MATHEMATICS 227 Section 201
ADVANCED CALCULUS II
2015W Term 2, January–April 2016

Prerequisite: A score of 68% or higher in MATH 226.

INSTRUCTOR:
- Joel Feldman
- Math building room 221
- 604–822–5660
- feldman@math.ubc.ca
- http://www.math.ubc.ca/~feldman/
- lectures: MWF 12:00–13:00 in room MATH 103
- office hours: Monday 1:30–2:30, Tuesday 1:30–2:30, Thursday 2:00–3:00

TEXT:
Robert A. Adams and Christopher Essex, Calculus: Several Variables (or Calculus: A Complete Course) eighth edition or any earlier edition. (Some earlier editions have Adams as the sole author.)

I will post all handouts, problem sets, etc. on the web at
http://www.math.ubc.ca/~feldman/m227/

TOPICS:
1. Curves (§11):
   curves, velocity, acceleration, arc length, curvature, tangent, normal, binormal, planetary motion.
2. Vector Fields and Line Integrals (§15.1 – 15.4):
   vector fields, field lines, conservative fields, line integrals.
3. Surface integrals (§15.5, 15.6):
   surfaces, surface area, flux integrals.
4. Integral Theorems (§16):
   gradient, divergence and curl, vector identities, divergence theorem, Green's theorem, Stokes' theorem, applications.
5. Differential forms (web notes):
   General Stokes' Theorem (if time permits)

GRADING:
- There will be two midterms (tentatively scheduled for Wednesday, February 10 and Wednesday, March 16) accounting for about 40% of the final mark.
- There will be weekly problem sets accounting for about 10% of the final mark.
- The final exam will account for about 50% of the final mark.
- Grades **will** probably **be scaled**.

POLICIES:
- Students are allowed to consult one another concerning homework problems, but solutions submitted for credit must be written by the student in his or her own words. Copying solutions from another student, from the web or from any other source, and turning them in as your own is a violation of the Academic Code.
- Missing a homework or midterm results in a mark of 0, unless you have a serious *documented* reason (an illness, a death in the family, etc.).
- Missed finals are not handled by me or the Mathematics Department. Students with legitimate reasons for missing the final exam should request a "Standing Deferred" status through their Faculty.

Schedule of Problem Sets and Midterms

	Mon	Wed	Fri
Jan	4	6	8
	11	13 Problem Set I	15
	18	20 Problem Set II	22
	25	27 Problem Set III	29
Feb	1	3 Problem Set IV	5
	8 no class	10 Midterm I	12
	15 midterm break	17 midterm break	19 midterm break
	22	24 Problem Set V	26
	29	2 Problem Set VI	4
Mar	7	9 Problem Set VII	11
	14	16 Midterm II	18
	21	23 Problem Set VIII	25 no class
	28 no class	30 Problem Set IX	1
Apr	4	6 Problem Set X	8