Syllabus for Calculus Section 3
Interphase Edge 2014

Lecture: MWF 10:40am-12:10pm in 36-153

Workshop: TR 2:50pm-4:00pm
(Section D) 36-112 / (Section E) 36-144

Instructor: Paul Hand (hand@math.mit.edu), Office Hours: Sunday 8-10pm at Maseeh Basement

Course Assistants:

Kristyn Kadala (kkadala@alum.mit.edu), Office Hours: Sunday 7-9pm at Maseeh Basement

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Text: Edwards & Penney "Multivariable Calculus"

Supplemental Resource: You can find many practice problems with solutions at www.leadinglesson.com

Material to be Covered: This course will cover the key ideas from chapters 12-15 of E&P. This is a subset of the syllabus for 18.02 (Multivariable Calculus).

Problem Sets: There will be five problem sets, all due on Mondays in lecture. Students are encouraged to work with others, but each student must write up his or her own solutions.

Exams: There will be a midterm on Wednesday July 14, and a final exam on Thursday August 7 from 1-4pm. The midterm will occur during the lecture period.

Grading:

- 10% Class/workshop participation
- 30% Midterm
- 30% Final exam
- 30% Problem sets

Course Schedule

M	30 June	1. Vectors, Dot Product, Geometric Proofs with Vectors	
W	2 July	2. Lines and Planes, Determinants, Cross Product	
M	7 July	3. Parametric curves, Velocity, Speed, Acceleration, Arc Length	**Pset 1 Due**
W	9 July	4. Functions of several variables, surfaces, level sets, partial derivatives	
F	11 July	5. Gradients, Directional Derivatives, Tangent Planes, Linear approximation	
M	14 July	6. Unconstrained Optimization, Critical Points, Lagrange Multipliers	**Pset 2 Due**
W	16 July	7. Double Integrals in Cartesian Coordinates, Area and Volume	
F	18 July	**MIDTERM (on lectures 1-5)**	
M	21 July	8. Polar Coordinates, Double Integrals in Polar Coordinates	**Pset 3 Due**
W	23 July	9. Cylindrical and Spherical Coordinates, Triple Integrals in Cartesian, Cylindrical, and Spherical Coordinates	
F	25 July	10. General Change of Variables	
M	28 July	11. Vector Fields, Line Integrals, Conservative Vector Fields	**Pset 4 Due**
W	30 July	12. Green's Theorem	
F	1 Aug	13. Surface Integrals	
M	4 Aug	14. Series, Taylor Series	**Pset 5 Due**
W	6 Aug	15. Review for final exam	
R	7 Aug	FINAL EXAM (covering lectures 1-12)	

Course schedule is tentative and subject to change.