Midterm Review

This list should help you prepare for the upcoming midterm test on Mar. 23, however it is only an outline. Any material from the in-class lectures, handouts and assignments may appear on the exam.

The Music Production Process

Order of Events:
- Pre-Production
- Recording (Production)
- Post-Production
- Mastering

Pre Production
- What happens during session planning?
- How does the term 'R.O.I.' (Return On Investment) apply to pre-production?
- Why is it important for a Classical producer to study the score before a recording session?
- What pre-production practices are typical in classical recording? In pop recording?
- Classical recording sessions are expensive. What do classical producers do during pre-production in order to maximize their efficiency in the studio?
- What governs the cost of musicians for a classical recording session in North America?

Role Of The Producer
- Be able to name the different roles a producer might take on for a recording project
- What are a classical producer's responsibilities on the day of recording?
- How do a Pop producer's roles typically differ from classical?
- During recording, how does a classical producer know when a piece is 'well-covered', and that it is time to move on?
- During which of the four phases of the production process would a producer typically mark a score, dictating which takes will be used for editing?

Recording
- Classical workflow: Tracking, followed by patch sessions
- Why might a soloist be asked to record their part at a separate session from the orchestra?
- Pop workflow: Bed tracks (potentially accompanied by scratch tracks), followed by overdubs
  - Be able to elaborate on what these terms mean and why things happen in this order for both classical and pop
- Recording Approaches: (be able to describe the aesthetic goals for each, and examples of what genres take advantage of each)
  - 'Realistic (hands-off)'
  - 'Realistic (hands-on)'
  - 'Creative'
- Mic Placement:
  - What are 'mains'?
  - What are 'outriggers'?
  - What are 'spots'?
  - What are 'rooms'?

- How are these systems used together? Which is most responsible for the sound and perspective of the recording?

Post-Production
- When should editing take place? Why?
- What are some advantages to using a 'marked score' for editing like we did in Assignment 05?
- What is meant by a 'comp' performance?
- What is de-noising? When might it occur in the production process and why?
- What is mixing? Why is it wise to edit before mixing?
- What is a 'static mix'?

Reverb and FX
- What are the three components of natural reverb?
- In what order do they occur?
- What information do early reflections give us about the acoustic space?
- What is RT60?
- What aspects of a room contribute to its reverb time?
- What influences the timbre of reverb in an acoustic space?
- Be able to describe the function of the following controls in D-Verb:
    - Decay
    - Pre-Delay
    - HF cut
    - LP filter
- What aspect of sound does EQ affect?
- What aspect of sound does compression affect?
- Be able to identify, as well as describe the function of the following EQ curves:
    - Bell
    - Shelf (High or Low)
    - HPF (High Pass Filter)
    - LPF (Low Pass Filter)
    - BPF (Band Pass Filter)
    - Notch Filter
        - Think of musical examples of when we might use each of these
- What kind of EQ has a 'Q' control?
- What does 'Q' affect?
- How do we describe how steep the 'cutoff' of a HPF or LPF is? In what increments is the cutoff usually adjustable?
- Which type of EQ curve is typically used for treble and bass controls on a home or car stereo system?

Mastering
- What is mastering?
- How does dynamic range of a recording relate to its intended playback environment?
- How long does a mastering engineer typically spend working on an album?
- What are the benefits of hiring a professional mastering engineer instead of doing it yourself?
- What 'finishing touches' does a mastering engineer add?
- Why does a mastering engineer use EQ?
- What is 'pacing' in the context of mastering?

- Why might denoising be applied in mastering instead of during the editing phase of the production process?
- What is Metadata?
- What are some examples of the kinds of metadata that can be stored in an audio file?
- What does DDP stand for?
- Why do we use a DDP instead of a CD-R when sending an album in for duplication?

Compression:
- What is a compressor? What was its traditional role?
- Why are compressors a useful tool in mastering? When might they be useful for mixing?
- Be able to explain how the following parameters affect how a compressor functions:
    - Threshold
    - Ratio
    - Attack
    - Release
    - Makeup Gain
- At what ratio would we consider the compressor to be 'limiting'?
- What relative Threshold, Ratio, Attack and Release settings would be appropriate for 'peak limiting'? (i.e high/low, fast/slow)

Codecs
- What is a codec?
- What are the advantages of data-compression?
- Why don't we use lossy consumer audio codecs for audio production work?
- What *do* we we use lossy consumer audio codes for?
- What is the difference between a 'Lossy' codec and a 'Lossless' codec?
- What are some examples of each?
- How do Lossy codecs reduce file size?
- How do Lossy codecs 'decide' what data to throw away?
- How do Lossless codecs reduce file size?
- Once a file has been converted to a Lossy format, can it be returned to its original quality?

Pro Tools

- How do you 'Save As…' and why do we use this approach?
- What is the difference between an aux input in Pro Tools and an Audio Track?
- How do you expand sends to show the send fader directly on the channel strip?
- How can you check the length of a fade?
- What is the difference between inserts and sends, and in what situations we would use one or the other
- How do you 'solo-safe' a track or bus?
- What are the benefits of 'Printing' a mix into your Pro Tools session?
- What is clip gain? How do you edit clip gain in Pro Tools?
- What particular editing situation might clip gain be useful for and how will it help?
- What is 'FMP' (Follow Main Pan) and why would you want to use it?
- What does the 'PRE' button do on an aux send? What type of situations is this useful for and why?

- Be able to describe the process of exporting a mix from Pro Tools using the methods from Assignment 06.
- Why is it a good idea to use a 'Pre Fader Send' when bussing our MixBus to our MixAudio track?

Automation
- What is automation?
- How can you write/edit automation in Pro Tools?
- What are the different automation modes and how do each of them behave?
  - Off
  - Read
  - Touch
  - Latch
  - Write
- What is 'edit window scrolling' and how is it useful when writing automation?

Keyboard Shortcuts (know shortcuts for each of the following):

Operation	Shortcut
Switch between open applications in Mac OS X	
Switch between open *windows* within the active application in Mac OS X	
Drop a memory location in Pro Tools	
Zoom in and out in Pro Tools	
Save in Pro Tools	
Open the Memory Locations window in Pro Tools	
Quit the Pro Tools *application* completely	
Close the active Pro Tools *session*	
Create an edit point at cursor location	
Create a fade from the selection	
Change parameter on all *selected* channel strips	
Change parameter on all channel strips	
Create new track	
Group Tracks	
Trim from start of audio clip to playhead/cursor	
Trim from end of audio clip to playhead/cursor	
Export Clips as Files…	