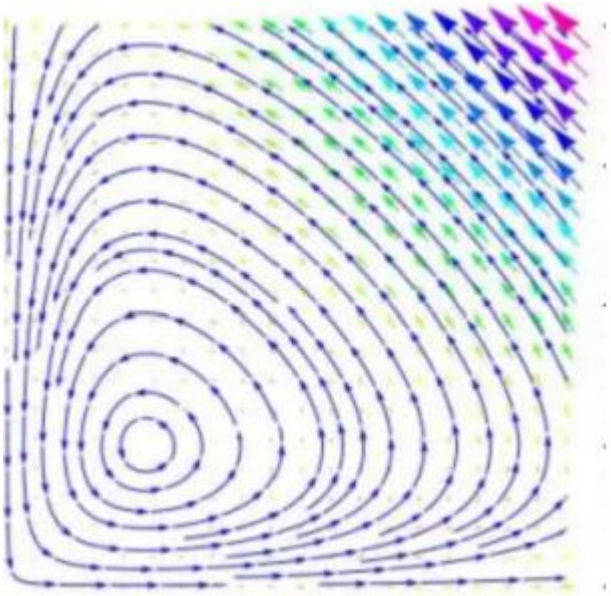
IMPERIAL VALLEY COLLEGE

Basic Course Information

Semester:	**Spring 2023**	Instructor Name:	**Jill Nelipovich**
Course # and Title:	**Math 220** **Differential Equations**	Email:	**Jill.nelipovich@imperial.edu**
CRN #:	**20441**	Webpage (optional):	**Canvas**
Classroom:	**2726**	Office #:	**2768**
Class Dates:	**2/13/23 – 6/09/23**	Office Hours:	**MW: 11:00 – 12:00 (zoom)** ***Hours may fluctuate depending on meetings. Send me a text and I can make an appointment most any time Mondays and Wednesdays** **TR: 9:00 – 9:30 (2768)** **12:30 – 1:00 (2768)** **TR: 4:00 – 4:30 (Centinela)**
Class Days:	**TR**	Office Phone #:	**760-355-6297**
Class Times:	1:00 – 2:25	Emergency Contact:	**Silvia Murray: 760-355-6201**
Units:	3	Class Format:	Face-to-Face! YAY!

Welcome Students! The Spring semester will be fun – we actually get to meet IN PERSON! YAY! The benefit to in person learning is HUGE! I want to see you succeed in this class and your next class and at the university! Your first assignment – eat healthy, take your vitamins and exercise frequently! Keep your immune system healthy and strong.



Remember all that calculus you learned so well?

And the trigonometry?

My job: To be available for you and to help you both learn and succeed in a remote environment.

What does success mean?
- Doing well in this course AND
- **Succeeding in the next course at the University**…
- "Should I cheat since it is easy to cheat"

Nope! Do you want to be fired from your job tomorrow for refusing to learn how to think today? Of course not! Learning is a wonderful opportunity!

Course Description

Welcome to the wonderful world of differential equations! Inevitably, you have learned Trigonometry, Pre-Calculus, and Calculus I and Calculus II online. If you need to re-learn some of the mathie stuff you learned before, now is the time to do it! Make sure you allot extra time to ensure you learn the material well and you succeed at the university ☺

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. ILO2, ILO4)
2. Demonstrate the ability to use a differential equation to model a real world phenomena. (ILO2, ILO5)
3. Demonstrate the ability to find a series solution to a differential equation. (ILO2, ILO4)

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

Course Requirements and Instructional Methods

Projects: There will be projects assigned throughout the semester. The projects are designed to help you think more deeply about solving math problems. You may work as a group or individually.

Quizzes: Quizzes will be given either weekly or bi-weekly basis. This will often be done in class or on Canvas – and you may work with your peers.

Exams: Three exams

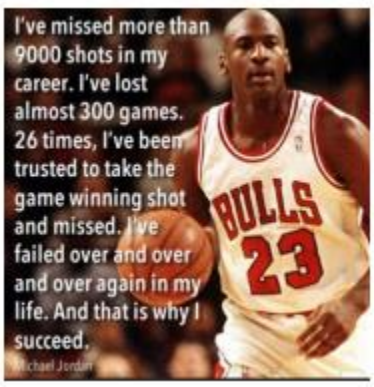
Final Exam: The final exam is cumulative. More information on the final exam will follow towards the end of the semester.

Course Grading Based on Course Objectives

Projects……10%	$90\% \leq x \leq 100\%$ A
Quizzes…… 5%	$80\% \leq x < 90\%$ B
Exams……60%	$70\% \leq x < 80\%$ C
Final Exam……25%	$60\% \leq x < 70\%$ D
	$x < 60\%$ F

Course Policies

- Have a lot of fun! Learning is no fun if you stress about learning! Always have a positive attitude. Stop, think, and relax! Allow your mind to be creative, give yourself permission to fail and embrace your success!



- Come to class AND participate in class! It doesn't do you, your peers or myself any good if you are texting throughout class and your mind is concentrated on your weekend rather than "the now"
- Do a little bit of work each and every day. 1% improvement each day equates to a lot of time spent learning (learning is different than studying) – it is productive studying

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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 or Week	Activity, Assignment, and/or Topic	Homework:
Week 1 2/13 – 2/17	Chapter 1 Chapter 2	
Week 2 2/20 – 2/24	Chapter 2 Chapter 2	
Week 3 2/27 – 3/3	Chapter 2 Chapter 3	
Week 4 3/6 – 3/10	Catch up Exam 1	
Week 5 3/13 – 3/17	Chapter 3 Chapter 3	
Week 6 3/20 – 3/24	Chapter 4 Chapter 4	
Week 7 3/27 – 3/31	Chapter 4 Chapter 4	
Week 8 4/3 – 4/7	Catch up Exam 2	
Spring Break 4/10 – 4/14		
Week 9 4/17 – 4/21	Chapter 5 Chapter 5	
Week 10 4/24 – 4/28	Chapter 5 Chapter 6	
Week 11 5/1 – 5/5	Chapter 6 Chapter 6	
Week 12 5/8 – 5/12	Catch up Exam 3	
Week 13 5/15 – 5/19	Chapter 7 Chapter 7	
Week 14 5/22 – 5/26	Chapter 7 Chapter 8	
Week 15 5/29 – 6/2	Chapter 8 Chapter 8	
Week 16 6/5 – 6/9	Review Exam	

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