

Math 376: Differential Equations I — Winter 2021

Instructor Information

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Class Information

Dates: 01/05/21 – 03/12/21
Time: 2 – 3 PM (for any live streams)
Regular Exams: 2 – 3 PM (Online on Canvas)
Final Exam: 03/18/21, 2 – 4 PM (Online on Canvas)
Textbook: **Differential Equations (Classic Version)**, 2nd edition, by Polking and Bogges

Course Description

This course is an introduction to differential equations: how to use analytic, graphical and/or numerical methods to investigate the solutions of differential equations, as well as how to use differential equations to model physical situations such as population growth and projectile motion. More precisely, we will study first and second order equations. We will learn some analytic solution techniques to solving first order equations like separation of variables and integrating factors. For second order equations, we shall look at techniques such as the method of undetermined coefficients.

We will cover the following chapters of the textbook:

- Chapter 1 – Introduction to Differential Equations
- Chapter 2 – First-Order Equations
- Chapter 3 – Modeling and Applications (section 3.1)
- Chapter 4 – Second-Order Equations (sections 4.1, 4.3-4.7)
- Chapter 6 – Numerical Methods (section 6.1)

Online Course Structure

We will not be live streaming the lectures. Instead, video recordings of the powerpoint slide lectures and problems worked out on a whiteboard will be posted on Canvas each Tuesday, Wednesday, and Friday. We will also have optional attendance live exam review sessions on Zoom from 2 – 3 PM.

Grading

Your final grade will be based on the following:

Homework	Exams	Final
40%	35%	25%

93–100%	90–92%	88–89%	83–87%	80–82%	78–79%	73–77%	70–72%	Below 70%
A	A-	B+	B	B-	C+	C	C-	D or F

Homework

Homework will be assigned every week and solutions posted on Canvas. The top six homework scores will make up 40% of your total course grade. You may work with others but the solutions must be in your own words.

Exams

There are two regular exams worth 35% total. If you miss an exam, you can make it up with a valid excuse or with prior permission.

The exams will cover the following chapters in the textbook:

- Exam 1 – Chapters 1, 2, and 3 (Introduction, First-Order Equations, Modeling)
- Exam 2 – Chapters 4 and 6 (Second-Order Equations, Numerical Methods)

The final exam is comprehensive and worth 25% of your final grade.

Getting Help

To get help in understanding the material in this course, schedule a time to meet with me during office hours on Zoom.

The best way to contact me is via email. Also, my office phone is being forwarded to my cell phone so I may be reached by phone.

COVID-19 and Masking

Due to COVID-19, and under the directive and mandate of public health officials and the

president of Central Washington University, students must adopt face covering protocol before entering any classroom or building at CWU until further notice. Students must also follow the social distancing placement marks in buildings and classrooms. If you do not have a face covering Central Washington University can provide one for you. If you have not yet received your CWU-supplied facial covering, please go the SURC Information Desk. Please do so prior to the start of your first class.

Important Dates

The exams are scheduled for the dates shown below:

- **January 11** – Last day to add or drop the class
- **January 18** – No class (Martin Luther King Jr. Day)
- **February 5** – Exam 1
- **February 15** – No class (Presidents Day)
- **February 18** – Uncontested withdrawal deadline
- **March 10** – Exam 2
- **March 18** – Final exam

Academic Honesty and Inclusiveness

Consult university policies CWUP 5-90-040(22), CWUR 2-90-040(22), and WAC 106-125-020 for student conduct, cheating, plagiarism, and other academic expectations. CWU's policies and recommendations for academic misconduct will be followed, leading to disciplinary action up to and including failing the course.

CWU expects every member of the university community to contribute to an inclusive and respectful classroom culture.

Students with Disabilities

Central Washington University is committed to creating a learning environment that meets the needs of its diverse student body. If you anticipate or experience any barriers to learning, discuss your concerns with your instructor. Students with disabilities should contact Disability Services to discuss a range of options to removing barriers, including accommodations. Student Disability Services is located in Hogue 126. Call (509) 963 – 2214 or email ds@cwu.edu for more information.

Faith/Tradition Observances Policy

In compliance with RCW 28B.137.010, Central Washington University makes every effort to deal reasonably and fairly with students who, because of religious obligations, have conflicts with scheduled exams, assignments or required attendance. Students must present

written notice to their instructor within the first two weeks of class listing the specific dates on which accommodations are required. Contact the Dean of Student Success at (509) 963 – 1515 for further information or questions.