

THE UNIVERSITY OF WESTERN ONTARIO
DEPARTMENT OF MATHEMATICS

Calculus 2302A
Intermediate Calculus I

Fall 2016

Lectures: Mon, Wed, Fri, 1:30–2:30pm, P&AB 148

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Office Hours: TBA

Teaching Assistant: TBA

Course Website: <http://www-home.math.uwo.ca/~jadamus/16-17/2302F2016/>

Textbook: *Multivariable Calculus, 8th Edition*, by James Stewart, ed. Brooks/Cole Cengage Learning, ISBN:978-1-305-26664-3.

Prerequisites: A minimum mark of 55% in Calculus 1501A/B or Calculus 1301A/B, or Applied Mathematics 1413.

Antirequisite: Calculus 2502A/B.

Senate Policy on Prerequisites: Unless you have either the requisites for this course or written special permission from your Dean to enroll in it, you will 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.

Course Outline: We will extend differential calculus from the single variable to the multivariable setting. This will require some basic linear algebra, which we will review at the beginning of the course. Roughly, the course will cover chapters 12–14 of the textbook. Here is an approximate list of topics:

Three dimensional analytic geometry: dot and cross product; equations for lines and planes; quadric surfaces; vector functions and space curves; arc length; curvature; velocity; acceleration.

Differential calculus of functions of several variables: level curves and surfaces; limits; continuity; partial derivatives; tangent planes; differentials; chain rule; implicit functions; extrema; Lagrange multipliers.

Evaluation: The course mark will be based on 10 weekly *in-class* quizzes (10 min. each), 2 term tests, and the final exam, with the following weights:

- Best 8 out of 10 quizzes: 24%
- Term tests: 36%
- Final exam: 40%.

Examination Dates: The term tests will be held in class on **Wednesday, October 12**, and **Wednesday, November 9**, 2016. The final examination will be scheduled by the Registrar.

Problem Sets: The problem sets will be assigned weekly. *These will not be submitted for marking.* However, they are essential to the understanding of the material and preparation for the quizzes and tests.

Quizzes: The quizzes will be based on the material of the recently assigned problem sets.

What is Expected of the Student: Students are expected to learn the material of the appropriate sections of Chapters 12-14 and to complete the assigned practice problems.

Students that work at a consistent pace throughout the term (and do not put off asking questions until exam time), use help resources available (e.g., the Help Centre), and do self-directed exploration of topics, tend to achieve better results in university-level mathematics courses.

Math Help Centre: The Math Help Centre will run daily, beginning late September. The exact dates and times TBA.

Statement on Academic Offenses: Scholastic offenses are taken seriously and students are directed to read the appropriate policy, specifically, the definition of what constitutes a Scholastic Offense, at the following website:

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

Medical Excuse Regulations: Students who are unable to meet a course requirement worth 10% or more of the course grade, due to illness or other serious circumstances, must provide valid medical or other supporting documentation to their home faculty Dean's Office as soon as possible and contact their instructor immediately. It is the student's responsibility to make alternative arrangements with their 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 as soon as possible.

The Policy on Accommodation for Medical Illness is available at

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

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:

http://studentservices.uwo.ca/secure/medical_document.pdf

Mental Health Statement: Students who are in emotional/mental distress should refer to Mental Health@Western http://www.health.uwo.ca/mental_health/ for a complete list of options about how to obtain help.

Accessibility Statement: Please contact the course instructor if you require material in an alternate format or if you require any other arrangements to make this course more accessible to you. You may also wish to contact Services for Students with Disabilities (SSD) at 661-2111 ext. 82147 for any specific questions regarding an accommodation.