

MATH 227
Advanced Calculus II (Honours Vector Calculus)
2016W Term 2
January-April, 2017

Instructor Information

Instructor: [Brian Marcus](#)

Email : [marcus\[at\]math\[dot\]ubc\[dot\]ca](mailto:marcus[at]math[dot]ubc[dot]ca)

Office: Math Building, Room 218

Office Hours: Monday, Friday 2:00-3:00, Tuesday 1:30-3:00, and by appointment.

Phone: 822-1369

Course Information

Section: 201

Class time: MWF 12:00 - 12:50

Class location: [Mathematics 203](#)

Course web page: <http://www.math.ubc.ca/~marcus/Math227> will be updated throughout the term.

Textbook: Calculus: A Complete Course, R. Adams and C. Essex, 8th edition (or Calculus of Several Variables, R. Adams and C. Essex, 8th edition)

Pre-requisite:

A score of 68% or higher in Math 226, or permission of department head.

Course Description :

This is an honours course on vector calculus, which bridges the gap between classical physics and modern differential geometry. We plan to cover Chapters 11, 15, 16 and part of 17 of the textbook.

Topics include parametrized curves, Frenet frames, complete invariants of space curves, Kepler's laws, vector fields, line integrals, surface integrals, classical theorems of Green, Stokes and Gauss, and an

introduction to higher-dimensional generalizations via differential forms.

Evaluation

Your course mark will be based on homework, the midterms and the final exam:

Homework (15%) + Midterms (35%) + Final Exam (50%)

Homework is an essential part of the course. Homework will be assigned every week and collected in class on Wednesdays. A portion of each assignment will be graded by the course marker. Late homework will not be accepted. The lowest homework grade will be dropped. 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.

Missed Exam Policy: Please make sure you do not make travel plans, work plans, etc., without regard to the examination schedule in this class. There will be no make-up or alternate exams.

If you miss a midterm, your score will be recorded as 0, unless you have a serious documented reason (an illness, a death in the family, etc.), in which case you must discuss your circumstances with the Instructor as soon as possible, and well in advance of the test.

Missed finals are not handled by the Instructor or the Mathematics Department. Students with legitimate reasons for missing the final exam should request a "Standing Deferred" status through their Faculty.

Academic Integrity: The Mathematics Department strictly enforces UBC's Academic Integrity Code.