

CALCULUS III MATH 252

Fall 2016

Sections 1-8

Catalog Description: MATH 252. Calculus III (4) [GE]

Functions of several variables. Vectors. Partial derivatives and multiple integrals. Line integrals and Green's Theorem

Lectures:

Sections 1-4: MWF 9-9:50 SSW-1500

Sections 5-8: MWF 12-12:50 SSW-1500

Problem Sessions:

Section 1 (22193) T 8-8:50 GMCS-307

Section 3 (22195) W 13-13:50 GMCS-307

Section 4 (22196) T 11-11:50 LSN-134

Section 5 (22197) TH 8-8:50 GMCS-307

Section 6 (22198) T 8-8:50 GMCS-325

Section 7 (22199) W 9-9:50 GMCS-306

Section 8 (22200) TH 11-11:50 LSN-134

Professor: Tunc Geveci tgeveci@mail.sdsu.edu

Office: GMCS-505

Office Hours: MW 10:15-11:45

TAs:

Sections 1-4: William Byrd wbyrd@mymail.mines.edu

Sections 5-8: Stefan Ehard stefan.ehard@uni-ulm.de

The Purpose and Course Content: Calculus III is the last course in the sequence Calculus I – Calculus II – Calculus III. Calculus I and Calculus II involve mainly functions of a single variable. Calculus III deals with functions of several variables and covers the following topics:

1. **Vectors in the Plane and Space:** The dot product, the cross product, lines, planes, quadric surfaces
2. **Parametrized Curves:** Velocity, acceleration and tangent vectors, arc length, curvature
3. **The Differential Calculus of Functions of Several Variables:** Partial derivatives, local linear approximations, the differential, the chain Rule, directional derivatives and the gradient, maxima and minima, Lagrange Multipliers, parametrized surfaces
4. **Multiple Integrals:** Double and triple integrals, change of variables in multiple integrals
5. **Vector Analysis:** Vector fields, line integrals, Surface integrals, Green's Theorem, Stokes' Theorem, Gauss' Theorem (the depth of the coverage of the last two items depends on the availability of time at the end of the semester)

Student Learning Outcomes: The student who completes the course successfully will be ready to take courses that involve functions of several variables in many areas of Mathematics, science and engineering, such as partial differential equations, fluid mechanics and electromagnetism.

Prerequisite: Math 151 (Calculus II) with a grade C or above. Students who need to provide evidence with regard to the satisfaction of the prerequisite will be announced in the first problem session of the semester.

Blackboard will be used: <https://blackboard.sdsu.edu> . You will have access to your own Math 252 section and to the combined Geveci section (Math 252-1-8-CX-Fall 2016). Your grades will be posted at the grade book of your own section. Documents that are relevant to all Geveci sections will be posted at the combined section site. Documents that are specific to a particular section will be posted on that section's site.

Text: Calculus III by Tunc Geveci. The PDF file for the book is posted under "Course Documents" in the combined section on Blackboard. You may also obtain a hard copy of the book. Ordering information is on Blackboard under "Course Documents" in the combined section. You are entitled to the discounted price of \$40.95 since the author has waived royalties from books sold to SDSU students. The complete solution manual is available under "Course Documents" in the combined section (I suggest that you do not consult the manual until you have tried to solve a problem on your own so that you can benefit from working on that problem). Additional notes, homework problems and solutions may be posted as well.

Mode of Instruction: The professor will lecture on Monday, Wednesday and Friday. Each problem section will meet with the TA at the specified time.

Grading Policy:

You need to do all the problems in the book even though they will not be graded. The problems in the exams will be similar to those problems (sample problems will be posted on Blackboard before each exam). There will be three in-term exams and each exam is worth 22% of the semester grade. **There will be no make-up exams.** If you miss an exam and provide a doctor's report in case of sickness, or documentation from the relevant SDSU department in case the exam is missed due to a sports event, the final exam score will be substituted for the score of the missed exam. The final exam is worth 34% of the semester grade. Notes, books, calculators or electronic gadgets will not be used in the exams. **Cheating** results in the score "0" for the relevant exam and will be reported to the Center for Student Rights and Responsibilities for disciplinary action.

The tentative exam dates are Friday, September 23; Friday, October 21; Wednesday, November 16. The final exam is on Saturday, December 17 (9:30-11:30).

The semester grade will be assigned in accordance with the following correspondence between weighted averages and letters (a modification of the absolute scale where 0-59 = F, etc.). The list may be modified slightly, in favor of the students, if warranted by the performance of the class.

90-100: A

85-89: A-
80-84: B
75-79: B-
71-74: C+
65-70: C
55-64: D+
45-54: D
0-44: F

A remark on conduct during lectures: You will direct any questions you may have to me. If you need to leave the lecture early for some compelling reason, let me know just before the class and place yourself somewhere close to an exit so that you will not distract me or the other students.

SYLLABUS STATEMENT for Students with Disabilities

If you are a student with a disability and believe you will need accommodations for this class it is your responsibility to contact **Student Disability Services** at [\(619\) 594-6473](tel:6195946473). To avoid any delay in the receipt of your accommodations, you should contact Student Disability Services as soon as possible. Please note that accommodations are not retroactive, and that accommodations based upon disability cannot be provided until you have presented your instructor with an accommodation letter from Student Disability Services. Your cooperation is appreciated.

Important days:

August 29 First day of classes

September 5 Labor Day

September 8 Last Day for Faculty to drop students

September 12 Last day to add or drop classes

November 11 Veterans Day

November 23-25 Thanksgiving

December 14 Last day of Classes

Final Exam: Saturday, December 17 (9:30-11:30)

Information about Math and Statistics Learning Center

The Math and Statistics Learning Center is located in the Love Library, rooms 327-328. The center is primarily targeted for students in Math 141-151, but students from Math 252 are also welcome. The center is open from 9-6 on M-Th, and 9-4 on Fridays. You are welcome to walk in at any time to get help. In addition to walk in tutoring, the center is offering two new features this semester: appointment-based sessions (30 minute one-on-one sessions with a tutor) and online tutoring for those students who cannot make it to campus. Each of these requires a reservation to be made at least 48 hours ahead of time. Visit the website for more information: <http://sdsumslc.wixsite.com/sdsumslc> or <http://www.sci.sdsu.edu/mathcenter/>

