Ndft = fft(noise);

Ndft = Ndft(1:N/2+1);

psdN = (1/(Fs\*N)) \* abs(Ndft).^2;

psdN(2:end-1) = 2\*psdN(2:end-1);

freq = 0:Fs/N:Fs/2;

plot(freq,10\*log10(psdN))