

Math 112A (3 units)

Spring 2007

Class Number/section: 31758/01

Location: MH 320, TR 9:00 - 10:15

Instructor: Prof. Hedley Morris

Office: 411 McQuarrie Hall

Office Hours: 10.30-11.45, 15.00-15.45 T/TR

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(preferred means of contact)

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Textbook: Susan Jane Colley, Vector Calculus, 3rd Edition, 2006 Pearson Prentice Hall.

Description: Algebra and calculus of vectors, metric structure of Euclidean space, transformations, vector fields, integration, and applications, introduction to Cartesian tensors.

Prerequisites: Math 32 (with a grade of C- or better) or instructor consent.

Learning Outcomes:

- Recognize the extension of elementary ideas of functions and calculus to a 3D description based on vector fields and potentials.
- Manipulate, differentiate and integrate functions of several variables.
- Understand the derivation and significance of concepts of div, grad and curl.
- Manipulate expressions including the vector differential operator, grad, and use vector identities.
- Evaluate line, surface and volume integrals.
- State the integral theorems of Gauss, Green and Stokes.

Homework: Homework will be assigned but not graded. The homework problems will be the source from which some of the Mid Term and Final questions are selected.

Exams: There will be 3 midterms and 1 final examination. There will be **NO** make-ups. The tentative dates are Feb. 22, Mar 22 and Apr 26.

Grading scheme: Each of the three mid-terms will be equally weighted and worth 20 points.

The final examination is worth 40 points. The grade in the course will be determined approximately as follows:

A	90-100 points
B	80-89 points
C	70-79 points
D	60-69 points
F	0-59 points

Final Exam: The final exam will take place as specified in the Final Exam Calendar which can be found online at

<http://info.sjsu.edu/home/schedules.html>

Week	Dates	Sections
1	01/25	2.1
2	01/30-02/01	2.2 – 2.4
3	02/06-02/08	2.5 – 2.8
4	02/13-02/15	3.1–3.6
5	02/20-02/22	MID 1
6	02/27-03/01	4.1 –4.2
7	03/06-03/08	4.3 – 4.6
8	03/13-03/15	5.1 – 5.4
9	03/20-03/22	MID 2
10	04/03-04/05	5.5 – 5.8
11	04/10-04/12	6.1 – 6.5
12	04/17-04/19	7.1 – 7.2
13	04/24-04/26	MID 3
14	05/01-05/03	7.3
15	05/08-05/10	8.1-8.3
16	05/15	Review

Academic Integrity:

The SJSU position on Academic Integrity can be found at: www2.sjsu.edu/senate/S04-12.pdf

If you need course adaptations or accommodations because of a disability, or if you need special arrangements in case the building must be evacuated, please make an appointment with me as soon as possible, or see me during office hours. Presidential Directive 97-03 requires that students with disabilities register with DRC to establish a record of their disability.