

### Basic Course Information

|                   |                             |                     |                               |
|-------------------|-----------------------------|---------------------|-------------------------------|
| Semester:         | <b>Winter 2025</b>          | Instructor Name:    | <b>Jeffrey Burt</b>           |
| Course Title & #: | <b>Math 192: Calculus I</b> | Email:              | <b>jeff.burt@imperial.edu</b> |
| CRN #:            | <b>15279</b>                | Webpage (optional): | <b>NA</b>                     |
| Classroom:        | <b>2721</b>                 | Office #:           | <b>2765</b>                   |
| Class Dates:      | <b>8/12/24-12/6/24</b>      | Office Hours:       | <b>As needed</b>              |
| Class Days:       | <b>MW</b>                   | Office Phone #:     | <b>760-355-6489</b>           |
| Class Times:      | <b>8:05am – 11:55am</b>     | Emergency Contact:  | <b>email</b>                  |
| Units:            | <b>4</b>                    | Class Format:       | <b>In Person</b>              |

### Course Description

A first course in differential and integral calculus of a single variable: functions; limits and continuity; techniques and applications of differentiation and integration; Fundamental Theorem of Calculus. Primarily for Science, Technology, Engineering & Math Majors

### Course Prerequisite(s) and/or Corequisite(s)

Math 190 or equivalent, or appropriate placement

### Student Learning Outcomes

Upon course completion, the successful student will have acquired new skills, knowledge, and or attitudes as demonstrated by being able to:

1. Demonstrate problem solving strategies by identifying an appropriate method to solve a given problem, correctly set up the problem, perform the appropriate analysis and computation, and share their interpretation of the conclusion or the outcome, using correct grammar or in an oral presentation. This outcome will be assessed through selected exercises on exams throughout the semester. (ILO1, ILO2)

### Course Objectives

Upon satisfactory completion of the course, students will be able to:

1. Compute the limit of a function at a real number
2. Determine if a function is continuous at a real number
3. Find the derivative of a function as a limit
4. Find the equation of a tangent line to a function
5. Compute derivatives using differentiation formulas
6. Use differentiation to solve applications such as related rate problems and optimization problems
7. Use implicit differentiation
8. Graph functions using methods of calculus
9. Evaluate a definite integral as a limit
10. Evaluate integrals using the Fundamental Theorem of Calculus
11. Apply integration to find area



## Textbooks & Other Resources or Links

Stewart, James. 2021. Calculus: Early Transcendentals; 9th edition, Brooks/Cole; ISBN: 9780357022269

A graphing calculator can be helpful while doing the homework, but they are not allowed on exams.

## Course Requirements and Instructional Methods

The goal of this course is for you to gain the necessary skills and knowledge to do well, and improve your mathematical abilities, so you are able to succeed in future courses. My responsibility is to help you in any way I can, to accomplish these goals, however it is your responsibility to be committed to your own success and keep up with the pace of the class. To do so you need to complete assignments on time and please ask questions when you have them.

**Out of Class Assignments:** The Department of Education policy states that one (1) credit hour is the amount of student work that reasonably approximates not less than one hour of class time and two (2) hours of out-of-class time per week over the span of a semester. WASC has adopted a similar requirement. This means you should plan on 5 hours of class time, plus an additional 10 hours each week for working outside of class. This means you should spend at least 15 hours working on math each week.

### Course Rules:

- 1) Late work is not accepted. If you are going to be gone, contact me before the absence to make arrangements.
- 2) There are no retakes for tests or quizzes.
- 3) It is your responsibility to drop or withdraw the class. Failure to do so will result in a regular grade (most probably an F).
- 4) Regular attendance is recommended and expected. The instructor can drop you from the class if you have more than the allowed number of absences.
- 5) You need to ask questions whenever you have them. If not in class, please come to my office during office hours, call me, email me, go to tutoring, google it, YouTube it, etc.
- 6) It is your responsibility to make up the work you missed if you are absent. I highly recommend finding someone else to copy notes and material from that were covered in your absence.

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## Course Grading Based on Course Objectives

There will be 3 in class exams. The final is comprehensive. There will be one make up exam at the end of the course. There is no make up for the final. Plan to be here for the exam dates in the schedule, but also note that those dates can change, so make sure you are paying attention and staying up to date. Any missed exam will result in the grade of a '0'. Your two lowest quizzes will be dropped. There are no make ups for the quizzes.

Grading:

|                 |          |
|-----------------|----------|
| Homework        | 10%      |
| Quizzes         | 10%      |
| Exams (3 total) | 18% each |
| Final Exam      | 26%      |
| Total           | 100%     |

100-90% is an A, 89.99-80% is a B, 79.99-70% is a C, 69.99-60% is a D, below 60% is an F.

## Course Policies

You are expected to be in class on time. You are expected to have academic integrity, and any cheating will result in a 0 on that particular assignment, and notification of dishonesty to the school.

If you are struggling here are some very helpful suggestions:

- 1) Read the material before you come to class. I cannot stress enough how much it can help to look at what we will be covering. Use the schedule at the end of the syllabus.
- 2) Form a study group with other students in class.
- 3) Come to office hours. I'm happy to go over absolutely anything you have questions about, even if you think it is too easy. Office hours are for questions and I really enjoy helping out.
- 4) Use the free tutoring! It is awesome. Math tutoring at universities costs over \$40 per hour, and you have access to it for free.
- 5) Youtube is amazing. There are many many quality videos on first semester calculus.

## IVC Student Resources

IVC wants you to be successful in all aspects of your education. For help, resources, services, and an explanation of policies, visit <http://www.imperial.edu/studentresources> or click the heart icon in Canvas.

## Anticipated Class Schedule/Calendar

| Date        | Activity, Assignment, and/or Topic |
|-------------|------------------------------------|
| 1/2         | Syllabus & Introduction; 2.1, 2.2  |
| 1/3         | 2.3, 2.4                           |
| 1/6         | 2.5, 2.6                           |
| 1/7         | 2.7, 2.8                           |
| 1/8         | Catch up, Review                   |
| 1/9         | Exam 1                             |
| <b>1/10</b> | 3.1, 3.2                           |
| 1/13        | 3.3, 3.4                           |
| 1/14        | 3.5, 3.6                           |
| 1/15        | 3.7, 3.8                           |
| 1/16        | 3.9, 3.10, 3.11                    |
| <b>1/17</b> | 4.1, 4.2, Review                   |
| <b>1/20</b> | <b>Holiday</b>                     |
| 1/21        | Exam 2 – Chapter 3                 |
| 1/22        | 4.3, 4.4                           |
| 1/23        | 4.5, 4.6                           |
| <b>1/24</b> | 4.7, 4.8                           |
| 1/27        | 4.9, 5.1                           |
| 1/28        | Exam 3 on Chapter 4                |
| 1/29        | 5.2, 5.3                           |
| 1/30        | 5.4, 5.5                           |
| <b>1/31</b> | Review                             |
| 2/3         | Final Exam                         |

**\*\*\*Subject to change without prior notice\*\*\***