

Western University - Department of Mathematics
Mathematics 1225B: Methods of Calculus

January-April 2014

INSTRUCTORS: For an up-to-date instructor list, as well as lecture times and rooms, consult the [registrar's timetable](#).

- Western University (Main), Section 001, 002 - [Gord Sinamon](mailto:sinamon@uwo.ca) [sinamon@uwo.ca]
- Western University (Main), Section 003 - Duy Tan Nguyen [dnguy25@uwo.ca]
- Western University (Main), Section 004 - Myrto Manolaki [mmanolak@uwo.ca]
- Brescia University College, Section 530 - Cathy Florence [jplusc@rogers.com]
- Huron University College, Section 550, 551 - Arash Pourkia [apourki@uwo.ca]
- King's University College, Section 570, 571 - David Meredith [meredith@uwo.ca]
- King's University College, Section 572, 573 - Joseph Turnbull [jturnbu7@uwo.ca]

TEXTBOOK: *Math 1225A/B Methods of Calculus (Excerpts from Tan et al) Custom Edition*, published by Nelson. Custom package with text and Student Solution Manual ISBN: 017653704X

PREREQUISITES: One or more of Ontario Secondary School MCV4U, Mathematics 0110A/B, Calculus 1000A/B, 1100A/B, 1500A/B or the former Ontario Secondary School MCB4U

ANTIREQUISITES: Calculus 1201A/B, 1301A/B, 1501A/B, Applied Mathematics 1413, the former Mathematics 030

COURSE OUTLINE: Logarithmic, exponential and trigonometric functions; integration, applications of integration (area, volume); techniques of integration, improper integrals; functions of several variables, Second Partial Test, Lagrange Multipliers; differential equations

WHAT IS EXPECTED OF THE STUDENT: Students are expected to attend all lectures and complete all tests and examinations. No aids are permitted in tests and examinations. Regular homework is an essential part of the course; it is the student's responsibility to keep up with the assigned homework and to seek additional help if and when it is needed.

EVALUATION OF STUDENT PERFORMANCE: Term Tests will be held on: Friday, February 7, 2014, 7:00-8:30 p.m. and Friday, March 14, 2014, 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. This exam will be scheduled by the Registrar's Office during the April exam period. **Course Grade:** Each Term Test will count for 25% and the Final Exam will count for 45%. The remaining 5% will be assigned to whichever of these three is the student's best mark. No calculators or other electronic devices or any other aids are allowed on tests and exams.

Learning Objectives

Students who have already taken an introductory calculus course will continue to study derivatives and trigonometric functions are included. Students will also find antiderivatives and apply this concept to solving problems involving areas and volumes. By the end of this course, students will study functions of several variables and also solve differential equations.

SENATE POLICY ON PREREQUISITES: Students are responsible for ensuring that their course selection is appropriate and accurately recorded and that all course prerequisites have been successfully completed. If a student does not have the requisites for a course, and does not have written special permission from his or her Dean to enroll in the course, he or she may be removed from the course and it will be deleted from the student's record. This decision may not be appealed. No adjustment to fees will be made in the event that a student is 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](#). Computer marked multiple choice tests and 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 OR 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 faculty counselling office as soon as possible and contact your instructor immediately. 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 for Special Examination" form must be obtained from your faculty counselling office immediately. [Further information](#). A student requiring academic accommodation due to illness should use the [Student Medical Certificate](#) when visiting an offcampus medical facility or request a Record's Release Form from a faculty counselling office for visits to Student Health Services.

SUPPORT SERVICES: **Office of the Registrar** [Main Campus](#), [Brescia](#), [Huron](#), [King's](#); [Student Development Centre](#); [Academic Calendar](#); [Information Technology Services \(ITS\)](#)

Mathematics 1225B - Suggested Exercises - Winter 2014

Section	Page	Problems
§5.1 †	9	odd 1 - 35, all 43 - 46.
§5.2 †	17	all 1 - 20, odd 21 - 59, 68, 69, all 77 - 80.
§5.3 †	25	odd 1 - 27, all 28 - 40, odd 41 - 47, 48, 49, 71, 73.
§5.4 †	35	odd 1 - 31, all 32 - 44, odd 45 - 55, all 58 - 63.
§6.2	67	all 1 - 8, all 10 - 14, all 27 - 30.
§6.4	75	all 1 - 34, 43, 44, 46, 49, 50.
§8.1	94	odd 1 - 55, odd 59 - 67, odd 71 - 75, 79.
§8.2	111	odd 1 - 73. (Note: typo in #39 the square root should be only in the numerator)
§8.4	132	odd 21 - 51.
§8.5	143	odd 1 - 27, 30, 31, 32, 34, 37, 38, odd 39 - 49, all 64 - 69, 71, 74.
§5.1 ‡	156	2, 4, 5, 9, 11, all 13 - 23, 25, all 28 - 31, all 33 - 35, 41, 43, 45, 46.
§5.2 ‡	170	all 1 - 10, all 13 - 17, all 19 - 22, all 28 - 31.
§9.1	180	odd 1 - 33, 37, 39 all 43 - 50, 53, 55, 56, 57.
§9.2	190	odd 1 - 13, all 14 - 23, odd 25 - 29.
§9.5	201	odd 1 - 9, odd 13 - 29, odd 33 - 41.
§10.1	213	odd 1 - 13, 29.
§10.2	226	odd 1 - 25, odd 29 - 59.
§10.3	237	odd 1 - 19, 27, all 29 - 31, 33.
§10.5	249	1, 3, 5, 7, 11, 12, 13, 15, 17, 18, 23, 25.
§7.1	267	all 1 - 5, all 9 - 11, 14, 16, 17, 20, 22, 23, all 25 - 27, all 34 - 36, 39, all 42 - 45.
§5.5 †	44	1, 2, 11, 15
§7.4	282	all 1 - 11, 13, 15, all 17 - 22, all 27 - 29.

Notes:

- Page numbers and text section references refer to the custom published text (larger number shown at the **centre bottom** of each page).
- Because the source material for this text comes from two different books, the custom text contains **two Chapter 5's**. In the table of contents, the two source texts are indicated by superscripts of † and ‡. In the above, the same symbols are used to differentiate between the two Chapter 5's. Section numbers followed by † refer to **the first Chapter 5** in the text, while section numbers followed by ‡ refer to **the second Chapter 5**.
- **Except for §5.5 †**, which is covered with Chapter 7 at the end of the course, all sections covered are in the same order as they appear in the custom published text.

BRESCIA UNIVERSITY COLLEGE ACADEMIC POLICIES AND REGULATIONS

1. POLICY REGARDING MAKEUP EXAMS AND EXTENSIONS OF DEADLINES

When a student requests academic accommodation (e.g., extension of a deadline, a makeup exam) for work representing 10% or more of the student's overall grade in the course, it is the responsibility of the student to provide acceptable documentation to support a medical or compassionate claim. All such requests for academic accommodation **must** be made through an Academic Advisor and include supporting documentation. Academic accommodation on medical grounds will be granted only if the documentation indicates that the onset, duration and severity of the illness are such that the student could not reasonably be expected to complete her academic responsibilities. Appropriate academic accommodation will be determined by the Dean's Office in consultation with the student's instructor(s). Please note that personal commitments (e.g., vacation flight bookings, work schedule) which conflict with a scheduled test, exam or course requirement are not grounds for academic accommodation.

A UWO Student Medical Certificate (SMC) is **required** if a student is seeking academic accommodation on medical grounds. This documentation should be obtained at the time of the initial consultation with the physician/nurse practitioner or walk-in clinic. A SMC can be downloaded under the Medical Documentation heading of the following website: <https://studentservices.uwo.ca/secure/index.cfm> . If it is not possible to have an SMC completed by the attending physician/nurse practitioner, the student must request documentation sufficient to demonstrate that her ability to meet academic responsibilities was seriously affected. Please note that under University Senate regulations documentation stating simply that the student "was seen for a medical reason" or "was ill" is **not** adequate to support a request for academic accommodation. All documentation is to be submitted to an Academic Advisor.

Whenever possible, requests for academic accommodation should be initiated in advance of due dates, examination dates, etc. Students must follow up with their professors and Academic Advisor in a timely manner.

The full statement of University policy regarding extensions of deadlines or makeup exams can be found at <http://www.westerncalendar.uwo.ca/2013/pg117.html>

2. ACADEMIC CONCERNS

If you feel that you have a medical or personal problem that is interfering with your work, contact your instructor and Academic Advisor as soon as possible. Problems may then be documented and possible arrangements to assist you can be discussed at the time of occurrence rather than on a retroactive basis. Retroactive requests for academic accommodation on medical or compassionate grounds may not be considered.

If you think that you are too far behind to catch up or that your work load is not manageable, you should consult an Academic Advisor. If you consider reducing your workload by dropping one or more courses, this must be done by the appropriate deadlines (refer to the Registrar's website, www.registrar.uwo.ca, for official dates). You should consult with the course instructor and the Academic Advisor who can help you consider alternatives to dropping one or more courses. *Note that dropping a course may affect OSAP eligibility and/or Entrance Scholarship eligibility.*

The Dean may refuse permission to write the final examination in a course if the student has failed to maintain satisfactory academic standing throughout the year or for too frequent absence from the class or laboratory.

3. ABSENCES

Short Absences: If you miss a class due to a minor illness or other problems, check your course outline for information regarding attendance requirements and make sure you are not missing a test or assignment. Cover any readings and arrange to borrow notes from a classmate. Contact the course instructor if you have any questions.

Extended Absences: If you have an extended absence, you should contact the course instructor and an Academic Advisor. Your course instructor and Academic Advisor can discuss ways for you to catch up on missed work and arrange academic accommodations, if appropriate.

4. POLICY ON CHEATING & ACADEMIC MISCONDUCT

Students are responsible for understanding the nature of and avoiding the occurrence of plagiarism and other academic offences. Students are urged to read the section on Scholastic Offences in the Academic Calendar. Note that such offences include plagiarism, cheating on an examination, submitting false or fraudulent assignments or credentials, impersonating a candidate, or submitting for credit in any course without the knowledge and approval of the instructor to whom it is submitted, any academic work for which credit has previously been obtained or is being sought in another course in the University or elsewhere. Students are advised to consult the section on Academic Misconduct in the Western Academic Calendar.

If you are in doubt about whether what you are doing is inappropriate or not, consult your instructor, the Student Services

Centre, or the Registrar. A claim that "you didn't know it was wrong" is not accepted as an excuse.

The penalties for a student guilty of a scholastic offence (including plagiarism) include refusal of a passing grade in the assignment, refusal of a passing grade in the course, suspension from the University, and expulsion from the University.

Plagiarism:

Students must write their essays and assignments in their own words. Whenever students take an idea or a passage from another author, they must acknowledge their debt both by using quotation marks where appropriate and by proper referencing such as footnotes or citations. Plagiarism is a major academic offence (see Scholastic Offence Policy in the Western Academic Calendar).

All required papers may be subject to submission for textual similarity review to the commercial plagiarism detection software under license to the University for the detection of plagiarism. All papers submitted for such checking will be included as source documents in the reference database for the purpose of detecting plagiarism of papers subsequently submitted to the system. Use of the service is subject to the licensing agreement, currently between The University of Western Ontario and Turnitin.com.

Computer-marked Tests/exams:

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. Software currently in use to score computer-marked multiple-choice tests and exams performs a similarity review as part of standard exam analysis.

5. PROCEDURES FOR APPEALING ACADEMIC EVALUATIONS

All appeals of a grade must be directed first to the course instructor. If the student is not satisfied with the decision of the course instructor, a written appeal signed by the student must be sent to the Department Chair. If the response of the department is considered unsatisfactory to the student, she may then submit a signed, written appeal to the Office of the Dean. Only after receiving a final decision from the Dean may a student appeal to the Senate Review Board Academic. A Guide to Appeals is available from the Ombudsperson's Office, or you can consult an Academic Advisor. Students are advised to consult the section on Academic Rights and Responsibilities in the Western Academic Calendar.

6. PREREQUISITES AND ANTIREQUISITES

Unless you have either the prerequisites for a course or written special permission from your Dean to enroll in it, you will be removed from the 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.

Similarly, you will also be deleted from a class list if you have previously taken an antirequisite course unless this has the approval of the Dean. These decisions may not be appealed. You will receive no adjustment to your fees in the event that you are dropped from a course because you have taken an antirequisite course.

7. SUPPORT SERVICES

The Brescia University College Registrar's website, with a link to Academic Advisors, is at http://www.brescia.uwo.ca/academics/registrar_services/index.html . The Western Registrar's website is at <http://www.registrar.uwo.ca/index.cfm> . The website for the Student Development Centre at Western is at <http://www.sdc.uwo.ca/> . Students who are in emotional/mental distress should refer to Mental Health @ Western <http://www.uwo.ca/uwocom/mentalhealth/> for a complete list of options about how to obtain help.

Portions of this document were taken from the Academic Calendar, the Handbook of Academic and Scholarship Policy and the Academic Handbook of Senate Regulations. This document is a summary of relevant regulations and does not supersede the academic policies and regulations of the Senate of the University of Western Ontario.