Math 254 - 15124 - Vector Calculus I (4)
Syllabus - OSU - Fall 2015

Instructor: Filix Maisch    e-mail: maischf@math.oregonstate.edu

Meetings: MWF 1 - 1:50 PM (& a 50-min recitation on Thursday)

Room: GLSN 200    office: BEXL 429    Off. hrs: MWF 2:30 - 3:30 PM

Text: Calculus, Early Transcendentals, Briggs, Cochran, et al. (2nd edition)

Web: people.oregonstate.edu/~maischf/

Enforced Prerequisites: Math 252 or Math 252H with a C- or better ... or ... instructor permission.

Attendance: Regular attendance to lecture and recitation is expected.

Honor Code: Students are expected to be familiar with Oregon State University's Expectations for Student Conduct. Please review these at the following web link:

http://studentlife.oregonstate.edu/studentconduct/

Accommodations: Accommodations are collaborative efforts between students, faculty and Disability Access Services (DAS). Students with accommodations approved through DAS are responsible for contacting the faculty member in charge of the course prior to or during the first week of the term. Students who believe they are eligible for accommodations should contact DAS immediately at 737-4098.

Course Description: This course begins with a survey of vectors, vector functions, and curves in two and three dimensions. Next this course studies functions of many variables, with a focus on surfaces in three dimensions, partial derivatives, gradients, and directional derivatives. Finally, this course covers multiple integrals in rectangular, polar, cylindrical, and spherical coordinates. Along the way, physical and geometric applications are included.

Schedule: See web for tentative term schedule.

Evaluation: Your grade is determined by online homework, recitation quizzes, unannounced in-class true-false discussion quizzes, two evening midterms, and a final. Your final performance, scaled from 160 to 80, can replace the worse of your two midterms. Here is the point breakdown:

- Homework .................. 70 (Take your avg. homework percentage of 70 and round up.)
- Recitation Quizzes ... 80 (Top eight of nine recitation quizzes worth 10 points each.)
- T/F Quizzes ............. 30 (Top three of four true-false quizzes worth 10 points each.)
- Midterm 1 ............... 80 (7 - 8:20 PM, Tuesday, Oct. 27th, Weniger 151)
- Midterm 2 ............... 80 (7 - 8:20 PM, Tuesday, Nov. 17th, Weniger 151)
- Final ..................... 160 (4 - 5:50 PM, Thursday, Dec. 10th. location TBA)

Grades will not be harder than:

450 - 500 A/A-, 400 - 449 B+/B/B-, 350 - 399 C+/C, 300 - 349 D, 0 - 299 F.

I DO NOT USE CANVAS. At the end of this syllabus you have a page on which you can record your scores.
Homework: Homework is online through www.mymathlab.com. On the web page there is also a list of suggested exercises from the text corresponding to recitation quizzes. Usually you get 3 attempts for credit. Late homework can be completed for a 10% penalty.

Course ID: maisch65599

Resources: The Math Learning Center is in Kidder 108H and is a great place to drop in for help. It is open from 9 AM to 4 PM, Monday through Friday, from Wednesday Sept. 30th onward. I volunteer there for an hour on Fridays at 9 AM. Treat this as an additional office hour.

Tests: Note that no calculators of any kind are allowed on either midterm nor the final. You are allowed both sides of one 3x5 inch handwritten note card for each midterm and both sides of one 4x6 inch handwritten note card for the final. Your final exam can replace your worst midterm if your performance on the final is better than your worst midterm. Tests are not allowed to be made-up unless the circumstances are truly exceptional and contact requesting the accommodation is made PRIOR to the test.

T/F Quizzes: No calculators nor notes are allowed on the unannounced in-class true-false discussion quizzes, but you are intended to share your reasoning with fellow students and discussion the questions out loud! These quizzes can occur anytime during class, so try not to be late to lecture. No make-up unless the reason you missed the quiz was for a verifiable OSU-based obligation (like being on the soccer team at an away game).

Recitation Quizzes: No notes are allowed on the weekly recitation quizzes in Thursday recitations, but you may work individually or in a group of 2 or 3, and any kind of calculator is permitted. Each week, the 2 – 4 quiz problems are drawn randomly and verbatim from the suggested homework which is listed by quiz correspondence (see web page). You must produce the solutions from scratch (you CANNOT pull out your already completed suggested homework and copy your solution). You may work individually or in groups of 2 – 3. Every person is responsible for their own submission. Recitation is canceled on the first Thursday of the term (Sept. 24th). Starting on Oct. 1st there will be a recitation quiz every Thursday (except Thanksgiving). Your recitation TA will be in charge all policies (grading, make-ups, etc.) regarding recitation quizzes. Do not e-mail your instructor concerning a recitation quiz.

Specific Learning Outcomes: A successful student in Math 254 will be able to...
1. Represent vectors both algebraically and geometrically, and be able to use vector methods effectively in problem solving.
2. Use the dot and cross product to solve problems, in a geometrical or physical setting.
3. Apply partial derivatives, directional derivatives, and gradients to solve problems of multivariable differential calculus such as max-min problems and rates of change of physical processes in space.
4. Evaluate multiple integrals in rectangular, polar, spherical, and cylindrical coordinates.
5. Use vector functions to analyze particle motion (position vectors, components of acceleration) and to represent curves using parameters.
6. Integrate and differentiate vector functions.
Write down your scores!

(1) Quiz 1: .....out of 10

(2) Quiz 2: .....out of 10

(3) Quiz 3: .....out of 10

(4) Quiz 4: .....out of 10

(5) Midterm 1: .....out of 80

(6) Quiz 5: .....out of 10

(7) Quiz 6: .....out of 10

(8) Quiz 7: .....out of 10

(9) Midterm 2: .....out of 80

(10) Quiz 8: .....out of 10

(11) Quiz 9: .....out of 10

(12) Best 8 of 9 Quizzes: .....out of 80

(13) Homework: .....out of 70

(14) True-False Quiz 1: .....out of 10

(15) True-False Quiz 2: .....out of 10

(16) True-False Quiz 3: .....out of 10

(17) True-False Quiz 4: .....out of 10

(18) Best 3 of 4 True-False Quizzes: .....out of 30

(19) Final: .....out of 160