

THE UNIVERSITY OF WESTERN ONTARIO (WESTERN UNIVERSITY)  
LONDON CANADA  
DEPARTMENT OF APPLIED MATHEMATICS

Calculus 2503b/2303b  
Vector Calculus II

January-April 2018

**Instructor:** V.A. Miransky, MC 271, tel: 519-661-2111 ext. 88708, email: vmiransk@uwo.ca

**Office Hours:** TBA

**Teaching Assistant:** Yang Wang

**Office Hours:** TBA

**Classes:** 1:30pm-2:30pm, Kresge Building (KB) K106

**Textbook:** Multivariable Calculus, by James Stewart, 8th edition, Brooks/Cole,  
ISBN #: 0-538-49787-4.

**Prerequisites:** A minimum mark of 60% in Calculus 2502A/B or 2302A/B

**Antirequisites:**

**Course outline:**

A. Multiple Integrals (Ch. 15)

- 15.1 Double Integrals over Rectangles
- 15.2 Iterated Integrals
- 15.3 Double Integrals over General Regions
- 15.4 Double Integrals in Polar Coordinates
- 15.5 Applications of Double Integrals
- 15.6 Surface Area
- 15.7 Triple Integrals
- 15.8 Triple Integrals in Cylindrical Coordinates
- 15.9 Triple Integrals in Spherical Coordinates
- 15.10 Change of Variables in Multiple Integrals

B. Vector Calculus (Ch. 16)

- 16.1 Vector Fields
- 16.2 Line Integrals
- 16.3 The Fundamental Theorem for Line Integrals
- 16.4 Green's Theorem
- 16.5 Curl and Divergence (not mandatory for 2303b)

- 16.6 Parametric Surfaces and Their Areas (not mandatory for 2303b)
- 16.7 Surface Integrals (not mandatory for 2303b)
- 16.8 Stokes' Theorem (not mandatory for 2303b)
- 16.9 The Divergent Theorem (not mandatory for 2303b)

**Evaluation of student performance:**

- (a) Daily problems 25%
- (b) Midterm Exam: 25%
- (c) Final Exam: 50% (April exam period)

**Web page address:** <https://owl.uwo.ca>

**Policy on calculators and other electronic devices:**

The use of calculators and other electronic devices will not be permitted for the midterm test and the final examination.

**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.

**Medical excuse regulations:**

If you are unable to meet a course requirement worth 10% or more of your course grade, due to illness or other serious circumstances, you must provide valid medical or other supporting documentation to your home faculty Dean's 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 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  
<https://studentservices.uwo.ca/secure/index.cfm>

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](http://studentservices.uwo.ca/secure/medical_document.pdf)

**Medical health statement:**

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.

**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 x 82147 for any specific questions regarding an accommodation.