

SYLLABUS

Instructor: Dr. Yun Yoo

Course Number: Math 272, Differential Equations **CRN: 50703** **Section: 001**
Class Time: M / T / W / Th ; 1:30 pm and 3:20 pm between May 16 and June 30, 2011
Classroom: BR-19

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Office: B1-9D
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Course Webpage: <http://faculty.ccp.edu/faculty/yyoo/> (You can find all information)

Text: **Introduction to Ordinary Differential Equations by Shepley L. Ross, 4th Edition**

Course Description: First order equations; higher order linear differential equations; systems of linear differential equations; series solutions of linear differential equations; the Laplace transform; applications; Fourier series.

Calculator: Not required.

Prerequisites: MATH 172 with a grade of "C" or better and MATH 270 with a grade of "C" or better.

Homework: It is especially important that you keep up with the homework. We will discuss some of these problems in class, and I will be glad to help you outside class as well, but it is your responsibility to do the work. **Homework will be assigned at the end of class (also on the web), but it will not be collected.**

Attendance: **Attendance will be taken at each class by means of an "Attendance Quiz." These are for practice and fun.** I will give you solutions of each AQ at the end of class so that you shouldn't ask me solutions before taking exam. There is a college policy allowing at most 6 absences during the semester. In the event that you do not meet this policy, you may be dropped from the class. Regular attendance is necessary in order to master the material. It is your responsibility to find out what you have missed due to absence. It is important that you try to do the work you have missed.

Test: There will be 3 tests and a comprehensive final exam.

Test 1: Thursday, May 26, 2011 Test 2: Thursday, June 9, 2011
Test 3: Thursday, June 23, 2011 Final Exam: Thursday, June 30, 2011

All exams are counted towards a student's course grade. Everyone must take the Comprehensive Final Exam. If not, you will get "F".

<u>May</u>						<u>June</u>					
Mo	Tu	We	Th	Fr	Sa	Mo	Tu	We	Th	Fr	Sa
W1	16	17	18	19	20 21	W4	6	7	8	9	10 11
W2	23	24	25	26	27 28	W5	13	14	15	16	17 18
W3	30	31	1	2		W6	20	21	22	23	24 25
						W7	27	28	29	30	

Makeup Policy: Make-ups are the discretion of the instructor and require prior approval and a written, acceptable medical excuse. Students who are absent without notice from an exam are expected to contact the instructor as soon as able to address this absence. Students who do not contact the instructor within a reasonable time frame after being absent from an exam will receive a score of zero for that exam.

Help

There are several resources for students with questions. First and foremost, you should participate and ask questions in class. If you still have unanswered questions, please feel free to stop by my office during the office hours. More importantly, **CCP provides free tutoring and workshops in Room B2-36 (South Learning Lab) for daytime and Room B1-28 (Central Learning Lab) for evening time.** Many students find it helpful to form study groups for doing homework and studying for tests. It is a great way to learn materials.

Grading: The course average will be computed using **the average of the three tests (75%) and the final (25%)**. All exams are scored out of 100 points. Your written final grade will be determined as follow:

90-100 % (360-400 points)	A
80-89 % (320-359 points)	B
70-79 % (280-319 points)	C
60-69 % (240-279 points)	D
0-59 % (0-239 points)	F

Summer I Semester 2011:

Summer I 2011 (7A-week) Session begins: Monday, May 16, 2011.

Monday, May 30-Memorial Day Holiday-College Closed.

Final day to drop course for summer I 2011 without penalty of 'F' grade: **Thursday, June 16, 2011.**

Summer I 2011 (7A-week) Session ends: Thursday, June 30, 2011.

Final Remarks:

- **Turn off cell phones, other electronic devices, and iPod.**
- **Side conversations should be kept to the strictest minimum.**
- **Avoid any behavior that can be disturbing to the class.**
- **Be respectful to me and to your classmates.**
- **Unruly or disruptive behavior is unacceptable.**
- **No food or gum during class.**
- **If you need to leave the classroom early, do it as quietly as possible.**

Lecture Schedules

Text: Introduction to Ordinary Differential Equations by Shepley L. Ross, 4th Edition

Week #1 (May 16-19)	M	1.1 Classification of Differential Equations 1.2 Solutions
	T	1.3 Initial-Value Problems, Boundary-Value Problems
	W	2.1 Exact Differential Equations and Integrating Factors
	Th	2.2 Separable Equations and Equations Reducible to This Form
Week #2 (May 23-26)	M	2.3 Linear Equations and Bernoulli Equations
	T	2.4 Special Integrating Factors and Transformations
	W	3.3 Rate Problems
	Th	Test 1
Week #3 (May 30-June 2)	M	Memorial Day Holiday-College Closed
	T	4.1 Basic Theory of Linear Differential Equations 4.2 The Homogeneous Linear Equation with Constant Coefficients
	W	4.3 The Method of Undetermined Coefficients
	Th	4.5 Variation of Parameters 4.6 The Cauchy-Euler Equations
Week #4 (June 6-9)	M	Ch 5 Applications of Second-Order Linear Differential Equations
	T	6.1 Power Series Solutions about an Ordinary point
	W	6.2 Solutions about Singular Points; The method of Frobenius
	Th	Test 2
Week #5 (June 13-16)	M	7.1 Differential Operators and an operator method 7.2 Applications
	T	7.3 Basic Theory of Linear Systems in Normal Form
	W	7.4 Homogeneous Linear Systems with Constant Coefficients
	Th	7.6 The Matrix Method for Homogeneous Linear Systems
Week #6 (June 20-23)	M	9.1 Definition, Existence, an Basic Properties of the Laplace Transform
	T	9.2 The Inverse Transform and the Convolution
	W	9.3 Laplace Transform Solution of Linear Differential Equations
	Th	Test 3
Week #7 (June 27-30)	M	9.4 Laplace Transform Solution of LDEs with Discontinuous Terms
	T	About Fourier series
	W	About Fourier series
	Th	Comprehensive Final Exam