Math 104 Syllabus

Instructor: Andrew Obus, obusa@math.upenn.edu. (917)-509-5538.

Class Time: MTuWTh, 1:00-3:10, DRL 4E19. I am supposed to let people out at 3:00. I would much rather meet from 1:00-2:00, take a 10 minute break, then meet from 2:10-3:10, but if anyone has a class at 3:10 I cannot do this. So please let me know if you have a class that meets at 3:10.

Office Hours: DRL 3E3A Tu 3:30-4:30, F 1:00-2:00, or by appointment. Feel free to stop by my office any time, but I reserve the right to be busy or not to be around if it is not during office hours or an appointment.

Website: `http://www.math.upenn.edu/~obusa`

Textbook: *Calculus, 5th Ed.* by Stewart. This book should be at the bookstore, along with a solutions manual for the odd-numbered exercises. It is also the book for Math 103 and Math 114.

Goals: A wise man (my officemate) once said, "Calculus is about using straight things to study curvy things." I would take this a step further and say that "Calculus is about using finite things to study infinite things." I hope that by the end of the class, you will not only understand how to do the above, but also why it's important. Lastly, I hope that you have a good enough understanding of why the techniques work so that you can apply them to a problem that is not a cookie-cutter version of something that you have done before.

Topics: We will cover most of chapters 6-9 and 11-12 of Stewart. The topics include techniques of integration, applications of integration, inverse functions, parametric equations, polar coordinates, and sequences and series. We will start with chapter 7 instead of chapter 6, as chapter 7 will be a good vehicle for recalling much of what was done in Math 103, and it does not rely on chapter 6.

Prerequisites: Math 103, AB Calculus, or the equivalent. In particular, you should know what a derivative is (i.e., what it means), how to compute one, and you should have at least seen some basic integration, hopefully including the fundamental theorem of calculus and u-substitution. This material is covered in chapters 1-5 of Stewart.

Homework: Assignments will be given twice weekly—due on Thursday (covering Monday and Tuesday classes) and on Monday (covering Wednesday and Thursday classes). Homework is due in class. The twice weekly homework is meant so that you never go too long without thinking about the subject matter—this course covers a lot of material in a short amount of time, and it is important not to fall behind. Homework will be collected and checked for legitimate completion. It is very important to actually DO the homework, not just to copy the solutions. Homework will not be accepted late without a GOOD, PRIOR excuse.

Tests/Quizzes: There will be four one-hour quizzes, to be held during the FIRST hour of class on 5/30, 6/6, 6/13, and 6/20 (all Wednesdays). The final exam is two hours, and will

be held in class on Thursday 6/28. If you need to miss a quiz, it will count as your drop (see below). If you need to miss more than one, talk to me.

Grading: 1/6 homework, 3/6 best 3 out of 4 quizzes, 2/6 final. Grades will be assigned more or less 30% "A" range, 30% "B" range, 30% "C" range, 10% lower, WITH THE CAVEAT that anyone who has 90% or above in the class is guaranteed an "A" range grade, anyone who has 80% or above is guaranteed at least a "B" range grade, and anyone who has 70% or above is guaranteed at least a "C" range grade. This means that the grades can all be good if everyone does well!

Final Note: This is a fast moving class that will require a reasonable amount of work to stay afloat. In particular, if you are rusty on your first semester calculus or your pre-calculus (especially trig), it wouldn't be a bad idea to start doing some review now (meaning when you read this). I will recall results from Math 103 as they are needed, but I will not spend an entire class discussing how to do the chain rule, or how to find the cotangent of $3\pi/4$, or how to find a limit of a rational function as $x \to \infty$ (although I am happy to give you help on these subjects during office hours).