

MATH 4013.001/01G—Calculus of Several Variables—Fall, 2015
MWF 11:30 AM-12:20 PM, Stout Hall 044

Instructor: Dr. Robert Myers, Professor of Mathematics

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Office Hours: MWF 2:30–3:20 PM or by appointment. Note: These hours are tentative and may be changed. They may also be occasionally cancelled or rescheduled; check the news on D2L for current information.

Online Classroom (Desire to Learn, “D2L”): <https://oc.okstate.edu>

Check this site for announcements, updates, homework assignments, exam reviews, and other material. It will include scans of all the course lecture notes. **It will also include some material which is not contained in the book. You will be responsible for this material.**

Prerequisites: Math 2613 Calculus III and Math 3013 Linear Algebra.

Text: *Vector Calculus, 6th Edition*, by Jerrold E. Marsden and Anthony J. Tromba. Note: You may use the 5th edition of the book instead, but you should be aware that the homework problems have been renumbered and re-ordered. Lists of the homework problems for both editions have been posted on D2L. We will cover most sections of the book **and, as time permits, some additional topics from outside the book. Notes and exercises on such material will be available on the course D2L page.**

Quizzes and Homework: Several times during the semester a quiz (closed book and closed notes, unless otherwise indicated) will be given. Homework will be assigned, but it will not be collected or graded. Nevertheless, it is extremely important that you work on the homework problems; the quizzes and exams will include similar problems. Quizzes will be announced in class and on the D2L Course Homepage. The list of homework problems will be posted on D2L under Content.

Exams: There will be three fifty-minute examinations. They will be announced in class and on D2L. A comprehensive final examination will be administered from 10:00 to 11:50 AM on Monday, December 7. Unless otherwise indicated, exams will be closed book, closed notes.

Grading: Each 50-minute exam is graded on a 100 point scale and counts 20% of your total course score. The final is graded on a 200 point scale and counts 30% of your total score. There is no curving of exam scores.

The individual quizzes may be graded on different point scales. At the end of the semester your total quiz score will be adjusted to a 100 point scale as follows. A certain number of quiz points will be dropped from the maximum possible number of points to obtain a certain “perfect score”. For example, suppose that there were six quizzes and that their individual point scales were 25, 20, 30, 25, 30, and 20. Then the maximum possible number of quiz points would be $25+20+30+25+30+20=150$. If 30 points were dropped, then the “perfect score” would be 120. You would then be assigned the percentage (up to 100) of this “perfect score” that you have earned. Continuing with our example, if your scores were 20, 0, 10, 25, 20, and 15 you would have $20+0+10+25+20+15=90$ quiz points. Then your total quiz percentage would be 75 (90 out of 120) instead of 60 (90 out of 150). If, in this example, you earned 120 or more quiz points then you would receive the maximum of 100. The number you are assigned will then count 10% of your total course score.

The following formula will give you a total course score which is some number out of 1000.

$$\text{TOTAL} = 2(\text{EXAM 1} + \text{EXAM 2} + \text{EXAM 3}) + (1.5)\text{FINAL} + \text{QUIZ}\%$$

If you make at least the following total score, you will make at least the indicated letter grade. (Depending on the distribution of scores, it is possible that lower cutoffs may be used.)

900 points–A, 800 points–B, 700 points–C, 600 points–D

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Partial Credit: On quizzes there will be very little, if any, partial credit. On exams the amount of partial credit will depend primarily on how much of a problem you do correctly. On both quizzes and exams it is extremely important that you write down all of the steps involved in getting your final answer, not just the final answer by itself, in order to ensure credit. In general, once you make a mistake or deviate from the method required on that problem you will receive no credit on the rest of the problem.

Online Material: The Online Classroom site for this course will contain general information and announcements, quiz and exam keys, review sheets, and possibly other material, such as notes and exercises on supplemental topics and links to resources on the Web.

Computer Software: Your understanding of the material in this course may be enhanced by the use of software for graphing. This is particularly true for three dimensional graphing. There are also some lengthy computations, such as those of multiple integrals, which can be made easier by the use of symbolic mathematics programs. While some graphing calculators such as the TI-89 have some of these capabilities there are computer programs which may be easier to use, are more powerful, and draw much better graphs. One such program is Maple; another is Mathematica. They are available on the computers in the Mathematics Learning Success Center (on the fifth floor of Edmon Low Library). See <http://www.math.okstate.edu/mlsc> for more information. Both these programs are also available in various computer labs around campus. See <http://it.okstate.edu/services/labs.php> for locations and hours. They are also available on the OSU Virtual Labs. Go to <http://it.okstate.edu/howto> and expand Virtual Lab Services to find information on how to set up your computer to access the Virtual Labs. For information on getting help for computer issues visit <http://help.okstate.edu> Another program to investigate is Matlab. You are not required to use such software, but I urge you to familiarize yourself with it. In particular, it is an excellent way to check your homework.

Electronic Device Usage: On quizzes and exams you may use a calculator no more powerful than a TI-89. Note that if a problem states that you must show all the algebraic and/or calculus steps involved, then you must do so rather than just copying down calculator results. **You may not use any other electronic devices, including computers, tablets, phones, music players, radios, or any device with a QWERTY keyboard.** TI-83 calculators can be checked out for the semester for free from the Mathematics Department office, 401 MSCS during normal business hours as long as supplies last.

Makeups: The procedure described earlier of dropping a certain number of quiz points to obtain a “perfect score” is the official mechanism for dealing with missed quizzes. Therefore, **there will be no makeups for missed quizzes, no matter what the reason why the quizzes were missed.**

Makeups for exams will be given only for serious and unavoidable reasons. You should try if at all possible to contact me before the regularly scheduled exam time. These makeup exams may be somewhat harder than the original exams.

Syllabus Attachment: This document contains further information on such things as drop dates, incomplete grades, special accommodations for students with disabilities, academic integrity, where to go for help on various issues, and general university policies. It is available through the course D2L page as well as from the following website: Go to <http://academicaffairs.okstate.edu>. Click on Resources for Students. Then click on Current Syllabus Attachment.