WELLS COLLEGE
MATH 213: Ordinary Differential Equations and Applications – Spring 2012
MWF 9:30-10:20 – Macmillan Hall 100
3 Credit Hours

Instructor: Gregory Moore   **Tentative Office Hours:** MWF 11:30am-12:30pm
                    MacMillan 104   Generally available MWF afternoons
                    315-364-3214   (see website for up-to-date times)
                    gmoore@wells.edu

Course website: http://mailbox.wells.edu/~gmoore/

Text: William E. Boyce & Richard C. DiPrima, "Elementary Differential Equations", 9th Edition, 2009, Wiley. ISBN: 978-0-470-03940-3

Prerequisites: MATH 112 (Calculus II) or equivalent.

Content: From the course catalog: *Basic theory of differential equations with applications to continuous models. Focus on analytic methods with introduction to numerical methods. Introduction to computer tools in determining symbolic and numerical solutions.*

Among other things these topics include:
- First order ordinary differential equations (ODEs)
- Second order ODEs
- Higher order ODEs
- Laplace Transforms
- Systems of first order ODEs
- Numerical Methods

Requirements: The formal course requirements listed below—homework, quizzes and exams—are designed to assist you in mastering the course material. However, you must work every day in order for these activities to make a difference. Be sure to ask questions in class or during office hours immediately if you have difficulties.

Calculator: At a minimum a scientific calculator will be required for classwork, homework and assessments. A graphing calculator is strongly suggested for graphing functions, but not required.

Help: In addition to class time, you may see me in my office or consult the teaching assistants in the math clinic (Mac 120). Please do not hesitate to seek help; that's why we're here. Setting up a study group with classmates is also recommended.

Ungraded Homework: By far the most important activity in the course is the doing of problems. There is an enormous difference between watching an instructor do a problem and doing one yourself. Even the best teacher cannot merely place knowledge in your mind. You must slowly discover it on your own as you struggle with problems. You are encouraged to work with other students when doing homework, but do not fool yourself by copying another's work. You must be an active participant. Homework will not be graded since it is used for learning the course material, but you **must do it**.

Quizzes: We will have regular quizzes, many of which will be completed outside of class. These are designed to give you honest feedback of how you are doing in the course. Problems will resemble recent homework

exercises. You textbook and notes may be used as reference material, however other people (excluding myself) and computers may not be utilized.

Project: During the course you will be asked to complete one project, individually or together with another student, that applies mathematics principles presented throughout the course to a complex real-world problem. Throughout the course possible projects will be mentioned in class and posted to the website for use as a starting basis. You will discuss your findings with the instructor during office hours (or another mutually acceptable time). Grading will be based both on presentation and mathematical solution.

Exams: There will be three tests, given in class on (tentatively) Friday February 24th, Wednesday March 28th, and Monday May 2nd. The comprehensive Final Exam will take place from 2pm to 5pm on Friday, May 18th. If you cannot attend an exam, it is **your responsibility** to contact me as soon as possible with a valid reason. Examinations will be closed book, but you may bring a single 8.5"x11" sheet of paper with hand-written notes on it (both sides is acceptable). Calculators are also allowed.

Grading:	Quizzes	15%
	Project	15%
	Tests 1, 2 and 3	50%
	Final Exam	20%

Students with Disabilities: If you have a physical, sensory, health, cognitive, or mental health disability that could limit your ability to fully participate in this class, you are encouraged to contact the Coordinator of Learning Support Services, Kristie Zieler (kzieler@wells.edu) to discuss accommodations that will help you succeed. Your conversations with her are highly confidential, and she will not supply details of your disability to anyone without your signed permission. Do understand that Ms. Zieler will need to notify your faculty about accommodations you might need and are supported by your disability documentation.

Homeworks:
1.1 1, 4, 7, 9, 15, 21 and 25*

*See examples from chapter

Additional chapters will be assigned in the future.