# DESN 275 Week 3 Winter 2011

**Assignment 1: Sound Creations (Due 1 wk)**
The short week challenge! Given only three sound samples and using your choice of pure noise or tones, create any four of these Foley-type sounds:

1. An explosion in a tunnel - exactly 5 seconds

2. An air driven elevator starting & traveling & coming to a stop - exactly 10 seconds

3. A car engine that is misfiring - exactly 10 sec.

4. A high-speed train leaving the tracks and landing in water - exactly 10 seconds

5. A three-legged walking machine with loose parts - exactly 10 seconds

6. An underwater vacuum cleaner accidentally sucking up some large rocks - exactly 10 seconds

7. An early version of the impulse engine, as used by the starship Enterprise, that didn't work out so well. Your sound should include it not working out so well. - exactly 10 seconds

*Time permitting, there will be extra credit points awarded for those sounds that meet the criteria below and are also voted class favorites in each of the six categories.*

**Criteria for all four of your Foley sounds:**
• No clipping - but all sounds at about 60% amplitude
• Each sound made up of at least two separate sound samples or tone or noise samples
• Given sample sounds used in at least 3 of the 4
• Unrecognizable (generally) constituent sounds
• Smooth starts/ends and transitions
• Saved as an MP3
• Name the file, substituting your name and the sound number from the list of 6, as the elevator sound in this example: *w3foley2jbraukmann.mp3*

**Also turn in a one-page written document** with explanation of each of your four Foley sounds. Include a clear illustration of the sound envelope with your secrets explained.

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**Assignment 2: Turn in the answers to this week's study questions, and Ch 5 study questions.** *(Writing on the questions sheet is OK if you write clearly and small!) Quiz coming up!*

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**Reading: An Introduction to Music Technology Ch 5 Digital Audio Data** *See the study questions in Week2 assignment sheet.*

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**Reading: An Introduction to Music Technology Ch 4 Audio Hardware** *(Coming up: Foley sounds using your own live recordings. This reading is critical.) See the study questions in Week2 assignment sheet.*

Explain the recording path from a person speaking to a digital recording on a computer.

Technically, what is a microphone's job?
What is a *preamp's* job?

What is an ADC? What is a DAC?

What are common examples of where to find an ADC and DAC?

What is a typical audio recording *path*?

What is meant by the term *frequency response*?

For each of these types of microphones, what type of *diaphragm* is used? How *tough* is the mic? What type of use/sound is best for the mic? Which generally has the *widest frequency response*? Which are more *expensive*? Which needs *phantom power*?

Dynamic mic
Ribbon mic
Condenser mic

What does a USB microphone have that regular mics do not have?

What does end-address and side-address mean?

Draw and explain the following mic polar patterns:

Omnidirectional
Bi-directional or Figure-8
Cardioid
Hypercardioid

What is a trim/gain knob used for?

What is a pad (or input pad) used for?

Why is a balanced cable a good thing to use?

How many conductors does a balanced cable have?

What does an XLR connector look like?

What does a ¼" TS (tip-sleeve) connector look like? Is it balanced?

What does a ¼" TRS (tip-ring-sleeve) connector look like? Is it balanced?

What kind of connector does an iPod use for headphones?

Is a quality microphone generally high or low impedance?

Is an electric guitar generally high or low impedance?

What does High-Z or Low-Z mean?

What is a DI? (Direct box, or Direct Injection box)

What is a banana plug used for?

What is an S/PDIF connector used for?

What does a TOSLINK connector look like? Is there one on a Mac?

What is an AES/EBU connector used for?

What does a mixer do, exactly?

Be able to explain the following mixer controls:

- Input trim/input gain knob
- Aux send knob
- Mute and solo buttons
- 2 or 3 or 4 –band equalizer
- Channel output fader knob
- Control room output knob
- Main output knob

What is a *control surface* used for?

What is usually included in a digital audio interface?

Why do speakers often have woofers, midranges, and tweeters?
What are the differences and advantages of active and passive monitors?

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**Reading: Alesis USB Manual**. See the PDF link on the course website, & research these topics:

How to set levels. p8

What is the difference between the mic and the line inputs? p9

What is an aux send used for? p10

What is the difference between the main mix out and the control room out? p10

What do each of the controls do on the "channel strip"? gain, level, pan/bal, peak LED, aux, EQ

What is phantom power? p14

What is a simple recording setup? p17

How do you use the mixer with a computer? p18

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**Reading: From drbraukmann's Notes Online**

1. **Microphones and cables**
2. **The recording process flow charts**

All of these notes are important to know.

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*Heading into the next two weeks, we will be using and sharing audio equipment to record our own soundtrack elements. In order to be able to share checked-out equipment, some students will have to start early. Next week's assignments will be available early.*