

SM221 CALCULUS III
Section XXXX
POLICY STATEMENT
Spring 2016–2017

Instructor: Prof. Hottovy

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Class Website: <http://www.usna.edu/Users/math/hottovy/Teaching/index>

Learning Goals and Objectives for Calculus III, SM221 (Student Learning Outcomes):

Upon successful completion of this course, students are able to do the following:

- Describe basic curves and space motion using vector functions and their derivatives and integrals; describe basic surfaces using rectangular, cylindrical, and spherical coordinates; describe basic surfaces using parametrizations.
- Find partial derivatives, directional derivatives, and gradient vectors; demonstrate proficiency in relating these to the changes in a function; demonstrate intuitive understanding of the curl, divergence, and the main theorems in vector calculus.
- Solve extreme value problems by classification of critical points.
- Demonstrate proficiency in evaluating double and triple integrals in various coordinate systems; establish connections between density and mass, center of mass; demonstrate proficiency in evaluating line integrals and surface integrals of vector fields and interpreting the results in connection to work, potential, or flux for the field.
- Write well-organized, coherent solutions to application problems.
- Learn to solve problems not encountered before in class or the text.

GRADES: Course grades will be computed as follows:

Webassign & Class Participation	10%
Quizzes	10%
Tests	55%
Final Exam	25%

Scale: The scales will be the following

100 – 90 : A, 89.9 – 80 : B, 79.9 – 70 : C, 69.9 – 60 : D, 59.9 – 00 : F.

However, the professor reserves the right to decrease the lower limit of each scale at the end of the year.

Active Learning: This class will be taught with a major active learning component. This means the students will be solving problems through discussions with each other and with little guidance by the instructor. Research has shown that material is learned and retained better with these techniques.

Midshipmen Expectations: Every student is to show respect to the professor, each other, and themselves. The students are expect to come to class prepared, participate in group work everyday, ask questions, and alerting the professor to any misunderstanding. Most importantly, every student has the responsibility to contact the professor (anonymously if needed) if there are any problems with class that could be addressed by the professor immediately.

Academic Integrity: Midshipmen are reminded of the USNA statement on plagiarism, available at: <http://libguides.usna.edu/content.php?pid=344689&sid=2846799>. The professor reserves the right to give a failing grade if cheating is suspected.

Webassign: Please sign up for a Webassign account using your username m20XXXX, and your @usna.edu email address. The class key for this section is

key: email Prof. Hottovy for your key

Quizzes: There will be weekly quizzes to give feed back on the material being covered.

Tests and Exam: There will be four tests during the semester and a comprehensive final exam at the end of the year. No calculators or computers are allowed on the tests and exam. Each midshipmen is allowed one 3.5 by 5 in index card with hand written notes is allowed on the final exam. The lowest test may be dropped and substituted with the final exam grade if it is higher.

Calculator and Laptop Policy: Calculators may be used on homeworks but must be documented. Laptops will be used periodically in class. However, they should remain stored until specifically directed by the professor.

Extra Instruction: Times at which E.I. is available without an appointment will be announced in class, since these times may vary from week to week. E.I. is also available by appointment. The best way to request an appointment is to email me with a list of available times to meet. Please do not hesitate to ask for E.I. if you are having difficulty with the course or if you have questions about the homework or lectures.

Math Lab: If you are unable to schedule E.I. with your instructor, you may get E.I. at the Math Lab in located in Chauvenet 130. It is staffed all six periods every class day.

Additional Notes:

1. **Study Skills:** The value you get out of this course is proportional to the effort you put into it. Keep in mind that the primary goal (and your responsibility) is not just doing the problems, but rather understanding the material. Exercises that ask for verbal explanations should be answered in complete sentences. Suggestions on how to study mathematics may be found on pp. 8 ? 10 of the Academic Center?s Academic Success Handbook at <http://www.usna.edu/AcCenter/DocumentsAndDownloads/index.php>
2. **Addition sources of extra instruction:**
 - (a) The Midshipman Group Study Program (MGSP) will be available evenings from Sunday through Thursday. Upper-class midshipmen will help you work on mathematics problems in groups. More information will be available early in the semester.
 - (b) The evening tutor program may be accessed using Starfish. See <http://www.usna.edu/AcCenter/>
 - (c) The Academic Center offers non-credit voluntary Supplemental Instruction Classes. For more information, see <http://www.usna.edu/AcCenter/programs.php> or contact the Academic Center.
3. **Supplementary material:** The mathematics department web site has practice tests, old exams, and other useful material. <http://www.usna.edu/MathDept/resources/course-materials.php>
4. **Modifications of syllabus:** Your instructor may modify the schedule and list of problems.