

Fact Sheet -- Math 366, Fall 2001, Wilkerson Section, MWF 1:30-2:20

Instructor: Prof. Clarence Wilkerson, Room 450, MathSci Bldng.

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Office Hours: TBA

Course Webpage: <http://www.math.purdue.edu/~wilker/Math366F01>

Book: Williamson, 2nd ed. "Intro. to Differential Equations ..."  
McGraw-Hill, 2001

HW-assignments will be posted on course webpage and handed out in class.

There will be 8-12 problems per week and may require several hours of work. The process is as important as the answers you obtain. The work turned in should be your own.

Labs: you are assigned to a computer lab. These meet on Tuesdays.

Check your course schedule to make sure you attend the correct lab.

Exam Dates and coverage: Two evening one hour midterms, TBA

First midterm about 4th week of September

Second midterm about beginning of November

Final - two hour comprehensive exam during finals week TBA

(date to be announced soon)

Grading Policy:

100 points/each midterm,

75 points/homework

75 points/lab work

150 points/final

for a total of 500 points.

The semester grade will be assigned on the basis of total points out of 500 points.

Homework Policy:

Homework is due Monday at the beginning of class.

Late homework (after 4PM on due date) will not be accepted.

Makeup Policy:

Makeups will be given only for excused absences, not for unsatisfactory work.

Incomplete Policy:

Incompletes for the semester grade will be granted only for work missed due to excused absences. This includes illness during the final.

Please keep in mind the drop dates for the course and consult with your academic advisor if you have academic difficulties.

An incomplete will not be granted if the completed work is not at a passing level. In no case will an incomplete be granted for work already completed at an unsatisfactory level.

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Syllabus, from Prof. A. Yip  
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----- August: Chapters 1 and 2 -----

- introduction, examples
- first order ode's, separation of variables
- linear first order ode's, integrating factor
- applications: flow rate, heat change, population dynamics, radioactive decay, terminating velocities
- EQUILIBRIUM SOLUTIONS, LONG TERM BEHAVIORS (an introduction)
- special techniques

----- September: Chapters 3 and 4 -----

- second order linear equations, methods of exponentials (conversion to 1st order system, equilibrium points)
- complex exponentials;
- higher order linear equations
- non-homogeneous equations; methods of undetermined coefficients
- mechanical examples, oscillations and pendulum
- linearization
- variations of parameters; (green's functions)
- special techniques

----- October: Chapters 5 and 7 -----

- systems, examples, VECTOR FIELDS, PHASE SPACE
- normal form, equilibrium points, LINEARIZATION
- (1) method of eliminations
- (2) method of eigenvalues and eigenvectors
- (3) method of matrix exponentials
- non-homogeneous systems, variations of parameters;
- PHASE SPACE, STABILITY

----- November: Chapters 6 -----

- multicomponent mixing
- interacting populations, predator-prey system
- systems of springs and masses

----- December: Chapter 9 -----

- variable coefficients
- method of power (Taylor) series expansion

Clarence Wilkerson  
08/20/01