

MA 262

Vector Calculus

Spring 2023

Exam 1 Grade Boost

Optional Assignment

Due Wednesday 3/29

The purpose of this assignment is to encourage you to review Exam 1 and deepen your understanding of a topic that didn't go well. Getting full-credit on this assignment will raise your Exam 1 grade by $(1/4)$ of the points you missed. So if you earned an 80% on Exam 1 and do a stellar job on this assignment, your exam 1 grade becomes $85 = 80\% + 0.25 \cdot 20\%$. Your grade will not be raised to more than 100% (in other words, if you earned 100% or more on Exam 1, don't do this assignment, even if you missed some points).

The task: Pick an exam problem that you lost a significant number of points on and write a 2-3 page paper thoroughly explaining the topic and redoing the problem. If you include a large number of figures, your paper should be longer than 3 pages. The paper should both explain the underlying theory and include at least one relevant example. Your paper must include *significantly more content* than just a redo of the problem.

The details:

- (1) You must complete this assignment on your own, though you may have a friend or writing tutor read over a complete draft to give you feedback on writing, grammar, punctuation, or even content. You may also ask the professor for advice or help.
- (2) You must credit all sources you rely on (including the friend or writing tutor). You are *discouraged* from using sources other than your text, but if you do you should include an appropriately formatted bibliographic reference *and* an in-text citation. Do not just have a "works consulted" bibliography - I should be able to tell where each source was used. If it is helpful, you may include a short acknowledgements section.
- (3) Your paper should exhibit mathematical depth (for instance if you are explaining something about integrals, you should probably do so using Riemann sums, not using generic statements about "area under a curve").
- (4) Your paper should use standard professional-grade English spelling, grammar, punctuation, etc. Minor errors will not be penalized but major carelessness will be. (That is: you should care about this, but especially if you are not a native English speaker, don't stress.)
- (5) The paper may be handwritten, as long as your handwriting is easy to read. If you have handwriting that is difficult to read, please type your paper using a system such as LaTeX that will correctly typeset mathematical symbols. (You can do this in a Jupyter notebook on sage.colby.edu for example.)