



GTS 211: Differential Equations & Numerical Methods, Sections 1 and 2  
 Dr. Ruben N. Mera

Semester 1 2007

Office: 402-2, Ext. # 3317  
 Office Hours:

Email: rmera@siit.tu.ac.th  
 M. 13:30-17:00; Th. 8:00-12:30

Textbook: Kreyszig, Erwin, *Advanced Engineering Mathematics*, 9<sup>th</sup> Ed., Wiley  
 Additional Reading: Boyce, W. & DiPrima, R., *Elementary Differential Equations and Boundary Value Problems*, 8<sup>th</sup> Ed., Wiley

**Grade**

Midterm Exam	45%	Lowest grade on quizzes is dropped. No make up on quizzes, no exceptions made
Final Exam	45%	
Quizzes (3)	10%	

**Syllabus:** Tentative Schedule of Classes

<b>Week</b>	<b>Contents</b>
<b>First Part: Differential Equations</b>	
1	First-Order Differential Equations, Separable and Exact Equations
2	First-Order Differential Equations, Homogeneous and Bernoulli Eq.
3	Second-Order Linear Equations Complex Roots, Euler Cauchy Equations
4	Non-homogeneous Equations, Undetermined Coefficients
5	Laplace Transform
<b>Midterm Exam: July 16 (Monday) 9:00 – 12:00</b>	
<b>Second Part: Numerical Methods</b>	
6	Fourier Series
7	Fourier Integrals and Fourier Transforms
8	Floating Point, Round-Off Errors
9	Interpolation Numerical Integration
10	Numerical Methods for Differential Equations
<b>Final Exam: October 15 (Monday) 13:30 – 16:30</b>	

On the website [http://www.geocities.com/dr\\_ruben\\_siit](http://www.geocities.com/dr_ruben_siit) you can find additional material for this course, including class notes, solved problems, homework, and exams.

The set of class notes corresponding to the first part of the course is available at the copy center.