**Peterson** # Math 1A **Winter 2018**

**Content -** **Limits and Continuity, Derivatives and their application, Extrema of functions of 1 variable, and Antiderivatives**

**Prerequisite** **Math 49B or equivalent (Preferably with grade of C or better)**

**Text -** **Calculus, Early Transcendentals (8th edition), Stewart**

**Exams -** **There are a total of 600 points available. Three 100 point midterm exams, one 200 point final exam, and an unspecified number of quizzes worth a total of 100 points.**

**Homework** **Homework will be assigned every day but will not be collected. The quizzes will be based upon the homework that I assign as well as in class material. The homework I assign is the minimum work that can be done and I strongly suggest that students do more problems than are assigned.**

**Attendance -** **Attendance in class is crucial to learning the material. If anyone misses more than two classes without informing me first, they will be dropped from the class. If anyone misses one class during the first week without informing me first, they also will be dropped. If you know you are not going to be in class, call (408) 742-8828 and leave a message. Please do not call the division office or the administration office.**

**Office Hours -** **I will have assigned office hours on Tuesdays from 3 to 4 in S43 (math lab). Also, if your phone goes off during class, I will ask you to leave. If it happens a second time, you will be dropped from the class.**

| Date | Section(s) |
|---|---|
| 01/09/18 | Introduction to limits, Definition of limit |
| 01/11/18 | Theorems on limits, One sided limits |
| 01/16/18 | Limits of Trig Functions, Limits involving infinity |
| 01/18/18 | Continuity, Applications of limits |
| 01/23/18 | Derivatives, Derivatives as a function |
| 01/25/18 | Review |
| 01/30/18 | Exam 1 |
| 02/01/18 | Theorems on Derivatives |
| 02/06/18 | Product/ Quotient Rule, Derivatives of Trig functions |
| 02/08/18 | Increments and Differentials, Chain Rule |
| 02/13/18 | Chain Rule, Implicit Differentiation |
| 02/15/18 | Derivatives of logarithmic and other functions |
| 02/20/18 | Newton's Method |
| 02/22/18 | Exam 2 |
| 02/27/18 | Related Rates |
| 03/01/18 | Extrema of Functions, Rolle's and Mean Value Thms |
| 03/06/18 | First Derivative Test, Second Derivative Test |
| 03/08/18 | Second Derivative Test, Concavity |
| 03/13/18 | Indeterminate Forms, L'Hopital's Rule |
| 03/15/18 | Optimization Problems |
| 03/20/18 | Exam 3 |
| 03/22/18 | Antiderivatives |
| 03/29/18 | Final Exam |

**Grade Scale:**

| | |
|---|---|
| 85%+ | A |
| 70-84% | B |
| 55-69% | C |
| 45-54% | D |
| <45% | F |

• **Student Learning Outcome**: Analyze and synthesize the concepts of limits, continuity, and differentiation from a graphical, numerical, analytical and verbal approach, using correct notation and mathematical precision.

• **Student Learning Outcome**: Evaluate the behavior of graphs in the context of limits, continuity and differentiability.

• **Student Learning Outcome**: Recognize, diagnose, and decide on the appropriate method for solving applied real world problems in optimization, related rates and numerical approximation.