

DIFFERENTIAL EQUATIONS 11:00-11:50AM SPRING 2003 HICKOK 207

- Instructor: Jonathan White
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- Web Page: <http://www.coe.edu/~jwhite/>
- Office: Hickok 206A
- Office Hours: MWF 9:00-9:50am, MWF 1:00-1:50pm and by appointment
- Office Phone: 399-8280
- Home Phone: 841-5111 (between 7am and 11pm)
- Text: *Differential Equations*, 2nd Edition, Blanchard, Devaney, and Hall
- Problem Sets & Labs: There will be occasional problem sets, as well as lab assignments on designated class days, and together these will total 200 points (about 29% of the final grade).
- Exams: There will be three in-class exams administered during class time. The dates of these are indicated in the schedule on the back side of this sheet. These exams will be worth 100 points (about 14% of the final grade) each.
- The final exam will be held during the finals week at the date and time indicated on the back side of this sheet. The final will be worth 200 points (about 29% of the final grade).
- Grading: Grading will approximately follow a 90% A, 80% B, 70% C, 60% D scale.
- Makeups: Makeups for exams will generally be allowed only under extenuating circumstances, with documentation and advance notice when humanly possible. Late problem sets and labs will generally not be accepted, and if accepted due to extenuating circumstances will generally be subject to a penalty of 20% of the possible points for each day past due.

This class is intended to give a solid modern introduction to differential equations. This means that graphical and numerical approaches will be taken as seriously as conventional analytic methods, and that qualitative statements will be as important as quantitative solutions.

The use of technology, particularly computer software, will be an important component of the course. Ability to compute with pencil and paper will also be important, as will conceptual understanding of the topics treated.

This combination of approaches is likely to prove challenging, partly because few people will find that all of these aspects play to personal strengths. Don't let that be overwhelming, though, and remember that I'm around to help.

Tentative Schedule

	Wednesday, February 5 th 1.1 Modeling via Diff. Equations	Friday, February 7 th 1.1 Modeling (continued)
Monday, February 10 th 1.2 Separation of Variables	Wednesday, Feb. 12 th 1.3 Slope Fields	Friday, February 14 th 1.4 Euler's Method
Monday, February 17 th 1.5 Existence and Uniqueness	Wednesday, Feb. 19 th 1.6 Equilibria	Friday, February 21 st Lab
Monday, February 24 th 1.7 Bifurcations	Wednesday, Feb. 26 th 1.8 Linear Differential Equations	Friday, February 28 th 1.8 Linear Differential Equations
Monday, March 3 rd 1.9 Changing Variables	Wednesday, March 5 th Review	Friday, March 7 th Exam 1
Monday, March 10 th 2.1 Modeling via Systems	Wednesday, March 12 th 2.2 The Geometry of Systems	Friday, March 14 th 2.3 Analytic Methods
Monday, March 17 th 2.3 Analytic Methods	Wednesday, March 19 th 2.4 Euler's Method for Systems	Friday, March 21 st Lab
March 24 th - 28 th Spring Break -- No Class		
Monday, March 31 st 2.5 The Lorenz Equations	Wednesday, April 2 nd Series Solutions	Friday, April 4 th Lab
Monday, April 7 th Review	Wednesday, April 9 th Registration -- No Class	Friday, April 11 th Exam 2
Monday, April 14 th 3.1 Linear Systems	Wednesday, April 16 th 3.2 Straight-Line Solutions	Friday, April 18 th 3.3 Phase Planes & Real Eigenvalues
Monday, April 21 st 3.4 Complex Eigenvalues	Wednesday, April 23 rd 3.5 Repeated and Zero Eigenvalues	Friday, April 25 th Lab
Monday, April 28 th 3.6 Second-Order Linear Equations	Wednesday, April 30 th 3.7 The Trace-Determinant Plane	Friday, May 2 nd 3.8 Linear Systems in 3D
Monday, May 5 th Review	Wednesday, May 7 th Exam 3	Friday, May 9 th Lab
Monday, May 12 th Additional Topic to be determined	Wednesday, May 14 th Additional Topic to be determined	Friday, May 16 th Review
Thursday, May 22 nd Final Exam 2pm		