INFORMATION

This class meets MWF at 11:30 in Science Center 181. The text for the class is "Vector Calculus" by Susan Colley. There will be weekly homework sets that will be handed out every Friday and will be collected a week later (the following Friday) in class. The homework is graded. **LATE HOMEWORK WILL NOT BE ACCEPTED.** There will be 3 in class exams and a cumulative final exam. Roughly, the grades for all of this work is weighted as follows: homework 15%, exams 20% each, final 25%.

My office is in room 151 of the Science Center. My office hours are Tuesday 3:30-5 and Thursday 3-4:30. My office phone is 610-328-8613. My e-mail is jtalvac1.

SYLLABUS

Below you’ll find a list of the topics that I’ll cover in the class. They correspond roughly to material in the first seven chapters of the text.

Vectors on \( \mathbb{R}^n \). Dot product Cross product. Some analytic geometry.
Functions of several variables and their limits.
Partial derivatives, directional derivatives, and applications.
The total derivative.
The chain rule.
Vector fields, div, grad, and curl.
Taylor’s Theorem.
Extrema of functions.
Lagrange Multipliers.
Multiple integration; change of variable, applications.
Scalar and vector line integrals. Conservative vector fields.
Green’s theorem.
Parameterized surfaces; surface integrals.
Stoke’s theorem.
Gauss’ theorem.