

UNIVERSITY OF WYOMING

MATH 2310

APPLIED DIFFERENTIAL EQUATIONS I, 3 CREDIT HOURS

AGRICULTURE BUILDING | ROOM 4041

SPRING 2025, JANUARY 21–MAY 9

9:00–9:50 AM MWF

Instructor Contact Information

Name: Vincent (Vince) Ruzicka

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Office Hours

Official office hour: TBD

CASM hours: TBD

I am required to hold two (2) office hours in the CASM (Center for Assistance with Statistics and Mathematics, located in the basement of Ross Hall in room number 029) and one (1) additional office hour (my “official office hour,” in my office) each week. However, you are welcome to stop by my office whenever. You are most likely to catch me MWF after class until around noon. If you want to be certain that I am around, email me to set up an appointment.

Course Prerequisites

Grade of C or better in MATH 2205

Course Description

From the catalog: Includes solution of ordinary differential equations, integral transforms. Emphasizes construction of mathematical models arising in physical science and other areas.

Student Learning Outcomes

Students should understand specific techniques for solving various classes of ordinary differential equations, including first order linear equations and second order linear constant

coefficient equations with sufficiently nice nonhomogeneous terms. Moreover, students should understand where differential equations arise in physical science and other areas.

Required Text

Boyce, William E., Richard C. DiPrima, and Douglas B. Meade. *Elementary Differential Equations and Boundary Value Problems*. 11th ed., Hoboken, NJ: Wiley, 2017.

General Requirements and Expectations for the Course

Students are expected to attend class and to participate in class (ie. ask questions, answer questions posed by the instructor); students are required to attend and write scheduled examinations and to complete assignments in a timely manner; students are expected to spend time outside of class studying the required text (ie. reading, completing exercises, etc.); students are expected to attend office hours when they are struggling with course material.

Required Examinations and Assignments

One should expect a homework assignment every 1.5-2 weeks, for a total of 8-11 assignments. These homework assignments will primarily be online assignments, hosted on the platform MyOpenMath; although there may be some written assignments too. There will be two examinations to (hand) write: a short in-class midterm exam and a cumulative final exam to take place at the location set by the Office of the Registrar.

Final Examination Date

Set by the Office of the Registrar: Friday, May 16 from 8:00–10:00 AM. Location is TBD.

Grading Scale and Grading Policies

Homework assignments will be worth varying amounts of points and will in aggregate make up 50% of one's grade. Late assignments will not be accepted unless an arrangement is made with the instructor prior to the assignment due date. The midterm exam will make up 20% of one's grade; the final exam will make up 30% of one's grade. The following grading scale will be used in this course:

Letter grade	Percentage
A	$\geq 90\%$
B	$< 90\%, \geq 80\%$
C	$< 80\%, \geq 70\%$
D	$< 70\%, \geq 60\%$
F	$< 60\%$

Attendance and Absence Policies

Class attendance and absence have no impact on one's grade, except for the class period for which the midterm exam is scheduled, in which case absence equates to a 0% on the exam. Otherwise, this course will follow UW Regulation 2-108.

Classroom Behavior Policy

At all times, treat your presence in the classroom and your enrollment in this course as you would a job. Act professionally, arrive on time, pay attention, complete your work in a timely and professional manner, and treat all deadlines seriously. You will be respectful to your classmates and instructor. Spirited debate and disagreement are expected in any classroom; all views will be heard fully, but we will always behave civilly and with respect for one another. Personal attacks, offensive language, name-calling, and dismissive gestures are not warranted in a learning atmosphere. The instructor has the right to dismiss you from the classroom, study sessions, electronic forums, and other areas where disruptive behavior occurs.

Electronic devices such as mobile phones should be set to silent. Laptops are allowed for note-taking purposes; those who require laptops for accommodation of disabilities, work with Disability Support Services and the instructor to accommodate your needs. No unauthorized video or audio recording during class is allowed to protect the privacy of your fellow students; for those who require recording for accommodation of disabilities, work with Disability Support Services and the instructor to accommodate your needs.

Classroom Statement on Diversity

The University of Wyoming values an educational environment that supports students of all backgrounds and viewpoints. Diversity of viewpoints is considered a resource for learning. Topics may be difficult, not only intellectually but emotionally; however, discussions are essential to meeting the course's student learning outcomes and assisting students in developing problem-solving and critical-thinking skills. During all conversations, respect and civility are of utmost importance.

Disability Support

The University of Wyoming is committed to providing equitable access to learning opportunities for all students. If you have a disability, including but not limited to physical, learning, sensory or psychological disabilities, and would like to request accommodation in this course due to your disability, please register with and provide documentation of your disability as soon as possible to Disability Support Services (DSS), Room 128 Knight Hall. You may also contact DSS at (307) 766-3073 or udss@uwyo.edu. It is in the student's best interest to request accommodation within the first week of classes, understanding that accommodations are not retroactive. Visit the DSS website for more information at: www.uwyo.edu/udss

Academic Dishonesty Policies

Academic dishonesty will not be tolerated in this class. Cases of academic dishonesty will be treated in accordance with UW Regulation 2-114. The penalties for academic dishonesty can include, at the instructor's discretion, an "F" on an exam, an "F" on the class component exercise, and/or an "F" in the entire course. Academic dishonesty means anything that represents someone else's ideas as your own without attribution. It is intellectual theft—stealing—and includes (but is not limited to) unapproved assistance on examinations, plagiarism (use of any amount of another person's writings, blog posts, publications, and other materials without attributing that material to that person with citations), or fabrication of referenced information. Facilitation of another person's academic dishonesty is also considered academic dishonesty and will be treated identically.

AI Technology Use

Students are not permitted to use advanced automated artificial intelligence or machine learning tools on assignments in this course. Students are expected to complete assignments without substantive assistance from others, including automated tools.

Duty to Report

UW faculty are committed to supporting students and upholding the University's non-discrimination policy. Under Title IX, discrimination based upon sex and gender is prohibited. If you experience an incident of sex- or gender-based discrimination, you are encouraged to report it. While you may talk to a faculty member, understand that as a "Responsible Employee" of the University, the faculty member **MUST** report information you share about the incident to the university's Title IX Coordinator (you may choose whether you or anyone involved is identified by name). If you would like to speak with someone who may be able to offer privacy or confidentiality, there are people who can meet with you. Faculty can help direct you or you may find info about UW policy and resources at <http://www.uwyo.edu/reportit>

You do not have to go through the experience alone. Assistance and resources are available, and you are not required to make a formal complaint or participate in an investigation to access them.

Substantive Changes to Syllabus

This syllabus is a guide. Circumstances may alter the reading and/or test schedules. You are required to check WyoCourses and your email at least once a week.

Schedule of Topics

"Week X: Y.Z" refers to the chapter Y, section Z in the required text that will be covered during week X.

Week 1: 1.1
Week 2: 1.2, 1.3, 2.1
Week 3: 2.1, 2.2, 2.3
Week 4: 2.3, 2.4, 2.5
Week 5: 2.5, 2.6
Week 6: 2.8, 3.1, 3.2
Week 7: 3.2, 3.3
Week 8: Midterm Exam, 3.4
Week 9: Spring Break
Week 10: 3.5, 3.6
Week 11: 3.7, 3.8
Week 12: 3.8, 4.1, 4.2, 4.3, 4.4
Week 13: 6.1, 6.2
Week 14: 6.2, 6.3
Week 15: 6.4, 6.5
Week 16: 6.5

Student Resources

DISABILITY SUPPORT SERVICES: udss@uwyo.edu, 766-3073, 128 Knight Hall,
www.uwyo.edu/udss

COUNSELING CENTER: uccstaff@uwyo.edu, 766-2187, 766-8989 (After hours), 341 Knight
Hall, www.uwyo.edu/ucc

ACADEMIC AFFAIRS: 766-4286, 312 Old Main, www.uwyo.edu/acadaffairs

DEAN OF STUDENTS OFFICE: dos@uwyo.edu, 766-3296, 128 Knight Hall,
www.uwyo.edu/dos

UW POLICE DEPARTMENT: uwpd@uwyo.edu, 766-5179, 1426 E Flint St,
www.uwyo.edu/uwpd

STUDENT CODE OF CONDUCT WEBSITE: www.uwyo.edu/dos/conduct

UW TUTORING RESOURCES: <https://www.uwyo.edu/step/index.html>