Calculus C (Math 213) Syllabus
Spring 2009

Contact Information

Professor: Chris Camfield
Office: 317 Hayes Hall
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Web page: http://www2.kenyon.edu/Depts/Math/Camfield/

Office Hours:
Monday 2:00 – 4:00
Wednesday 2:00 – 4:00
Friday 2:00 – 3:00
Additional times by appointment

Office hours are for your benefit, and you are encouraged to take advantage of them. If you are unable to meet during the posted times, please feel free to contact me. I will happily try to find a time to accommodate you.

Course Information

Classroom: 311 Hayes Hall
Time: Monday, Wednesday, Friday 12:10 – 1:00

Course web page: http://www2.kenyon.edu/Depts/Math/Camfield/Calculus_C.html

Required textbook: *Calculus: Multivariable*, Fourth edition, by William G. McCallum, Deborah Hughes-Hallett, Andrew Gleason, et al.

Optional textbook: You should have access to a single variable calculus textbook for reference.

Software: Some work will be done in class using *Maple*. I will assume no prior knowledge of the program, so you will be taught what you need to know as we go along.

Course Description

The third in a three-semester calculus sequence, this course examines differentiation and integration in three dimensions. Topics of study include functions of more than one variable, vectors and vector algebra, partial derivatives, optimization, and multiple integrals. Some of the following topics from vector calculus will also be covered as time permits: vector fields, line integrals, flux integrals, curl, and divergence. Prerequisite: MATH 112 or permission of the instructor.

Course Procedures

Attendance:

Attendance at each class period is expected, but will not be graded. In the event of an excused absence (such as an athletic or other activity approved by the Dean of Students and the Dean of Academic Advising and Support), you must contact me in advance to make the appropriate arrangements. In the case of an emergency or illness, you need to first contact the Dean of Students. In the event of an absence, you are responsible for the material discussed during the missed class. You should check the web page and/or talk to a classmate to find out what you missed. While I am happy to answer questions in office hours, I will not repeat entire lectures for absent students.

Homework:

Homework problems will be assigned regularly consisting of problems from the text and created by myself. Homework will collected at the *BEGINNING* of class on the day it is due, and late homework will not be accepted. Extensions may be granted at my discretion, but must be discussed with me in advance. If you will miss class due to an excused absence (see section on attendance), please notify me in advance if possible.

You are expected to turn in neat and legible homework with problems and answers easily identifiable (neatness will factor into the grade). Explanations are to be written in complete sentences.

Homework assignments will usually be posted on the course web page after being assigned. *The classroom announcement serves as official notification of assignments.*

Exams:

There will be three in-class exams and one final exam, all of which should be considered comprehensive. The in-class exams will focus on the most recent material, but the nature of how the course builds upon itself makes all of the material relevant. Books, notes, and calculators are not permitted to be used during the exams.

Projects:

Effective communication of mathematical ideas in written and oral form is an important goal of this course. There will be two projects which will include a significant writing component. More information will be given in class.

Assessment

Your final course grade will be based on the following components and corresponding weights.

Homework	10%	Exam 1	15%
Project 1	10%	Exam 2	15%
Project 2	10%	Exam 3	15%
		Final Exam	25%

General Classroom Policies

Participation:

Classroom participation is encouraged and may factor into your final grade in borderline situations. There will be numerous opportunities to speak in class and present work in front of the class. Mathematical dialogue between students and the professor will be a regular part of class. Questions and comments are encouraged during class.

Computers and Cell Phones:

Our classroom provides a computer work station for each student. While class is in session, the computers are only to be used for class activities. If you show up early, you are free to use the computers for personal reasons before class starts. Cell phones need to be in silent mode during class (preferably off). Text messaging during class is not permitted.

Email:

Official class announcements will only go to your Kenyon email address. Check it often.

Academic Honesty:

In general, the rules set forth in the 2008-2009 Course of Study apply. Presenting the work of others as your own is strictly prohibited. In the case of homework, you may collaborate with others in discussing how a problem may be solved, but your write-up must be your own. If you submit work that contains the ideas or words of someone else, then you must provide proper citation. Assistance cannot be given nor received (other than by the instructor) on any quiz, or exam associated with this course, except where explicitly allowed by the instructor. For further information, consult your instructor.

Disability Accommodation:

If you have a disability and feel that you may have need for some type of academic accommodation in order to participate fully in this class, please feel free to discuss your concerns with me in private and also contact Erin Salva, Coordinator of Disability Services at PBX 5453 or via e-mail at salvae@kenyon.edu.

Tentative Course Schedule

This schedule is tentative and will be adjusted as necessary. Topics of actual lectures will appear on the course web page after they are given. Exam dates are unlikely to change.

Week	Date	Topic	Week	Date	Topic
1	Mon, Jan 12	12.1 Functions of Two Variables	8	Mon, Mar 16	15.1 Local Extrema
	Wed, Jan 14	12.2 Graphs of Functions of Two Variables		Wed, Mar 18	15.2 Optimization
	Fri, Jan 16	12.3 Contour Diagrams		Fri, Mar 20	15.3 Constrained Optim.: Lagrange Mult.
2	Mon, Jan 19	12.4 Linear Functions	9	Mon, Mar 23	15.3 Constrained Optim.: Lagrange Mult.
	Wed, Jan 21	12.6 Limits and Continuity		Wed, Mar 25	Review
	Fri, Jan 23	12.6 Limits and Continuity		**Fri, Mar 27**	**Exam 2**
3	Mon, Jan 26	13.1, 13.2 Vectors	10	Mon, Mar 30	16.1 Definite Integral of a Func. of Two Var.
	Wed, Jan 28	13.3 The Dot Product		Wed, Apr 1	16.2 Iterated Integrals
	Fri, Jan 30	13.4 The Cross Product		Fri, Apr 3	16.3 Triple Integrals
4	Mon, Feb 2	13.3, 13.4 More on Vector Products	11	Mon, Apr 6	16.2, 16.3 Problem Solving
	Wed, Feb 4	14.1 The Partial Derivative		Wed, Apr 8	16.4 Double Integrals in Polar Coordinates
	Fri, Feb 6	14.2 Computing Partial Derivatives		Fri, Apr 10	16.5 Integrals in Cylin. and Spher. Coord.
5	Mon, Feb 9	Review	12	Mon, Apr 13	Review
	Wed, Feb 11	**Exam 1**		**Wed, Apr 15**	**Exam 3**
	Fri, Feb 13	14.3 Local Linearity and the Differential		Fri, Apr 17	17.2 Motion, Velocity, and Acceleration
6	Mon, Feb 16	14.4 Gradients and Directional Derivatives	13	Mon, Apr 20	17.3, 17.4 Vector Fields and Vector Flow
	Wed, Feb 18	14.4 Gradients and Directional Derivatives		Wed, Apr 22	18.1 The Idea of a Line Integral
	Fri, Feb 20	14.6 The Chain Rule		Fri, Apr 24	18.2 Computing Line Integrals
7	Mon, Feb 23	14.7 Second Order Partial Derivatives	14	Mon, Apr 27	18.3 Path Independence and Gradient Fields
	Wed, Feb 25	14.8 Differentiability		Wed, Apr 29	To be determined…
	Fri, Feb 27	17.1 Parameterized Curves		Fri, May 1	Review
Spring Break			**15**	**Thu, May 7**	**Final Exam 1:30 – 4:30**

The time and date of the final exam is set by the Registrar's Office and cannot be changed. Family vacations and work schedules are not sufficient grounds for special accommodations.