Math 0240
Student Guidelines and Syllabus

About the course
This is the third in a sequence of three calculus courses for science and engineering students. The goal is to prepare you to make use of calculus as a practical problem-solving tool.

Prerequisite
Math 0230 or equivalent, with a grade of C or better.

Text
The text for this course is James Stewart, Essential Calculus, Early Transcendentals, second edition.

Recitations
Twice a week you will meet with your TA to go over problems related to the material covered the previous week.

Homework
All graded homework will be done online, using the LON CAPA system. In addition, you will be provided with a list of practice problems to do, even though they will not be handed in and graded. Quiz and exam problems will sometimes be modeled on these practice problems.

Grades
Your course grade will be determined as follows:
- Two midterm exams 50% (25% each)
- Final exam 30%
- Quizzes and online homework 20%

Some sections may deviate slightly from this recipe. Any deviations will be announced by your instructor at the beginning of the term.

Final Exam Policy
All day sections will take a departmental final exam at a time and place to be scheduled by the registrar. Calculators will not be permitted on the departmental final exam.
Evening sections will meet through final exam week, and the final exam will be given during the last one or two scheduled class periods.

Final Grade Policy
Your final grade will not exceed your final exam grade by more than one letter grade.

Exam Dates
See the class schedule for the dates of the two midterm exams. The date, time and room of the final exam will be announced by your instructor.

Materials
In addition to the textbook, you will need at least a scientific calculator. Any calculator with logarithms, exponentials, and trigonometric functions will do. Programmability is desirable but not essential. A graphing calculator, such as the TI83 or TI86, is better still.

Getting Help
Tutoring
Walk in tutoring is available in the Calculus/Engineering Lab and in the Math Assistance Center (MAC) on the third floor of Thackeray Hall. Tutoring hours will be posted outside the lab and the MAC, as well as on the web at
`http://calculus.math.pitt.edu.`

Office Hours
Your instructor will announce his office hours.

Disability Resource Services
If you have a disability for which you are or may be requesting an accommodation, you are encouraged to contact both your instructor and the Office of Disability Resources and Services, 216 William Pitt Union (412) 624-7890 as early as possible in the term.

Academic Integrity
Cheating/plagiarism will not be tolerated. Students suspected of violating the University of Pittsburgh Policy on Academic Integrity will incur a minimum sanction of a zero score for the quiz, exam or paper in question. Additional sanctions may be imposed, depending on the severity of the infraction.

Math 0240 Schedule and Practice Problems

August 26: Vectors
ed1: 10.2 Number 2, 5-29
ed2: 10.2 Number 2, 5-30, 33-37
August 28: The Dot Product
ed1: 10.3 Number 3-8, 12-34
ed2: 10.3 Number 2-10, 14-39
August 30: The Cross Product
ed1: 10.4 Number 1-9, 13-16, 21-37
ed2: 10.4 Number 1-9, 13, 17-20, 25-41
September 4: Equations of Lines and Planes
ed1: 10.5 Number 1-41, 45-50
ed2: 10.5 Number 1-43, 47-52
September 6: Cylinders and Quadric Surfaces
ed1: 10.6 Number 3-8, 11-30
ed2: 10.6 Number 3-8, 11-30
September 9: Vector Functions and Space Curves
ed1: 10.7 Number 3-22, 33-52
ed2: 10.7 Number 3-22, 33-52
September 11: Arc Length and Curvature
ed1: 10.8 Number 1-4, 7-8, 11-19, 21-25, 33-38
ed2: 10.8 Number 1-4, 9-10, 13-21, 23-27, 37-40
September 13: Motion in Space: Velocity and Acceleration
ed1: 10.9 Number 1-25
ed2: 10.9 Number 1-25
September 16: Functions of several variables
ed1: 11.1 Number 1-11 odd, 13-35, 41-50
ed2: 11.1 Number 1-11 odd, 13-35, 41-50
September 18: Limits and continuity
ed1: 11.2 Number 3-28
ed2: 11.2 Number 3-28
September 20: Partial derivatives
ed1: 11.3 Number 1-60
ed2: 11.3 Number 1-64
September 23: Tangent planes and linearization
ed1: 11.4 Number 1-6, 11-32
ed2: 11.4 Number 1-6, 11-34
September 25: Chain rule
ed1: 11.5 Number 1-30
ed2: 11.5 Number 1-30
September 27: Directional derivative and the gradient vector
ed1: 11.6 Number 1-34
ed2: 11.6 Number 1-36
September 30: Maximum and minimum values
ed1: 11.7 Number 1-28
ed2: 11.7 Number 1-28
October 2: Lagrange multipliers
ed1: 11.8 Number 1-17, 25-37 odd, 38-40
ed2: 11.8 Number 1-19, 29-39 odd, 42-44
October 4: Review
October 7: Exam 1
October 9: Double integrals over rectangles
ed1: 12.1 Number 7-34
ed2: 12.1 Number 7-26, 29-35
October 11: Double integrals over general regions
ed1: 12.2 Number 1-28, 37-42
ed2: 12.2 Number 1-12, 15-32, 43-48

October 15: Double integrals in polar coordinates
ed1: 12.3 Number 1-26
ed2: 12.3 Number 1-26
October 16: Applications of double integrals
ed1: 12.4 Number 1-14
ed2: 12.4 Number 1-16
October 18: Triple integrals
ed1: 12.5 Number 1-20, 23-40
ed2: 12.5 Number 1-20, 23-42
October 21: Triple integrals in cylindrical coordinates
ed1: 12.6 Number 1-23, 25-28
ed2: 12.6 Number 1-25, 28-30
October 23: Triple integrals in spherical coordinates
ed1: 12.7 Number 1-27, 35-36
ed2: 12.7 Number 1-27, 37-39
October 25: Change of variables in multiple integrals
ed1: 12.8 Number 1-22
ed2: 12.8 Number 1-10, 15-21, 23-26
October 28: Vector fields
ed1: 13.1 Number 1-32
ed2: 13.1 Number 1-32
October 30: Line integrals
ed1: 13.2 Number 1-24, 33-37
ed2: 13.2 Number 1-22, 37-40, 43
November 1: Fundamental Theorem of Line Integrals
ed1: 13.3 Number 1-22
ed2: 13.3 Number 1-22
November 4: Green's Theorem
ed1: 13.4 Number 1-21
ed2: 13.4 Number 1-21
November 6: Review
November 8: Exam 2
November 11: Curl and divergence
ed1: 13.5 Number 1-30
ed2: 13.5 Number 1-30
November 13: Parametric surfaces and their areas
ed1: 13.6 Number 1-4, 15-22, 29-44
ed2: 13.6 Number 1-4, 15-22, 29-44, 46
November 15: Surface integrals
ed1: 13.7 Number 1-27
ed2: 13.7 Number 1-31
November 18: Stokes' Theorem
ed1: 13.8 Number 1-15
ed2: 13.8 Number 1-17
November 20: Stokes' Theorem (cont.)
November 22: Divergence Theorem
ed1: 13.9 Number 1-30
ed2: 13.9 Number 1-30
November 25: Divergence Theorem (cont.)
December 2: Review
December 4: Review
December 6: Review
December 9, 4:00 - 5:50 PM:
Final Exam (all day sections)