

# ECEM-158 (Special Topics in Applied Mathematics)

## (M.Tech & PhD Students)

### Course Plan

1. Fourier Analysis (R1-Chapter 4,5,6)
2. Wavelet Theory (R1- Chapter 1, 2, 3 )
3. Stochastic Processes and Models (R3- Chapter 2)
4. Spectrum Estimation (R3- Chapter 3)
5. Wiener Filters (R3- Chapter 5)
6. Method of Steepest Descent (R3- Chapter 8)
7. Least-Mean-Square Adaptive Filters (R3- Chapter 9)

### References:

- R1. Digital Signal Processing, Principles Algorithms and Applications, Third edition; John G, Proakis and Dimitris G Manolakis(Prentice Hall)
- R2. Introduction to Wavelets and Wavelet Transforms: A Primer by C. Sidney Burrus, Ramesh A. Gopinath, Haitao Guo, Pearson, 1998
- R3. Adaptive Filter Theory, 4Th Edition by Simon Haykin, Pearson India, 2008

### Download Link:

- R1. <https://libgen.lc/ads.php?md5=3B50D6235FD5CC3723009397F5333F7E>
- R2. <https://drive.google.com/open?id=1syoD8auYAYHNGfiWYo-YHD1r7kNAZaV2>
- R3. <https://drive.google.com/open?id=1A6X5Ntza1TnpPj7rDqTvdzc8scMhEZuG>