<div align="center">

Department of Mathematical Sciences
Fall 2018, Math 311
Ordinary Differential Equations

</div>

Instructor:	Professor Emily Stone	**E-mail Address:**	stone@mso.umt.edu
Office:	MATH 004B	**Office Phone:**	243-5365
Office Hours:	M 2-3, T Group office hours: 10-12, W 10-11		

Course Description: In this course we will cover analytic solution techniques for first order differential equations (ODEs) and second order linear differential equations (including some series solution methods often used in Physics). We will also study numerical methods for constructing approximate solutions to ODEs, and qualitative methods for studying nonlinear systems, namely phase plane analysis. Modeling simple systems governed by ODEs will be introduced, along with the general analysis of linear systems of ODEs.

Texts: • *Elementary Differential Equations*
Boyce and DiPrima, 10th Ed., J. Wiley

Prerequisite: M 273

Important Dates:

Sept. 3:	Labor Day Holiday - no classes
Sept. 17:	Last day to drop via Cyberbear
Nov. 2:	Last day to drop classes/change sections with instructor approval
Nov. 12:	Veteran's Day Holiday - no classes
Nov. 21-23:	Thanksgiving Day Holiday - no classes
Dec. 7:	Last Day for Drop Petitions

Exams: (tentative for Exams 1, 2 and 3)

Sept. 21 (Wednesday):	Exam 1
Oct. 17 (Wednesday):	Exam 2
Nov. 19 (Wednesday):	Exam 3
Dec. 12 (Wednesday):	Final Exam, 8:00–10:00 a.m.

Grading:

Homework	20% of course grade
Exams (3)	60% of course grade
Final Exam	20% of course grade

<div align="center">

SOME COMMENTS

</div>

Homework Assignments:

Homework will be assigned and collected weekly. Please be neat and make sure we can find each problem easily (e.g. number them clearly). If your handwriting is especially small, faint or sloppy, we may request that you complete it in a document preparation package. As part of this course I will teach you the rudiments of Latex, a document preparation package designed for presenting mathematical formulae.

A computer or calculator may be used to aid with the calculations in the homework. We will use Maple in class, which is widely available on campus, and I will give you worksheets with examples of the types of calculations you will be required to do for the class. However, Maple is not the only software package out there with these capabilities, and you are welcome to use whatever package suits you. You are encouraged to work together on the assignments, but please write up the solutions individually.

Homework assignments will be due on Wednesdays by 2:00 p.m. Homework received on Thursday by 2:00 p.m. will receive a 25% deduction, on Friday by 2:00 p.m., a 50% deduction. Homework will not be accepted any later than Friday. You may hand in your assignment in class, or you can place it in the homework box in the main office, MATH 111. Please have your assignments stapled or paper-clipped on 8.5 by 11 inch paper.

Readings:

In mathematics lectures, a new term is often defined at the beginning of the class period and then used repeatedly throughout the session. It is helpful to be prepared for class by reading the text ahead of time. Thus, when a new topic is introduced in class, it is *not* the first time you have seen it! The reading assignments are designed to help you make better use of class time, they are to be done *before* the material is covered in class. You may also watch video lectures on YouTube about each topic. The lectures by Bill Kinney are right from the textbook, or you can find mini-lectures on individual topics as well.

Exam Information:

There will be three in-class exams and a final given on the dates listed at the bottom of the first page of this syllabus. The final exam will be cumulative with a slight emphasis on the material covered after the third test. Make-ups for an exam will not be given unless you have a valid excuse and you contact me prior to the exam.

Grading:

Grading will be done on the usual percentage scale, 90-100% A, 80-89 % B, etc.

Students with Disabilities:

Students with disabilities should discuss accommodations with me.

Academic Misconduct:

All students need to be familiar with the Student Conduct Code. You can find it in the "A to Z Index" on the UM home page. From this, please note that all students are expected to practice academic honesty. Academic misconduct is subject to an academic penalty by the course instructor and/or a disciplinary sanction by the University.

Final Note:

Announcements made in class are considered addenda to this syllabus.