

MATH 335 Introduction to Ordinary Differential Equations, 2025 Spring Syllabus

Section 005: MWF 9:40–10:30 a.m., SHS 222

Mr. Jonathan Hafner, CAS 246, jhafner@uakron.edu

Website: <https://www.hafner.us/ua/>

Office hours: Mon & Fri 11:45–12:45, or by appointment

Prerequisites: MATH 223 Analytic Geometry–Calculus III with a grade of C– or better, or placement. If you do not meet the prerequisites, you may be withdrawn from the course without refund.

Course Objectives/Learning Outcomes: Students will be expected to be able to

- communicate mathematical results through the proper use of mathematical notation and words;
- recognize the proper technique and solve initial value problems for first order equations;
- solve initial value problems for higher order linear homogeneous and inhomogeneous equations;
- solve linear homogeneous systems using eigenvalues and eigenvectors;
- use Laplace Transforms to solve first and second order linear equations and linear systems;
- solve linear, variable coefficient equations using infinite series.

Text: *A First Course in Differential Equations with Modeling Applications*, 11th Edition, Dennis G. Zill. If you are registered for the class and the “ALL-IN Book Bundle”, you should have access to a digital version of the textbook. See <https://www.uakron.edu/bookbundle/> and my website for more information and other options.

Calculator: The following is the Department policy on calculators:

Following the ACT Calculator Policy, graphing calculators without computer algebra capabilities are allowed on all homework, quizzes and exams. Examples of approved calculators include the TI-83, TI-84+, TI-Nspire non-CAS, Casio fx-9750GIII, and Casio Prizm fx-CG50, but any downloadable computer algebra module must be deleted.

Graphing calculators with built-in computer algebra functionality are not allowed; examples include the Texas Instruments models TI-89, TI-92, TI-Nspire CAS; HP models Prime, 48GII, 40G, 49G, 50; and Casio models fx-CP400, ClassPad 300 or 330, Algebra fx 2.0, CFX-9970G.

If you are uncertain as to whether or not your calculator is acceptable, check with your instructor at the beginning of the course.

That said, my own tests will not require the use of a calculator, unless announced otherwise in advance. Some exercises will require the use of a calculator or computer, but there are plenty of free online tools that are sufficient for this purpose. Contact me if you have questions about where to find the necessary resources.

Tests: We will have about five to seven in-class tests, approximately biweekly. If you must miss a test for an excused reason, contact me as soon as possible to discuss your options. Make-ups will not be permitted without a documented valid excuse. Instead, up to two of your lowest test scores will be replaced with your final exam score if the latter is higher. This essentially allows you to miss up to two tests without penalty; if you miss fewer than two tests, this replacement can make up for one or two of your lowest scores.

Final exam: A comprehensive final exam will be administered sometime during finals week, as dictated by the University's schedule.

Grades: Your final grade will be based on the weighted average of your scores on assessments, with your test average worth two thirds and your final exam score worth one third. From that, your *minimum* grade in the course is shown in the table below. (I reserve the right to make small upward adjustments at my discretion. Also, I may weight the final exam more heavily if it will help your grade.)

Percent:	<60	60+	63+	67+	70+	73+	77+	80+	83+	87+	90+	93+
Grade:	F	D–	D	D+	C–	C	C+	B–	B	B+	A–	A

Communication: Aside from face-to-face discussion, the best way to contact me is by email. While lengthy or detailed discussion is best handled in person, I encourage you to ask me brief questions about course material—including homework—by email if it is feasible to do so. Aside from the convenience for you, it also makes it easier for me to send hints or clarifications to the entire class if I feel they are of general interest. Email is also the best way to schedule a meeting outside of class time or handle other administrative matters.

I will sometimes send important information or announcements to the class as a whole, or attempt to contact you directly if the need arises, using your UA email address. Make sure you check this account regularly.

My use of Brightspace is very limited; instead, information relevant to the course will be posted to my website, which you should check frequently. **Do not** attempt to contact me via the internal messaging systems of Brightspace or WebAssign, as I do not check those sites frequently—use regular email instead.

“What students need to know”: See <https://www.uakron.edu/oaa/faculty-affairs/What-Students-Need-To-Know> for important information on various topics, including

- The Student Code of Conduct and academic misconduct
- Statement about the ethical use of ChatGPT and other AI tools
- Add, drop, withdrawal and refund policies
- Inclusive excellence
- Title IX
- Sexual harassment and sexual violence
- Students with disabilities
- Religious Accommodations for Students
- ZipAssist

All students are responsible for this information.

Additionally, note that free tutoring is available in the University's tutoring centers: <https://www.uakron.edu/tutoring/>