academic Calendar

<http://www.westerncalendar.uwo.ca/>

WTS

<https://wts.uwo.ca/helpdesk/>

Students who are in emotional/mental distress should refer to Mental Health @ Western via the link given below for a complete list of the options about how to obtain help:

<http://www.uwo.ca/uwocom/mentalhealth/>

**Mathematics 0110A Recommended Exercises - Fall 2019**

<b>Section</b>	<b>Page</b>	<b>Problems</b>
<b>Pre-Calculus Review (you could be tested/quizzed)</b>		
0.3	18	odd 1-15, odd 21-29, odd 37-43, odd 45-51.
0.4	24	odd 9-17, odd 35-45.
0.5	32	odd 1-13, 19, 25, 27, 29.
<b>Homework Problems</b>		
1.3	65	odd 1-25, odd 27-35, odd 37-47, 49, 53.
1.4	78	odd 21-33, 37, 39.
1.5	91	3, 5, odd 17-21, odd 23-45, odd 51-59.
1.6	101	odd 1-21, 25, 27, 45.
Ch. 1 Review	108	1, 3, odd 43-51, 69 (no graph), 73, odd 79-89, 105, 107, 111, 113.
2.1	123	15, 17, 19, 23, 25, 27, 31, 37, odd 51-59.
2.2	134	odd 5-27, odd 29-33, odd 35-47, 53, 55.
2.3	143	odd 3-7 (no graph, and only find the average rate of change on interval).
2.4	155	odd 1-15, odd 17-23, odd 25-33, 41 (no graph), 43 (no graph), 47, 65.
2.5	165	odd 1-13, odd 23-35, odd 39-45 (no graph), odd 51-65, 69 (no graph).
2.6	172	odd 1-33, 35, 41.
Ch. 2 Review	178	odd 9-15, 17, 21, 23, <a href="#">all 25-28</a> , 31, 39, odd 49-65, odd 73-79.
4.1	279	odd 1-7, <a href="#">all 13-18</a> , 31b.
4.2	285	1, 3, <a href="#">all 5-10</a> , 11, 13.
4.4	302	<a href="#">all 9-12</a> , odd 23-27, odd 31-39, odd 41-45, 51, 53, 57, 59, 63, 67, <a href="#">86</a> (calculator).
4.3	293	odd 5-15, 17, 21, 23, 25.
4.5	311	odd 5-17, 23, odd 39-47, 49, 51, 55, 57, 61, 65.
Supplement	343	all 1-8.
Ch 4 Review	338	odd 1-13, 25, 27, 31, 33, odd 45-51, odd 69-83, odd 93-105, 111, 113, 125, 127.
App B1	190	odd 1-23, 25, 27.
App B2	196	1, 3, 5, 7, 9, 11, 15.
3.1	207	odd 1-7, odd 9-15, odd 19-25, odd 29-35.
3.2	217	odd 1-9, odd 13-17, odd 19-23, 29.
3.3	226	odd 1-21, <a href="#">all 27-30</a> , 31, 35, 39, 43.
3.4	235	1, 3, 5, 7, 11, 17, 19.
3.5	246	odd 1-9, odd 13-19, odd 29-39.
3.6	256	odd 1-11, 17, 19, 23, 27, 37.
4.3	293	29.
4.5	311	67.
Ch 3 Review	269	odd 1-7, odd 11-19, odd 21-29, odd 33 – 43, 49, 53, 57, odd 59-65.

**- Chapter 0 problems are for review by the student and should be completed as soon as possible.**

- Page numbers and text references refer to the custom text for Math 0110A/B.

- Any changes to this list will be announced on the NEWS and/or Homework forums in the OWL web site.

- Answers for odd numbered questions are in the back of the text. See OWL for solutions to the even-numbered questions.