MUS 1360 – Audacity Intro

Audacity is free, open-source audio editing software for Windows, Mac, or GNU/Linux.

Download from this site: [http://audacity.sourceforge.net/](http://audacity.sourceforge.net/)

Typical Controls

*Transport* controls allow you to play, pause, stop, etc. This should be familiar.

*Note that when you hover your cursor over *any* of the toolbar icons, a small window appears that tells you what it is.

*Tools* for audio editing

- **Selection**: select a time point or area; allows you to highlight/copy/paste
- **Envelope**: allows volume adjustments
- **Draw**: allows you to ‘draw’ waveforms at the sample level
- **Zoom**: (self-explanatory)
- **Time Shift**: allows you to reposition audio in time
- **Multi-Tool**: combines the previously mentioned tools into one. Function changes depending on mouse position.

Select audio driver, inputs, and outputs
Importing Audio

To import audio files, you can drag and drop files from a folder, or go to File-Import-Audio.

Note that File-Open is for opening Audacity project files. If you open audio files this way, it will create a new project for each instead of combining them in the same project as multiple ‘tracks.’

Saving Files/Exporting

File-Save will save an Audacity Project file (.aup) that contains any imported audio and any edits you made it.

File-Export allows you to save your project as an audio file (use aiff or wav).

Clicks and Zero-Crossings

Editing digital audio often involves the deconstruction and reassembly (cutting and splicing) of sound files. In Audacity, we can view a time-domain display (amplitude over time) of a sound file, and edit it with high precision down to the sample level (the smallest value of time interpreted by the system). Amplitude changes in the signal are represented as values between -1 and 1.

Cutting a complex waveform can result in audible discontinuities in its shape – the result of immediate transitions between distant amplitude values instead of smooth, gradual transitions. These discontinuities are heard as clicks and pops (digital artifacts).

Continuous waveform
When making edits, locate zero-crossings (points in the audio where the amplitude value is zero) to eliminate any extreme discontinuities. To do this, use the selection tool to highlight an area in the audio file, and simply press “Z.”

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**Editing Audio**

Let’s say you needed to take an existing piece of music and edit it down to a significantly shorter duration, but wanted to keep its essential character and aspects of its form.

After importing an audio file, use ⌘1 to zoom in and ⌘3 to zoom out in combination with the selection tool so you can quickly locate areas for editing. Key commands can make your working methods for audio editing (and most other computer activities) significantly more efficient. Look in the View menu for more key commands.

Listen for parts that can be omitted, that perhaps are more developmental or transitory in nature, and split the audio at precise beginnings/endings using Z to first locate a zero crossing, then ⌘I to split the file. These could be large or small phrases, parts of phrases, or isolated notes or chords. You can then move the file segments in time with the Time Shift tool.
For each segment you want to use, be sure to fade in/out beginnings and endings to make sure there are no audible artifacts with **Effect-Fade In** and **Fade Out**. Notice the wide variety of other effects available. **Effect-Change Tempo** can be useful for slightly altering the pacing of a phrase if it needs to match the character of a different section.

Create new tracks from **Tracks-Add New-Audio Track** (or **Stereo Track** if using a stereo file) so you can mix and rearrange your edited segments using copy (⌘C), cut (⌘X), and paste (⌘V).