

EE404 - Communications II

Information Theory, Source of information, Entropy, Channel capacity, Source Coding Theorem, Mathematical model of information source, Huffman coding, Shannon-Fano codes, Types of errors, Data compression. Channel Coding, Taxonomy of codes, Spread Spectrum Systems: Introduction, Types of Spread Spectrum Techniques, Direct sequence spread spectrum, Frequency hop spread spectrum, Hybrid direct sequence/frequency hop spread spectrum, & Representation of spread spectrum systems; General Principles of CDMA, CDMA Transmission Channel Models, Examples for CDMA Systems. Wireless Ad-hoc Networks: Introduction to Ad hoc networks, MAC in Ad hoc network, Routing in Ad hoc network, Clustering in Ad hoc network, Power control in Ad hoc network, QoS of Ad hoc network, Applications of Ad hoc networks; Mobile Communication Systems: The Cellular Concept System, Design Fundamentals, Frequency Reuse, Channel Assignment Strategies, Handoff Strategies, Interference and System Capacity, Trunking and Grade of Service, & Improving Capacity in Cellular Systems.