

**MAP 2302 Induction to Differential Equations (6541)**

Fall 2016

<http://people.clas.ufl.edu/kees/files/MAP2302Fall2016.jpg>

**Instructor:** James Keesling (352)294-2312  
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**Office Hours:** MW 3<sup>rd</sup> Period

**Meeting Time and Place:** MWF 2<sup>nd</sup> Period, 8:30 – 9:20 am  
LIT 205

**Textbook:** *Fundamentals of Differential Equations* (8<sup>th</sup> Edition) by Nagle, Saff, Snider. A **TI-Nspire CX CAS** calculator is recommended, manual at <http://education.ti.com/en/us/guidebook/search/ti-nspire>.

**Goal:** The student will become familiar with the techniques of solving elementary differential equations and be able to solve various types of mathematical problems using the techniques.

**Syllabus:** This course is an introduction to the basic techniques of differential equations. It will cover methods of solving elementary differential equations and how to apply the solutions to various problems arising in the natural sciences and other disciplines.

In addition to the textbook some class notes will be available online. The TI-Nspire CX CAS is recommended, but not required.

Topics to be covered will include: first-order differential equations, mathematical models, numerical methods, systems of differential equations, higher-order differential equations, Laplace transforms, and series solutions of differential equations. As time permits an introduction to matrix methods for linear systems will also be covered.

Week 1	Chapter 1 Introduction to differential equations
Week 2	Chapter 2 First-order equations
Week 3	Chapter 3 Mathematical models
Week 4-5	Chapter 4 Linear second-order equations
Week 6-7	Chapter 5 Introduction to systems
Week 8-9	Chapter 6 Theory of higher-order linear differential equations
Week 10-12	Chapter 7 Laplace transforms
Week 13-15	Chapter 8 Series solutions
Week 16	Review

**Tests and Grading:** There will be two in-class tests and a final exam. The grades will be determined by averaging the tests and final exam scores: 95-100 = A, 90-94 = A-, 87-89 = B+, 83-86 = B, 80-82 = B-, 76-79 = C+, 70-75 = C, 65-69 = D+, 60-64 = D, 0-59 = E.

**Final Exam:** Fri, Dec 16, 10 am - 12 pm, LIT 205

**Policy for Make-Up Exams:** If a student has a known conflict for an exam, the student has the responsibility to make arrangements for a make-up before the exam is given. If a student misses an exam due to an emergency, arrangements must be made as soon as possible for a make-up.

**Students with Disabilities:** Students with disabilities requesting accommodations 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 that must be presented to the instructor when requesting accommodation. Students with disabilities should follow this procedure as early as possible in the semester.