

MATH 255: VECTOR ANALYSIS  
SEMESTER: FALL 2016  
INSTRUCTOR: CHRISTOPHER NATOLI

## 1 Details

Classroom: Hunter West 411  
Class time: 8:25–9:40 PM Tuesdays and Thursdays  
Office hours: usually 8:00–8:25 PM Tuesdays and Thursdays in Hunter West 411  
Textbook: *Vector Calculus* by Marsden and Tromba, sixth edition  
Email: [chrisnatoli@gmail.com](mailto:chrisnatoli@gmail.com) (*do not email me at any other address*)  
Website: <https://chrisnatoli.github.io>

## 2 Topics

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|------------------------------------------------|---------------------------------------|
| 1. Review of Vectors, Vector Fields            | 8. Surface Integrals of Vector Fields |
| 2. Divergence and Curl                         | 9. Applications of Surface Integrals  |
| 3. The Path Integral                           | 10. Green's Theorem                   |
| 4. The Line Integral                           | 11. Stokes's Theorem                  |
| 5. Parametrized Surfaces                       | 12. Conservative Fields               |
| 6. Area of a Surface                           | 13. Gauss's Theorem                   |
| 7. Integrals of Scalar Functions Over Surfaces | 14. Differential Forms                |

## 3 Homework policy

Problem sets will usually be assigned weekly and will be due approximately one week later. Problems will usually come from the textbook, but the assigned problems will be typed and uploaded to the website so that you aren't required to buy the textbook. Please write (or type with  $\text{\LaTeX}$ !) your problem sets neatly. You must show your work; do not write only the final answer. Late homework will not be accepted, but the lowest problem set score will be dropped from your grade.

## 4 Exams

There will be one midterm and one final exam. Dates to be decided.

## 5 Grading

30% problem sets, 30% midterm, 40% final exam. These percentages are subject to change.