

Basic Course Information

Semester:	Spring 2026	Instructor Name:	Leobardo Rosales Jr
Course Title & #:	Math 170: Introductory Calculus with Applications	Email:	leobardo.rosales@imperial.edu
CRN #:	21293	Webpage (optional):	Refer to Canvas
Classroom:	2700-2721	Office #:	3900
Class Dates:	Feb 17-Jun 12/2026	Office Hours:	Fridays 10:35am-11:35am
Class Days:	F	Office Phone #:	
Class Times:	1:00pm-2:30pm	Emergency Contact:	Silvia Murray 760-355-6201
Units:	4	Class Format/Modality:	Hybrid

Course Description

This course presents a study of the techniques of calculus with emphasis placed on the application of these concepts to business and management related problems. Students take this course to prepare for courses for which calculus is recommended and/or required, as well as to study the ideas and concepts of advanced mathematics as applied to a modern computerized society. Topics covered include pre-calculus concepts, applications of derivatives and integrals of functions including polynomials, rational, exponential and logarithmic functions, differential equations, and functions of several variables.(C-ID: MATH 140) (CSU, UC credit limited. See a counselor.)

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

Successful completion of College Algebra or appropriate placement as defined by AB 705.

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

1. Pre-calculus Review, including the real number line and order, absolute value and distance on the real number line, exponents and radicals, factoring polynomials, and fractions and rationalization.
2. Functions and their graphs, including exponential and logarithmic functions.
3. Limits and intuitive limit definition of derivative.
4. Increments, tangent lines, and rate of change.
5. Rules of differentiation including sum, product, quotient, and the chain rule.
6. Implicit differentiation.
7. Applications of differentiation such as marginal analysis, optimization, and curve sketching.

8. Antiderivatives, indefinite and definite integrals.
9. Multiple techniques of integration including substitution.
10. Area between curves.
11. Approximating definite integral as a sum.
12. Applications of integration in business and economics.
13. Functions of several variables, including partial derivatives and extrema of functions of two variables.

Textbooks & Other Resources or Links

Recommended textbook:

- Lial, Greenwell, Ritchey. 2022. *Calculus with Applications*. 12th Pearson.
- ISBN: 9780137342402.

Course Requirements and Instructional Methods

This hybrid course will consist of lecture readings and videos, in-person classes on Fridays, and the following assessments:

- Assignments, due through Canvas.
- in-person Quizzes, administered on Fridays.
- online-Quizzes, due through Canvas.
- 3 Tests, administered on Friday March 13, April 17, and May 15, subject to change.
- A cumulative Final, administered on Friday, June 12.

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 16-week class. For this class that means approximately 12 hours of class and out-of-class time per week.

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. If you need to be excused from class or have any other questions, **send me an email**. Any in-person discussions are considered informal, and will end with me saying “send me an email” anyways.
2. 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.
3. You must inform me well in advance of any planned absences.
4. If you do not attend the first **two** in-person classes, then I will drop you from the course. Send me an email if you must or have missed the first two in-person classes before 8am of the following day. You must also submit Assignment 0 by the end of **February 17**, or you will be dropped from the class.
5. 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.
6. 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 take an in-person Quiz due to an excused absence.
7. 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.
8. 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.
9. Attending the Final is absolutely mandatory. There is no make-up or replacement for the Final.
10. Except for the Final, replacement or make-up assessments may be given in special circumstances.
11. 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: Students on the waitlist will be sent crash codes on February 17. If you are not on the waitlist and wish to add the course, then send me an email on February 18 after 8am to see if there is still space.



Financial Aid

Your Grades Matter! In order to continue to receive financial aid, you must meet the Satisfactory Academic Progress (SAP) requirement. Making 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

Module	Topic	Sections from the textbook
0	Course Orientation	
1 Feb 17 – Feb 22	Lines and The Basic Functions	Ch1, 2.1, 2.2
2 Feb 23 – Mar 1	Algebra Review and Limits	ChR, 2.3, 3.1, 3.2
3 Mar 2 – Mar 8	Derivatives	3.3, 3.4, 3.5, 4.1
4 Mar 9 – Mar 15	Exponential and Logarithmic Functions Test 1 – Friday, March 13	2.4, 2.5, 2.6
5 Mar 16 – Mar 22	The Product, Quotient, and Chain Rules	2.6, 4.1, 4.2, 4.4, 4.5
6 Mar 23 – Mar 29	Graphs and Derivatives Part 1	3.1, 5.2, 6.1, 6.2, 6.4
7 Mar 30 – Apr 5	Graphs and Derivatives Part 2	5.1, 5.3, 5.4
8 Apr 13 – Apr 19	Related Rates Test 2 – Friday, April 17	6.5
9 Apr 20 – Apr 26	Applications of Derivatives and Antiderivatives	6.2, 6.3, 7.1
10 Apr 27 – May 3	Definite Integrals and the Fundamental Theorem of Calculus	7.3, 7.4
11 May 4 – May 10	The Substitution Rule and Integration by Parts	7.2, 7.4, 8.1
12 May 11 – May 17	Riemann Sums Test 3 – Friday, May 15	7.3, 7.6
13 May 18 – May 24	Applications of Integration	7.5, 8.2, 8.3, 8.4
14 May 25 – May 31	Functions of Several Variables	9.1, 9.2
15 Jun 1 – Jun 7	Extremums of Functions of Several Variables	9.3, 9.4
16 Jun 8 – Jun 12	Final – Friday, June 12	

Subject to change without prior notice