Introduction to Differential Equations
Math 307 I; Spring 2017

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Course Website: `http://www.math.washington.edu/~jps314/m307_sp2017`
Office Hours: Mondays from 2:30pm to 3:30pm. See course website for alternatives.

Course Content: Math 307 is an introductory course in ordinary differential equations (ODE's) intended for students in engineering, mathematics, and the sciences. The course breaks into three pieces: first order DE's, second order DE's, and Laplace transforms.

Specific topics include first-order linear and separable equations, autonomous equations and stability, Euler's numerical method, applications of first-order equations, second-order linear equations with constant coefficients, characteristic equations, connections between homogeneous and nonhomogeneous second-order linear equations, second-order linear equations with non-constant coefficients, variation of parameters, applications to mechanical systems, the Laplace transform and its inverse, formulas for Laplace transforms, the delta function and its Laplace transform, and second-order equations with discontinuous right-hand sides.

Text: We will essentially follow chapters 2, 3, and 6 of *Elementary Differential Equations and Boundary Value Problems, 10th Edition* by W.E. Boyce and R.C. DiPrima. Both Math 307 and Math 309 have custom, somewhat cheaper versions of different portions of Boyce and DiPrima available from the UW bookstore, though we will use WebAssign for homework; see the course website's homework page for further information. There are also supplementary notes available on the Resources page of the course website.

Grading: Your grade will consist of:

Midterm	30%
Final	35%
Quizzes	20%
Homework	15%

though I reserve the right to tweak the grading scheme during the quarter as I see fit. From Autumn 2012 to Summer 2013, the average grade for 300-level math courses was 3.03 with a standard deviation of 0.82, and this course's median will very likely be between 2.9 and 3.1.

Homework: Homework is assigned, submitted, and graded via WebAssign. See the course web site for a link to a brief guide. Homework is due on Mondays at 11:59pm, except for the last two assignments which are due on Fridays at 11:59pm.

You may lose up to 10% of the overall points on homework without impacting your grade. Consequently, homework extensions/regrades/retries will not be granted.

Exams: You will not be allowed to use a calculator on exams. You will be allowed one 8.5×11 sheet of handwritten notes for the exams (both sides), though the exams will come with a formula sheet which will be published beforehand. You may not share a note sheet with another student on an exam. I tend to write difficult exams since I find they give a better distribution of scores. Exam schedule:

Midterm	Friday, April 28th	In lecture
Final	Monday, June 5th, 2:30-4:20pm	Lecture room/LOW 206

The midterm will cover material through §3.4. The final will strongly emphasize material not covered on the midterm.

Quizzes: There will be four quizzes during the quarter. See the schedule for timing information.

In an effort to encourage office hour attendance, you will be allowed to recover up to half of your missed points on the first three quizzes as follows. First, bring your quiz to the next possible office hours and discuss it with me. Second, give me a new, corrected version of the quiz at the start of the next lecture. I will grade the corrected version and give you the average of the two grades.

Quiz regrades will not be accepted starting two weeks after the quiz was given. If you are unable to attend my office hours, contact me to discuss alternatives. The last quiz is shortly before the final and there is unfortunately not enough time for regrades on it.

Make-Ups: In the case of observance of religious holidays or participation in university sponsored activities, such as class field trips or athletics, arrangements must be made at least one week in advance for exams. You will be required to provide documentation for your absence.

Make-up quizzes and midterms will not be given. If you miss an exam due to unavoidable, compelling, and well-documented circumstances (e.g., illness), your final exam may be weighted more heavily. **Contact me immediately if one of these circumstances arises.**

Resources for Students with Disabilities:

The University of Washington is committed to providing access, equal opportunity and reasonable accommodation in its services, programs, activities, education and employment for individuals with disabilities. To request disability accommodation contact the Disability Services Office at least ten days in advance at: 206-543-6450/V, 206-543-6452/TTY, 206-685-7264 (FAX), or dso@u.washington.edu.