

# Welcome to Math 376 Differential Equations – Fall 2019

10:00 - 10:50 MWF in SAMU 244/SAMU 138

**Instructor:** Dr. Jean Marie Linhart

**Phone:** (509) 963-2123 (I prefer email)

**Webpages:** (course) <http://canvas.cwu.edu>

(me) <http://www.cwu.edu/math/jean-marie-linhart>

**Office:** SAMU 221B

**E-mail:** JeanMarie.Linhart@cwu.edu

**Office Hours:** MTThF 11:00-11:50am

and by appointment

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The best ways to contact me are email, Canvas message, and office hours. If there's something I need to remember for later PLEASE put it in email or Canvas message! If I don't reply within 24 hours over a business day, please contact me again. While I strive to be responsive and prompt, sometimes things get put off for later and unintentionally forgotten.

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This syllabus is subject to modification. Students will be notified of changes in class and on Canvas.

**Text:** *Ordinary Differential Equations: From Calculus to Dynamical Systems* by Virginia W. Noonburg, MAA Press.

**Course Goals:** This course is an introduction to differential equations and how differential equations are used to model physical situations such as population growth, radioactive decay, concentration of a chemical, heat transfer, projectile motion, and savings with interest. We will learn to solve 1st order equations using the methods of separation of variables, finding an integration factor to solve 1st order linear differential equations, and basic numerical methods such as Euler's method and the midpoint method for approximating solutions. We will also analyze 1st order autonomous differential equations identifying stable, semi-stable and unstable equilibria. We will learn methods for solving 2nd order linear homogeneous and non-homogeneous differential equations.

**Prerequisites:** MATH 265 and MATH 272 with grades of C or higher.

**Grades:** Your final grade is based on

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Exams	90%	There will be 3 exams, each worth 30% of the final grade.
Homework	10%	Written work, WeBwoRK, possibly also using Mathematica or other computer systems.

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Grades will be calculated using the following scale:

93-100	A	80-82.9	B-	67-69.9	D+
90-92.9	A-	77-79.9	C+	63-66.9	D
87-89.9	B+	73-76.9	C	60-62.9	D-
83-86.9	B	70-72.9	C-	Below 60	F

**Exams:** The first exam may be taken during office hours or at another time mutually arranged during the week from Monday September 21 to 3 pm on Friday September 25. The exam must be completed and handed in by 3 pm on Friday September 25.

The second exam may be taken during office hours or at another time mutually arranged during the week from Tuesday November 12 to 3 pm on Friday November 15. The exam must be completed and handed in by 3 pm on Friday November 15.

Information about the content of exams given outside of class is confidential and not to be shared with others until the exams are returned to the class.

If you have not scheduled time to take the exam with me, and simply do not show up to take it by the deadline, you will receive a 0. If you have scheduled the exam for Friday and have an accident or emergency that prevents you from taking the exam that day, contact me ASAP and we will arrange for a make-up on the next class day. See the section of this syllabus on excused absences and late work.

The third exam is taken during our final exam period, Tuesday, December 10 at 8 am.

**Homework:** Homework is assigned weekly. Assignment descriptions and due dates and times will be posted on Canvas.

**Excused absences and late work:** Excused absences will not lower your overall grade in this class and are determined on a case-by-case basis. Excused absences are those that are both valid and verifiable, e.g.

illness, bereavement, and school-related activities. Documentation is required. Excused absences do not include travel for holiday breaks, work, or non-emergency travel delays.

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.

A 10% late penalty is assessed for each 24 hour period a homework assignment is late (including weekends). Each student may ask for one same-day 24 hour no-questions-asked extension on an assignment. Other extensions will be granted on a case-by-case basis. They should be requested as soon as possible and must come with some reasonable explanation and excuse. Asking more than a day in advance is recommended when possible.

Exams must be completed in the time-window assigned on this syllabus or documentation of an accident or emergency must be provided. If you have a documented excuse of an accident or emergency, contact me by email (preferred) or phone message **as soon as possible**, and certainly within within 2 business days of the event, and bring documentation of the excuse, and I will accept your late work at an agreed upon reasonable time given the circumstances.

**Getting Help:** We have all needed help with something. Working with students on math is one of the best parts of my job. If you find yourself feeling uncertain, wanting a deeper understanding, wanting to get better marks, or struggling to learn and succeed, please ask questions in class, post questions on Canvas, and/or come see me in office hours. Please give me a chance to help.

**Academic integrity:** 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.

**Students with Disabilities:** Central Washington University is committed to creating a learning environment that meets the needs of its diverse student body. Students with disabilities should contact Disability Services to discuss a range of options to removing barriers, including accommodations: Hogue Hall 126, (509) 963-2214, DS@cwu.edu

**Testing requests with testing services must be submitted at least 48 hours before an exam is given, or you will have to take the exam with the rest of the class.**

**Diversity:** As a member of a peer learning community, a high degree of professionalism is necessary. CWU expects every member of the university community to contribute to an inclusive and respectful classroom culture.

### Important Dates:

Sept 25	classes begin	Nov 12-Nov 15	Exam 2 available
October 1	change of schedule period ends	Nov 27-29	Thanksgiving Holiday (no classes)
Oct 21-Oct 25	Exam 1 available	Dec 10	8 am Final Exam
Nov 8	uncontested withdrawal period deadline		
Nov 11	Veteran's Day (no class)		