The University of Montana
Department of Mathematical Sciences
Fall 2020, Math 511
Applied Mathematics I

Instructor: Dr. Emily Stone **E-mail Address:** stone@mso.umt.edu
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Office Hours: TBA, via Zoom

Course Description: In this course we will cover material from chapters 1, 2, 3 from the textbook, at a minimum. The topics are dimensional analysis and characteristic scales, analysis of linear and nonlinear ODEs, perturbation methods and boundary layer analysis, and calculus of variations. With whatever time we have left we can cover chapter 4 (Eigenvalue Problems, Integral Equations, and Green's Functions) or chapter 8 (Mathematical Models of Continua), depending on what interests the class most.

The class will be "hybrid" meaning at least one of you will be participating via Zoom. This will most likely be asynchronous, where I post Zoom recordings of the lectures/class to be viewed whenever. Obviously, everyone can use those as a reference throughout the course.

Text: • *Applied Mathematics, 4th Edition*
J. Logan, John Wiley and Sons.

Prerequisite: Math 311, 412 or 414

Important Dates:
Sept. 7:	Labor Day Holiday - no classes
Sept. 9:	Last day to drop/add via Cyberbear
Oct. 21:	Last day to drop classes/change sections with form
Nov. 3:	Election Day - no classes, offices closed
Nov. 11:	Veteran's Day Holiday - no classes, offices closed
Nov. 18:	Last day of regular classes, last day to drop with petition
Nov. 19-25:	Final Exam week

Homework Assignments: Homework from the text will be assigned, and answers/partial solutions will be available as pdf files on the course web site.

Grading: The course grade will be determined by five take-home tests, each worth 20% of your grade.

1. The first will be on chapter 1 and is tentatively scheduled for Sept. 4th.

2. The second will cover material in chapter 2 and is tentatively scheduled for Sept. 28th.

3. The third will cover the material in chapter 3 and is tentatively scheduled for Oct. 16th.

4. The 4th will be on chapter 4, on about Nov. 4th.

5. and the 5th and final exam will done during finals week.

THESE ARE VERY PROVISIONAL DATES.

Student Conduct:

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. All students must practice academic honesty. (That specifically means not copying homework solution sets, sharing information on exams, or plagiarizing material in written reports.) Academic misconduct is subject to an academic penalty by the course instructor and/or a disciplinary sanction by the University.

For any student with a disability:

If you have a disability that has or might have an effect on your performance in this class, please let me know. I will do my best to accommodate you.

Covid-19 Information:

- Mask use is required within the classroom

- Each student is provided with a cleaning kit. The expectation is that students will clean their personal work space when they arrive for class, and before they leave the classroom

- Class attendance will be recorded to support contact tracing efforts

- Drinking liquids and eating food is discouraged within the classroom (which requires mask removal)

- Stay home if you feel sick and/or if exhibiting COVID-19 symptoms

- Up-to-Date COVID-19 Information from the University of Montana UM Coronavirus Website: https://www.umt.edu/coronavirus UM COVID-19 Fall 2020 website: https://www.umt.edu/coronavirus/fall2020.php

Final Note:

Announcements made in class are considered addenda to this syllabus. Exam dates are tentative, make sure you stay informed as to the progress of the class.