

## MAP 2302 (3146) Elementary Differential Equations - Spring 2017

**Time:** MWF 5th period (11:45 am – 12:35 pm)

**Place:** 203 Little Hall

**Prerequisite:** Calculus 2

**Web:** <http://people.clas.ufl.edu/jal/map2302/>

**Instructor:** Jean A. Larson,

**Office:** 406 Little Hall

**Email:** jal at ufl dot edu

**Phone:** (352) 294-2316

**Tentative Office hours:** Monday 7th, Wednesday 4th, Friday 2nd, and by appointment.

**Required Text:** *Differential Equations and Boundary Value Problems*, 8th edition, by Nagle, Saff and Snider

**Course Objectives:** MAP 2302 focuses on first order ordinary differential equations (DEs). Methods of solution are developed for particular types, including separable equations, linear equations with constant coefficients, exact equations, homogeneous equations, Bernoulli equations. Among the methods, special attention is paid to use of Laplace transforms and of power series.

**Class Format and Attendance:** The class will be a lecture with an opportunity to discuss and work on problems. Attendance is recommended but not required. Homework problems will be suggested but not graded.

Requirements for make-up exams, assignments, and other work in this class are consistent with university policies and can be found at:

<https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx>

**Academic Honesty:** The course will be conducted in accordance with the University honor code and academic honesty policy, which can be found on the following web site:

<https://catalog.ufl.edu/ugrad/current/advising/info/student-honor-code.aspx>

### Grading:

There will be four in-class 20-point midterms exam and a comprehensive 40-point final exam.

Dates for the midterm exams are

Friday, January 27

Wednesday, February 15

Wednesday, March 22

Monday, April 17.

The lowest score among the four for during term exams and half the final will be dropped, giving a maximal possible exam score of 100 points.

The exams will be based upon homework problems, lecture, class discussions, and the reading. The tests will be cumulative. Written medical documentation is required for makeup exams. No other makeups will be given without prior agreement with the instructor.

Grades will be assigned according to the scale below:

Grade	A	A-	B+	B	B-	C+	C	D	E
Percent	90-100%	87.0-89.99%	84.0-86.99%	80.0-83.99%	77.0-79.99%	74.0-76.99%	70.0-73.99%	60-69.99%	0-59.99%

See the current UF policy on assigning grade points:

<https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx>

**Classroom Accommodation:** Students with disabilities requesting classroom accommodation should first register with the Disability Resource Center (352-392-8565, [www.dso.ufl.edu/drc](http://www.dso.ufl.edu/drc)) by providing appropriate documentation. Once registered, students will receive an accommodation letter which must be presented to the instructor when requesting accommodation. Students with disabilities should follow this procedure as early as possible in the semester.

## Tentative Weekly Schedule:

1. Introduction, separable equations: 1.3, 2.2
2. Linear equations, implicit and explicit solutions, exact equations: 1.2, 2.3-2.4
3. Homogeneous equations, Bernoulli equations
4. Discussion, review and Exam 1
5. Second order homogeneous equations, method of undetermined coefficients: 4.2-4.5
6. Undetermined coefficients, variations of parameters: 4.4-4.6
7. More on relations, equivalence relations 4.4, 4.6
8. Review, Exam 2, introduction to the Laplace transform: 7.2-7.3
9. Laplace transform, inverse Laplace transform, use on IVP: 7.2-7.4, 7.6
10. Piecewise and periodic functions: 7.6
11. Spring Break
12. Impulses & Dirac Delta function, convolution: 7.7-7.8
13. Review, Exam 3, power series: 8.2
14. Power series solutions, Cauch Euler equations: 8.3, 8.5
15. Applications
16. More applications
17. Exam 4 and review for the final

**Course Evaluations:** Students are expected to provide feedback on the quality of instruction in this course based on 10 criteria. These evaluations are conducted online at <https://evaluations.ufl.edu>. Evaluations are typically open during the last two or three weeks of the semester, but students will be given specific times when they are open. Summary results of these assessments are available to students at <https://evaluations.ufl.edu/results>.