## Basic Course Information

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|---|---|---|---|
| Semester: | **Winter 2026** | Instructor Name: | **Leobardo Rosales Jr** |
| Course Title & #: | **MATH 192: Analytic Geometry and Calc I** | Email: | **leobardo.rosales@imperial.edu** |
| CRN #: | **15284** | Webpage (optional): | **Refer to Canvas** |
| Classroom: | **2700-2725** | Office #: | **3900** |
| Class Dates: | **Jan 05-Feb 04/2026** | Office Hours: | **M-R 6pm-7pm via Zoom** |
| Class Days: | **MTWRF** | Office Phone #: | |
| Class Times: | 8:05am-11:55am | Emergency Contact: | **Silvia Murray 760-355-6201** |
| Units: | 4 | Class Format/Modality: | Face-to-Face |

## 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. (C-ID: MATH 210) (CSU, UC credit limited. See a counselor.)

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

MATH 190 - or equivalent with a grade of "C" or better, or appropriate placement as defined by AB705.

## 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.

## 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

Updated 11/2024

## Textbooks & Other Resources or Links

Recommended textbook:

- Stewart, J., Clegg, D., Watson, S. . 2023. *Calculus: Early Transcendentals*, 9th Cengage Learning.
- ISBN: 978-1337613927

## Course Requirements and Instructional Methods

This course will consist of lectures and the following assessments:

- Assignments, due through Canvas.
- in-person Quizzes, administered during class.
- online-Quizzes, due through Canvas.
- 3 Tests, administered during class.
- A cumulative Final, administered during class.

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 over the span of a semester.

## Course Grading Based on Course Objectives

Your grade will be computed as follows:

- Assignments 30%
- in-person Quizzes 20%
- online Quizzes 10%
- 3 Tests 20%
- Final 20%

The following grading scale will be used: 90% and above is an A, 80% and above is a B, 70% and above is a C, and 60% and above is a D. Below 59% is an F. The grading scale may be subject to change, depending on the performance of the class as a whole.

## Academic Honesty (Artificial Intelligence -AI)

IVC values critical thinking and communication skills and considers academic integrity essential to learning. Using AI tools as a replacement for your own thinking, writing, or quantitative reasoning goes against both our mission and academic honesty policy and will be considered academic dishonesty, or plagiarism unless you have been instructed to do so by your instructor. In case of any uncertainty regarding the ethical use of AI tools, students are encouraged to reach out to their instructors for clarification.

## Accessibility Statement

Imperial Valley College is committed to providing an accessible learning experience for all students, regardless of course modality. Every effort has been made to ensure that this course complies with all state and federal accessibility regulations, including Section 508 of the Rehabilitation Act, the Americans with Disabilities Act (ADA), and Title 5 of the California Code of Regulations. However, if you encounter any content that is not accessible, please contact your instructor or the area dean for assistance. If you have specific accommodations through **DSPS**, contact them for additional assistance. We are here to support you and ensure that you have equal access to all course materials.

## Course Policies

1. The definition of an excused absence is one which is out of your immediate control. This can include but is not limited to illness, accident, and appointments set by official agencies. It does not include sleeping-in or forgetting about class.
2. If you do not attend any of the first **four** class meeting without an excused absence, then you will be dropped from the class. Send me an email if you must or have missed any of the first four class meetings before 8am of the following day. You must also submit **Assignment 0** by the end of January 5, or you will be dropped from the class.
3. Assignment due dates may be extended, or an Assignment may be excused due to an excused absence. Send me an email if you cannot or did not submit an Assignment due to an excused absence.
4. In-person Quizzes may be excused, or a replacement assessment may be given due to an excused absence. Send me an email if you cannot or did not attend class due to an excused absence.
5. Online Quiz due dates may be extended, or an online Quiz may be excused due to an excused absence. Send me an email if you cannot or did not take an online Quiz due to an excused absence.
6. If you miss a Test due to an excused absence, then your score for that Test will be replaced by your score for the next Test, or in case of Test 3 by the score on your Final. Send me an email if you cannot or did not take a Test due to an excused absence.
7. Attending the Final is absolutely mandatory. There is no make-up or replacement for the Final.
8. Except for the Final, replacement or make-up assessments may be given in special circumstances.
9. All general rules, including rules of etiquette, of Imperial Valley College apply.

The following are Academic Honesty policies.

1. You are encouraged to work closely on Assignments with other students. Assignments may be submitted in groups of up to three students. However, submitting photocopies of other people's work is strictly prohibited.
2. You are encouraged to work closely on the Quizzes with other students.
3. Tests are closed notes, closed friends and enemies. Electronic devices may not be used without prior approval.
4. The Final is closed notes, closed friends and enemies. Electronic devices may not be used without prior approval.

The first violation of these rules shall result in zero points for the assessment in question. The second violation shall result in an automatic fail for the course. Particularly egregious violations may result in further disciplinary measures.

## Other Course Information

ADD POLICY: To crash the course, please attend the first day of class. You will be given a crash code on that day, in person.

## Financial Aid

Your Grades Matter! In order to continue to receive financial aid, you must meet the Satisfactory Academic Progress (SAP) requirement.  Makings SAP means that you are maintaining a 2.0 GPA, you have successfully completed 67% of your coursework, and you will graduate on time.  If you do not maintain SAP, you may lose your financial aid.  If you have questions, please contact financial aid at finaid@imperial.edu.

## 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

| Calendar | | | | |
|---|---|---|---|---|
| **Day 1 - Jan 5** | **Day 2 - Jan 6** | **Day 3 - Jan 7** | **Day 4 - Jan 8** | **Day 5 - Jan 9** |
| Lecture 1 | Lecture 2<br>Lecture 3 | Lecture 4<br>Lecture 5 | Lecture 6<br>Lecture 7 | Test  1 Practice Problems |
| **Day 6 - Jan 12** | **Day 7 - Jan 13** | **Day 8 - Jan 14** | **Day 9 - Jan 15** | **Day 10 - Jan 16** |
| **Test 1**<br>Review 1 | Lecture 8<br>Lecture 9 | Review 2<br>Lecture 10 | Lecture 11<br>Lecture 12 | Review 3<br>Lecture 13 |
| **HOLIDAY - Jan 19** | **Day 11 - Jan 20** | **Day 12 - Jan 21** | **Day 13 - Jan 22** | **Day 14 - Jan 23** |
| | Lecture 14<br>Test 2 Practice Problems | **Test 2**<br>Lecture 15 | Lecture 16<br>Lecture 17 | Lecture 18<br>Lecture 19 |
| **Day 15 - Jan 26** | **Day 16 - Jan 27** | **Day 17 - Jan 28** | **Day 18 - Jan 29** | **Day 19 - Jan 30** |
| Lecture 20<br>Lecture 21 | Test 3 Practice Problems | **Test 3**<br>Lecture 22 | Lecture 23<br>Lecture 24 | Lecture 25<br>Lecture 26 |
| **Day 20 - Feb 2** | **Day 21 - Feb 3** | **Day 22 - Jan 22** | | |
| Lecture 27<br>Final Practice Problems | Final Practice Problems | Final | | |

| Module | Topic | Lecture | Sections from the textbook or subject |
|---|---|---|---|
| 0 | Course Orientation | | |
| 1 | Limits | Lecture 1 | 2.1 |
| | | Lecture 2 | 2.2 |
| 2 | Calculating Limits | Lecture 3 | 2.2, 2.3 |
| | | Lecture 4 | 2.3 |
| 3 | Continuity | Lecture 5 | 2.2, 2.4 |
| | | Lecture 6 | 2.5 |
| 4 | Derivatives **Test 1** | Lecture 7 | 2.7 |
| | | Test 1 Practice Problems | |
| | | **Test 1** | |
| 5 | Basic Derivative Formulas | Review 1 | Exponentials and Logarithms |
| | | Lecture 8 | 2.8, 3.1 |
| | | Lecture 9 | 3.2 |
| 6 | Intermediate Derivative Formulas | Review 2 | Trigonometric Functions |
| | | Lecture 10 | 3.3 |
| | | Lecture 11 | 3.4 |
| 7 | Advanced Derivative Formulas | Lecture 12 | 3.5 |
| | | Review 3 | Inverse Trigonometric Functions |
| | | Lecture 13 | 3.6 |
| 8 | Limits Involving Infinity **Test 2** | Lecture 14 | 2.2, 2.6 |
| | | Test 2 Practice Problems | |
| | | **Test 2** | |
| 9 | Limits Involving Indeterminate Forms | Lecture 15 | 4.4 |
| | | Lecture 16 | 4.4 |
| 10 | More Limits, and Extremum Values | Lecture 17 | 4.4 |
| | | Lecture 18 | 4.1, 4.3 |
| 11 | Shapes of Graphs | Lecture 19 | 4.3 |
| | | Lecture 20 | 4.5, 4.6 |
| 12 | Tangent Lines **Test 3** | Lecture 21 | 3.10, 4.8 |
| | | Test 3 Practice Problems | |
| | | **Test 3** | |
| 13 | Applications of Derivatives, and Antiderivatives | Lecture 22 | 3.7, 3.8, 4.7 |
| | | Lecture 23 | 4.2, 4.9, 5.1 |
| 14 | The Definite Integral | Lecture 24 | 4.9, 5.4 |
| | | Lecture 25 | 5.1, 5.2 |
| 15 | The Fundamental Theorem of Calculus | Lecture 26 | 5.2, 5.3 |
| | | Lecture 27 | 5.5 |
| 16 | **Final** | Final Practice Problems | |

| Module | Topic | Lecture | Sections from the textbook or subject |
|--------|-------|---------|---------------------------------------|
|        |       | Final   |                                       |

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