MATH 201, Fall 2013
Exam 2 Topics

Exam 2 will take place during the first half of class on Tuesday, November 5, 2013 **in Kiely 258**. (After a short break, the second half of the class period will be new material from Section 11.7.) There will be a Question and Answer session during the second half of class on Thursday, October 31, 2013.

The exam covers all material covered since the previous exam, including

- Section 10.7
- Section 10.8 (only arc length, pp. 572–574 (1st Ed) or pp. 597–599 (2nd Ed))
- Section 10.9 (only velocity and acceleration, pp. 580–584 (1 Ed) or pp. 606–610 (2 Ed))
- Sections 11.1–11.6

I highly suggest that you review Webwork assignments 4–6. It is possible to return to an assignment and see the correct answers. I especially recommend the Chapter Reviews given for Chapter 10 (pp. 589–592 (1st Ed) or pp. 616–620 (2nd Ed)) and Chapter 11 (pp. 661–664 (1st Ed) or pp. 691–694 (2nd Ed)).

In addition to computational questions, there will be questions that ask you to understand concepts from the course, possibly including, and not limited to:

- Definition of derivative of a vector valued function along with its geometrical interpretation (p. 565 (1st Ed) or p. 590–591 (2nd Ed))

- Prove that if $||\mathbf{r}(t)||$ is constant, then $\mathbf{r}(t)$ and $\mathbf{r}'(t)$ are orthogonal (p. 568 (1st Ed) or p. 593 (2nd Ed))

- Show non-existence of limits by checking paths.

- Definition of continuity (p. 607 (1st Ed) or p. 635 (2nd Ed)) and directional derivative (p. 636 (1st Ed) or p. 665 (2nd Ed)) for functions of two or more variables

- If f is differentiable at P_0, then $\nabla f(P_0)$ points in the direction in which f increases the most rapidly (p. 640 (1st Ed) or p. 669 (2nd Ed))

The exam will be 50 minutes long. Graphing calculators (up through TI-86, not including TI-89 or TI-92) are allowed, but I come around and delete their memory before the exam.