# Math 110 - Course Outline

# 2016W

# Differential Calculus

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MATH 110 is a two-term course in Differential Calculus. The main topics covered are Limits and Derivatives of elementary functions, Related Rates problems, Optimization, graphing, and Approximations. We also review some key precalculus concepts, such as functions, points and lines, basic trigonometry, exponentials and logarithms, etc. For a detailed schedule and list of topics, go to the Content page above.

There are 4 main components to the course:

- **Assignments**: There are weekly homework assignments. Each assignment has an online component on WeBWorK, which is common to all course sections, and a written component which may differ in each section. The WeBWorK assignments are due on Mondays at 10pm. The written homework must be handed in at the beginning of class on the due date, which is set by the instructor. Late assignments will not be accepted. Homework assignments account for 13% of your final grade. Specifically, 9% for the WebWork component and 4% for the written portion. The assignment with the lowest score will be dropped in each term.

- **Workshops**: In addition to regular lectures, every student is assigned to a weekly problem-solving workshop run by teaching assistants and instructors. These workshops are an integral part of the course, and attendance is *mandatory*. Refer to the Workshops link above for more information. Your workshop grade is based on attendance and participation in the workshop activities in at least 10 out of 11 workshops each term. Workshops account for 13% of your final grade.

- **In-class quizzes and other activities**: There will be short biweekly quizzes in each section. Your instructor may also decide to run other in-class activities (worksheets, etc.) that may or may not count for marks. Altogether, in-class quizzes/activities account for 4% of your final grade.

- **Tests and Exams**: There will be two 90-minute midterm *tests*, Each is worth 10% of your final grade. Furthermore, there will be two 150-minute *exams*, one in December worth 20% of your final grade, and one in April worth 30% of your final grade. Both exams are cumulative. The dates of these exams are to be determined.

The required textbook is *Contemporary Calculus* by Dale Hoffman. This is an online textbook available for free under the Creative Commons license. You can download it here. You are encouraged to download a copy; you may also print it out if you wish. Refer to the Resources link above for additional course resources.

## Course Policies

**Grade summary**: A student's final grade is based on assignments (13%), workshops (13%), midterm tests (10% each), section-specific in-class work (4%), the December exam (20%) and April exam (30%).

**No calculators** or electronic communication devices are allowed during exams and quizzes. Formula sheets are also not allowed.

**Missed Work or Tests:** If a test is missed for a documented medical or other reason, it will be ignored. Permission to write a makeup midterm may be granted by the instructor in the following circumstances: (a) a scheduling conflict with other courses or labs, (b) prior notice of a valid, documented absence (e.g. out-of-town varsity athletic commitment accompanied by a letter from a coach) on the scheduled date; or (c) notification to the instructor within 72 hours of absence due to medical condition. Original written documentation, for example a doctor’s note, is required; otherwise, a score of 0 will be given for the missed test.