INLS 752: Digital Preservation and Access
Fall 2009

Course Overview

Instructor
Name: Carolyn Hank
Email: hcarolyn@email.unc.edu
Mobile: 919.259.3191

Office Hours
I am available most Tuesdays and Thursdays before and after class. Please contact me via email or text to arrange a specific meeting time and location. I am also available at other times, as needed, by appointment.

Course Timeline
Class meets Tuesdays and Thursdays, 3:30 pm to 4:45 pm in 208 Manning Hall.
- First day of class is Tuesday, August 25, 2009
- Last day of class is Tuesday, December 8, 2009

Course Description
This course focuses on integrating state-of-the-art information technologies, particularly those related to the digital curation lifecycle, digital repositories, and long-term digital preservation, into the daily operations of archives, records centers, museums, special collections libraries, visual resource collections, historical societies, and other information centers. Issues, topics, and technologies covered will include: the promise and challenge of long-term digital preservation and curation; durable digital objects; selection and appraisal; preservation approaches; institutional repositories; trusted digital repositories; project management; risk management; rights management and other legal and ethical issues; digital asset management; standards; file formats; metadata; quality control; resource allocation and costing; funding for developing and sustaining digitization projects and programs; and grant-writing.

Course Objectives
By the end of this course, students should be able to:
- Identify the key events in the history of digital preservation and access.
- Define and apply essential terminology related to digital preservation.
- Distinguish between the concepts underlying digital preservation and digital curation.
- Identify and describe stages in the digital curation life cycle of digital information, from conceptualization through disposition.
- Understand the primary issues and challenges associated with digital preservation and digital curation activities.
- Demonstrate familiarity with key digital preservation and digital curation projects worldwide.
- Identify standards important to the digital curation lifecycle.
- Identify best practice guidelines and organizations that are creating them for digitization and digital preservation.
- Describe the digitization workflow and steps involved in major digitization projects.
• Select and justify standards and benchmarks for a given digitization project.
• Select materials for digitization projects and provide sound justifications for these selections.
• Understand how to manage a digitization project including assessing risk and establishing a quality control program.
• Be familiar with the development of institutional repositories.
• Discuss what makes a repository “trustworthy.”
• Discuss the OAIS model and how it fits into the trusted digital repository movement.
• Be familiar with the development of tools and standards for audit and certification of digital repositories.
• Be able to explain different approaches to digital preservation.
• Create appropriate metadata for digital objects for access, management, and preservation purposes.
• Determine the costs of digitization projects and plan appropriate facilities and resources.
• Write a well-argued and constructed grant proposal for a digital preservation project.

Course Readings and Activities
Course activities include readings, videos, discussion, and assignments. Discussion will take place in the classroom as well as through the class website on Blackboard. There is no textbook for class. The assigned readings and webcasts are available on the Web, through UNC Libraries’ E-Research Tools, or on the class website on Blackboard, accessible at http://blackboard.unc.edu/. While there is no required textbook for this class, the following out of print book has been placed on reserve in the SILS Library: Kenny, Anne R. & Oya Rieger. *Moving Theory into Practice*. Mountain View, CA: RLG, 2000.

All required readings are listed in the Course Outline section of this syllabus, as are optional readings for each class session. Additionally, please see the Course Supplement for additional resources complementing our required course and optional readings. You are expected to read all required readings before the start of the class session for which these readings are assigned; you may choose to read the optional readings for the particular class session as well, though this is not a requirement. Optional readings are provided to encourage and develop understanding of topics of particular interest to you.

Assignments and Evaluation
The course grade will be based on three, 2-5 page briefing papers; a semester-long, group grant project; and class participation.

<table>
<thead>
<tr>
<th>Assignment</th>
<th>Percent of Grade</th>
<th>Due Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Briefing Paper 1: Digital Image Capture</td>
<td>10%</td>
<td>September 10</td>
</tr>
<tr>
<td>Briefing Paper 2: Needs Assessment</td>
<td>15%</td>
<td>October 1</td>
</tr>
<tr>
<td>Briefing Paper 3: Position Statement</td>
<td>15%</td>
<td>October 20</td>
</tr>
<tr>
<td>Grant Progress Report</td>
<td>5%</td>
<td>September 28-October 2</td>
</tr>
<tr>
<td>Grant Presentation</td>
<td>10%</td>
<td>November 17 or 19</td>
</tr>
<tr>
<td>Grant Proposal</td>
<td>30%</td>
<td>November 24</td>
</tr>
<tr>
<td>Grant Evaluation</td>
<td>5%</td>
<td>December 3</td>
</tr>
<tr>
<td>Class Participation</td>
<td>10%</td>
<td>On-going</td>
</tr>
</tbody>
</table>
A summary of each of the assignments is below; for more detailed descriptions of the Briefing Paper assignments and the overall Grant Assignment (Progress Report, Presentation, Proposal, and Evaluation), see the Detailed Course Assignments handout.

Briefing Papers
The Briefing Paper assignments are designed to allow students to apply some of the concepts and challenges discussed in the course:

- For Briefing Paper 1, students will digitally capture two document types and comment on the results and experience.
- For Briefing Paper 2, students will develop a digital repository ingest survey for conducting needs assessments with the producer community.
- For Briefing Paper 3, students will write a short position paper, either pro or con, in response to a contemporary digital preservation issue.

Grant Project
Proposal writing, project design, and project management are some of the most highly sought after skills an information professional can possess today, particularly in the field of digital curation. As a result, this assignment was designed to provide students with experience in project planning and grant-writing. Project planning and proposal writing is not an individual task; rather it necessitates a collaborative, team-approach. For this assignment, students will form teams of five, and select from a list of actual proposed projects, working with real-life practitioners, to prepare a submission-worthy grant proposal. The semester-long, team project will be evaluated at four stages: 1) Progress Report, establishing your work plan and task assignments for completing your team’s grant proposal; 2) Grant Presentation, a 15 minute group presentation of your team’s grant proposal to your classmates, with five minutes for Q&A; 3) your team’s completed Grant Proposal; and 4) Grant Evaluation, in which you will review and evaluate the grant proposals submitted by your classmates.

Class Participation
Students are expected to participate in class discussions on the readings and webcasts and to pose questions about those readings and about the course content. The purpose of the discussions is to help students to think critically about issues and challenges related to digital preservation and access, and to address ways that the literature may affect practice. Your responsibilities are to be prepared for class each day through reading and reflecting on the required readings assigned for that particular session. It is also helpful, when preparing for class, to consider how that session’s particular theme and readings may apply to your area of professional interest. In addition to participating in in-class discussions, you are also encouraged to initiate and/or continue discussions on the appropriate forum on Blackboard, under the “Discussion Board.” You are also encouraged to share current news and events you find informative to issues of digital preservation and access, both in-class as well as on Blackboard. See Class Rules, below, for additional guidance on class participation.

Grading Scale
Graduate Grading Scale

- H (95-100): "Clear excellence", above and beyond what is required
- P (80-94): Entirely satisfactory; SILS recognizes subtle levels of "satisfactory" since most grades tend to cluster here:
  - P+ (91-94): All requirements satisfied at highest quality
  - P (85-90): All requirements satisfied at entirely acceptable, above average level
Please note that any questions concerning the grading scale or any specific grade that you may receive on an assignment should be discussed first with the instructor. If you remain dissatisfied, then you may refer to the appeals process in the Graduate Handbook.

Honor Code and Class Conduct
This class follows the UNC Honor Code. Information on the Honor Code can be found at: http://honor.unc.edu/. Students are encouraged to become familiar with the UNC Honor Code to understand the rights and responsibilities defined there. The UNC Honor Code prohibits giving or receiving unauthorized aid on examinations or in the completion of assignments. *Whenever you use the words or ideas of others, this should be properly quoted and cited.* You should adopt a style guide – e.g., American Psychological Association (preferred), Chicago Manual of Style, MLA, or Turabian – and use it consistently. Students who are discovered attempting to take credit for work performed by others will be referred to the Honor Court for resolution.

Class Policies:

- Be considerate of others in using reserve and other materials, returning them promptly and in good condition.
- Be considerate of your classmates by arriving to class on time, with cell phones turned off for the duration of the class period. Unexcused/unexplained tardiness may impact your class participation grade.
- Additionally, be considerate of your classmates by informing instructor of any planned absences. Unexcused/unexplained absences may impact your class participation grade.
- Be prepared for each class by completing the assigned reading, enabling you to ask questions and participate in class discussion.
- Be an active and positive participant in class, characterized as:
  - Having a clear command of the readings for the day;
  - Sharing analyses and opinions based on the readings;
  - Allowing other students the opportunity to participate; and
  - Freely agreeing and disagreeing with others when warranted.
- Please note: An intellectual exchange of ideas is the cornerstone of education, but any criticism should be limited to an idea and not the person specifically.
- Turn in assignments by or at the beginning of the class session on which the assignment is due.
Course Outline

THEME: COURSE OVERVIEW
(Session 1)

1) Tuesday, August 25, 2009: Introduction to Course

Objectives:
- Students will be able to identify goals of the course and understand requirements, readings, assignments, and expectations.
- Students will be able to identify framework for course, based on:
  - Digital Curation Lifecycle Model: http://www.dcc.ac.uk/docs/publications/DCCLifecycle.pdf

In-Class:
- View the video, Digital Preservation and Nuclear Disaster: An Animation: http://www.youtube.com/watch?v=pbBa6Oam7-w

THEME: PREREQUISITE KNOWLEDGE
(Sessions 2-3)

2) Thursday, August 27, 2009: Permanence, Terminology and Fundamental Concepts

Objective:
- Students will be able to define digital preservation and curation terminology and identify fundamental concepts, with a focus on the notion of “permanence.”

Required Reading for Today:
- Digital Curation Centre (DCC). Glossary of Terms (on Digital Curation). http://www.dcc.ac.uk/resource/glossary/
3) Tuesday, September 1, 2009: History of Information and Communication Technologies

Objective:
• Students will be able to identify milestones in information and communication technology development, and emerging call for digital preservation solutions.

Required Reading/Viewing for Today:
• View the video, Information R/Evolution video: [http://www.youtube.com/watch?v=-4CV05HyAbM&feature=related](http://www.youtube.com/watch?v=-4CV05HyAbM&feature=related)

---

THEME: GROUP PROJECT PREPARATION
(Session 4)

4) Thursday, September 3, 2009: Grant-Writing and Funding Resources

Objective:
• Students will be able to describe the attributes and requirements for creating a compliant grant proposal, focused on four major areas: defining the project; planning the project; doing the project; and writing the grant application.

Required Reading for Today:

Optional Readings:

Future Reference (for Group Grant Project work):
THEME: MANDATES, VALUES, AND PRINCIPLES  
(Sessions 5-6)

5) Tuesday, September 8, 2009: Long-Term Digital Preservation: Part I

Objective:
• Students will be able to describe seminal works describing the historical impetus for programmatic, digital preservation approaches, and recommendations for planning and implementation.

Required Reading for Today:

Optional Readings:
  http://www.nyu.edu/its/humanities/ninchguide/XIV/
• UNESCO. “Charter on the Preservation of the Digital Heritage.”  

In-Class:
• Create groups of 5 for Group Grant Project. Inform instructor of members so group page may be created in Blackboard to facilitate your group’s activities.

6) Thursday, September 10, 2009: Long-Term Digital Preservation: Part II

*** Due Today: Briefing Paper One: Digital Image Capture

Objective:
• Students will be able to identify and discuss seminal works describing the contemporary issues and challenges of digital preservation.

Required Reading for Today:
  http://www.digitalpreservationeurope.eu/publications/position/Ross_Harvey_black_hole_PPP.pdf

Optional Readings:

THEME: TYPE OF RESOURCE
(Sessions 7-8)

7) Tuesday, September 15, 2009: Standards, Storage Media, and File Formats

Objective:
• Students will be able to identify key standards, file format and storage media considerations for creating durable digital objects.

Required Reading for Today:

File Formats
• “Recommended Data Formats for Preservation Purposes in the FCLA Digital Archive.” http://www.fcla.edu/digitalArchive/pdfs/recFormats.pdf

Storage Media
Standards:

Optional Readings:

File Formats

Storage Media

Standards

*Note: Also see Course Supplement for listing of standards bodies and file format registries.*

In-Class:
- View the video, Keeping Up With Data Rot. [http://www.cbsnews.com/video/watch/?id=4836762n](http://www.cbsnews.com/video/watch/?id=4836762n)
8) Thursday, September 17, 2009: Best Practices for Creating Digital Objects

Objectives:
- Students will be able to identify best practices and standards for creating durable digital objects.
- Students will be able to discuss motivations for digitization projects, as well as challenges.

Required Reading for Today:
  [http://www.library.cornell.edu/preservation/tutorial/contents.html](http://www.library.cornell.edu/preservation/tutorial/contents.html)
- NCECHO. “Chapter 4: Digital Production.” In *Guidelines for Digitization*.
- NINCH. “Chapter I: Introduction,” and “Chapter V: Digitization and Encoding of Text.” In *NINCH Guide to Good Practice*.

Optional Readings:
- Library of Congress. “Steps in Digitization”
  [http://lcweb2.loc.gov/ammem/award/docs/stepsdig.html](http://lcweb2.loc.gov/ammem/award/docs/stepsdig.html)
  [http://www.loc.gov/rr/print/tp/LookForAScanner.pdf](http://www.loc.gov/rr/print/tp/LookForAScanner.pdf)

---

THEME: TRANSITION POINT IN INFORMATION CONTINUUM
(Sessions 9-11)

9) Tuesday, September 22, 2009: Open Archival Information System (OAIS) and the Producer-Archive Interface Methodology Abstract Standard (PAIMAS)

Objectives:
- Students will be able to identify and describe functional components and stakeholder roles of the OAIS Reference Model.
- Specifically, students will be able to describe key considerations to be negotiated at the ingest stage.

Required Reading for Today:


10) Thursday, September 24, 2009: Digital Preservation in Practice: Guest Speaker Panel of Local Experts in Digital Preservation and Access

Objectives:
• Students will be able to engage with local practitioners working in the areas of digitization, digital preservation, digital access, and use/reuse.
• Students will learn about the requirements for the Professional Field Experience Program at SILS.

Required Reading for Today:
Please browse the following websites to become more familiar with a few of our guest speakers:
• Papyri.info. http://www.papyri.info/
• Classroom Resources. http://docsouth.unc.edu/classroom/

*** September 28- October 2, 2009: Meet with Instructor Regarding Group Grant Project ***
Grant Progress Report Due at Meeting

11) Tuesday, September 29, 2009: Trusted Digital Repositories

Objectives:
• Students will be able to describe what is meant by “trusted” in relation to digital preservation repositories.
• Students will be able to identify current audit and certification initiatives, and describe essential criteria for establishing and evidencing trust.

Required Reading for Today:

Optional Readings:

---

**THEME: PROFESSIONAL, DISCIPLINARY, INSTITUTIONAL, ORGANIZATIONAL OR CULTURAL CONTEXT**
(Sessions 12-14)

12) Thursday, October 1, 2009: Institutional Repositories

*** Due Today: Briefing Paper 2: Needs Assessment

Objectives:

- Students will be able to describe the current institutional repository (IR) landscape, and define and distinguish IRs from other types of digital repositories.
- Students will be able to discuss best practices for developing institutional repositories, as well as issues and challenges in planning and deployment.

Required Reading /Viewing for Today:


Optional Readings:

  http://www.dlib.org/dlib/september05/lynch/09lynch.html
  http://www.dlib.org/dlib/september05/westrienen/09westrienen.html

In-Class:
• Assign dates for group grant presentation (November 17, and 19).

13) Tuesday, October 6, 2009: iRODS: Guest Lecture by Dr. Richard Marciano

Objectives:
• Students will be able to define a distributed custodial framework for digital preservation.
• Specifically, students will be able to describe key features of iRODS, the Integrated Rule-Oriented Data System.

Required Readings for Today:

14) Thursday, October 8, 2009: Institutional Readiness for Preservation

Objectives:
• Students will be able to discuss the necessary infrastructures (technological and organizational), and resource framework required for digital preservation programs.
• Further, students will be able to identify functional competencies required to initiate, plan, implement, and manage these programs.

Required Reading for Today:
• Cornell University Library. “Digital Preservation Management: Implementing Short-Term Strategies for Long-Term Problems.”
  http://www.library.cornell.edu/iris/tutorial/dpm/eng_index.html. Please complete 5: Challenges; 6: Program Elements; and Conclusion.
  http://www.erpanet.org/guidance/docs/ERPANETPolicyTool.pdf
  http://library.oclc.org/cdm4/item_viewer.php?CISOROOT=/p267701coll33&CISOPTR=71
Optional Readings:

---

**THEME: FUNCTIONS AND SKILLS**
*(Sessions 15-23, 26, 28)*

**15) Tuesday, October 13, 2009: Project Planning and Workflows**

Objective:
- Students will be able to identify and describe critical steps in digital preservation project planning, as well as be able to discuss best practices in designing project workflows.

**Required Readings for Today:**

**Optional Readings:**
16) Thursday, October 15, 2009: Digital Preservation Approaches

Objectives:
- Students will be able to describe the core goals of digital preservation.
- Students will be able to define and distinguish between active and passive approaches to preservation.

Required Readings for Today:

Optional Readings:
- CAMiLEON. “BBC Domesday (Proof of Concept Case Study).” [http://www.si.umich.edu/CAMILEON/domesday/domesday.html](http://www.si.umich.edu/CAMILEON/domesday/domesday.html)

In-Class:
View the video, LOCKSS. [http://www.youtube.com/watch?v=TOE_Jw23cVg&feature=channel](http://www.youtube.com/watch?v=TOE_Jw23cVg&feature=channel)
17) Tuesday, October 20, 2009: How Much Does This All Cost?

*** Due Today: Briefing Paper 3: Position Paper

Objective:

Students will be able to identify and discuss criteria for assessing costs of digital preservation, from planning through program stage.

Required Readings for Today:


Optional Readings:


*** THURSDAY, OCTOBER 22, 2009: NO CLASS (FALL BREAK) ***
18) Tuesday, October 27, 2009: Authenticity

Objectives:
• Students will be able to describe what is meant by “authenticity” in relation to digital objects.
• Students will be able to discuss challenges and issues associated with authenticity in a digital environment, and identify emerging best practices in response to these challenges.

Required Readings for Today:
• DigiCULT. Integrity and Authenticity of Digital Cultural Heritage Objects: Thematic Issue #1, 2002. http://www.digicult.info/downloads/thematic_issue_1_final.pdf Scan all; read Ross (pp. 6-8).

Optional Readings:
• Characteristics of Archival Documents. UCL. SLAIS. http://www.ucl.ac.uk/~uczcw09/appraisl/characs.htm

19) Tuesday, October 29, 2009: Ethics in Digital Preservation: Guest Lecture by Dr. Cal Lee

Objectives:
• Students will be able to identify and discuss ethically-sound decision making for digital preservation program planning and implementation.

Required Readings for Today:
  Note: Additional reading(s) to be announced.

20) Tuesday, November 3, 2009: Selection and Appraisal

Objectives:
• Students will be able to define key terms in relation to selecting and appraising digital objects for digitization and preservation.
• Students will be able to discuss criteria and approaches for selection and appraisal.
Required Readings for Today:


Optional Readings:

21) Thursday, November 5, 2009: Copyright and Rights Management

Objectives:
- Students will be able to describe the implications of copyright law, and other intellectual property rights, on digital preservation and access.
- Students will be able to identify the six exclusive rights of copyright holders, and exemptions to these rights, including those granted to libraries as well as the fair use exemption.

Required Readings for Today:
- Copyright Slide Ruler. http://www.librarycopyright.net/digitalslider/

Optional Readings:
- Sherpa/RoMEo. “Publisher Copyright Policies and Self-Archiving.” http://www.sherpa.ac.uk/romeo.php
- Stanford University. Copyright Renewal Database. http://collections.stanford.edu/copyrightrenewals/bin/page?forward=home
22) Tuesday, November 10, 2009: Metadata for Access, Management and Preservation

Objectives:
- Students will be able to define and distinguish between different types of metadata (e.g., descriptive, structural, and administrative).
- Students will be able to identify dominant metadata schemes used in digital preservation repositories, and best practices for creating sound metadata for digital objects.

Required Readings for Today:

Optional Readings:
- OCLC Website for Dublin Core materials: [http://dublincore.org/]

23) Thursday, November 12, 2009: Risk Management and Evaluation

Objectives:
- Students will be able to describe risk criteria and current guidelines for identifying and evaluating risks at the management level.
- Students will be able to discuss criteria and strategies for evaluating digital preservation programs at the consumer level.
Required Readings for Today:

Risk Management

Evaluation

Optional Readings:

Risk Management

24) Tuesday, November 17, 2009: Grant Project Presentations (3 Groups)

25) Thursday, November 19, 2009: Grant Project Presentations (3 Groups)

26) Tuesday, November 24, 2009: Sustainability and Future Directions

*** Due Today: Grant Proposal

Objectives:
- Students will be able to discuss strategic approaches to sustaining digital preservation programs.
- Students will be able to identify key areas for future research in digital preservation and access.

Required Reading:

*** Thursday, November 26, 2009: NO CLASS (Holiday) ***

27) Tuesday, December 1, 2009: Grant Review Work Period

Note: Class will not meet today; however, you are to use the regular class time to complete your evaluations of grant proposals (See Detailed Course Assignment handout for details).

28) Thursday, December 3, 2009: Self-Directed Study: OCR and Encoding

*** Due Today: Grant Evaluations

Note: Class will not meet today; however, you are to use the time for self-directed study on Optical Character Recognition (OCR) and Encoding. Please read the following. We will not be discussing these in class, but you are still expected to have a foundation in these areas. A discussion thread on Blackboard will be posted for you to share reflections, comments and questions raised with your classmates.

Required Readings for Self-Directed Study:

Optional Readings:
• See the OASIS SGML/XML Web Page by Robin Cover for extensive explanations, bibliographies, standards, and position papers at: http://www.oasis-open.org/cover/xml.html.

29) Tuesday, December 8, 2009: Wrap-Up and Grant Evaluations

Note: This is our final session; we will also be discussing the class evaluations of the grant proposals. No required readings for today.