

Course Syllabus

Ordinary Differential Equations
UCR Math-046-E01, Summer 2018

Everything in this syllabus is subject to change, but I assure you any changes will be quite agreeable.

Course Description

The purpose of this course is to give students a brief introduction to the study of differential equations. In particular, this course will only be covering *ordinary* differential equations, commonly called ODEs. We'll start with linear ODEs and we'll talk about how to find solutions to many first-order and second-order linear ODEs. This will be the main focus of the class. We'll also talk about how differential equations can be applied to model physical situations, and if time permits we'll discuss systems of differential equations and also the Laplace transform.

Logistical Details

The course starts on the 30th of July. The main lecture will be held Monday, Tuesday, Wednesday, and Thursday, 12–1pm in Humanities and Social Sciences (HMNSS) 1503, hosted by myself, Mike Pierce. Feel free to email me any questions or comments or concerns you have at mpierce@math.ucr.edu. Also, I will hold weekly office hours, although I'm not sure when yet.

The discussion section will be Tuesdays, 3–4:30pm in Surge 171, hosted by Edward Voskanian. He too will have weekly office hours.

The final will be the 15th of September (Saturday) 1–3pm in the same room as lecture. If you cannot take the final at this data/time due to religious reasons, medical reasons, or a sudden emergency, just let be know *prior to the scheduled final time* and we'll figure something out.

Textbooks and Resources

[Paul's Online Math Notes for Differential Equations](#) — This is the primary resource I will be following for the course. These notes are free and online and are rather great.

Schaum's Outline of Differential Equations, by Richard Bronson and Gabriel B. Costa — This is the usual textbook for this course here at UCR, but it will not be necessary for my class. Ask me in lecture about how you can get a copy of this if you are interested.

[WeBWorK](#) — Doing the exercises on WeBWorK can be good practice, but are by no means required for this class. Your login is your NetID and your password is your SID.

webwork.ucr.edu/webwork2/MATH_046_E01_18U

For technical support, the [WeBWorK Student's Guide](#) can be found here or on iLearn.

WolframAlpha — Much of this course will revolve around solving linear ODEs, and WolframAlpha can often calculate these for you. I encourage you to check your answers with WolframAlpha. Note that what WolframAlpha tells you a solution is and what you calculate a solution to be may *look* very different, but might actually be equivalent solutions; in this way, checking your answers with WolframAlpha is an exercise all in itself. A final word of warning: let WolframAlpha be your aide, not your crutch. You will not have access to it on the final exam.

Homework, the Final, and your Grade

Grades in this course will be based on two things: weekly homework assignments that are due in discussion, and the final exam at the end of the course. Your discussion TA will grade the homework, and I will grade the final exam.

Your grade in the course will be determined primarily by your score on the final exam, and will be supplemented by your grade on the homework assignments. In particular, your grade on the homework will be used to restore up to half of the points that you don't score on the final. Let's write this out explicitly: Let E be a your percent-grade on the final exam and let H be your percent-grade on the homework assignments, each realized as a real number in the interval $[0, 100]$. Then your percent-grade for the course G will be given by the formula

$$G = E + \frac{1}{2}H(100 - E),$$

and your corresponding letter-grade for the course will be assigned according to this table:

If G is at least	0	60	63	67	70	73	77	80	83	87	90	93
your letter-grade will be	F	D-	D	D+	C-	C	C+	B-	B	B+	A-	A

Academic Honesty

Students caught cheating on the final exam will automatically fail the exam and will be reported to the proper authority. Students are not required to do their homework in isolation but they must write up their own solutions. Failure to submit original work may result in disciplinary action by the University as dictated by the University guidelines regarding plagiarism. For information on UCR's full Academic Integrity Policy, see

conduct.ucr.edu/policies/academicintegrity.html

Accessibility

UC Riverside 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 in this course, please feel welcome to discuss your concerns with me. If you have a disability, or think you may have a disability, you may also want to contact the UCR Academic Support center

sdrc.ucr.edu/disabilities/academicsupportcenter.html

to begin this conversation or request an official accommodation. If you have already been approved for accommodations through the Office of Accessible Education, please meet with me to let me know.