INLS 752: Digital Preservation and Access

The Instructors.

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Office Hours.

I will be available most of the time if you make an appointment, but will probably not be in in the mornings. Feel free to call me at home in the evening before 9:00 PM and send me email at any time.

Course Timeline.

First Class: Monday, August 10, 2020
Last Class: Monday, November 16, 2020
Final Project Due: Friday, November 20, 2020 (OR BEFORE!!!)

Brief 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 & challenge of long-term digital preservation and curation; creating durable digital objects, approaches to preservation; development of institutional repositories; image processing; selecting materials for digitization and managing digitization projects; resource allocation and costing, risk management, digitization and metadata; rights management and other legal and ethical issues; digital asset management; standards; file formats; quality control; funding for developing and sustaining digitization projects and programs; and trusted repositories.

Goals and Objectives.

By the end of the course, the student 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.
- Understand the digital curation lifecycle from conceptualization through disposition.
- Understand the primary issues and challenges with digital preservation and curation activities.
- Demonstrate familiarity with a variety of digital preservation and curation projects worldwide.
- Identify standards that are important to the digital curation lifecycle.
Identify best practice guidelines and organizations that are creating them for digitization and digital preservation.

Discuss the OAIS model and how it fits into the trusted digital repository movement.

Discuss what makes a repository “trustworthy.”

Identify tools and standards for audit and certification of digital repositories.

Be familiar with the development of institutional repositories.

Discuss the digitization workflow and all the steps involved in major digitization projects.

Be familiar with the development of institutional repositories.

Select materials for digitization projects and provide sound justifications for these selections.

Select and justify standards and benchmarks for a given digitization project.

Create appropriate metadata for digital objects for access, management, and preservation purposes.

Determine the costs of digitization projects and plan appropriate facilities and resources.

Understand how to manage a digitization project including assessing risk and establishing a quality control program.

Write a well-argued and constructed grant proposal for a digitization, repository building, or digital preservation project.

Assignments & Evaluation.

<table>
<thead>
<tr>
<th>Assignment</th>
<th>% of Grade</th>
<th>Due Date</th>
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<tbody>
<tr>
<td>Five to Ten Minute Madness Presentation</td>
<td>5%</td>
<td>August 17</td>
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<tr>
<td>First Grant Discussion with Instructor</td>
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<td>By August 30</td>
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<tr>
<td>Preliminary Report on Grant Application &amp; Meeting with Instructor</td>
<td>5%</td>
<td>By September 20</td>
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<tr>
<td>Preservation Landscape Presentation</td>
<td>5%</td>
<td>September 28</td>
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<tr>
<td>Interview Report</td>
<td>15%</td>
<td>October 20</td>
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<tr>
<td>Digital Curation Scenario Presentations</td>
<td>10%</td>
<td>October 26</td>
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<tr>
<td>Grant Presentation</td>
<td>10%</td>
<td>November 9</td>
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<tr>
<td>Culminating DTIR Exercise</td>
<td>10%</td>
<td>November 16</td>
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<tr>
<td>Grant Peer Review</td>
<td>5%</td>
<td>November 13</td>
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<tr>
<td>Grant Proposal</td>
<td>25%</td>
<td>November 20</td>
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<tr>
<td>Class Participation</td>
<td>10%</td>
<td>Ongoing</td>
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<td><strong>Total</strong></td>
<td><strong>100%</strong></td>
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A summary of each of the assignments is below; for more detailed descriptions of the Interview Paper and the overall Grant Assignment (Progress Report, Presentation, and Proposal), see the Detailed Course Assignments attachments in Sakai.
Five – Ten Minute Madness
This assignment is designed to 1) get you into the day-to-day realities of digital curation issues and see how these apply in the workplace; and 2) give you experience presenting to a group. As a member of the Disco Tech Institutional Repository (DTIR) team you will present on current perspectives in the media regarding digital preservation to your colleagues. Find an item in the popular press (newspaper, magazine, blog, etc.) that discusses some aspects of digital preservation or curation and create a 5-10-minute presentation/discussion.

Preservation Landscape
Each student will present on a national or international research/development project in digital curation or preservation. Everyone will make 5-10-minute presentation/discussion with a few slides.

Interview Report
For this paper, students will contact a library, archives, or museum professional who is working on digitization, institutional repositories, or other digital preservation and access projects and interview them regarding “lessons learned” and write this up as a brief paper.

Digital Curation Scenarios
The intent of this assignment is to introduce real world, practice-based digital curation challenges and issues. Each entry presents a specific scenario. Several of these are derived from Curate: The Digital Curator Game. Working in groups, students will select a scenario, prepare a brief written response, and present this to the class.

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 four or five. A classmate or I will provide proposed projects and each team will prepare a submission-worthy grant proposal. The semester-long, team project will be evaluated at three stages: 1) Progress Report, establishing your work plan and task assignments for completing your team’s grant proposal; 2) Grant Presentation, a 20-minute group presentation of your team’s grant proposal to your classmates (November 19), with five minutes for Q&A; and 3) your team’s completed Grant Proposal.

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 session. It is also helpful, when preparing for class, to consider how that session’s theme and readings may apply to your area of professional interest. 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 Sakai. See Class Policies, below, for additional guidance on class participation.

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1 For the game, see: http://www.digcur-education.org/eng/Resources/CURATE-Game
Assignment Nomenclature
Please turn in all assignment through Sakai and provide a printed version in class. For all assignments please save your file as “lastname_assignment_752.docx”. All assignments should be turned in as word documents if possible. Please put your name on the top of each page of your assignments as well and number the pages.

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:
• L (70-79): Low passing
• F (< 70): Failed
• IN: Work incomplete (only given under extreme circumstances, such as serious illness)

Penalty for Late Assignments.
I expect assignments to be passed in on time. This is important for at least two reasons: 1) the need to meet deadlines is a reality of professional life, and 2) giving some people more time for an assignment than others in the class is not equitable. However, life happens to all of us at one time or another. If you cannot meet an assignment deadline, please tell me why PRIOR to class. I will negotiate a new deadline with anyone who has a valid reason for needing this (i.e., NOT “I just didn’t get it done.”). Otherwise, late assignments will drop 2 points for each day late.

Course Activities & Readings.
Course activities include readings, videos, discussion, and assignments. Discussion will take place in the classroom as well as through the class website on Sakai. 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 Sakai.

All required readings are listed in the Course Outline section of this syllabus, as are optional readings for each class session. With the exception of Week 1, 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 interest to you. Required readings are in bold.

Honor Code & 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, 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:
  o Having a clear command of the readings for the day;
  o Sharing analyses and opinions based on the readings;
  o Allowing other students the opportunity to participate; and
  o 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.
1. Introduction & Digital Curation.

Objectives:
- Students will be able to identify goals of the course and understand requirements, readings, assignments, and expectations.
- Students will be able to identify the framework for course, based on:
  - Digital Curation Lifecycle Model: [http://www.dec.ac.uk/docs/publications/DCCLifecycle.pdf](http://www.dec.ac.uk/docs/publications/DCCLifecycle.pdf)
  - OAIS Reference Model:
    - CCSDS 650.0-M-2: Reference Model for an Open Archival Information System (OAIS). Magenta Book. June 2012. [This Recommendation has been adopted as ISO 14721:2003 and is currently under revision.]
      - [http://public.ccsds.org/publications/archive/650x0m2.pdf](http://public.ccsds.org/publications/archive/650x0m2.pdf)

- Introduction to the class, instructors, and students. We will discuss how we want to conduct the class and the nature of the assignments and the expectations of all of us. What do we value in class participation?

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

- Framework for semester. Lifecycle Approach: Overseeing digital assets across their lifecycles from planning and resource allocation through creation, management, delivery, preservation, and reuse. We will talk about the following today but please read/review before next week.

- [DCC Curation Lifecycle Model.](http://www.dec.ac.uk/docs/publications/DCCLifecycle.pdf)

- **Watch:**

- **Edwards, Paul.** “How to Read a Book.”
  [http://pne.people.si.umich.edu/PDF/howtoread.pdf](http://pne.people.si.umich.edu/PDF/howtoread.pdf)

- **What do we mean by “digital preservation & access” and “digital curation”?** See Digital Curation Center (DCC) [http://www.dcc.ac.uk/digital-curation/what-digital-curation](http://www.dcc.ac.uk/digital-curation/what-digital-curation)

- **Discuss class focus on policy, technology, and resources.** Cornell perspective.


- **ASSIGNMENT:** You are a member of the Disco Tech Institutional Repository (DTIR) team. This Thursday you need to present on current perspectives in the media regarding digital preservation to your colleagues. Find an item in the popular press (newspaper, magazine, blog, etc.) that discusses some aspects of digital preservation or curation that you will present to your colleagues in the library. Please send me the title ASAP as we would like everyone to have a unique item so it will be first sent to me first claimed. Please prepare 1-2 PowerPoint slides that summarize the main points of the piece and deposit into the Sakai class drop box by 8:00 AM on Thursday, May 16. Everyone will present on their item for no more than 5 – 10 minutes. We will discuss these at the beginning of the next class. (This is a version of a “Minute Madness” session that is part of many conferences today.)

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**Monday, August 17**

**2A. Disco Tech Library and Institutional Repository.**

We will discuss the staff positions you have developed and will assume throughout the semester.

**2B. Institutional Repositories.**


SPARC. “Repository Resources.” http://www.arl.org/sparc/repositories/


2C. Five to Ten Minute Madness.

Students will present to their peers at Disco Tech re preservation and curation issues.

**ASSIGNMENT:** Create groups of 3-4 for term grant writing project. Select what you would like to do as a group for the project.

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**Monday, August 24**

3A. Grant Writing and Funding Sources.

**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:**
RECOMMENDED:

REFERENCE:
- There are several other books available in the UNC Libraries on grant and proposal writing and in the Bullshead Bookstore (Amazon too!).

3B. Permanence, Terminology, & 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.”

➢ Permanence:

➢ Fundamentals:
Monday, August 31

4A. History of Information and Communication Technologies.

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

- Please read “Setting the Stage,” look at the timeline, and take the timeline quiz.

Data’s Shameful Neglect.” Nature 461/7261 (September 10, 2009).
[http://www.nature.com/nature/journal/v461/n7261/full/461145a.html]

[http://www.economist.com/node/21553410]

4B. Digital Preservation and Curation Challenges and Opportunities.

Objective:
- Students will become familiar with some of the risks involved with digital content and some of the opportunities in the digital preservation field.


- Break into DTIR subgroups and come up with a list of key challenges and opportunities (as portrayed in the “popular” press) based on what you found and what you heard. Each group will present their top 3 items in each category.

- Read any 3 of the following before class today (most items are short) or find a new item and bring to class:

  [http://www.youtube.com/watch?v=PSlMzirvsFc]


Watch:

IDCC15: Tony Hey - Digital Curation: Past, Present and Future. https://www.youtube.com/watch?v=c1j1qMJJ64E

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Monday, September 14


Objective:

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


5B. Digital Preservation & Longevity: Part II.

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


5C. Authenticity.


Meeting with instructor regarding term projects. Preliminary project report due at time of meeting.

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**Monday, September 21**

6A. Institutional Readiness for Repositories.

- Dollar, Charles and Lori Ashley. “Digital Preservation Capability Maturity Model© (DPCMM).” [https://static1.squarespace.com/static/52ebb45c4b06f07f8bb62bd/t/55a7cd87c4b016f840ba1adb/1437068679137/DPCMM+Background+and+Performance+Metrics+v2.7_July+2015.pdf](https://static1.squarespace.com/static/52ebb45c4b06f07f8bb62bd/t/55a7cd87c4b016f840ba1adb/1437068679137/DPCMM+Background+and+Performance+Metrics+v2.7_July+2015.pdf)

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.

Monday, September 28

7A. Digital Preservation Landscape: Research and Practice.

  http://www.digitalpreservation.gov/multimedia/publications.html
  https://www.researchgate.net/publication/31869610_Digital_Preservation_Archival_Science_a
  nd_Methodological_Foundations_for_Digital_Libraries
- Ross, Seamus and Margaret Hedstrom. “Preservation Research and Sustainable Digital
  https://deepblue.lib.umich.edu/handle/2027.42/47875
- Stephan Strodl, Petar Petrov, and Andreas Rauber. “Research on Digital Preservation within
  Projects Co-funded by the European Union in the ICT Programme.” May 2011.
  Read Executive Summary and browse remainder.

- Students will each present on one of these projects – 1-2 slides; 5 minutes.
  - NSF-funded DataNet projects:
    1. Data Conservancy http://dataconservancy.org/
    2. DataOne https://www.dataone.org/
    3. DataNet Federation Consortium (DFC) UNC-Chapel Hill http://datafed.org/ (Talk with
       Drs. Rajasekar and Moore)
    4. TerraPopulus (A global population/environment data network) – University of Minnesota
       http://www.terrapop.org/
    5. SEAD (Sustainable Environment – Actionable Data) – University of Michigan http://sead-
       data.net/
  - European Commission-funded digital preservation projects:
    6. 3D Digitisation of Icons of European Architectural and Archaeological Heritage
       http://3dicons-project.eu/
    7. AXES http://www.axes-project.eu/
    8. Europeana https://www.europeana.eu/portal/
       http://www.openplanetsfoundation.org/
    10. 4C: Collaboration to Clarify the Costs of Curation. http://4cproject.net/
        http://www.diachron-fp7.eu/
        https://www.prestocentre.org/4u/about
    15. tranScriptorium. http://transcriptorium.eu
7B. Standards.

Objective:
- Students will be able to identify key standards for creating durable digital objects.


7C. OAIS.

- The Standard.
  - **CCSDS 650.0-M-2: Reference Model for an Open Archival Information System (OAIS).** Magenta Book. June 2012. [This Recommendation has been adopted as ISO 14721:2012.] [http://public.ccsds.org/publications/archive/650x0m2.pdf](http://public.ccsds.org/publications/archive/650x0m2.pdf)
  - Using and Understanding the Standard.

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**Monday, October 5**


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.


NDLP Project Planning Checklist; http://lcweb2.loc.gov/ammem/prjplan.html


JISC Digital Media. “Project Management for a Digitisation Project.” http://www.jiscdigitalmedia.ac.uk/crossmedia/advice/project-management-for-a-digitisation-project/


Monday, October 12


Objective:

- Students will gain awareness of a variety of metadata standards essential to digital preservation and understand how information professionals are using them.

- Review of various standards (MARC, MODS, METS, DCMI, PREMIS)


Moving Theory into Practice Digital Imaging Tutorial, Chapter 5.
OCLC Website for Dublin Core materials: http://purl.org/DC/

NOTE: See supplement for listing of standards bodies and file format registries.

Monday, October 19

10A. File Formats & Storage.

Objective:

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

File Formats.


Responses to the Technology Watch Report: [http://dablog.ulcc.ac.uk/2009/12/03/ffods/](http://dablog.ulcc.ac.uk/2009/12/03/ffods/) Read the comments, too!


Storage.


DUE: Interview Paper.

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**Monday, October 26**

11A. Selection and Appraisal

**Why Digitize?**


ICPSR. “Selection and Appraisal.” [https://www.icpsr.umich.edu/icpsrweb/content/datamanagement/lifecycle/selection.html](https://www.icpsr.umich.edu/icpsrweb/content/datamanagement/lifecycle/selection.html)


 Outstanding of Selection Principles.


11B. Preservation Scenario Presentations.

11C. Budgeting - How Much Does This All Cost?


11D. Making the Case for Value.


DPC. Digital Preservation Business Case Toolkit.


11E. Project Budgets.

Monday, November 2

12A. Trustworthy Repositories and Evaluation.

- Trust in digital repositories

12B. Approaches to Preservation: Migration, Emulation & Beyond.

- POWRR. Preserving (Digital) Objects With Restricted Resources. [http://digitalpowrr.niu.edu/](http://digitalpowrr.niu.edu/)
Software Preservation Network. EaaS1.
http://www.softwarepreservationnetwork.org/eaasi/


12C. Disaster Planning.


Disaster Planning for Digital Preservation. ICPSR. http://www.icpsr.umich.edu/icpsrweb/ICPSR/curation/disaster/dp-planning.jsp


Monday, November 9

13A. Presentation of Grant Proposals.

13B. Providing Access.

Access, Discovery, Users


Social Networking and Crowdsourcing


Web Analytics

Monday, November 16

14A. Projects to Programs: Policies, Sustainability, and New Directions.


14B. Culminating DTIR Exercise.

14C. Course Recap and Lessons Learned Summary.

14D. Class Evaluations.