DESN 275 Assignments Week 4

Assignment 1: Get your recording system up and running on your own computer. Please avoid trying to use the computer's built-in mic!

Assignment 2: Create a recording of someone reading the *marked question along with the correct answer(s). The voice in the recording should sound natural, full and warm, and include no noise, no pops, no first reflections, and no room reverberation. Edit it to seem consistent in loudness, and not to have unnecessarily long pauses. Submit an MP3

Assignment 3: Complete the mix of *Lullaby of Birdland* and submit a stereo mp3 or Ogg file. The tracks were recorded at 110 bpm.
Include:
1. A gentle but just audible reverb of about 1 second, with no delay.
2. Use part of the existing drum tracks (cut and paste) to create a believable 8-beat drum introduction before the other instruments start.
3. Use pan to create a stereo spread: Lead soloist in center, bass near center. Other instruments to each side
4. The result should have a robust level without any clipping. Submit a stereo MP3

Questions from Chapters 5 and 8 in Audio Engineering 101

These review questions do not cover everything included in the book. Many sections of the book can be skipped for the purposes of this course, and page numbers are included to help you avoid having to read many pages to get to an answer. The skipped passages may be interesting to you, and may be essential if you are motivated to delve deeper into the options. The review questions are based on what I judge to be important to know. Notice the page numbers noted for several questions.

Chapter 5 Microphone Guide and Their Uses

What does it mean to say a microphone is a transducer?

What is a transient?

What is meant by the transient response of a particular microphone?

What is a preamp?

What is leakage or bleed-over?

Why is a pop filter sometimes necessary?

When would you use the low-cut filter switch on a mic?

Know about the different types of microphones, including dynamic, large-diaphragm and small-diaphragm condenser, and ribbon. Which are more rugged? Which have better detail (extended frequency response), which are warm sounding, which need power.

Know about typical microphone pickup patterns, including omnidirectional, cardioid, and figure-8. Which reject sound from the side, which sounds best from the side.

Why would you want a mic with a flat frequency response? When would you want one with a non-linear frequency response?

What is a microphone proximity effect?

When recording, why do you have to keep in mind direct path, early reflections, and reverberation?

Why might you try stereo miking on an instrument like a guitar?

What is XY or coincident miking?

Why might a spaced-pair mic setup have phasing issues?

What is a direct-box used for? What problems might it solve?

Chapter 8 Signal Flow
Not all the chapter's content is assigned. The questions are related to core knowledge.

What is the "signal flow"?

What happens when a signal level is "too hot"?

How can you "see" if the level is too hot?

When setting levels, what is "headroom"?

What does each of these do?
      A preamp

      An analog-to-Digital converter

      An audio Interface

* What do you have to do to get a laptop (or desktop) computer to record with an audio interface? (13 steps on page 128. This is not an exact list for every situation, but all these steps are done sooner or later.)
1 Turn on the computer and audio interface
2 Open the software app
3 Set session parameters, bit depth, sample rate, audio file type
4 Determine the file name and destination where you will save the file
5 Create a new track and name it
6 Put the track into "record pause" by clicking the red button ("arm it")
7 Make certain the correct input is selected

8 Plug a mic into the interface and adjust the preamp gain
9 Make certain the level isn't set too high (clipping) or too low (noise)
10 Record the track
11 Unarm the track
12 Listen to the track. If you cannot hear it, change to the correct output
13 Adjust the monitor volume (usually found on the interface)

What are the steps for capturing a live performance with stereo mics?
(Similar to steps above)

Additional Questions from the Class

What is the difference between peal and RMS recording level meters?

How is a direct box used? What are the advantages?

How can you tell if a cable is balanced?

Why do you want to use balanced cables?

What is a boundary microphone? What are the advantages?

How do you decide how close a microphone should be to the talent?

What is a shock mount good for?

What are a couple ways to reduce plosive pops?

What does normalization mean?