



IMPERIAL VALLEY COLLEGE

Basic Course Information

Semester:	Spring 2026	Instructor Name:	Jeffrey Burt
Course Title & #:	Math 220 Elementary Differential Equations	Email:	jeff.burt@imperial.edu
CRN #:	20411	Webpage (optional):	
Classroom:	2732	Office #:	2765
Class Dates:	2/17-6/12	Office Hours:	M/W 1:45-2:45 T/Th 2:30-3:30
Class Days:	T/Th	Office Phone #:	7603556489
Class Times:	1:00pm – 2:25pm	Emergency Contact:	email
Units:	3	Class Format/Modality:	In Person

Course Description

The course is an introduction to ordinary differential equations including both quantitative and qualitative methods as well as applications from a variety of disciplines. Introduces the theoretical aspects of differential equations, including first, second, and higher order differential equations and their applications, establishing when solution(s) exist, and techniques for obtaining solutions, including, series solutions, and singular points, Laplace transforms and linear systems.(C-ID: MATH 240) (CSU/UC)

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

MATH 194 - with a grade of "C" or better

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 the ability to solve a first order differential equation.
2. Demonstrate the ability to use a differential equation to model a real world phenomena.
3. Demonstrate the ability to find a series solution to a differential equation.

Course Objectives

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

1. Create and analyze mathematical models using ordinary differential equations.
2. Identify the type of a given differential equation and select and apply the appropriate analytical technique for finding the solution of first order and selected higher order ordinary differential equations.
3. Apply the existence and uniqueness theorems for ordinary differential equations.
4. Find power series solutions to ordinary differential equations.
5. Determine the Laplace Transform and inverse Laplace Transform of functions.
6. Solve Linear Systems of ordinary differential equations.

Textbooks & Other Resources or Links

Nagle, R., Saff, E. and Snider, A.. 2017. Fundamentals of Differential Equations. 9th Addison Wesley. ISBN: 978-0321977069.

Updated 11/2024



Course Requirements and Instructional Methods

Homework

Homework will be assigned at each class meeting. It is due on Tuesdays and must be turned in as a pdf on Canvas. The pdf must be in the correct order to count for credit.

Quiz

A quiz may be given at any time during any class period. It may not be announced. The number of quizzes or group work in the semester will be instructor's discretion. The purpose is to provide a feedback on the learning outcome. The lowest 2 scores will be dropped.

Tests

There will be three tests. The purpose of these tests is to check your understanding of the concepts covered in the course. Most of the questions on these tests will require showing a significant amount of work. A correct answer with insufficient work will receive partial credit or no credit.

Final Exam

At the end of the semester, a COMPREHENSIVE/CUMULATIVE Final Exam will be given. If you miss the final, it will be recorded as a zero.

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

Course Grading Based on Course Objectives

There will be 3 in class exams, worth 100 points each. The final is comprehensive and is worth 150 points. There are no make-ups for the exams or 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'. The combined total of your quizzes is worth 10% of your grade. There are no make ups.

Grading: You need at least a total of 70% for a 'C' grade.

It is broken down as follows

Quizzes 8%

Homework 7%

Exams 60%

Final 25%

The grade categories are as follows: A 100%-90%, B 89.9%-80%, C 79.9%-70%, D 69.9%-60%, F 59.9%-0%

Attendance, class participation and a subjective instructor's interpretation of work may be used in assigning a final grade to borderline cases

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



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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

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Other Course Information

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

Week	Dates	Topics / Exams
Week 1	2/9 – 2/13	Chapter 1
Week 2	2/16 – 2/20	Chapter 2
Week 3	2/23 – 2/27	Chapter 2
Week 4	3/2 – 3/6	Chapter 3, Exam 1
Week 5	3/9 – 3/13	Chapter 3
Week 6	3/16 – 3/20	Chapter 4
Week 7	3/23 – 3/27	Chapter 4
Week 8	3/30 – 4/3	Review, Exam 2
Week 9	4/6 – 4/10	Spring Break
Week 10	4/13 – 4/17	Chapter 5
Week 11	4/20 – 4/24	Chapter 5, 6
Week 12	4/27 – 5/1	Chapter 6
Week 13	5/4 – 5/8	Review, Exam 3
Week 14	5/11 – 5/15	Chapter 7
Week 15	5/18 – 5/22	Chapters 7, 8
Week 16	5/25 – 5/29	Chapter 8
Week 17	6/1 – 6/5	Review, Final Exam

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