

Math 512: SYLLABUS

Text Book: Advanced Engineering Mathematics (8-th Edition) (selected chapters) by ERWIN KREYSZIG

Chapter 10 Fourier series, Integrals, Transforms

Section 10.1 Sept 25 HW All odd problems from 1-17

Section 10.2 Sept 27 HW 1,5,7,15,17

Section 10.3 Sept 30 HW 1,3,5,13,15

Section 10.4 Oct 2 HW 1,3,7,11,13,25

Section 10.5 Oct 4 HW 3,5,7,9

Section 10.6 Oct 7 HW 3,5,7,11,13

Section 10.7 Oct 9 HW 3,5,11, 13,15

Section 10.8 Oct 11 HW 1,3,5,7,13

Review of this material Oct 14,

Chapter 11 Partial Differential Equations

Section 11.1, 11.2 HW 4,6,8,13,18 Oct 16

Section 11.3 (Wave equations with with boundary conditions) Oct 18

HW 3,5,20 First Midterm Oct 21

Section 11.4 Wave equation, D'Alambert solution Oct Oct 23

HW 1,6,15,18,20

Section 11.5 Heat Equation with boundary conditions Oct 25

HW 3,5,7, 10,11,13

Section 11.7 Two dimensional wave equations 1 Oct 28

Section 11.8 Two dimensional wave equations 2 Oct 30

HW 4,5,6,9,11,13,16,19

Review of the material Nov 1, Nov 4

Chapter 5 Laplace Transform

Section 5.1, 5.2 HW 3,10,15,29,32,38 Nov 6

HW 4,8,9,16,19,20

Section 5.3, 5.4 HW 3,5,8,11,38,39 Nov 8

HW 3,8,13,16,19

Section 5.5, 5.6 HW 2,3,7,13,19,24,29,33 Nov 13

HW 3,6,9,11,13,13,15

Section 6.7 Nov 15

Review of the material Nov 18

Second Midterm Nov 20

Additions

Section 10.10 (Fourier Transform) Nov 22

Section 11.6 Heat equation Nov 25

Section 11.9 and 11.10 (Laplacian in polar coordinates and
Vibrations of a circular membrane) Nov27, Dec 2

Reviews of the full material. Dec 4 and Dec 6

Final Exam:

Both the Syllabus and the Home-assignments will be adjusted and updated during the quarter. Please check them regularly.

Midterms will take place during lecture hours.

General Information:

Lecturer: D. Burghelea (professor)

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Course Grades will be based on two midterms counting 100 points each, final counting 200 points and home work 40 points.

Homework:

The answer to the odd numbered problems is contained in Appendix 2 of the book (the complete version) Have only three problems given for grading. Drop your homework for the week each next Monday in the envelope on my door.