

# Introduction to Recording and Editing Audio with Audacity

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PHIL4903: Seminar in Religion  
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*NULab for Texts, Maps, and Networks*

*Feel free to ask questions at any point during the presentation!*

# Objectives

- Understand podcast anatomy
- Discuss how podcasting relates to embodiment and inclusion
- Learn best practices for audio recording
- Learn about and explore Audacity as a podcast editing tool
- Learn how to:
  - Record, import, and clip audio
  - Add, move, and delete tracks
  - Add sound effects and/or background music
  - Save and export projects

Slides and handouts available at: [bit.ly/fa24-riccardi-swartz-audacity](https://bit.ly/fa24-riccardi-swartz-audacity)



# Podcast Anatomy



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# Podcasts

Podcasts typically begin with an **opening segment** of 10–30 seconds of music and audio wherein the creator identifies the **podcast title, host, and episode topic**—this creates a trademark/signature and indicates to the listener that the podcast is about to begin. **Be as creative as you want!**



# Podcast Anatomy: Intro/Opening Segment

Intros/Opening segments are listeners' **first impressions** of a podcast. From the opening segment alone, listeners make assumptions about the podcast's **Audience, Genre, Style**, and overall **Structure**.

This means that within a short span of time, the podcast's opening segment must accomplish several goals like:

- Grabbing attention: several successful podcasts set the tone using **Media** (e.g., theme song music, sound effects, archival audio clips)
- Identifying an audience: acknowledging/naming people who might be interested
- Establishing listener expectations: explaining the goal and theme of the podcast



# Podcast Anatomy: The Body

Your podcast should have an **argument** or **perspective**, not just a recitation of facts. Try to keep your tone **persuasive** and **conversational**. Like any good piece of reporting, your podcast should be **organized** and rehearsed ahead of time.

Do your research and have your script written **before** you start recording; know how your show is laid out and how much time you have.

- Write out large numbers and/or complicated words/names out phonetically (twenty-two thousand and thirty-four vs. 22,034)
- Mark out spaces in the script for pauses, sound clips/effects, transitions between topics, etc.



# Podcast Anatomy: The Outro

Podcasts typically end with a **closing segment** of 10–30 seconds of music and audio acknowledging the creator names the **creator(s)**, **institutional affiliation**, and **audio/production credits**, and **acknowledgments** including people whose work or advice has significantly influenced or contributed to the episode.

An outro script for your class might sound something like “This podcast was made by [student name]...opening music created by [artist name], sound effects taken from [repository name]... with special thanks to [name] for their contribution.” It may also include outro music.

As in your opening segment, you can use music and sound effects to make your closing segment dynamic and interesting.



# Discussion



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# Discussion: Inclusion and Embodiment

- What types of podcasts do you listen to?
  - Do you think a podcast has ever influenced how you feel about a topic?
- How might tone of voice or emotion impact the embodiment of ideas or concepts?
- How might only hearing a person's voice impact the listeners' perception of the speaker?
- What types of accessibility challenges might podcasts present? How can podcasts be made more accessible?



# Best Practices for Podcasting



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# General Best Practices

- **Test your mic** and technology before you start.
  - Record some test audio and play it back before you begin.
- **Have a plan** for the conversation and transitions.
  - Give yourself a script. As you record, mark out spaces for transitions in the recording (topic-to-topic, parts of the episode).
- **Don't panic** over filler words (e.g., um, uh, yeah, like). Edit these out later.
- **Prepare phonetic pronunciations** for names, long numbers, and complicated terminology.
- Include **transcripts for accessibility** (use software like Otter AI).
- Use **open access media/music** ([BBC Sound Effects](#), [Incompetech](#)).



# Environmental Considerations

- Ideally, find a room with good sound absorption to prevent the “echo effect”
  - **Yes:** carpet, cushions, bookshelves, clothes (bedrooms, closets)
  - **No:** larger spaces with hard, smooth surfaces (kitchens, bathrooms)
  - **Consider:** Does the room have an echo? Hard floors/countertops/stainless steel surfaces?
- Put some **distance** between yourself and the microphone (depending on your equipment).
  - Being too close can make the audio too loud or garble sound as you speak. If you are positioned too far away the audio will be too quiet or too muffled to salvage.
- Stay hydrated!
  - Keep a drink nearby (water, juice, etc.) to soothe your throat and keep it relaxed.



# Recording Considerations for Interviews

- **Remote Recording** (via Skype, Zoom).
  - If you record via Zoom, **save your recording to your computer** not the cloud.
- **Ease in to recording** with low-stakes conversation
  - Interviews are like playing catch. Start with questions that allow everyone to get comfortable. Be yourself!
- **Don't rush**, and know you can start over
  - You don't need to get everything in a single take, and you won't use all the audio that you record. So don't be afraid to pause frequently and remember you can start over (or cut something altogether!)



# Making Podcasts: Audacity

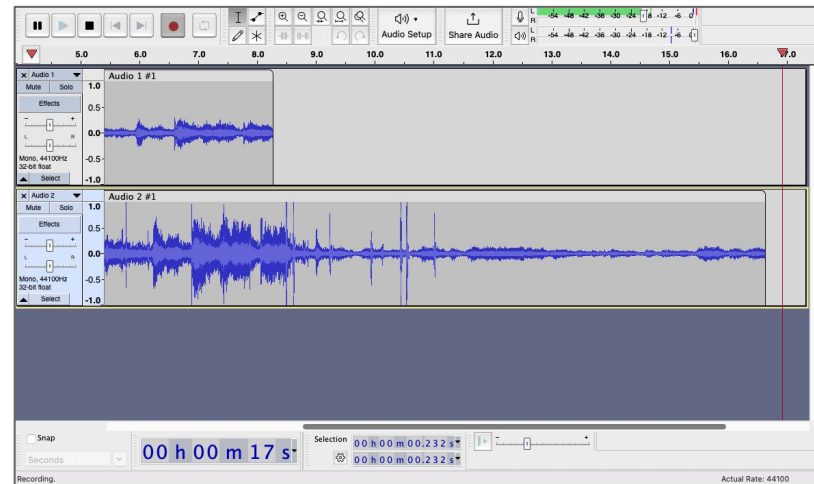


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# What is Audacity?

Audacity is a free, easy-to-use, **multi-track** audio editor and one of the more popular free audio editors used for creating podcasts.





(**Multi-track**: the ability to have different layers of audio in one clip.)


# Downloading Audacity

<https://www.audacityteam.org/download/>

DOWNLOAD FOR

  
**Windows**  
32 & 64 bit

  
**macOS**  
Universal Binary

  
**Linux**  
64 bit appimage

ADDITIONAL RESOURCES

**Offline manual**  
[Download Audacity manual](#) ↗

**FFmpeg library**  
[FFmpeg import/export library](#) ↗

**Source code**  
▸

**Older versions of Audacity**  
[Download older versions from FossHub](#) ↗





## Microphone, volume, input, and output

Recordings (audio tracks) will display in this window here.

The screenshot shows the Audacity audio editing software interface. The top menu bar includes Audacity, File, Edit, Select, View, Transport, Tracks, Generate, Effect, Analyze, Tools, Help, and Window. The toolbar at the top contains various icons for playback, editing, and analysis. The main window displays a single audio track labeled 'Audio 1 #1' with a waveform. The bottom status bar shows the selection time as 00 h 00 m 00 s and the current time as 00 h 00 m 00 s. The interface is highlighted with red boxes and arrows, indicating the steps for recording audio.

**Output Volume Level Monitor:** shows the loudness of each track in real-time

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<https://manual.audacityteam.org/>

# Key Terms

- **Track:** a single audio channel or stream.
  - **Multi-track:** an audio recording or channel with more than one track or recording of sound.
- **Clipping:** splitting audio into separate sections—that is, making “clips”
- **Waveform:** the curve within a track showing the duration and volume of individual sounds
- **Mixing:** the process of audio production, or mixing tracks of recordings, music, and other desired media.
- **MP3 File:** the most generally used audio file format. Others include .wav and .mp4.



# Basics: Audacity & Recording Audio



# Getting Started: Tips for Recording Audio

- Know where your microphone is located and keep it clear of papers/other objects
- Use headphones when recording and editing
  - After you finish editing, listen to the file without headphones to see where the audio is too loud/quiet when played in a space.
- Take ambient noise into consideration
  - A/C units, refrigerators, traffic, pets, roommates, loud clothing, etc.
- **Save frequently.** Audacity does not autosave.



# Recording Audio cont'd.

- Record test audio and adjust mic volume if necessary
- Record a few seconds of silence at the start and end of each track
- Begin way in advance, and do several takes
  - Editing often takes much longer than the recording itself!
- Speak slowly, clearly, and conversationally
  - If you use too many “filler words” (um, like, so) you can always edit them out later. Stop recording and start again at the top of the sentence to avoid jarring sound cuts in post-production



# Recording

Make sure your **microphone** is working by checking to see that it's selected in the microphone section of the screen. Each computer will have different microphones, so check your sound settings for your model.



To **record**, click the button with the **red circle**.



Hit the **pause** button to pause a recording.



Hit the **stop** button to stop recording.

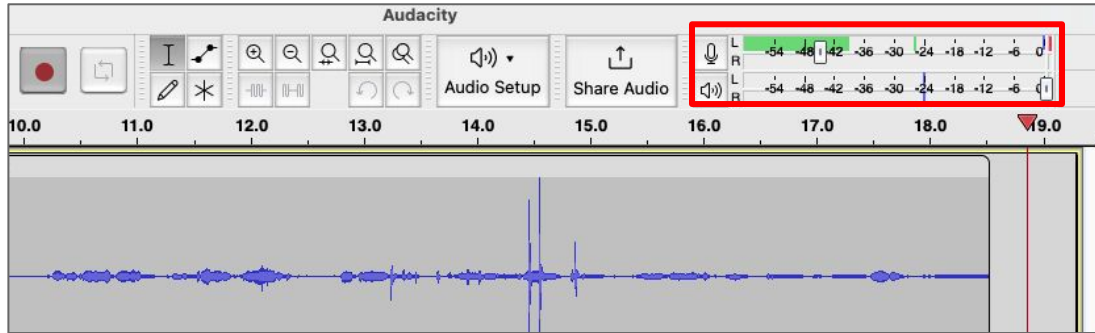


Use **Re-play** to verify that the recording is the quality/ volume that you want.



# Checking volume

Keep an eye on the **monitor** when recording and playing back your audio—try to keep it in the **green** (literally).



If your volume is too loud, the monitor levels will turn yellow and red. Tracks that are too loud will have a blown-out effect when played back.

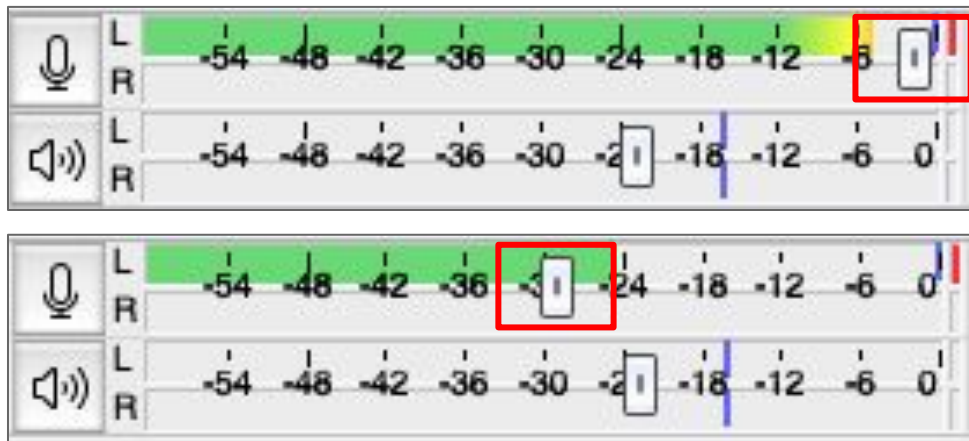
If one of your tracks is louder or softer than the others, you can adjust the volume on each track.

**Tip:** to hear one track without the others, you can **mute** the other tracks or click “**solo**”



# Adjusting Mic Volume

If the recording volume is too loud, you can use the slider in the recording meter to adjust the recording level



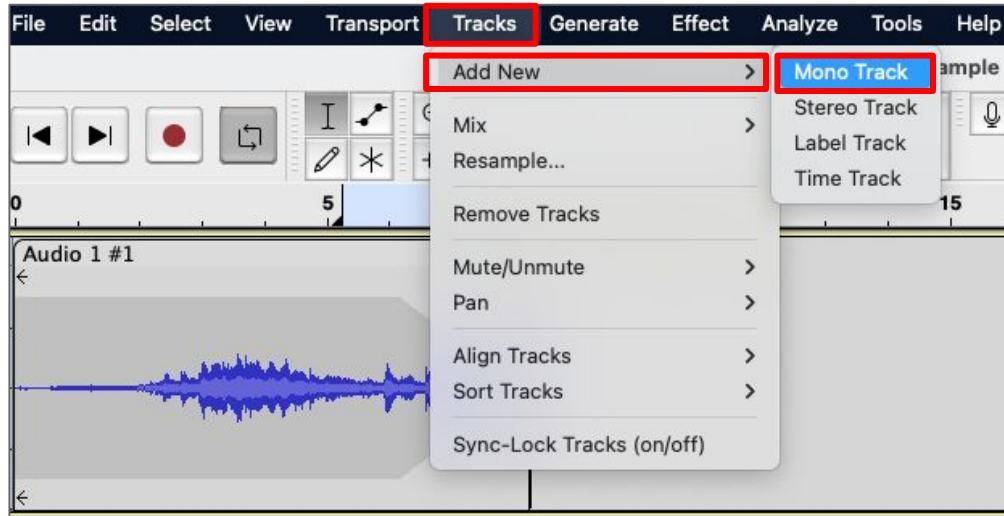
Move the slider to the right for a higher (louder) recording level and to the left for a lower (quieter) recording level





# Adding Tracks

To create additional tracks in Audacity for a **new recording**, hit the record button and it will start a new track. Another option is:



Navigate to the **Tracks** menu option and select **Add New**. This will open a list of options. Select the **Mono Track** option.

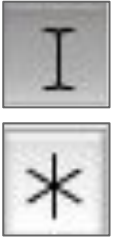


# Basics: Audacity & Editing Audio



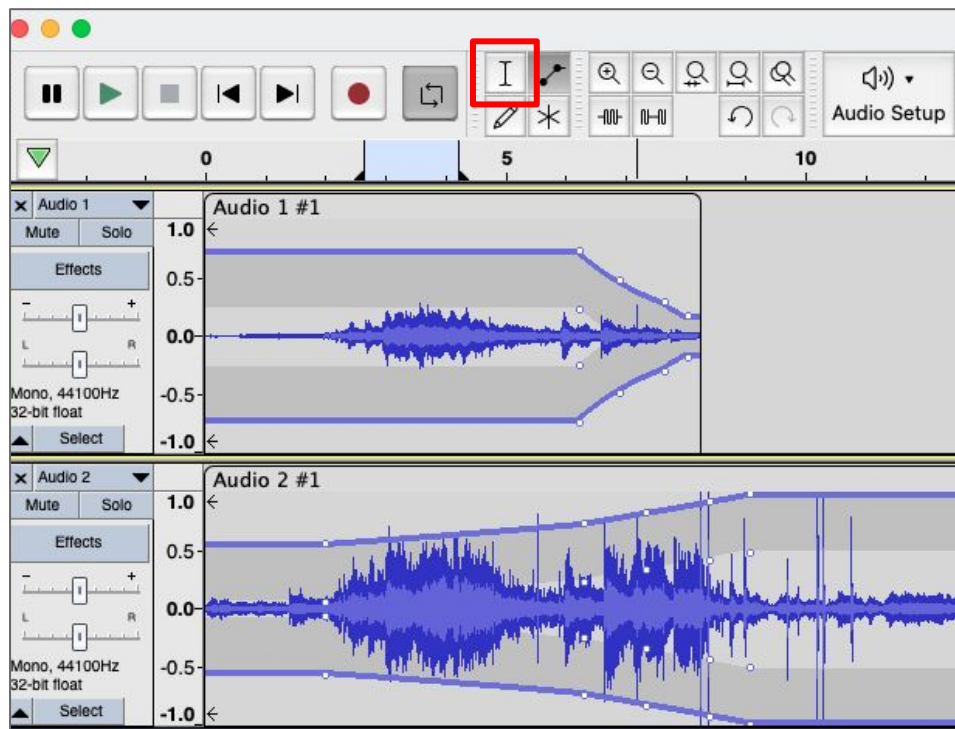
# Toolbar: Selection and Multitool

- The **selection tool** will be selected automatically when you open Audacity.
- The **multitool** allows you to use all the functions of the other tools without switching to them.
  - The selection tool function is the default.
  - Hover over the waveform borders to use the envelope tool function.
  - Use your trackpad to zoom.
  - Zoom in and left click to use the draw tool function.



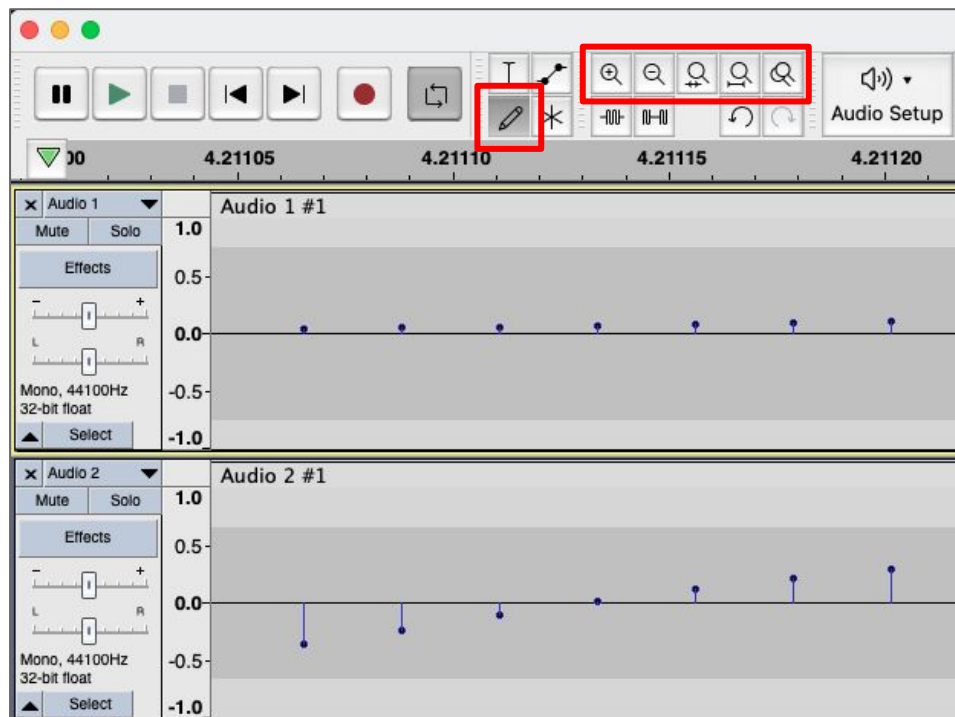
# Toolbar: Envelope

- The **envelope** tool allows you to smooth changes in volume by using control points at the top and bottom of the waveform.
  - Clicking on the blue border will create control points, which you can then move around to adjust the waveform envelope.



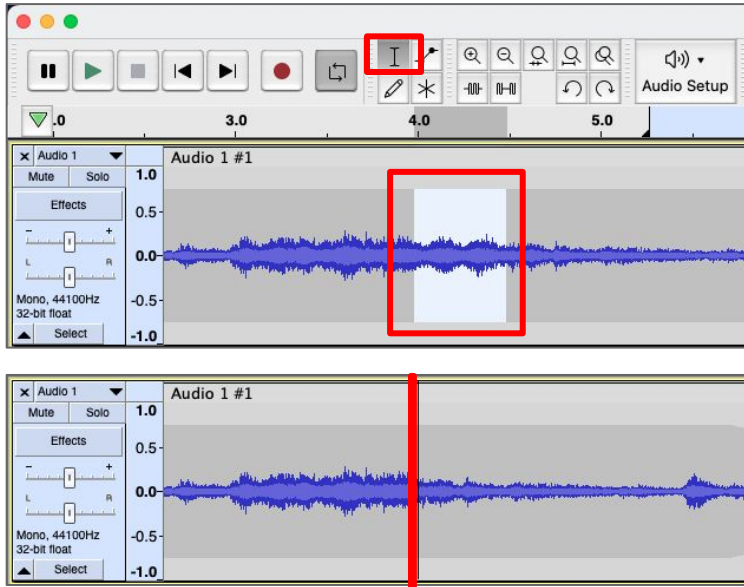
# Toolbar: Zoom and Draw

- The **zoom tools** let you zoom in and out of the waveform in order to make adjustments.
- The **draw tool** allows you to manually redraw the waveform to change the volume or correct background noise.
  - You can only use the draw tool if you've zoomed into the waveform.



# Removing Parts of Tracks

Once you have recorded audio in Audacity, you can easily edit it. Here is how to remove sections using the **selection tool**:



Click and drag with your cursor to select the portion you wish to remove.

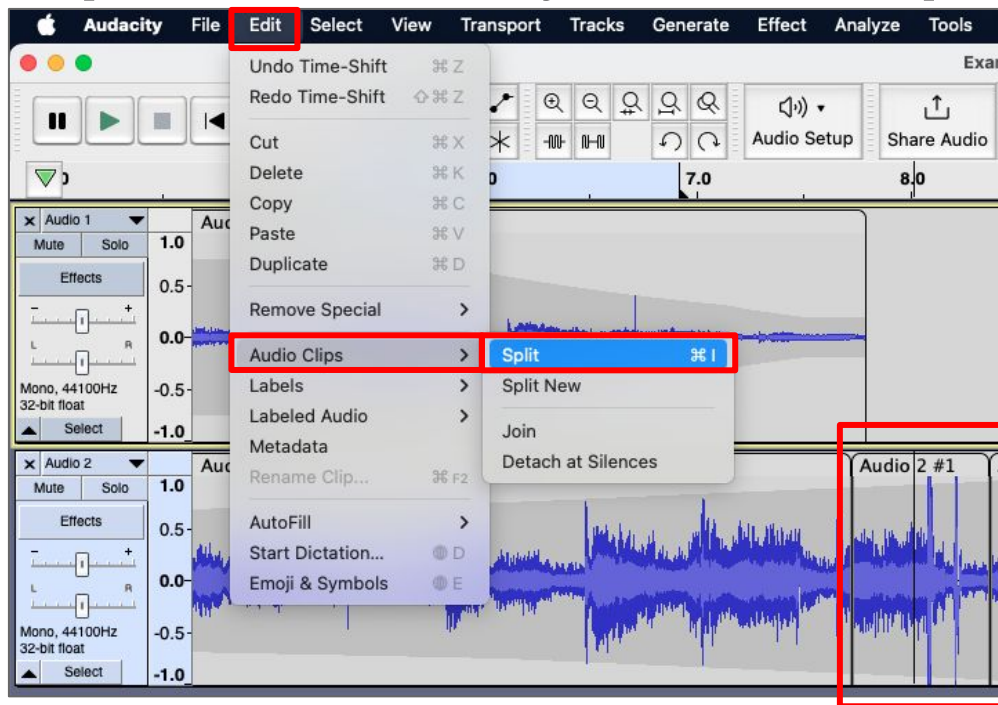
Then, hit backspace or delete on your keyboard.

**Tip:** you can zoom in and out with the **zoom tools** to better see what you're trying to delete.



# Splitting Tracks

To split a track in Audacity, follow these steps to make shorter clips:



With the **selection tool**, place your cursor over the section where you want to split your track.

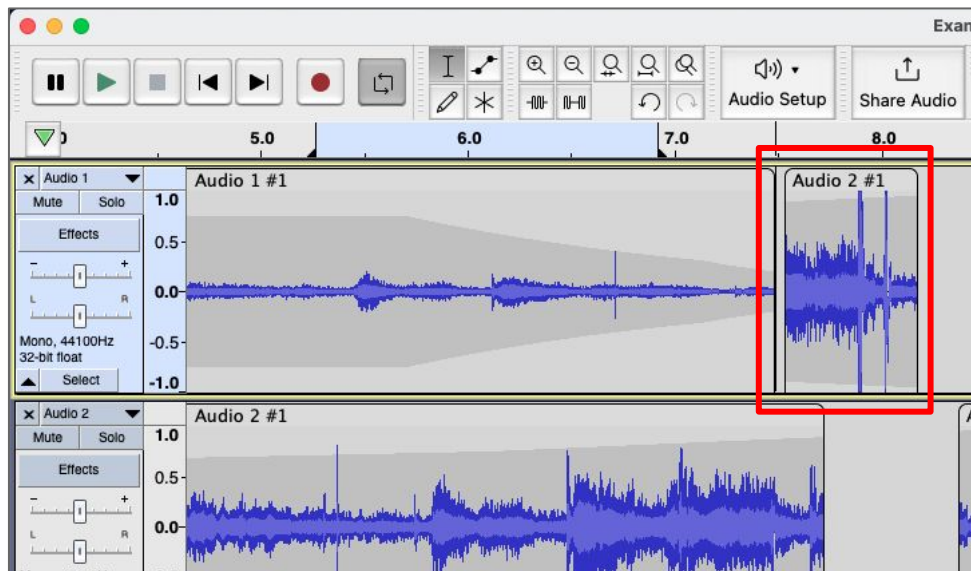
Navigate to the **Edit** menu, click under **Clip Boundaries** and select **Split**.





# Moving Tracks

To move entire tracks or audio around in Audacity, you can click and drag them by hovering your mouse over the top of the clip.



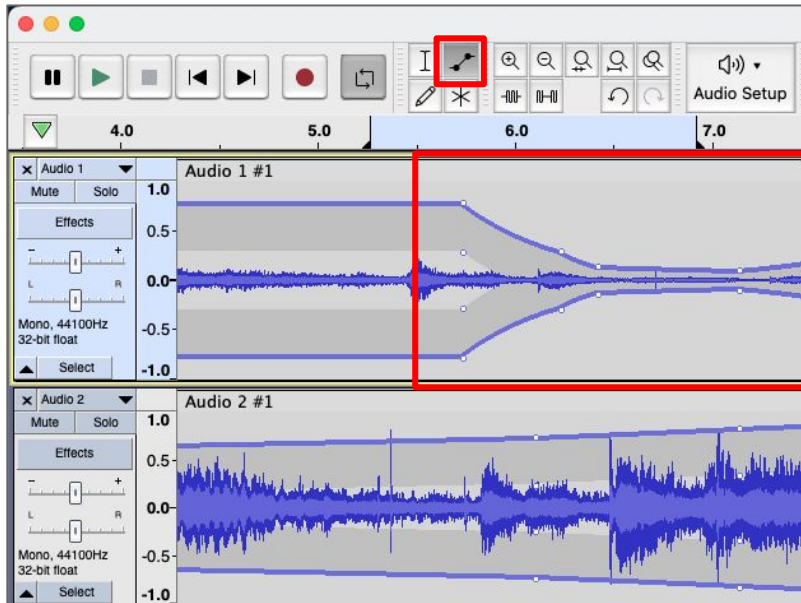
Once you have selected the clip, click whatever clip or track you want to move and drag it into position.





# Fading In/Out

To fade music in and out on Audacity, use the **envelope tool**. Two yellow bars will show up on each track.



Click to add **control points** (little white dots) on the track you want to fade in.

Drag and move the nodes to up and down and side to side to change the volume and how gradual the volume fade is.

Add and adjust nodes at the end of the track to fade the music back in.



# Your Turn!

- Visit one of the following:
  - [BBC Sound Effects](#) and click on 'Browse All'
  - [incompetech.com](#) and click on 'Royalty Free Music'
- Download something you want to play around with and try to:
  - **Remove** some of your track
  - Choose a part to **fade in** or **fade out**
  - **Split the track** into multiple
  - **Add a new track** to your project



# Saving, Exporting, and Sharing



# Saving

*Audacity does not auto-save!* Save your recording, early and often!

Try and save after each major edit/input of a recording, just to be safe.

Save in multiple places. Always have backup.

**File > Save Project > Save Project As> “Name of your podcast”**

And once your project is saved...

**File > Save Project > Save Project > [saves the updates to your file]**



# About File Formats

- **Lossless Audio File Formats:** better than or equal to CD-quality
  - **WAV:** uncompressed file, meaning huge file size. The best for editing raw audio files in Audacity.
  - **AIFF:** Apple's alternative to WAV. Uncompressed, not widely used
- **\*MP3/MP4:** compressed audio file, ensures small file size. Best for exporting and distributing from Audacity.
- **Ogg Vorbis:** Open-source alternative to MP3. Used in Spotify streaming

*\*Note: The DITI typically recommends you save files as mp3 (sometimes mp4, if you use a PC).*



# Exporting and Sharing

Finished with your recording?

Make sure you **export your project as an MP3** before you send or share it! This will ensure that other people are able to listen to it; anyone who does not have Audacity downloaded will not be able to open your project file otherwise.

**File > Export > Export as MP3**

Select “best quality”

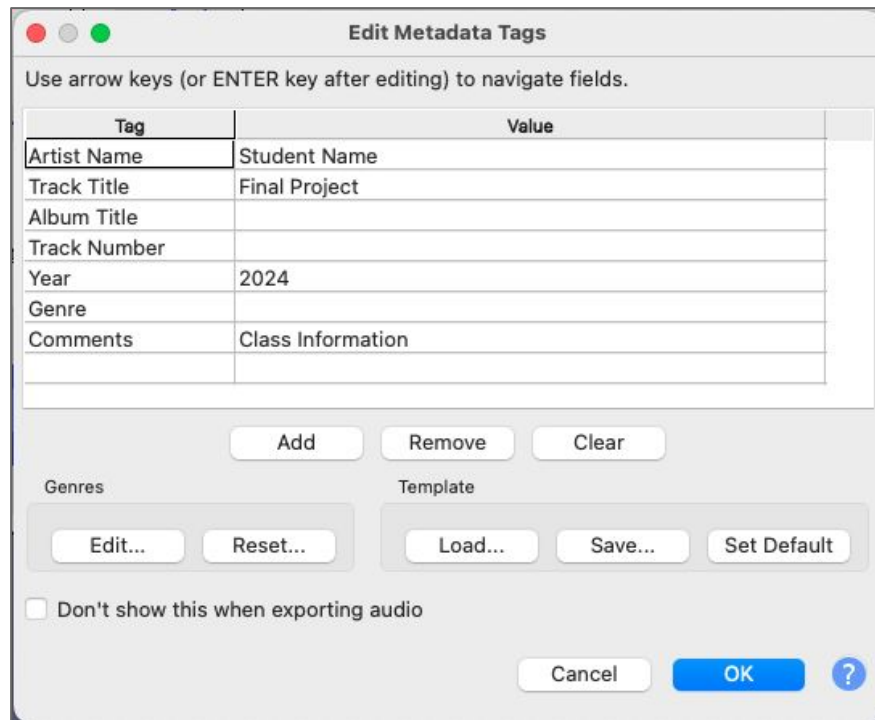


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# Exporting Metadata Tagging

When you export your file, Audacity will prompt you to add metadata tags to identify it.



Use arrow keys (or ENTER key after editing) to navigate fields.

Tag	Value
Artist Name	Student Name
Track Title	Final Project
Album Title	
Track Number	
Year	2024
Genre	
Comments	Class Information

Buttons: Add, Remove, Clear

Genres: Edit..., Reset...

Template: Load..., Save..., Set Default

☐ Don't show this when exporting audio

Buttons: Cancel, OK, ?



# Thank you!

—Developed by Dipa Desai, Claire Lavarreda, Sara Morrell, and Avery Blankenship

- For more information on the DITI, please see:  
<https://bit.ly/diti-about>
- Schedule an appointment with us! <https://bit.ly/diti-meeting>
- If you have any questions, contact us at: [nulab.info@gmail.com](mailto:nulab.info@gmail.com)
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