As many of the following topics as time permits will be covered.

1. Wireless channel modelling - large scale and small scale fading, multipath fading, frequency flat and frequency selective fading, slow and fast fading, modelling fading as random processes, simulation of fading processes.

2. Capacity of wireless channels - capacity with and without CSI at the transmitter, receiver. Capacity of frequency selective fading channels.

3. Digital communication basics - digital modulation formats - their error probabilities in AWGN, power spectra, pulse shaping.

4. Communicating through flat fading channels - Impact of flat fading on the error probability, diversity techniques - spatial diversity, time diversity.

5. Communicating through frequency selective fading channels - modulation formats (OFDM, CDMA), receiver signal processing - equalization, rake receiver, frequency diversity.
