

MTH 243—Multivariable Calculus (Spring 2019)

Course Description

MTH 243 is a demanding course for students in the STEM disciplines. In order to succeed in this course, you will have to work systematically and hard. In this course we will cover the central topics in the calculus of functions of two and three variables as well as elements of vector analysis.

Instructor and contact information

- Instructor: Juhyung Lee
- Email: juhyung@uri.edu
- Office: Lippitt Hall Room 202 A
- Office hours: 10am-12pm and 12:30pm-2pm on Monday, Wednesday, and Friday

WileyPlus

Use a WileyPlus code to register for our section on the website: www.wileyplus.com
The course ID of our section is **679643**

Text Book and Calculators

The text for the class is: "Calculus: Multivariable, 7th Edition, by William G. McCallum, Deborah Hughes-Hallett, et. al. with WileyPLUS.: ISBN – 978-1-119-13934-8.

Calculators are **not** permitted during any exam or quiz.
But, calculators can be used on out-of-class assignments.

Grade Categories and Scale

Grades will be determined through a weighted average with categories and weights:

Categories	Weights
In class quizzes	10 %
WileyPlus Homework	15 %
Exam I	15 %
Exam II	15 %
Exam III	15 %
Cumulative Final	30 %

Letter grades for the course will be determined by considering your overall weighted percentage according to the following scale:

Scale (%)	Grade	Scale (%)	Grade
93-100	A	77-80	C+
90-93	A-	73-77	C
87-90	B+	70-73	C-
83-87	B	67-70	D+
80-83	B-	60-67	D

□ **WileyPlus Registration Code and WileyPlus Homework**

We will use WileyPlus online system for our graded homework assignments this semester. You are responsible for getting WileyPLUS set up and enrolling in the online section of your course in a timely fashion. This includes obtaining a WileyPLUS code, whether bundled with your textbook, or from Wiley if you purchased the textbook used.

You should be working on the WileyPlus assignments as we cover material in class. The extra time is a buffer for any technical difficulties you may encounter. You should **NOT** be in the habit of working on these assignments the day before the listed due date, as they should have been done days in advance. For this reason, there will be absolutely no extensions of WileyPLUS due dates for any reason.

To register for your section on WileyPlus, visit www.WileyPlus.com → Students → Register and enter your course ID **679643**

□ **Quizzes**

A short quiz will be administered every day of class, with some exceptions. The five quizzes with the lowest score will be dropped in calculating your course grade.

Make up quizzes will not be given for any reason. If you miss a quiz (even with a valid reason) it will count towards those five dropped quizzes. A re-weighting of quizzes may be considered only if you have missed more than five quizzes, all with valid reasons.

□ **Exams**

There are three exams and one final exam. Exams are currently scheduled as

- Exam I : Monday, February 18
- Exam II : Monday, March 25
- Exam III : Wednesday, April 17
- Final Exam : TBA

The following policies apply to all exams, and no exceptions will be made.

- No books, bags, papers, extra scrap paper, or anything else may be taken with you to your seat. If you bring any of these items with you, you must leave them at the front of the room.
- Sharing calculators is not permitted.
- No cellphones, MP3 players, or any electronic devices of any kind may be used or even accessible to you at any time during the exam. Any student found with any cell phone or electronic device for ANY REASON during an exam is cheating.
- You may not ask any questions during the exam; understanding the questions is a part of the exam. If you think there is a typo or error, do the best that you can with the given information.

- You may not leave the room then return during the exam. Remember to use the bathroom before the exam. If you leave the room for any reason, your exam will be collected.

The following policies apply to all Make-up exams, and no exceptions will be made.

- Makeup exams may be scheduled in the event you are unable to attend the evening exams under the following conditions. Note in particular that if you must miss the exam because of a scheduling conflict, you must notify your instructor before, not after, the exam, and emergencies require you to contact your instructor within 24 hours.
- If your reason for missing the exam as scheduled is:
 - (i) a University sanctioned event for which verifiable documentation can be provided (including another scheduled class), or
 - (ii) a responsibility to an employer that cannot be rescheduled (with documentation from your employer), then you **MUST INFORM YOUR INSTRUCTOR 48 HOURS IN ADVANCE OF THE EXAM AND PROVIDE DOCUMENTATION.**

Such events are scheduled in advance, so you must provide advanced notice to your instructor in order to have a makeup exam. Failure to provide this advanced notice will result in a grade of 0 for the exam. No exceptions. Makeup exams must be scheduled after the actual exam, and preferably before the class period when exams are to be handed back, but no later than two class days (excluding weekends and holidays) after the actual exam.

- If the reason for missing the exam as scheduled is due to:
 - (i) illness (with verifiable documentation from a medical provider), or
 - (ii) an emergency (with appropriate documentation), then you **MUST INFORM YOUR INSTRUCTOR WITHIN 24 HOURS OF THE EXAM** and provide documentation upon your return.
Failure to notify your instructor within 24 hours will result in a 0 for the exam. No exceptions. Makeup exams may be scheduled no later than two class days (excluding weekends and holidays) after the actual exam, unless the illness or emergency precludes this, in which case the makeup exam will be given on a common date during the last few weeks of the semester.
- If your circumstances do not meet either of the above (no documentation, non-emergency excuse without sufficient notice, etc.), then you will receive a 0 for the missed exam. No exceptions.

☐ Academic Honesty

Students are expected to be honest in all academic work. Cheating is defined in the University Manual section 8.27.10 as the claiming of credit for work not done independently without giving credit for aid received, or any unauthorized communication during examinations (of course, this includes use of the “internet”). The resolution of any charge of cheating or plagiarism will follow the guidelines set forth in the University Manual 8.27.10 - 8.27.20.

Sakai

Your instructor will maintain your up to date grades on Sakai. Your instructor might place important course material in the Sakai course shell. You can access Sakai at the following web address: <https://sakai.uri.edu/portal>.

Accommodations

Any student with a documented disability should contact your instructor early in the semester so that he or she may work out reasonable accommodations with you to support your success in this course. Students should also contact Disability Services for Students: Office of Student Life, 330 Memorial Union, 874-2098. They will determine with you what accommodations are necessary and appropriate. All information and documentation are confidential.

Religious Holidays

Per policy of the URI, on an individual basis, the student has the opportunity to observe their traditional religious holidays. However, a written notification to each instructor is required.

Incomplete Grade

I follow to the letter the URI regulations concerning incomplete grades, namely the following paragraphs taken from the university manual:

8.53.20. A student shall receive a report of "Incomplete" in any course in which the course work has been passing up until the time of a documented precipitating incident or condition but has not been completed because of illness or another reason which in the opinion of the instructor justifies the report. An instructor who issues a grade of "Incomplete" shall forward a written explanation to the student's academic dean.

8.53.21. The student receiving "Incomplete" shall make necessary arrangement with the instructor or, in the instructor's absence, with the instructor's chairperson to remove the deficiency. This arrangement shall be made prior to the following mid-semester for the undergraduate student and within one calendar year for the graduate student.

□ Schedule

This is a tentative calendar for MTH 243, spring 2019. It is subject to change.

Date	Sections/Events/Exams	Practice Problems
Jan. 23 Jan. 25	First Day of Classes W. Jan. 23 (12.1)Functions of two variables (12.2)Graphs and surfaces	(12.1)1,2,3,4,6,7,9,10,11,13,18,20,21,24,28,35 (12.2)2,3,4,5,7,8,11,12,13,15,16,17,23,24,26
Jan. 28 Feb. 1	(12.3)Contour diagrams (12.4)Linear functions (12.5)Functions of three variables	(12.3)1,2,3,4,5,7,8,9,11,14,16,17,28 (12.4)1,2,3,5,7,8,9,10,13,21,22,23 (12.5)1,2,3,4,5,6,12,15
Feb. 4 Feb. 8	(12.6)Limits and continuity (13.1)Displacement vectors (13.2)Vectors in general	(12.6)1-11,12-20, 23 (13.1)1-3,5,6,7,9,11,15,17,21,25,27,28,30-32 (13.2)6,7,9,10,11,13,15,17,25
Feb. 11 Feb. 15	(13.3)The dot product (13.4)The cross product Review	(13.3)1,3,5-7,11-27(odd),33,39,43,47 (13.4)1,3,5,7,13,14,15,20,23,29,30
Feb. 18 Feb. 22	Exam I(Ch. 12, 13): M. Feb. 18 (14.1)The partial derivatives (14.2)Computing partial derivatives	(14.1)1,3,4,5,6,7,8,10,11,13,14,15 (14.2)2,3,5,7,9,11,13,17,26,31,32,39,40,49
Feb.25 Mar. 1	(14.3)Local linearity (14.4)Gradients in the plane (14.5)Gradients in space	(14.3)2,3,5,11,13,17,21,22,25 (14.4)1-27(odd),33,36,37,51,66,74 (14.5)3,5,17,18,19,21,25,28,30,33,57,58,61
Mar. 4 Mar. 8	(14.6)The chain rule (14.7)Second-order partial deriv. Last day to drop: W. Mar. 6	(14.6)3,7,11,16,19,21,25 (14.7)1,3,23,27,41
Mar. 11 Mar. 15	No Classes (Spring Break)	
Mar. 18 Mar. 22	(15.1)Critical points (15.3)Lagrange Multipliers Review	(15.1)1,3,4,5,9,12,15,17,21,25,32,33 (15.3)1-9(odd), 28
Mar. 25 Mar. 29	Exam II(Ch. 14, 15): M. Mar. 25 (16.1)The definite integral (16.2)Iterated integrals	(16.1)1,7,9,11,17,19,21,25 (16.2)1-19(odd),28,30,33,34,39,40,45,46
Apr. 1 Apr. 5	(16.3)Triple integrals (16.4)Polar coordinates (16.5)Cylindrical and spherical	(16.3)1,2,5,7,9,11,13,31,32,37,39,50 (16.4)1,2,3,4,9,11,12,19,21,29,31 (16.5)1,3,5,9,11,19,21,22,23,73,74
Apr. 8 Apr. 12	(17.1)Parametrized curves (17.2)Motion, velocity, acceleration (17.3)Vector fields	(17.1)1-7,9,11,19,21,23,25,27,33,35,39,40 (17.2)1,3,5,7,9,11,13,14,26,28 (17.3)1-8,10,11,13,15,17,21,22,23,24
Apr. 15 Apr. 19	Review Exam III(Ch. 16, 17): W. Apr.17 (18.1)Line integrals	(18.1)1,2,3,4,5,7,8,9,11,27
Apr. 22 Apr. 26	(18.2)Computing line integrals (18.3)Gradient fields (18.4)Green theorem	(18.2)1,2,3,4,5,7,8,12,14,16,22,33 (18.3)1,3,13,14,17,19,24,31,32 (18.4)1,2,3,5,6,11,12,13,14,15
Apr. 29	Review Last Day of Classes:Tu. Apr.30	