Digital Signal Processing 1-1 Quiz

(1) Restate the Shannon-Nyquist Sampling Theorem.

(2) A signal D is the sum of periodic signals A, B, and C. What must be true of A, B, and C if D is also periodic?

(3) Draw schematic representations of the Fourier transform amplitude with respect to frequency of a sine wave, a Gaussian function, and a delta function (vertical line). Label the 0-ticks on your axes.

(4) What are the trade-offs when using Welch's method?

(bonus) Circle the window functions covered in this lecture

Hamming   Sawtooth   Hamm   Periodic   Hann   Rectangular   Hanning