

Prof In charge: Arun pachai Kannu, IITM

Department: Electrical

Relevant course: Signal & Systems

Relevant Semester: 4th Sem

Relevant Topics: Frequency Domain Representation of Continuous-time Signals

Prerequisites:

Impulse and Step functions, Complex exponential functions, Linear time-invariant systems

Course Outline:

- ✓ Brief review of LTI systems and Convolution
- ✓ Eigen functions of LTI systems
- ✓ Motivation for Frequency domain representation
- ✓ Fourier Series
- ✓ Properties of Fourier Series
- ✓ Linearity
- ✓ Convolution
- ✓ Multiplication
- ✓ Duality
- ✓ Parsevals Theorem
- ✓ Fourier transforms and Properties
- ✓ Application of Fourier Transforms
- ✓ Amplitude Modulation in Communication Systems

Reference:

A.V. Oppenheim and A.S. Willksy, "Signals and Systems", 2nd edition, Prentice Hall India, 1996.