Overview: Calculus is one of the most important human developments and one of the major motivating factors for the technical advancements of the last few centuries. At its most basic level, calculus is the study of change, and it provides us with tools and techniques for modelling and understanding our world in ways that purely algebraic computations cannot. For this reason, it is an essential area of study for students of science, engineering, and business.

Goal: This course is intended to introduce students to the concepts and methods of calculus. In particular, we will try to build an understanding of differentiation and integration, and to describe the fundamental link between these two concepts. While the major emphasis will be on giving a proper mathematical understanding of calculus concepts and the techniques of calculus, we will spend nearly as much time on modelling and the applications of these techniques, so as to better comprehend them and to help students understand their use. The course should prepare students for further study, and should provide the background necessary for Math 102.

Since this is a summer course, we will have only seven weeks to cover what is normally covered in fourteen or fifteen weeks during the regular school year. Therefore, students should be focused and willing to ask questions and actively learn the material. Attendance at each class lecture is critical.


Homework: As is true for most math courses, homework will be the most important method of learning the course materials. While the lectures will serve to introduce concepts and techniques, the only way of gaining an understanding and facility with mathematics is to actually work problems. The compressed schedule of the course means that students will be expected to spend a considerable amount of time outside of class on homework.

There will be two graded homework assignments per week, due on Tuesday and Thursday at the beginning of class. Late homework will not be accepted. Homework will be graded for correctness and clarity, so please provide justification for each problem and write legibly. Students are encouraged to work together in solving homework problems, but each student must write up solutions independently.

Students should also read or at least skim the book before each class to familiarize themselves with the lecture material. You are also encouraged to work on the other problems in the book, and to see me in office hours if you have any questions on the homework or other materials.
**Exams:** There will be two midterm exams and a final exam. The first midterm will be on June 21, and the second will be on July 10. We will have a 3 hour take-home final exam, due July 26.

**Grades:** Grades will be based on homework, midterms, and the final exam, with the following point distributions:
- Homework: 30%
- Midterm 1: 20%
- Midterm 2: 20%
- Final Exam: 30%

**Disability Support:** It is the policy of Rice University that any student with a disability receive fair and equal treatment in this course. If you have a documented disability that requires academic adjustments or accommodations, please speak with me during the first week of class (preferably, as soon as possible). All discussions will remain confidential. Students with disabilities will also need to contact Disability Support Services in the Ley Student Center.