MATH 306 – DIFFERENTIAL EQUATIONS, COURSE SYLLABUS
FALL 2017 SECTION X

Instructor: Jack Buttcane
Office: Math 201
Email: my last name at buffalo dot edu
Office hours: T 12:40-1:40pm, W 11am-12pm, R 9:40-10:40am, or by appointment.
My webpage: http://www.acsu.buffalo.edu/~buttcane

Lecture: TR 11:00am-12:20pm in O’Brian 112

The 3rd custom UB edition consists of Chapters 1-8 of the standard 5th edition (which is titled Differential Equations and Boundary Value Problems: Computing and Modeling). Homework will be assigned from the 3rd custom UB/5th standard edition, no points will be given for problems from other editions.

Expanded Syllabus: https://www.buffalo.edu/content/dam/cas/math/Undergraduate/MathUG-MTH306_syllabus.pdf

Course Description: Analytic solutions, qualitative behavior of solutions to differential equations. First-order and higher-order ordinary differential equations, including nonlinear equations. Covers analytic, geometric, and numerical perspectives as well as an interplay between methods and model problems. Discusses necessary matrix theory and explores differential equation models of phenomena from various disciplines. Uses a mathematical software system designed to aid in the numerical and qualitative study of solutions, and in the geometric interpretation of solutions.

Prerequisites: Math 142 or 154

Grading: The MAXIMUM of
- 15% homework + 25% each midterm + 35% final, OR
- 15% homework + 25% best midterm + 60% final, OR
- 20% homework + 10% best midterm + 70% final.

Grades assigned by the usual 10% breaks with 2% for +/-; e.g. 92% guarantees an A, 90% an A-, 88% a B+, etc. Individual exams will be curved; final course grades will not.
Late work: Homework will be assigned on Thursday and collected in class at the end of class Thursday of the following week (7 days). No late homework will be accepted, and no make-up tests will be given.

**Tentative Schedule**

Aug. 29, 31: 1.1-1.3; Sept. 5, 7: 1.4-1.6; Sept. 12, 14: 2.2-2.4;
Sept. 19: 3.1-3.3; Sept. 21: **Midterm I**; Sept. 26, 28: 3.4, 3.5;
Oct. 3, 5: 3.6, 4.1, 4.2; Oct. 10, 12: 5.1; Oct. 17, 19: 5.2, 5.5;
Oct. 24: 6.1, 6.2; Oct. 26: **Midterm II**; Oct. 31, Nov. 2: 6.4, 8.1;
Nov. 7, 9: 8.2, 8.3, 7.1; Nov. 14, 16, 21: 7.2, 7.3; Nov. 28, 30: 7.4, 7.5;
Dec. 5: 7.6; Dec. 7: Review;

**Tuesday, Dec. 12, 11:45am-2:45pm:** Final Exam in O’Brian 112.

We may or may not cover section 6.3.