



| NYU MIAP | VIDEO RESTORATION LAB 1 | H72.3403 | Mondays, 6:00pm - 9:00pm | 665 Broadway, Room 643 | Course Syllabus | v.0.9.0 (beta) |

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This class is the first of two courses will give students direct experience with the process of reformatting of analog audio and video materials for preservation and access. Addressing in-house systems and work with vendors, the class will increase knowledge in areas of archival standards, prioritization and decision-making, source and destination formats, technical requirements and systems, preparation and workflow, documentation and metadata capture, quality assurance, and overall project management. Students will have hands-on experience with tape preparation and reformatting using equipment in the MIAP Lab and will interact with experts from preservation vendors and other NYU departments.

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Each student will do two assignments, as outlined below. Additional tasks will be required as we go through the course, for example those listed at the end of the Assignment section. Attendance at all classes is mandatory and the student must make arrangements ahead for any classes missed, except in the case of illness and other unexpected absences, when the student must notify by email or phone the instructor before class time. Unexcused absences will substantially affect grades. Grades will be based on a combination of class preparedness and the level of participation (20%) and assignments (80%).

MIAP Digital Archive: In addition to assignments submitted in print form, all course papers/projects will be submitted in electronic form by the beginning of the class period on the due date. (Please also bring a hard copy to class on the due date.) Go to the Blackboard site for this class found under the "Academics" tab on the NYU Home site. Click on the Communication tab and then on Discussion Forum. You should see a link to your own individual forums. This is where you should upload your assignments.

Your papers will be made part of the MIAP Digital Archive in a private space for faculty use, and on the MIAP web site, where appropriate. Please inform the professors of any papers that cannot be published on the web due to confidentiality restrictions or other reasons, or if you have other concerns about your work being posted. In some cases, the title of a paper will be published, but access to the paper will be restricted to selected MIAP faculty and staff. When electronic files are submitted, the file names must conform to the standard format (please see end of syllabus for instructions on file naming.)

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1. Johannes Gfeller, Agathe Jarczyk, Joanna Phillips. Compendium of Image Errors in Analogue Video. Berlin: Scheidegger & Speiss, 2012.
2. A/V Artifact Atlas. Accessed 9/10/13 at http://preservation.bavc.org/artifactatlas/index.php/A/V_Artifact_Atlas
3. Sony Videocassette Recorder BVU950 Operations Manual
4. The Raindance Corporation, "Radical Software: The Alternate Television Movement." Available online at <http://www.radicalsoftware.org>
5. CTL Electronics, Inc, "Videotools." Available at <http://www.ctlny.com/about/>
6. Weise, Marcus and Diana Weyland. How Video Works: From Analog to High Definition. 2004. Burlington, MA and Oxford: Focal Press. p.

161-173.

7. Bachman, Rebecca, et al. "Glossary" in Video Preservation Resources on the web site of the Bay Area Video Coalition. San Francisco: Bay Area Video Coalition. 2003. Retrieved 1/19/05 at < <http://www.bavc.org/preservation/dvd/resources/gloss.htm>>.

8. For texts on video from the 1970s and 1980s the following books are recommended (they are out of print and you may want to purchase your own use copies; we will give you pdfs of required readings):

9. Bensinger, Charles (1981), The Video Guide. Santa Barbara, CA: Video-Info Publications. On reserve at Bobst Library and available at http://videopreservation.conservations-us.org/vid_guide/

10. Media Bus, Inc. (1973), The Spaghetti City Video Manual, New York and Washington: Praeger Publications. See the Film Study Center, catalog # B101548 and B101549. [must put on reserve at Bobst Library.

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Assignment #1 - Preservation Project Planning

Students will work in several small groups to design the parameters of analog audio and video preservation projects. Each group will create a plan that will include such information as selected tapes, preservation master format, what source and destination metadata will be captured, needed derivatives, a profile of the transfer system, recommendations on signal adjustment (if known and appropriate), file-naming conventions, and what will be delivered to the archive or repository. This plan will lay the foundation for the reformatting assignment to follow, and will be based on the institution's resources and specifications. Each group will present their written plans on October 27. Revisions may also be also required. 20% of grade.

Assignment #2 - Completing a Reformatting Project

Students will work in small groups on one or more reformatting projects, from visual inspection to deposit on the NAS. Each student will be responsible for managing the preservation of at least one analog audio or videotape and creating derivative(s), necessary source and destination metadata and checksums. A short report will be done on the group project, as an update to the plan, Assignment #1. Due December 1st. 30% of grade.

Assignment #3 - Preparing for Video Preservation II

In Video Preservation II, students will work in small groups to manage the outsourcing of a set of videotapes owned by a group or individual. In preparation for this work, each group will be responsible for scoping and planning of the project, including determining the number of tapes to be transferred, acquiring information on formats and

length, and settling on target file formats and derivatives. The students will also work out roles and responsibilities of the owner and MIAP in terms of logistics, including how the tapes will be delivered and returned and how the files will be returned. The assignment will be in the form of a short report after an interview with the collection owner/manager. Due December 1st. 15% of grade

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Class 1: September 14th

Pre-class readings:

1. Jaffe, Paula and Narum, Bill (ed.), "History", CTL Videotools # 2, May 1973. Accessed 9/4/14 at <http://www.ctlny.com/about/VideoTools2/VideoToolsTwo05.jpg>
2. "What is Television?" Radical Software, Vol. 1, No. 2 (1970) http://www.radicalsoftware.org/volume1nr2/pdf/VOLUME1NR2_0013.pdf
3. The Videofreex, "Hardware". The Spaghetti City Video Manual. New York: Praeger, 1973. p.3-15
4. "Video Tools and Tips: Techniques for Making Clean Edits" Radical Software, Vol. 2, No. 1 (1972) http://www.radicalsoftware.org/volume2nr1/pdf/VOLUME2NR1_0066.pdf
5. Michael Shamberg, "From ½ inch to two inch" Radical Software, Vol. 2, No. 4 (1972) http://www.radicalsoftware.org/volume2nr4/pdf/VOLUME2NR4_0063.pdf
6. Martin, Jeff. "The Dawn of Tape: Transmission Device as Preservation Medium." The Moving Image. Spring 2005. p. 35-66.
7. Suyaga, Hiroshi. "The Past Quarter-century and the Next Decade of Videotape Recording." SMPTE Journal. No. 101: 10-13. January 1992.
8. 3M Magnetic Audio/Video Products Division, "Debris Perspective on 1" Videotape

Handouts in class:

1. Suyaga, Hiroshi. "The Past Quarter-century and the Next Decade of Videotape Recording." SMPTE Journal. No. 101: 10-13. January 1992.

For the DVDs that we viewed in class see <http://prestospace.org/training/index.en.html>

Topics/activities:

- Introductions, syllabus review
- Review of basic concepts of video recording, characteristics and measurements
- Review of major historical changes in audiotape and videotape technology (media and hardware) impacting the playback and

reformatting process. How videotape has been recorded, played back and transmitted, details on the characteristics of video signals and related devices. Aesthetics of video and audio formats.

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Class 2: September 21th

Read/due this class:

Reports from last year's VP projects that inform work with the Welles Collection

1. Principles of Video Recording, Video Television Recorders, p. 26–38
2. Hocking, Sherry Miller. "The Grammar of Image Processing". The Emergence of Video Processing Tools: Television Becoming Unglued. Kathy High, Sherry Miller Hocking, and Mona Jimenez (ed.). Intellect Ltd., 2014. Vol. 2, p. 439–471
3. Martin, Jeff. "Curriculum Module: $\frac{3}{4}$ " Umatic Videotape." 2007. http://www.nyu.edu/tisch/preservation/program/modules/Martin_UmaticTape.pdf
4. McKnight, John. "Tape Reproducer Response Measurements With a Reproducer Test Tape". Journal of the Audio Engineering Society. Retrieved 9/6/07 at http://home.flash.net/%7Emrltapes/mcknight_tape-reproducer-response.pdf
5. Obtaining an Accurate Transfer (pp. 8–10) and Configuring, Calibrating Playback Equipment (pp. 21–23), and Configuring and Calibrating Playback Equipment (pp. 28–30) in "Capturing Analog Sound for Digital Preservation: Report of a Roundtable Discussion of Best Practices for Transferring Analog Discs and Tapes". 2006. Washington, D.C., Council on Library and Information Resources and Library of Congress. Retrieved 9/6/07 at <http://www.clir.org/pubs/reports/pub137/pub137.pdf>

Topics/activities:

- Determining tape and signal characteristics – how does tape condition offer clues to playback? What can be known through playback of audio and video source tapes? What equipment is used to 'read' the signals?
- Review of common problems revealed from inspection/initial playback.
- Introduction to signal flow and basic routing signals to interpret analog audio and video source characteristics.
- If time permits, preliminary evaluation of the video/audio project

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Class 3: September 28th

Read/Due this class:

1. Tektronix. Waveform Monitor Techniques, Vectorscope Techniques, and Setting up a Genlocked Studio in "Video Measurement: The Basics", Retrieved 9/6/07 at http://www.tek.com/Measurement/App_Notes/NTSC_Video_Msmt/25W_7247_1.pdf
2. Requirements of the Composite Color Signal, Principles of the Color TV System, p. 23-32

Topics/activities:

- Continued evaluation of the first materials for the video/audio project and capture of source metadata
- Additional work with set-up, calibration and the use of reference signals in video workflows, and reading signal flow diagrams and routing signals.
- Function and use of time base correctors, audio gain stage devices and other equipment for signal monitoring and adjustments during the workflow.
- Decision-making in signal adjustment; preservation vs. restoration v. enhancement in practice.
- Videotape cleaning

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Class 4: October 5th

Read/Due this class:

1. Lacinak, Chris. A Primer for Codecs for Moving Image and Sound Archives: Ten Recommendations for Codec Selection. 2010. New York: AudioVisual Preservation Solutions. Accessed 8/31/10 at http://www.avpreserve.com/wp-content/uploads/2010/04/AVPS_Codec_Primer.pdf
2. Federal Agencies Audio-Visual Working Group. "Digitization Activities: Project Planning and Management Outline" in Federal Agencies Digitization Guidelines Initiative. 2009. Accessed 8/31/10 at <http://www.digitizationguidelines.gov/stillimages/documents/DigActivities-FADGI-v1-20091104.pdf>

Topics/activities:

- Analog to digital conversion for audio and videotapes: encoding settings, file formats, wrappers and destination formats. Sustainable practices that ensure integrity of the analog original throughout the conversion process.
- Set up and routing of audio and video signals for capture.

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Class 5: October 19th

Read/Due this class:

1. Federal Agencies Audio-Visual Working Group. "Video Digitization Activities, Guidelines and Format Specifications" in Federal Agencies Digitization Guidelines Initiative. 2008. Accessed 8/31/10 at http://www.digitizationguidelines.gov/audio-visual/documents/Resource_Video_080812.pdf
2. Vitale, Tim and Paul Messier. "Video Migration in the Preservation Laboratory: Video Capture Card and External Analog to Digital Converters (ADC." In Video Preservation Website: Digital Migration Tools and Techniques. 2007. Accessed 8/31/10 at http://videopreservation.conservation-us.org/dig_mig/index.html

Topics/activities:

- Elements of a preservation plan; work on Assignment #2.
- Deliverables from a preservation project; i.e., master file, derivatives, XML, checksums, source and file metadata, etc.
- Documenting the preservation workflow and preservation actions.

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Class 6: October 26th

Topics/activities:

- Continuation with practice at audio and video workstations
- Identifying and managing common problems/errors in the capture process.
- Analyzing and managing technical metadata for digital audio and video files.
- Performing quality control on preservation master files.

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Class 7: November 2nd

Topics/activities:

- Preparation of files for storage on NAS; uploading and backup
- Transcoding audio and video files for the creation of access copies.

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Class 8: November 9th

Topics/activities:

- Characteristics of digital audio and videotape.
- Determining the characteristics of digital tape through playback
- Principles and current workflows for capture of signals from digital

tape.

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Class 9: November 23rd

Topics/activities:

- Lab time for Assignment 2.
- Audio preservation lecture

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Class 10: November 30th

Topics/activities:

- Lab time for Assignment 2.

Due this class: Assignment #2

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For multiple authors, the two initials of each author will be used, separated from each other by underscores. An underscore and the assignment number will follow this. Assignment numbers are determined by the order in which the assignments are given. They begin with an 'a,' followed by a number between one and ten. For assignments with multiple files, a letter can be added after the number. Thus, one could have 'a1b,' meaning that this is the second of multiple files from one student for one particular assignment. If a student decides to withhold her work from being freely available online, she may alert the professor, as well as by adding "_x " after the assignment number in file name:

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Otherwise, permission shall be implicitly granted for the student's work to be posted on the digital archive website.

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