

MATH 6172-090 Spring 2006

TR 6:00 – 7:20 p.m. Denny 217

Text: Advanced Engineering Mathematics, by E. Kreyszig (8-th Edition), 2000.

Instructor: Prof. You-lan Zhu

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Office Hours: TWR 4:00–5:50 p.m and by appointment.

Homework will be assigned every lecture. There are two types of homework problems, with * and without *. Every Tuesday 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 assignments. If you have any questions, do not hesitate to ask me.

P.S.

	Estimated Dates	Percentages	Chapters
Test 1	2/2 or 2/7	23%	12-13
Test 2	3/16 or 21	23%	14-16
Test 3	5/9 (7:00p.m.–10:00p.m.)	24%	22-23

Preliminary Syllabus for MATH 6172 Advanced Applied Mathematics II

Text: Advanced Engineering Mathematics, Eighth Edition, by E. Kreyszig

Lecture(s)	Section(s)	Contents
1	12.1-3	Complex Numbers, Polar Form, Derivative
2	12.4-5	Cauchy-Riemann Equations, Conformal Mapping
3	12.6-7	Exponential Function
4	12.8-9	Logarithm, Linear Fractional Transformations
5	13.1-2	Line Integral, Cauchy's Integral Theorem
6	13.3-4	Cauchy's Integral Formula, Derivatives of Analytic Functions
7		Catch-up and Review
8-9		Test 1 (2 hours and 40 minutes)
10	14.1-2	Sequences, Power Series
11	14.3-4	Taylor Series, Maclaurin Series
12	15.1-2	Laurent Series, Singularities and Zeros
13	15.3-4	Residue Integration Method, Evaluation of Real Integrals
14	16.1-2	Electrostatic Fields, Use of Conformal Mapping
15	16.3-4	Heat Problems, Fluid Flow
16	16.5-6	Poisson's Integral Formula, Harmonic Functions
17		Catch-up and Review
18-19		Test 2 (2 hours and 40 minutes)
20	22.1-3	Experiments, Probability
21	22.4-5	Permutations and Combinations, Random Variables
22	22.6-7	Mean and Variance, Binomial and Poisson Distributions
23	22.8-9	Normal Distribution
24	23.1-2	Random Sampling, Estimation of Parameters
25	23.3-4	Confidence Intervals, Decisions
26	23.7	Goodness of Fit, χ^2 -Test
27	23.9	Fitting Straight Lines
28-30		Catch-up and Review
Final		Test 3 (3 hours)