DIFFERENTIAL EQUATIONS 11:00-11:50AM SPRING 2004 HICKOK 207

Instructor:	Jonathan White
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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 and together these will total 200 points (about 29% of the final grade).
Exams:	There will be three exams administered during class time through the semester. 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 January 14th §1.1 Modeling via Diff. Equations	Friday January 16th §1.2 Separation of Variables
Monday January 19th §1.3 Slope Fields	Wednesday January 21st §1.4 Euler's Method	Friday January 23rd §1.5 Existence and Uniqueness
Monday January 26th §1.6 Equilibria	Wednesday January 28th §1.7 Bifurcations	Friday January 30th §1.8 Linear Differential Equations
Monday February 2nd §1.9 Changing Variables	Wednesday February 4th Review	Friday February 6th **Exam 1**
Monday February 9th §2.1 Modeling via Systems	Wednesday February 11th §2.2 The Geometry of Systems	Friday February 13th §2.3 Analytic Methods
Monday February 16th §2.3 Analytic Methods	Wednesday February 18th §2.4 Euler's Method for Systems	Friday February 20th §2.5 Euler's Method for Systems
Monday February 23rd §2.6 The Lorenz Equations	Wednesday February 25th §6.1 Laplace Transforms	Friday February 27th §6.1 Laplace Transforms
Monday March 1st §6.2 Discontinuous Functions	Wednesday March 3rd Review	Friday March 5th **Exam 2**
March 8th – 12th **Spring Break, No Classes**		
Monday March 15th §3.1 Linear Systems	Wednesday March 17th §3.2 Straight-Line Solutions	Friday January 19th §3.3 Phase Pl. & Real Eigenvalues
Monday March 22nd §3.3 Phase Pl. & Real Eigenvalues	Wednesday March 24th §3.4 Complex Eigenvalues	Friday March 26th §3.5 Repeated and Zero Eigenvalues
Monday March 29th §3.6 Second-Order Linear Equations	Wednesday March 31st §3.7 The Trace-Determinant Plane	Friday April 2nd §3.8 Linear Systems in 3D
Monday April 5th Review	Wednesday April 7th **No Class** – Registration	Friday April 9th **Exam 3**
Monday April 12th §4.1 Forced Harmonic Oscillators	Wednesday April 14th §4.2 Sinusoidal Forcing	Friday April 16th §4.3 Undamped Forcing
Monday April 19th §5.1 Equilibrium Point Analysis	Wednesday April 21st §5.2 Qualitative Analysis	Friday April 23rd §5.3 Hamiltonian Systems
Monday April 26th Review	Wednesday April 28th Review	

Final Exam – 1pm Monday 5/3/2004

Any students with disabilities which might affect their performance in this class should contact me as soon as possible to arrange accommodations.

The faculty has adopted a policy on academic integrity. It is your responsibility to understand and follow it.