

**Math 377: Differential Equations 2 Winter 2015**  
**Hertz 118, 9:00 - 9:50 MWF, Bouillon 103 occasional Wednesdays**

**Instructor:** Dr. Jim Bisgard

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**Office Hours:** M-F 11:00 - 11:50, and by appointment.

**Course Goals:** The goal of the course is to introduce you to the ideas of systems of differential equations: how to use analytic, graphical and/or numerical methods to investigate the solutions of systems of differential equations, as well as how to derive systems differential equations to describe phenomena in different sciences. More precisely, we will study systems of linear first order equations, and how to describe the behavior of their solutions using the language of linear algebra. In addition, we will explain the behavior of nonlinear systems near their equilibria. Finally, we will introduce Laplace transforms and use them to solve differential equations. If time allows, we may cover some topics from the calculus of variations and its application to boundary value problems.

**Required Text:** Noonburg, Virginia W.;

Ordinary Differential Equations: From Calculus to Dynamical Systems; published by MAA

We will occasionally use the computer lab in Bouillon 103 on Wednesdays. I will announce those days ahead of time.

## 1 Grades/Exams/Homework

- Grades

Grades will be calculated using the following weighting system:

Exams: 55% total, broken up as follows: 15% for each mid-term and 25% for the final;

Homework: 45%;

and the following scale:

	87 – 89.9 : B+	77 – 79.9 : C+	67 – 69.9 : D+	below 60 : F
93 – 100 : A	83 – 86.9 : B	73 – 76.9 : C	63 – 66.9 : D	
90 – 92.9 : A–	80 – 82.9 : B–	70 – 72.9 : C–	60 – 62.9 : D–	

- Exams

There will be two exams during the course of the quarter, and a final exam. The exams during the quarter will be Friday, January 30 and Friday, February 20. The final exam is cumulative, and will be Monday, March 16.

- Homework

We will have weekly homework assignments. They will be handed out on Wednesday, and be due the following Wednesday at noon. To do some of the problems, you might need to use a computer. You may work with your classmates on homework (and in fact, I encourage you to do this!), but you should write your solutions using your own words. In addition, your homework must be neat and legible, and written using complete sentences where appropriate.

- Late Policy

Homework is due at noon on its due date. Homework handed in after that time on its due date will lose 5 points immediately, and 5 more points for every 24 hours after. That means: if you hand in homework at 12:30 on Wednesday, you can earn at most 20 out of 25 on your homework. If you hand in your homework on Thursday at 12:30 pm, you can earn at most 15 out of 25, since over 24 hours will have passed.

## **2 Important Dates**

January 12 - Last Day for Add/Drop

January 30 - Mid-term Exam #1

February 20 - Mid-term Exam #2

February 20 - uncontested withdrawal deadline

March 19 - Final Exam

## **3 Legalese/Fine Print**

*Students with disabilities who wish to set up academic adjustments in this class should give me a copy of their “Confirmation of Eligibility for Academic Adjustments” from the Disability Support Services Office as soon as possible so we can discuss how the approved adjustments will be implemented in this class. Students without this form should contact the Disability Support Services Office, Bowillon 140 or ds@cwu.edu or 963-1202.*