

Introduction to Moving Image and Sound Archives

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Workshop Description

This workshop provides an introduction to preservation, handling, digitization, and long-term sustainability of moving image and sound recordings. This workshop will explore how to use digital technology to preserve the moving image and sound record for future generations and to perpetuate accessibility through scheduled digital migration. Students will work with a collection of multiple formats to transform an analog collection into a digital archive for long-term preservation.

Additionally, this workshop is designed for the stewardship of practical skills which can be used in multiple disciplines and environments. The focus is to understand the processes and techniques involved in creating, organization, presenting, and usability of information in digital environments.

Learning Objectives

As an active and thoughtful participant you will be prepared to effectively and efficiently to create, analyze or maintain digital material in order to ensure accessibility and quality intertemporality over an extended time. These skills will allow the student to:

- Develop familiarity with the technical dimensions related to digitally archiving, editing, and mastering moving image and sound assets;
- Assess and address preservation issues of basic legacy analog media;
- Understand and use legacy audiovisual carriers and playback equipment;
- Use current technologies to digitize (select) analog material into digital form in a variety of moving image and sound formats;
- Identify the appropriate metadata schema for moving image and sound materials;
- Create metadata by utilizing technical metadata extrapolation open-source software;
- Create digital preservation assets from analog materials in multiple formats;
- Identify rights issues (legal, ethical, moral) with digitized materials.

Disclaimer

This workshop is offered as a ***free program*** to enhance the students' experience in the archival field. This workshop is not fee-based and is an ***open-access design*** to allow students to discover new concepts and ideas. This syllabus is a suggestion guideline **without due dates or grades**. The only requirement is to adhere to University policies and guidelines at all times while on campus.

Lesson 1

Topic: Moving image and sound materials - Overview

Learning Objectives:

- Define and identify 'analog' materials within moving image and sound archives;
- Demonstrate knowledge of analog playback equipment (most common);
- Ability to locate professional and industry standards for moving image and sound materials;
- Knowledge of risk and condition assessment tasks.

Suggested Readings:

- "Audio - Visual Preservation and Digitization" (slides) What is A/V Preservation [slide 4] *through* Conservation Actions [slide XX]
- Iraci, Joe. 2017. The Digitization of VHS Video Tapes. Technical Bulletin, Department of Canadian Heritage, Canadian Conservation Institute, 16-24. http://publications.gc.ca/collections/collection_2018/pch/CH57-3-1-31-2016-eng.pdf.
- Greene, Steve. "Chasing Technology: The Challenge of Preserving Audiovisual Records." National Archives and Records Administration. National Archives and Records Administration. Accessed April 15, 2021. <https://www.archives.gov/publications/prologue/2007/summer/technology.html>.
- Ranger, Joshua. "What's Your Product? Assessing the Suitability of a More Product, Less Process Methodology for Processing Audiovisual Collections" (Audiovisual Preservation Solutions, 2012), <http://www.avpreserve.com/wp-content/uploads/2012/08/WhatsYourProduct.pdf>

Suggested Videos:

- **Watch:** "ARSC Audiotape Tutorial: Types of Magnetic Tape and Associated Problems" Association for Recorded Sound Collections. <https://www.youtube.com/watch?v=qibFG2mo3Qk>
- **Watch:** "Lost Forever: The Art of Film Preservation". Richard Allen Harvey. <https://www.youtube.com/watch?v=3TEgrdAlofk>
- **Watch:** "How Analog Video Works". Dana Lee. <https://www.youtube.com/watch?v=r38nVmxBfvM>

Practice:

- Choose media from the collection (each student will have their own unique items)
- Complete risk assessment for all chosen items;
- Create initial metadata inventory and notes;
- **Store materials for next project step.**

Lesson 2-3

Topic: Care and handling of analog playback materials and equipment

Learning Objectives:

- Ability to identify best practices for the preservation and conservation of moving image and sound collections
- Ability to analyze and identify types of deterioration and damage to analog media;
- Knowledge to repair and treat at risk analog media;
- Ability to identify and apply storage guidelines for all analog collections
- Identify audio and video playback equipment and connections (differentiate between audio and video/film devices);
- Ability to identify, maintain, and clean analog playback equipment;
- Clearly identify audio and film format differences, risks, and conservation resources.

Suggested Readings:

- "Audio - Visual Preservation and Digitization" (slides) What is A/V Preservation [slide 4] through Equipment - Audio [slide XX]
- Brylawski, Sam, et al. ARSC Guide to Audio Preservation (ARSC, Council on Library and Information Resources, Library of Congress, 2015). <http://www.clir.org/pubs/reports/pub164/pub164.pdf>
- "Handling and Storage of Audio and Video Carriers." Handling and Storage of Audio and Video Carriers | International Association of Sound and Audiovisual Archives. Accessed April 15, 2021. <https://www.iasa-web.org/tc05/handling-storage-audio-video-carriers> .
- Schuller, Dietrich. "Audio and Video Carriers." Training for Audiovisual Preservation in Europe. https://www.ica.org/sites/default/files/WG_2008_PAAG-audio-and-video-carriers_EN.pdf
- "Magnetic Media Has Never Looked This Good." BAVC. Bay Area Video Coalition. Accessed April 16, 2021. <https://bavc.org/blog/why-analog-digital-video-preservation-why-now>
- Diehl, Richard. 2014. LabGuy's World: The History of Video Tape Recorders before Betamax and VHS. <http://www.labguysworld.com/>

Additional Resources:

- Bradley, K., Casey, M., Cavaglieri, S. S., Clark, C., Davies, M., Frilander, J., Wallaszkovits, N. (2009). Guidelines on the Production and Preservation of Digital Audio Objects (2nd ed.). (K. Bradley, Ed.) Auckland Park, South Africa: International Association of Sound and Audio Visual Archives. Retrieved from <https://www.iasa-web.org/tc04/audio-preservation>
- De Stefano, Paula, Kimberley Tarr, Elite Buchman, Peter Oleksik, Alice Moscoso, and Ben Moskowitz. 2014. Digitizing Video for Long-Term Preservation: An RFP Guide and Template. Guide, Barbara Goldsmith Preservation & Conservation Department, New York University Libraries, New York City, NY: Andrew W. Mellon Foundation. https://guides.nyu.edu/ld.php?content_id=24817650

Practice:

- Bring the film/video and sound items to your workstation;
- **Evaluate:** All tapes should be visually inspected before they are played. This is necessary to identify tapes that could be damaged if played and those that could damage the playback equipment;
- Inspect for visual contaminants – fungus, mold, separation, stains, dust, dirt, debris, glue, labels, splicing;
- Inspect for degradation – smell, chemical residue;
- Inspect for physical damage – breakage, wrinkling, curving, edges curled;
- **Conservation:** Sound cleaning procedures for audio visual materials is different for each format;
- Identify the format and refer to the proper handling guides;
- Repair and prepare analog items;
- Prepare analog playback equipment, clean, exercise (notice any disruption in playback: noise, shaking, pausing);
- Update metadata inventory sheet with all tasks completed and notes;
- **Store all items for next project session.**

Lesson 4-5

Topic: Capture software, tools, conversion

Learning Objectives:

- Ability to access multiple audio/video capturing software and programs;
- Ability to identify potential errors and issues with playback and how to address them;
- Choose appropriate target formats for the digitization of analog audiovisual materials;
- Ability to analyze required formats, reformatting standards, and common digital settings with digital capturing software and programs
- Conducting pre and post-transfer processing tasks

Programs to Review:

- Adobe Audition (<https://www.adobe.com/products/audition.html>)
- Adobe Premiere Pro (<https://www.adobe.com/products/premiere.html>)
- Adobe Encoder (<https://www.adobe.com/products/media-encoder.html>)
- Avid Pro Tools (<https://www.avid.com/pro-tools>)
- Final Cut (<https://www.apple.com/final-cut-pro/>)
- Audacity (<https://www.audacityteam.org/>)
- Handbrake (<https://handbrake.fr/>)

Suggested readings:

- "Audio - Visual Preservation and Digitization" (slides) Workflow A/V [slide XX]
- "Magnetic Media Has Never Looked This Good." BAVC. Bay Area Video Coalition. Accessed April 16, 2021. <https://bavc.org/blog/why-analog-digital-video-preservation-why-now>
- Chambliss, Amanda. 2019. "Archivists learn how to preserve audiovisual collections despite time, technology and tragedy." Indiana University. July 12. <https://news.iu.edu/stories/2019/07/iu/inside/12-preserving-audiovisual-archives-despite-time-technology-tragedy.html>
- McKenzie, Lindsay. 2018. "A Race Against Time to Preserve University Media Collections." Inside Higher Ed. June 29. <https://www.insidehighered.com/news/2018/06/29/universities-urged-save-media-collections-it%E2%80%99s-too-late>.
- Consortium of Academic and Research Libraries Digital Collections Users' Group (CARLI). 2017. Guidelines for the Creation of Digital Collections. Guide, Consortium of Academic and Research Libraries in Illinois. https://www.carli.illinois.edu/sites/files/digital_collections/documentation/guidelines_for_video.pdf

Tutorials to Review:

- AV Artifact Atlas. 2021. Audio Video Known Issues Data: Audio Video Known Issues Data. <http://www.avartifactatlas.com/tags.html>
- Audacity. 2019. Audacity 3.0.0 Manual. March 9. <https://manual.audacityteam.org/#tutorials>
- Motion Array. 2020. "Learn / Premiere Pro / Tutorials." Premiere Pro Tutorials 2020: 25 Techniques from Beginner to Advanced. November 24. <https://motionarray.com/learn/premiere-pro/adobe-premiere-pro-cc-tutorials/#beginner-tutorials>
- Motion Array. 2020. "Final Cut Pro / Tutorials." How to Edit Audio in Final Cut Pro: Learn All the Essential Steps. April 1. <https://motionarray.com/learn/final-cut-pro/how-to-edit-audio-in-final-cut-pro-learn-all-the-essential-steps/>
- Engage Media. "Video Compression – Step-by-Step Handbrake Tutorial." EngageMedia Open Technology. <https://engagemedia.org/help/video-compression-step-by-step-handbrake-tutorial/>.

Practice:

- Retrieve your selected, re-housed and prepared analog media items;
- Prepare playback equipment to digitize;
- Select the proper capture software and create 'new project';
- **Conversion:** To protect the film original and the information it carries, the media is replicated and use the new duplicates for many uses.
 - Preservation master – the original media is directly backed up onto multiple resources (see storage slides)
 - Preservation access – a duplication of the original backed up onto multiple resources and used for making additional formats and copies
 - Access copy – trimmed and basic edits applied and used for sharing for exhibits, patron research, viewing
 - Optimized access – web-optimized format for social media, emails, and other viewing platforms
 - Thumbnail copy – grab of scene or clip for thumbnail viewing
- Once your files are captured and converted, finalize project when complete and export;
- Store all items for next project session.

Lesson 6

Topic: – Moving image and sound metadata development

Learning Objectives:

- Ability to create metadata appropriate for moving image and sound content;
- Analyze and identify all metadata requirements for both audio and video materials;
- Ability to access metadata extraction programs and format for preservation;

Suggested Readings:

- "Audio - Visual Preservation and Digitization" (slides) Metadata [slides XX] through Tools - Software - Hardware [slides XX]
- Irving K. Barber Learning Centre. n.d. "Indigitization: Tools for digitizing and sustaining Indigenous knowledge." Guide. <https://www.indigitization.ca/toolkit/managing-digital-information/#metadata>
- Review: Otto, Jane J. "A Sound Strategy for Preservation: Adapting Audio Engineering Society Technical Metadata for Use in Multimedia Repositories," *Cataloging & Classification Quarterly* 48:5 (2010): 403-422 <https://rucore.libraries.rutgers.edu/rutgers-lib/45764/>
- UCLA Library. n.d. Metadata Quality Control Workflow. Guide, UCLA Library - Special Collections. https://www.library.ucla.edu/sites/default/files/Guidelines_MetadataQualityControl.pdf
- Pryse, J. A., Harp, M., Sara Mannheimer, Marsolek Wanda, & Wind Cowles. (2021, November 10). DataCurationNetwork/data-primers/Oral History Primer. DataCurationNetwork / data-primers. Retrieved April 2, 2022, from <https://github.com/DataCurationNetwork/data-primers>

Practice:

- Retrieve both audio and video files (all formats);
- Run MediaInfo program on all files, update and records results;
- Formalize the metadata sheet, tabs, and have worksheet signed off on by instructor;
- Create 'side-car' text for each file format and verify accuracy;
- **Store all items for next project session.**

Lesson 7

Topic: – Basic editing for end-user or digital platform use - watermark and encoding

Learning Objectives:

- Ability to identify the use and audience of moving image and sound files;
- Ability to edit, cut, watermark and export, edited digital files;
- Ability to explain video encoding and codec;
- Ability to explain watermarking and batch programming;
- Ability to access encoding and watermark tools;

Suggested Readings:

- **Review:** "Audio - Visual Preservation and Digitization" (slides) Tools - Software Hardware [slides X] through YouTube Training [slide XX]
- Adobe Encoder (<https://www.adobe.com/products/media-encoder.html>)
- Adobe Audition (<https://www.adobe.com/products/audition.html>)
- Kelch, Dan. 2017. "A Brief Introduction to Audio and Video Encoding." Atomic Object. July 16. <https://spin.atomicobject.com/2017/07/16/intro-audio-video-encoding/>
- B., Peter, Hermann Lewetz, and Marion Jaks. 2015. Comparing video codecs and containers for archives. August 13th. https://www.av-rd.com/knowhow/video/comparison_video_codecs_containers.html
- Wright, Richard. 2012. Preserving Moving Pictures and Sound. DPC Technology Watch Report 12-01 March 2012, Digital Preservation Coalition. <https://www.dpconline.org/docs/technology-watch-reports/753-dpctw12-01-pdf/file>

Practice:

- Retrieve both audio and video files (all formats);
- Create hierarchy folder structure with proper metadata documentation;
- Create your 'playlist' on the assigned YouTube Channel;
- Open encoding software and watermark with unique logo or design;
- Export file formats and attach new metadata;
- **Store all items for next project session.**

Lesson 8 (Hands-on)

Topic: – Rights, access, and finalizing 'bags' for long-term storage

Learning Objectives:

- Knowledge to address, identify, and anticipate issues relating to copyright, ownership, likeness, and rights with regard to audiovisual materials
- Ability to analyze and document extensive metadata concerning ownership, fair-use, and rights of digital moving image and sound items;
- Knowledge concerning long-term preservation and multiple platform storage;
- Ability to implement and apply hierarchical file layouts and long-term digital preservation structures.

Suggested Readings:

- Review: "Audio - Visual Preservation and Digitization" (slides) Tools - Software Hardware [slides X] through YouTube Training [slide XX]
- Cornell University Library. 2021. Copyright Term and the Public Domain in the United States. Guide-Legal, Cornell University. <https://copyright.cornell.edu/publicdomain>
- Review: Besek, June B. 2003. "Copyright Issues Relevant to the Creation of a Digital Archive: A Preliminary Assessment." Council on Library and Information Resources. Kernochan Center for Law, Media and the Arts, Columbia Law School. <https://www.clir.org/pubs/reports/pub112/body/>
- Library of Congress. 2018. "Bagger - Release 2.8.1." GitHub. Comp. John Cancellia. April 18. <https://github.com/LibraryOfCongress/bagger/releases/tag/v2.8.1>
- National Film Preservation Foundation. 2004. "9. Access." In The Film Preservation Guide: The Basics for Archives, Libraries, and Museums, 85-92. San Francisco, CA: National Film Preservation Foundation. https://www.filmpreservation.org/userfiles/image/PDFs/fpg_9.pdf

Existing Projects:

- **Oklahoma Historical Society Film and Video Archives:** <https://www.youtube.com/channel/UCOnsy8K4SEsY9Ssi8EzzHg/videos>
- **Library of Congress National Jukebox Collection:** <https://www.loc.gov/collections/national-jukebox/>
- **UCLA Film and Television Archive:** <https://www.cinema.ucla.edu/collections/watch-listen-online>
- **Texas Archive of the Moving Image:** <https://texasarchive.org/>

Lesson 9

Topic: – Final Project

Learning Objectives:

- All students have become familiar with the technical dimensions related to digitally archiving moving image and sound materials;
- Students have become able to handle and care for analog collections and antiquated analog playback equipment;
- Students will be able to identify, preserve, conserve, and re-house analog moving image and sound materials;
- Students will be able to digitize (select) analog material into digital form in a variety of moving image and sound formats;
- Students will be able to create metadata appropriate for moving image and sound content;
- Students will be able to identify rights issues (legal, ethical, moral) with digitized materials;
- Students will have exhibited a robust collection and virtual presentation of digitized archival moving image and sound materials.

Practice:

- Retrieve the digital files you choose to present to the public;
- Create a playlist on the assigned YouTube Channel with robust information about the collection;
- Extract the information you are sharing with the public and design a template for your playlist;
- Upload the digital content to the playlist with detailed metadata (from your template);
- Update metadata upload and transfer;
- Show off your work to others!