Information Theory Syllabus:

On capturing some of the intuitive concept of information in a definition; level of surprise and probability; entropy; Shannon's source coding theorem; data compression; independent and identically distributed values; Huffman coding; Kolmogorov complexity; joint distributions; mutual information, conditional entropy; channel capacity; noisy channel source coding theorem; asymptotic equipartition property; typical sets; error correction and detection plus one or two special topics depending on time and class interest from: logical entropy, information in physics, cryptography or nature.