SYLLABUS FOR MATH 0100: INTRODUCTORY CALCULUS II

Time/Location: 12:15-2:55 pm, Sayles Hall, Summer 2015

Instructors:
Peter McGrath, peter_mcgrath@brown.edu,
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Office Hours: Tuesday and Thursday, 12-1 pm, Kassar 015


Web Page: math.brown.edu/~mgulian/math100.html

Exams: There will be two midterm exams and one final exam.
- Midterm 1 will be given Monday, July 6.
- Midterm 2 will be given Monday, July 20.
- The Final exam will be given Wednesday, August 5.

The midterm exams will last one hour; the final exam will last two. Times and locations for these exams will be announced in class and posted on the course website. If you think you have a conflict with one of the exams, let one of the instructors know as soon as possible.

Course Content: Math 0100 is the second semester of the 3-part calculus sequence. It is made up of three units:

1. Advanced techniques of integration: integration by parts, trigonometric integrals, trigonometric substitution, partial fractions, and improper integrals.
2. Polar equations, parametric equations, and an introduction to differential equations.
3. Infinite sequences and series: geometric and telescoping series, comparison test, ratio and root tests, alternating series, absolute and conditional convergence, power series, and Taylor series.

Course Organization: This course meets for 6 weeks and approximately two weeks will be devoted to each of the three units above. Each class will consist of two fifty minute lectures and two thirty minute problem sessions.

Prerequisites: The official prerequisite is Math 0090, or the equivalent. A solid knowledge of precalculus and trigonometry is essential. You are expected to already know differential calculus: the definition of limits and how to compute them, L'Hospital's Rule, the definition of the derivative, basic derivative rules, derivatives of basic functions such as polynomials, trigonometric functions, inverse trigonometric functions, and exponential functions. You are also expected to know how to graph a function using the first and second derivatives. Furthermore, you are expected to know the definition of the integral and the fundamental theorem of calculus. The essentials will be briefly reviewed in the beginning of the class.
Evaluation: The course grade is calculated as follows:

- Homework 10%
- Participation 10%
- Midterm 1 20%
- Midterm 2 20%
- Final 40%

The participation grade is determined by attendance and contribution to problem solving sessions. Missing three classes will result in a 0 for your participation grade.

Letter grades will be determined as follows:

- 100-90% A
- 89-80% B
- 79-70% C

Important: there is no guarantee of passing if your final grade is below 70%. Do not assume under any condition that a grade below 70% will be a passing grade. There will be no opportunities for extra or make up work, so it is essential that you adequately prepare for the exams.

Homework: Approximately twenty problems will be assigned during each class to be turned at the beginning of the next class. A subset of these problems will be graded and solutions to selected problems will be posted to the course website. The homework is intended to check your understanding and build familiarity and understanding with course content. Copying homework solutions is contrary to these goals and is moreover a waste of time.

How to Succeed: The pace of this course is approximately three times as fast as a typical one semester course. It is essential that you stay on top of the course material. This will require a serious and substantial effort in and outside of class, comparable to a full semester load. Come to office hours, work hard on your own, talk to your classmates and read thoroughly the textbook. Talk to us if you are having trouble.

Collaboration Policy and the Academic Code: While students are allowed (and even encouraged) to work together and/or ask each other questions about homework problems, it is unacceptable to copy or submit another student’s work, calculations, or final answers without solving the problem yourself. Cheating on exams or any other form of academic dishonesty is prohibited by Brown’s Academic Code. All students should be aware of this code, and they should understand that violating the code can have serious consequences.