

S/N	EE/IM4152 Project Topics
1	Additive White Gaussian Noise (AWGN) and its Statistical Properties
2	BFSK and MFSK with Non-coherent Detection
3	Bit-Error Rate and Symbol-error Rate of DPSK Systems
4	CDMA and WCDMA
5	Cellular Telephony
6	Challenges of Femtocell Technology
7	Concepts of Time and Frequency Domains for Signal Analysis
8	Cooperative Communications for Wireless Networks
9	Digital Baseband Modulation
10	Digital Modulation for Satellite Communications
11	Direct-Sequence Spread Spectrum
12	Diversity Combining Techniques for Signal Detection
13	Energy Detection Techniques for Cognitive Radio Systems
14	Frequency-Hop Spread Spectrum
15	Global Positioning System
16	Importance Sampling Simulation for Efficient Evaluation of System Performance
17	In-phase (I) and Quadrature (Q) Modulation for Digital Communications
18	Intersymbol Interference (ISI) and Equalization
19	Law of Large numbers and Gaussian Approximation
20	Linear Block Codes and Cyclic Codes
21	Matched Filter and Correlator for Optimum Detection
22	Maximum-Likelihood Receiver for Digital Communications
23	Modulation and Demodulation of DPSK
24	Orthogonal Frequency Division Multiplexing (OFDM)
25	Performance Evaluation of BPSK and MPSK with Coherent Detection
26	Principles of Physical-Layer Security in Wireless Networks
27	Probability Density Function and Characteristic Function
28	Pseudo-Random Sequences and its Applications
29	Q-function and its Approximations
30	Rayleigh Fading Channels for Mobile Communications
31	Sampling for Bandpass Signals
32	Sharing a Common Channel with Multiplexing
33	Signal Space and Optimum Detection
34	Spectrum Sensing Techniques for Cognitive Radio Networks
35	System Performance of Quadrature Amplitude Modulation (QAM)
36	Trade-off between Bandwidth and Signal Power
37	Trellis-Coded Modulation
38	Understanding Nakagami Fading and its Applications
39	Understanding Rician Fading and its Applications
40	Uniform and Non-uniform Quantization in Pulse Code Modulation (PCM)
41	WiFi and Various Networking Standards
42	Working Principles of Multiple-Input Multiple-Output (MIMO) Technology