First Day Survey

MATH 166 Section C
May 20, 2013

Name: David Failing

Welcome to Calculus II! In order for this class to best meet your needs, I would like to know a little bit about you. Please read on.

1. What is your class status (Freshman, Sophomore, etc.), major and/or program?
   5th year Ph.D. student in Mathematics (defending my dissertation on July 5)

2. What is your favorite class (among those you've taken at Iowa State)? Why? Tough choice. CS331 Theory of Computing or perhaps MATH615/616 Universal Algebra (My research area)

3. What is one thing I can do to help you learn mathematics?
   Most of you asked me to give plenty of examples and explain things clearly. I'll do my best, but ask questions if you don't understand!

4. What is one thing you want to know about me?
   A lot of you asked for an "academic biography" of sorts. I grew up in Lisle, IL (near Naperville) and attended Naperville North High School. After that, I earned a B.S. in Mathematics and B.A. in Philosophy & Religious Studies (with minors in Asian & International Studies) at Truman State University in Kirksville, MO. The liberal arts atmosphere was something I very much enjoyed. I took Amtrak trains to and from Illinois for those 4 years, and that was rather enjoyable as well. I ended up in graduate school at Iowa State for a few reasons. First and foremost, I was always good at math and had a knack for explaining things to others (not just teaching math). I also enjoy the way in which mathematics can be used to classify patterns in complex objects. So, that's how I chose graduate school, to ultimately teach at a university. I chose Iowa State because my undergraduate advisor's thesis supervisor is in our math department at ISU, and I wanted to work with him before I even applied. Starting in my first year, a lot of people in my field (algebra) seemed excited about my thesis area (the Constraint Satisfaction Problem or CSP), so I wanted to find a thesis problem in the area. It was hard work trying to find an "easy" problem to solve for my thesis, but I eventually settled on a topic last May.

   Outside of math, I enjoy the outdoors (which is why winter is my least favorite season of all), particularly running and biking. I've done RAGBRAI once and tried to train for a marathon last year, but I got injured just a month ahead of the Richmond, VA marathon. I might run one eventually, but I'm not sure when. I was in a fraternity ($\Phi\Lambda\Phi$) as an undergrad, and I have served as their national organization's treasurer since last August. I spent 5 years working in libraries in high school and as an undergrad, which was largely due to a love of reading, watching movies, and listening to all sorts of music. If you want

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an excuse to explore lots of pop culture for your job, I'd recommend working in a library for sure.

5. (Not for a grade!) Evaluate:

$$\int_{-1}^{2} (x^4 - 2x^3 + 2)dx$$

$$\int_{-1}^{2} (x^4 - 2x^3 + 2)\, dx = \left[\frac{x^5}{5} - \frac{x^4}{2} + 2x \right]_{-1}^{2}$$
$$= \left[\left(\frac{32}{5} - 8 + 4 \right) - \left(\frac{-1}{5} - \frac{1}{2} - 2 \right) \right]$$
$$= \left[\frac{33}{5} - \frac{3}{2} \right] = \frac{51}{10}$$