MATH 6172-090 Spring 2011

TR 12:30 p.m. – 1:45 p.m. Fretwell 306

Text: Advanced Engineering Mathematics, by E. Kreyszig (9-th Edition)

Instructor: Prof. You-lan Zhu
Office: 390F Fretwell
Phone: 704-687-4909
E-mail: yzhu@uncc.edu
Website: www.coe.uncc.edu/ yzhu/classes
Office Hours: TR 11:40 a.m.- 12:25p.m. & 1:50 p.m.– 2:20 p.m. and by appointment

Homework will be assigned every lecture. There are two types of homework problems, with $*$ and without $*$. Every Thursday students should turn in all the homework problems with $*$ assigned during the previous week for grading. However you also need to do the problems without $*$ since these materials are also required and certainly will appear on the tests. Homework counts 30% of your grade.

There will be three tests but no final exam. No makeup tests will be given without a reasonable, documented excuse. Each of the first two tests counts 23% of your grade and the third test 24%. You should expect that an average of 90% or better will be needed for an A, 89% - 80% for a B. Otherwise a C (79% - 60%) or U (below 60%) will be given.

As with most mathematics classes, the material covered in one class usually depends heavily on the material from previous classes. It is very important that you try to keep up with class assigments. If you have any questions, do not hesitate to ask me.

P.S.

	Estimated Dates and times	Percentages	Chapters
Test 1	2/8 & 2/10 or so, 12:30 p.m. – 1:45 p.m.	23%	13-15
Test 2	3/29 & 31 or so, 12:30 p.m. – 1:45 p.m.	23%	16-18
Test 3	5/12, 11:00 a.m. – 1:30 p.m.	24%	24-25

Preliminary Syllabus for

MATH 6172 Advanced Applied Mathematics II

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Lecture(s)	Section(s)	Contents
1	13.1-3	Complex Numbers, Polar Form, Derivative
2	13.4-5	Cauchy-Riemann Equations, Exponential Function
3	13.6-7	Trigonometric and Hyperbolic Functions, Logarithm, General Power
4	14.1-2	Line Integral, Cauchy's Integral Theorem
5	14.3-4	Cauchy's Integral Formula, Derivatives of Analytic Functions
6	15.1-2	Sequences, Power Series
7	15.3-4	Taylor Series, Maclaurin Series
8		Test 1 (First section)
9		Test 1 (Second section)
10	16.1-2	Laurent Series, Singularities and Zeros
11	16.3-4	Residue Integration of Real Integrals
12	17.1-2	Geometry of Analytic Functions, Lnear Fractional Transformations
13	17.3-4	Conformal Mapping by Other Functions
14	18.1-2	Electrostatic Fields, Use of Conformal Mapping
15	18.3-4	Heat Problems, Fluid Flow
16	18.5-6	Poisson's Integral Formula, Harmonic Functions
17		Test 2 (First section)
18		Test 2 (Second section)
19	24.1-3	Experiments, Probability
20	24.4-5	Permutations and Combinations, Random Variables
21	24.6-7	Mean and Variance, Binomial and Poisson Distributions
22	24.8-9	Normal Distribution, Distributions of Several Variables
23	25.1-2	Random Sampling, Estimation of Parameters
24	25.3-4	Confidence Intervals, Decisions
25	25.7	Goodness of Fit, χ^2-Test
26	25.9	Fitting Straight Lines
27		Review
28-29		Catch-up
30		Test 3 (2 hours and 30 minutes during the final exam period)