Terms for Quiz #1

What is Sound?

Acoustics (sound) and psychoacoustics (perception of sound)

Timbre-tone color and is quantifiable

Atmospheric pressure or barometric pressure

Sound Pressure and sound waves

Compression (molecules pushes closer together

Rarefaction (molecules pulled apart)

Sound waves are travelling waves

Speed of Sound or propagation of sound **V ≈ 331.4m/s + 0.6\*Tc**

V = velocity (m/s), Tc = temperature in Celsius

1130 feet per second or 770 miles per hour

Speed of sound increases as temperature increases

Sound Waves

Are periodic – cycle

Multicomponent waves are aperiodic

Excitation Source

Frequency Hertz-9th century physicist

Amplitude

Wavelength

Cycle (cps)

Average resting place or average pressure = 0

Compression/Rarefaction-speaker cones

Crest and trough

Noise is aperiodic with no repetition of waves

Types of waves-sine, square (pulse), triangle and ramp

Human hearing 20hz to 20,000hz (16,000hz)

Doppler effect

Correlation between pitch and amplitude

Acoustical Phase

Phase cancellation and out of phase

Constructive interference

Destructive interference

Digital Artifact

Spectral content: FQ, AMP, and phases

Overtone series-fundamental + partials

Timbre-tone color and quantifiable

Multi-component wave or complex wave

Envelope–ADSR/ADS or dynamic contour

Transient

Fourier Analysis-all complex waves can be reduced to a simple sine wave

FM and AM synthesis-carrier-additive synthesis

Mac Shortcut Commands

Command + X = cut

Command + V = paste

Command + C = copy

Command + Z = undo

Command + F = cross fade (Pro Tools)

Option + drag = copy

Option + click on fader = unity (Pro Tools)

Command + A = select all

Space bar=play