Community College of Philadelphia **Summer 7N 2012**
Math 272- Differential Equations **Dr. Yun Yoo**

SYLLABUS

Instructor: Dr. Yun Yoo

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Course Number: Math 272, Differential Equations **CRN: 51456** **Section:** 002
Class Time: M / T / W / Th ; 11:30 am and 1:20 pm between July 9 and August 22, 2012
Classroom: W3-05

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E-mail: yyoo@ccp.edu (The best way contact me)
Office: B1-9D
Phone: 215-751-8317

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 4 absences during the semester. In the event that you do not meet this policy, you will 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, July 19, 2012 Test 2: Thursday, August 2, 2012
Test 3: Thursday, August 16, 2012 Final Exam: Wed, August 22, 2012

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

July

	Mo	Tu	We	Th	Fr	Sa
W1	9	10	11	12	13	14
W2	16	17	18	**19**	20	21
W3	23	24	25	26	27	28

August

	Mo	Tu	We	Th	Fr	Sa
W4	30	31	1	**2**	3	4
W5	6	7	8	9	10	11
W6	13	14	15	**16**	17	18
W7	20	21	**22**			

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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.

Online Help: http://patrickjmt.com/#differential-equations
http://www.khanacademy.org/math/differential-equations
(You will find very nice video lectures-ALL are FREE)

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 7N Semester 2012:
Summer 7N 2012 Session begins: Monday, July 9, 2012.
Last day to drop the course for summer 7N 2012 without penalty of 'F' grade: **Thursday, August 9, 2012.**
Summer 7N 2012 Session ends: Wednesday, August 22, 2012.

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.**

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Lecture Schedules

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

Week #1 (July 9-12)	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 (July 16-19)	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 (July 23-26)	M	4.1 Basic Theory of Linear Differential Equations 4.2 The Homogeneous Linear Equation with Constant Coefficients
	T	4.3 The Method of Undetermined Coefficients
	W	4.5 Variation of Parameters
	Th	4.6 The Cauchy-Euler Equations
Week #4 (July 30-August 2)	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 (August 6-9)	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 (August 13-16)	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 (August 20-22)	M	About Fourier series
	T	About Fourier series
	W	**Comprehensive Final Exam**