

# Audio Podcasting



## Getting Started

The following handouts provide instructions on the following activities: recording audio via Audacity®, editing audio in Audacity®, converting audio files to MP3 and uploading podcasts to iTunes U.

## Objectives

- Participants will learn about audio formats.
- Participants will learn how to record audio from Audacity®.
- Participants will learn how to edit audio using Audacity®.
- Participants will learn how to modify and delete parts of an audio clip.
- Participants will learn how to format and upload podcasts to iTunes U.
- Participants will become familiar with iTunes U.

## To log in to iTunes U

<http://itunes.nmsu.edu>

## System Requirements

iTunes U is supported by both Macintosh and PC operating systems.  
Audacity® is supported by both Macintosh and PC operating systems.

## Contact Information

ICT Training Services  
[training@nmsu.edu](mailto:training@nmsu.edu)  
646-5125

## Additional Information is provided at:

<http://www.nmsu.edu/~training/faculty>  
<http://www.nmsu.edu/~training/itunes>

## 7 things you should know about. . . Podcasting

This handout is designed by EDUCAUSE in order to provide educators an overview of audio podcasting.

# Audio Podcasting



## Introduction to Audio Podcasting

A podcast is a digital media file, or a series of such files, that is distributed over the Internet using syndication feeds for playback on portable media players and personal computers. An audio podcast is a collection of audio files residing at a unique web feed address that allows users to “subscribe” to this feed by submitting the feed address to an aggregator, such as iTunes. When new podcast episodes become available, they will be automatically downloaded to the user’s computer.

There are four stages in the podcasting process: planning, recording, editing, and publishing. It is recommended that you take some time to plan your podcast. This includes the following steps:

- Deciding on the type of audio podcast you are going to create.
- Determining the length of your podcast.
- Determining how often you will record new episodes. Daily, monthly, weekly?
- Creating an outline of your podcast.
- Deciding on learning objectives, goals, and the role a podcast will play in course materials.
- Determining the type of hardware, software and other required materials.

This documentation will take you through the process of creating audio podcasts using Audacity®. Audacity® is a free, open source software for editing and recording audio.

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## Introduction to Audacity

Audacity is a free software application for editing and recording audio. Audacity allows you to import “voice notes” created with an iPod recording device or record directly into the program with a microphone or headset.



### Workout: Installing Audacity

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1. Open a browser and go to <http://audacity.sourceforge.net/>
2. Download a copy of Audacity. There are two different versions of Audacity. The instructions in the manual are based on Audacity version **1.2.6**. If you download and install another version of Audacity, there may be some differences in the instructions in this manual and where you will find the corresponding features in Audacity.
3. Once Audacity is downloaded, install it.

## Preparing to Record

Preparing to record an audio file means taking into consideration the recording device, which in our case is a Cyber Acoustics AC 200 stereo headset, recording location, and then the software that captures the sound into digital format. Our software, Audacity®, has default settings that automatically convert a recording into CD quality type files, which means that default recordings are stereo recordings with a 44,100Hz rate, and a 32 bit format. Because such default settings produce relatively large sized files, you will modify the default recording settings so that students can more easily access your files.

	Channel	Sample rate	Sample format	Bit capacity	Compression format
Voice	Mono	22050 Hz	16 bit	64 kbps	Mp3
Voice and Music	Mono	22050 Hz	16 bit	96 kbps or 128 kbps	Mp3



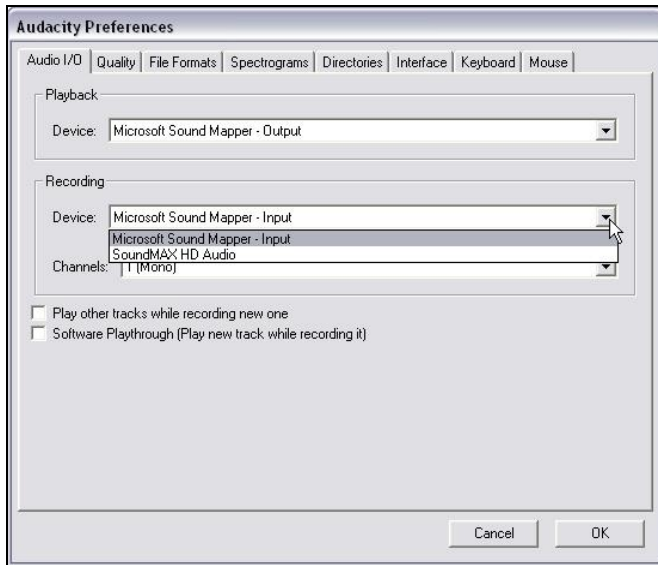
### Workout: Selecting the Recording Microphone

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1. Open up Audacity®.
2. From the **Edit** menu, select **Preferences**.
3. Click on the **Audio I/O** tab.
4. From the **Playback Device** drop down menu, select **Built-in Output**.

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5. From the **Recording Device** drop down menu, select the microphone you want to use.
6. From the **Channels** drop down menu, select **1 (Mono)**.
7. Click **OK**.



## Workout: Selecting Recording Quality Preferences

1. From the **Edit** menu, select **Preferences**.
2. Click on the **Quality** tab.
3. From the **Default Sample Rate** drop down menu, select **22050 Hz**.
4. From the **Default Sample Format** drop down menu, select **16-bit float**.
5. Click **OK**.



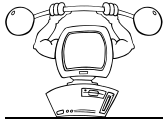
## Workout: Selecting File Format Preferences

1. From the **Edit** menu, select **Preferences**.
2. Click on the **File Formats** tab.
3. In the **When importing uncompressed audio files into Audacity** section, select the radio button next to **Make a copy of the file before editing (safer)**.
4. Click **OK**.



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## Recording an Audio File

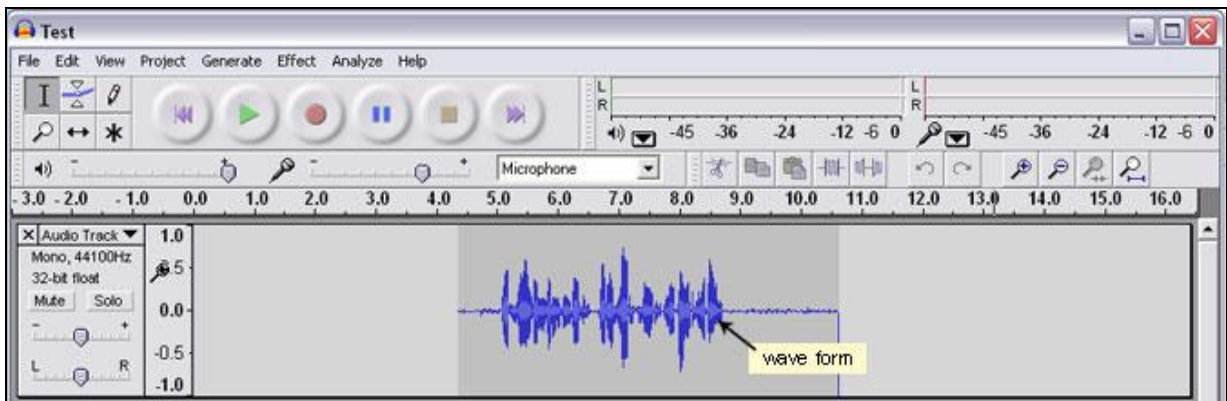
After setting up your recording preferences, make sure that your headset is plugged into the computer and you are ready to record. You will practice recording your voice and getting comfortable with using the Audacity® interface. First thing first, get accustomed to working with the headset and controlling the volume of the recording.



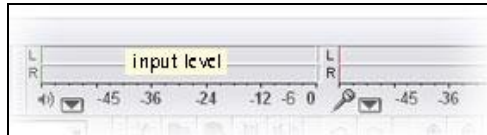
### Workout: Recording an Audio Clip



1. When you are ready to start recording, click on the **Record** button. 
2. Click on **Stop** when you are finished recording. 

If everything is working correctly, you will see a waveform like the one below.



If you speak into the microphone and you do not see any activity in the **Input level**, you will need to check to ensure that your microphone is turned on and connected to the computer correctly. The **input level** can be monitored from the **Meter Toolbar** and is active when you are recording audio.

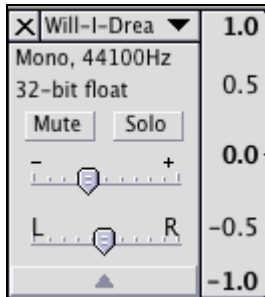


3. Click **Play** to review your audio. 
4. Click **Stop** to stop the recording. 

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## Overview of Track Window

Below is an image of the Track Window that appears to the left of every track that you record or import into your project. The following is a breakdown of the features within the Track Window:

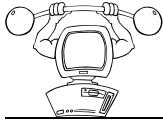


- X – This button will delete the track and appears to the left of the title of the track.
- Will-I-Drea – This is the title of the track and when clicked will drop down a menu that will allow you to edit the track preferences.
- Mono, 44100Hz – This indicates the channel and sample rate.
- 32-bit float – This specifies the quality of the recording.
- Mute – Mutes the track.
- Solo – Mutes out all the other tracks and only plays back the selected “solo” track.
- Gain Control – Increases and decreases the overall audio level for the entire track.
- Vertical Loudness Ruler – This ruler measures the loudness of the waveform with “1” and “-1” being the limits and “0” being silence.

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## Editing with the Tools Toolbar and Exporting an Audio Track and Clip

The Tools Toolbar contains some of the most powerful editing features within Audacity®. With the Tools Toolbar you will remove parts of an audio clip, zoom into parts of the clip, and move a clip within a track. After using these features, you will export the entire track, then only a selection of the track, as an mp3 file.



### Workout: Removing Parts of an Audio Clip


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1. Click **Selection Tool**. 
2. Select a part of the recording you would like to remove.
3. Press the **Delete** button on your keyboard.



### Workout: Zooming into Parts of an Audio Clip


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1. Click **Zoom Tool**. 
2. Move the magnifying glass pointer to a part of the recording you into which you would like to zoom.
3. Click the mouse to zoom in.

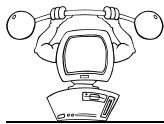


### Workout: Time Shifting an Audio Clip

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1. Click **Time Shifting Tool**. 
2. Click anywhere on the Track Window.
3. Click and hold down the mouse as you move the mouse in either direction.

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## Workout: Export Audio Clip as an MP3


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1. Open the **File** menu.
2. Select **Export as MP3**.
3. Select the location of where the file in the **Save in** box.
4. Type a name for the file in the **File Name** box.
5. Click **Save**.



## Workout: Exporting a Selection from an Audio Clip as an MP3

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1. Click **Selection Tool**. 
2. Select a part of the recording you would like to save as an .mp3 file.  
NOTE: You may want to click **Play** to listen to the track selection to ensure you have selected the appropriate part.
3. From the **File** menu, select **Export Selection as MP3**.
4. Select the location of where the file in the **Save in** box.
5. Type a name for the file in the **File Name** box.
6. Click **Save**.



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## Removing Noise Effect

There are two steps to using the Noise Removal Effect. First, you are going to select a few second of just noise so that Audacity® knows what you consider as noise sounds. Then, you will select the entire track and remove the noise.



### Workout A: Getting Noise Profile

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1. From the **File** menu, open the file identified by the trainer.
2. Click **Selection Tool** from the Tools Toolbar. 
3. Select a part of the recording that contains only background noise and no vocals.  
NOTE: You may want to click **Play** to listen to the track selection to ensure you have selected the appropriate part.
4. From the **Effects** menu, select **Noise Removal**.
5. Click **Get Noise Profile**.



### Workout B: Removing Noise

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1. From the **Edit** menu, select **Select All**.  
NOTE: You can also click on the Track Window to select an entire track.
2. From the **Effects** menu, select **Noise Removal**.
3. Click **OK**.

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## Metadata Standards for NMSU on iTunes U

Each file needs to be tagged with metadata or file information. The name, artist, album, grouping, and comments are the fields that iTunes indexes for search. This will ensure that audiences know how to refer to a podcast.

**Name** is for the track's title. "October 19 Lecture" maybe too vague where as "History of Space Evolution " is more descriptive. For example: Space Stuff Lecture Series – part 2.

**Album** should include Course or category title. For example: AGEX 360: Foundations of Agricultural Theory.

**Artist** is for the Instructor or speaker name. If the class has a guest speaker, use Artist for the guest speaker and Album Artist for the Instructor. For example: Professor Smith would be the Album Artist (optional) or you can use the Department or Organization name. For example: Dr. Skinner or Media Productions at NMSU would both be suitable, just be consistent.

**Genre** should be New Mexico State University and is set by default.

**Comments** are for any additional information such as assignment details, upload information, historical background, or description. For example: Dr. Skinner discusses the evolution of space stuff from the big bang to modern exploration, recorded in a series of visiting lectures by the Media Productions Department at New Mexico State University.

Comments are what is searchable by keyword, be sure to include all relevant information about your track and what is included in your description section of your course.

**Grouping** should be used to add any keywords to the file. Please limit to no more than 12 keywords. For example: big bang, outer space, space exploration, NMSU.

NOTE: iTunes U does not allow you to change all of the metadata fields once a track has been uploaded. You will need to fix locally and re-upload.



## Workout: Creating Metadata

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1. Open iTunes.
2. From the **File** menu, select **Import** and locate your file on the computer.
3. Within the iTunes Library, click on your file.
4. From the **File** menu, select **Get Info**.

NOTE: You can also right click on the track name and select **Get Info** or pres **Command I** on your keyboard.

5. Select the **Info** tab and enter the name, album, artist, grouping, and comments.
6. Click **OK**.

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## Introduction to iTunes U

iTunes University, commonly referred to as iTunes U, is a Web-based service that delivers instructional content via the iTunes program. Similar to the iTunes Store, iTunes U is designed as a service for institutions to manage audio, video, and PDF content and make available to faculty, students, and staff. New Mexico State University has created an iTunes University website and is building a collection of course content.

## Logging into iTunes U

The following steps will provide a step-by-step process to log in to iTunes U by using your NMSU Username and Password. After you enter your information, iTunes will atomically open and allow you in to the New Mexico State University site.



### Workout: Logging into iTunes U

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1. Open your Internet browser, make sure pop-ups have been disabled, and go to <http://itunes.nmsu.edu>
2. Enter your **NMSU Username** and **NMSU Password** under “**NMSU iTunes U (for students and faculty)**”.
3. Click the **Submit** button
4. Click the **Private** button on the new Web page (NMSU on iTunes U) that opens.
5. NMSU on iTunes U opens iTunes.

## Uploading to iTunes U

The following instructions will provide you with the process of uploading your course content to iTunes U.



### Workout: Uploading to iTunes U at NMSU

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1. From the homepage of your iTunes U course, click **Upload Files and Manage Files** from the **Tools** area.  
iTunes U opens a web browser.
2. Click the tab in which you would like to upload to.
3. Click **Add Tracks**.
4. Click **Choose File**.

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5. Locate the file on your computer and click **Choose**.

Your file appears in iTunes U.

6. Click **Done**.

7. Close the browser window.

NOTE: After a file is uploaded to a tab, only an instructor or approved course designer can move, replace or delete the file.

iTunes U only accepts files for upload that are less than 500 MB. It is recommended that you keep your file size below 200 MB because larger files take a significant amount of time to download. Please note the recommendations by Apple about file formats.

For audio files Apple recommends the following:

- Audio Format: AAC or MP3
- Data Rate: 128 kbits/sec
- Channels: stereo
- Output Sample Rate: 44.100 kHz
- Encoding Quality: Better

For video files Apple recommends the following:

- Video Format: MP4 with a H.264 compression
- Data Rate: 256 kbits/sec
- Image Size: 320 x 240
- Frame Rate: 30
- Key Frame: Every 24 frames