# Topics for today:

* Wave motion in the air (cont.)
  + Waves with the same frequency from separate sources (or from reflections) can interfere with each other, causing phase effects: constructive or destructive interference.
  + Waves with different frequencies can interact to cause “beating,” which is an audible amplitude modulation as the waveforms come into and out of being in phase.
  + Besides pure tones, most “musical” signals have overtones and more complicated combinations of frequencies. The frequency content of a signal is known as its spectrum.
* Sound levels and the decibel
  + The “Sound Pressure Level” (SPL) is a way to express the amplitude of sounds on a scale from zero to about 100.
  + The “bel” is a logarithmic unit: the base-10 logarithm of the ratio of two quantities expressed in the units of power (watts) or intensity (watts/square meter).
  + The “decibel” is 1/10 of a bel. It is convenient to specify these quantities as decibel rather than bel, and this is the customary way to do it.
  + For human listeners, a sound level change of 10 dB is judged to be “twice as loud.” A small change of between 1 and 3 dB is judged to be “just barely noticeable.”

# Topics for the next lecture:

* Finish reading Section 1 material from the textbook.
* Harmonics and the analysis of complicated periodic vibrations.