

University of Massachusetts Lowell
Department of Electrical and Computer Engineering
16.548 Coding and Information Theory
Project II: Convolutional coding

1. Using the Rate $\frac{1}{2}$ $K=3$ convolutional encoder in the book, create the encoder.
2. Using the Viterbi Algorithm, implement the soft decision decoder.
3. Using 4 PSK or 2 PSK with the same total power as a reference, calculate the E_b/N_0 versus P_e waterfall plot and compare the asymptotic coding gain of the coder/encoder.

What to hand in: Waterfall plot, and your code. You must develop your own coder/encoder but you can work in small groups.