Course Syllabus
Math 243: Calculus III, Spring 2017

Instructor: Bill Kinnersley

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Course Website: `http://math.uri.edu/~billk/Math243/Spring2017/index.html`

This course will use also use Sakai. The Sakai site for our section will contain lecture notes, homework assignments, grades, and administrative announcements. Check it often!

Course Content: Math 243 is a third course in calculus. Topics include three-dimensional coordinate systems, vector geometry, partial derivatives, directional derivatives, extrema, Lagrange multipliers, and multiple integrals.

Classroom Conduct: The classroom is a place for learning. While you are in class, I expect you to remain focused on the course material, and also to maintain an environment in which other students can do the same. In particular:

- Laptops and tablets can be useful for taking notes or for annotating electronic copies of the provided lecture notes. However, they can also be major distractions. Avoid the temptation to screw around on the internet during class! This is distracting not only to you, but also to other students sitting nearby. Use of laptops or tablets for any purpose other than note-taking will not be permitted.
- Cell phones should be muted and stored away at all times during class. Ringing phones are disruptive. Texting during class is flat-out disrespectful.
- All in-class discussion must pertain to the course material. Asking your neighbor about triple integration in spherical coordinates is fine; asking them about Friday night's frat party is not. Off-topic chatter can be distracting to other students.

Textbook: The textbook for this course is *Calculus: Multivariable*, 6th Ed. by McCallum, et al. (ISBN: 0470888679)

This course *will* be using WileyPlus. If you purchased your textbook new, then it should have come with a WileyPlus access code. If not, then you'll need to purchase one separately.

Evaluation: The course grade will be based on weekly quizzes, online homework, two midterm exams, and a final exam, weighted as follows:

- Online homework: 15%
- Quizzes: 15%
- Midterm exams: 20% each (40% total)
- Final exam: 30%

Scores will be posted in the Sakai gradebook.

The scale for letter grades will be:

A: 93.00% and above		A-: 90.00% - 92.99%
B+: 87.00% - 89.99%	B: 83.00% - 86.99%	B-: 80.00% - 82.99%
C+: 77.00% - 79.99%	C: 73.00% - 76.99%	C-: 70.00% - 72.99%
D+: 67.00% - 69.99%	D: 60.00% - 66.99%	
F: 59.99% and below		

If you have any questions about the grading of a particular assignment, please contact me within one week of the day the assignment was returned.

Quizzes: Quizzes will be given during most Tuesday classes. Each quiz will cover the preceding week's lectures. Each student's lowest quiz grade will be dropped at the end of the semester.

Homework: There will be regular homework assignments in WileyPlus; the URL for our section's WileyPlus page is `www.wileyplus.com/class/561766`, and the course code is "561766". The deadlines for these assignments are fairly generous; this is to allow time to deal with any potential technical issues. Don't wait until the deadline! It's to your benefit to complete the assignments promptly. Working through the homework will reinforce your understanding of the material, which will make it easier to follow subsequent lectures. If for some reason you cannot finish the homework on time, late homework will be accepted at a 20% penalty for two days after the assignment deadline and at a 50% penalty through the end of the semester.

Additionally, after each lecture, "offline" homework questions for that lecture's material will be posted on Sakai. *These questions will not be collected or graded.* However, it's crucial that you take them seriously, because practicing the material is a vital step toward understanding it. Try to work through the uncollected homework as soon as possible, preferably on the same day it's posted.

As additional encouragement to work through the uncollected homework, *at least one question on each quiz will be taken directly from the corresponding homework assignments.*

Exams: There will be two midterm exams, one on Tuesday, March 7 and the other on Tuesday, April 18. Both exams will be given during class.

There will also be a cumulative final exam on Tuesday, May 9 from 11:30 AM - 2:30 PM, in the usual classroom.

Calculator Policy: No calculators! You may not use calculators on any quiz or exam, nor should you need to. (I will try to be very forgiving of any arithmetic mistakes.)

Absence Policy: If you miss any evaluation due to illness or emergency, you must contact me – in person, by phone, or through email – *within 24 hours*. Under most circumstances, absences must be documented.

If you know that you will need to miss an evaluation due to religious observances or University-sanctioned events, then you must contact me at least *48 hours* before the relevant evaluation. In addition, *you must provide documentation.*

Academic Accommodations: If you require academic accommodations and have documentation from Disability Services (874-2098), please get in touch with me as soon as possible.

Academic Integrity: Cheating is prohibited in all aspects of the course. Cheating includes but is not limited to: communication with other students during a quiz or exam, reading another student's written work during a quiz or exam, and use of any electronic device (including calculators) during a quiz or exam. I take cheating very seriously; *any* cheating will result in severe consequences.

Course Goals: The main goal of Math 243 is to prepare students for advanced study in mathematics, basic sciences, or engineering. The goals of Math 243 are:

- To provide an introduction to multivariable functions and to the basics of vectors and vector manipulation.
- To develop proficiency with partial and directional derivatives of multivariable functions.
- To develop proficiency with double and triple integrals.
- To provide an introduction to vector fields and line integrals.

Course Calendar

Below is a *tentative* timetable for the course. At any point we may be a bit ahead or a bit behind, depending on the needs of the class.

	Week	Sections / Events	Homework Problems
1	1/23–1/27	**Classes begin – Mon. 1/23**	(12.1) *****
		12.1 - Functions of Two Variables	(12.2) *****
		12.2 - Graphs and Surfaces	
2	1/30–2/3	12.3 - Contour Diagrams	(12.3) ***
		12.4 - Linear Functions	(12.4) *****
		12.5 - Functions of Three Variables	(12.5) *****
3	2/6–2/10	13.1 - Displacement Vectors	(13.1) *****
		13.2 - Vectors in General	(13.2) *****
		13.3 - The Dot Product	(13.3) *****
4	2/13–2/17	**Drop deadline (no W on transcript) – Mon. 2/13**	(13.4) *****
		13.4 - The Cross Product	(14.1) *****
		14.1 - The Partial Derivative	
5	2/20–2/24	14.2 - Computing Partial Derivatives Algebraically	(14.2) *****
		14.3 - Local Linearity and the Differential	(14.3) *****
		14.4 - Directional Derivatives in the Plane	(14.4) *****
6	2/27–3/3	14.5 - Directional Derivatives in Space	(14.5) *****
		14.6 - The Chain Rule	(14.6) *****
7	3/6–3/10	**Drop deadline (W on transcript) – Mon. 3/6**	(14.7) *****
		Midterm 1 – Tues. 3/7	(15.1) *****
		14.7 - Second-Order Partial Derivatives	
		15.1 - Critical Points	
		15.3 - Lagrange Multipliers	
Spring Break, 3/13 – 3/19			
8	3/20–3/24	16.1 - Integrating Functions of Two Variables	(16.1) *****
		16.2 - Iterated Integrals	(16.2) *****
9	3/27–3/31	16.3 - Triple Integrals	(16.3) *****
		16.4 - Double Integrals in Polar Coordinates	(16.4) *****
10	4/3–4/7	16.5 - Integrals in Cylindrical and Spherical Coordinates	(16.5) *****
		17.1 - Paramaterized Curves	(17.1) *****
11	4/10–4/14	17.2 - Motion, Velocity, and Acceleration	(17.2) *****
		17.3 - Vector Fields	(17.3) *****
		18.1 - The Idea of a Line Integral	(18.1) ******
12	4/17–4/21	**Exam 2 – Tues. 4/18**	(18.2) *****
		18.2 - Line Integrals over Paramaterized Curves	
13	4/24–4/28	18.3 - Gradient Fields and Path-Independent Fields	(18.3) *****
		18.4 - Path-Dependent Fields and Green's Theorem	(18.4) *****
14	5/1–5/5	**Classes end – Mon. 5/1**	