

Indian Institute of Information Technology,
Design and Manufacturing Kancheepuram

INTRODUCTION OF NEW COURSE

Course Title	Transforms and their applications	Course No.	INT 502			
		Structure	3	0	0	3
Offered for	Research scholars, PG, B.Tech (Higher semesters)	Status	Elective			
Faculty	Dr. M. A. Shalu, Dr. Masilamani V	Type	New			
Pre-requisite	COT	To take effect from	August 2009			
Submission date	Date of approval					
July 2009						

Objectives: Transforms are effective mathematical tools to solve problems in electrical, mechanical and computer engineering. The objective of the course is to make the students aware of various transforms and their applications.

Contents of the course: Introduction to transforms. Laplace transform and its properties, inverse Laplace transform, solutions of differential equations using Laplace transforms, Fourier transform, convolution theorem, discrete time Fourier transform (DTFT), fast Fourier transform (FFT), Z-transform (bilateral and unilateral), wavelet transform, Hough transform and Hotelling transform. Applications of transforms in solving engineering problems.

Text and References:

1. Lokenath Debnath, Dambaru Bhatta, Integral transforms and their applications, Chapman & Hall/CRC, 2nd edition (ISBN: 1584885750), 2006.
2. Brian Davies, Integral transforms and their applications, Springer; 3rd edition (ISBN-0387953140), 2002.
3. I. N. Sneddon, Fourier transforms, Dover publications, (ISBN 0486685225) 1995.