S582 Digital Preservation

Spring 2018 Syllabus
January 10 – May 1
Each week begins on Wednesday and ends on Tuesday

Instructor: Lydia Spotts, MLS
Email: lcspotts@iupui.edu
Office Phone: 317-721-1680
Office hours: by appointment

Course Description
This course introduces approaches for preserving digitized and born-digital information (text, images, data, and audiovisual information) for ensuring long-term access and reuse. Topics include promise & challenge of long-term digital preservation and curation; longevity of digital media; integrity and authenticity of digital materials; selection for preservation; formats and strategies for preservation; preservation metadata; risk management; information technologies that are relevant to the digital curation lifecycle; and establishment of trustworthy digital repositories.

General Course Administration
Canvas
Canvas will be an integral part of S582. If you have problems accessing Canvas, please contact the University Information Technology Services (UITS) Support Center at 317-274-HELP. All course announcements and individual communication will be found in Canvas along with the class syllabus, course schedule, assignments, and other course documents.

How we will conduct “Class”
While online courses afford great convenience, they also demand extra effort from both an instructor and students. Because there is no required synchronous face time for lectures, discussions, group work, or other activities, all this must take place through the course site on Canvas. This involves extensive writing and creation of slides, videos, and other media we will use to communicate our ideas and questions. The syllabus, assignments, and many of the readings (unless available online) are posted on Canvas. In each week I will provide guidance on important points and will offer Zoom sessions, but much of the work of the course will take place in the forums via discussion of the readings, videos, and slides, and your own work (discussion, assignments, etc.).

Expectations of Students
Students are expected to complete assignments on time and in the form specified. Students are to inform the instructor before the deadline if unable to complete an assignment. Please use Canvas to email the instructor or the class.
Expectations of Instructor

1. I will post reminders and announcements on the course home page in Canvas for the start of each week.
2. I will return assignments as soon as possible but my goal is at least within a week of the due date.
3. I will endeavor to return emails within 24 hours during the work week (M-F) and by Monday if sent on the weekend. If you don’t hear from me within that time, please send another message.
4. We are collaborators in this course. Please address me by my first name. I will do the same unless you specify otherwise.

Teaching and Learning Methods

Active learning (AL), project-based learning (PBL), multi-media content, notes and presentations by instructor with audiovisual aids, optional web chat sessions, and asynchronous use of Canvas.

Technology requirements for online class

- Internet service provider (ISP). The most important component is a high quality Internet connection. Cable Modem, DSL, ISDN or other high speed, broadband service is strongly recommended. Dial-up modems, while usable, will result in frustrating results during “live” conferencing or other multimedia activities. Using wireless connection when signal is weak will cause similar frustrating results.
- Computer Requirements. Students need to have access to a properly functioning computer throughout the semester. Because this is a web-based class, it is assumed that every student has daily, reliable, high-speed Internet access. Lack of access WILL NOT be accepted as an excuse for timely participation or late assignments. You should have access to:
  - A Pentium 4 or later Windows computer with Windows XP or Vista
  - An Apple PowerPC G4 or later Apple computer with Mac OS X 10.5 – Leopard or later
- Note: the use of a tablet or mobile device will not give you all the functionality needed for the course.
- Minimum 2 GB of memory (RAM)
- A current word processing software, latest version of MSWord preferred Note: software downloads free to students at IU Ware (iuware.iu.edu/)
- Sound capability to listen to audio files
- A headset if you are working in a public place to listen to audio files
- Browser Requirements
  - Current versions of Internet Explorer or Firefox for Windows computers
  - Current versions of Firefox, Safari or Chrome for Apple computers
- Software. Student computers need to be capable of running the latest versions of plug-ins, recent software and have the necessary tools to be kept free of viruses and spyware. Some courses require special software that students may have to purchase or check for free access from IUWare. URL: http://iuware.iu.edu/
• Technical Assistance. For help with Canvas technical issues or if you are having difficulty with any of the technology used for the course, check the materials at the IU Knowledge Base page for Canvas (kb.iu.edu/d/bcll)

Readings and Sources
Links are provided to readings as part of citations, or files can be found in Canvas in the modules for each week under a “please read” page. Some student might think this class has heavy reading load, but this is necessary to explore different theories behind preservation, different approaches to preservation, methods, and newly emerging technology, and it is appropriate for graduate level course. It is expected that students will have read the materials every week, as we will be referring to them in discussions, Zoom sessions, and they will enable better outcomes for assigned work.

Required reading materials
• No textbook is used in this class.
• All required and recommended readings are available on the Canvas site for S582 in modules.
• Some readings are available online and URLs are offered in the citations.
• Required readings have been selected to encourage participation in class discussion forums and assignments.

Coursework and Assessment
Grades will be based on class participation: discussions, engagement, and a series of assignments. Readings will provide you the knowledge to make informed decisions and propose solutions for different assignments.

All assigned coursework is due Tuesday 11:59PM on the listed date.

Class discussion
You will be prompted to reflect on the readings via our Canvas discussion forums. Discussions and debates (where you take a stance on a topic) will take place throughout the semester. Each is worth 5 points. Graduate-level student discourse is expected. This refers not only to the quality of your own observations and insights from the readings, but your professional commitment to post and respond to the posts of your colleagues meaningfully and in a timely manner (i.e. do not wait until the very end of the week). There is no length requirement but you should write as much as you need to address the initial discussion prompt and respond thoughtfully to your colleagues insights, while avoiding an essay format. Work on articulating your thoughts concisely in initial posts so people can respond more easily to specific ideas. You can make more than one post if you have multiple ideas and reactions that would engender 4+ long paragraphs—this will hopefully make discussion a bit more organic and dynamic.

In general:
• Initial and response posts are due Tuesday 11:59 PM
• at least one initial post by Monday 11:59 PM
• at least one response post by Tuesday 11:59 PM
• endeavor to post early in the week to allow more time for thoughtful engagement
• The tone of your voice should be similar to the tone you would use in a classroom discussion,
and responses should be placed in the appropriate forum.

- In the class discussion, present more than your opinion. If you present an opinion, present some support from the readings or from other sources that you have discovered (direct quotation is acceptable with appropriate reference information) or logical argument from commonly accepted beliefs. It also applies to your comments to others, and you should “agree” or “disagree” using supporting facts or information new to the discussion.
- Be respectful when you disagree with others. Instead of using a vague statement (e.g., “It could be ...” or “It seems as if”), make strong statement with supporting materials (e.g., literature or your own experiences).

**Zoom sessions**

Several *optional* [Zoom](https://zoom.iu.edu) sessions will be offered throughout the semester. These will typically occur at the start of the week (Wednesday), and may review readings you have just completed, discussion forum exchange, the forthcoming week’s themes, and upcoming assignments. This is an asynchronous class, therefore attendance is not mandatory and I will post recordings of the sessions after they end. *A poll will be sent to determine the best time for a live session so that as many people can attend as possible.*

Tentative sessions for Spring 2018: Week 4, 8, 13

**Assignments**

Assignment details can be found in the Canvas module of the week they are due and are also linked in the Canvas course syllabus assignment summary view.

- Week 1: Introduction & Discussion 1 (5 points)
- Week 2: Discussion 2 (5 points)
- Week 3: Quiz 1 (8 points)
- Week 4: Quiz 2 (8 points)
- Week 5: File Format Assessment (10 points)
- Week 6: Debate 1 (5 points)
- Week 7: No assignment
- Week 8: Significant Property Exercise (9 points)
- Week 9: Video Reflection (3 points)
- Week 10: Spring break (no assignment)
- Week 11: Tool Exploration (12 points)
- Week 12: Discussion 3 (5 points)
- Week 13: Site selection for the final project (Part of final project)
- Week 14: Debate 2 (5 points)
- Week 15: Discussion 4 (5 points)
- Week 16: Final Project (20 points)

**Evaluation**

The final letter grade will be assigned based on the following range with a total of 100 points possible:
<table>
<thead>
<tr>
<th>Points Range</th>
<th>Letter Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>96-100</td>
<td>A</td>
</tr>
<tr>
<td>91-95</td>
<td>A-</td>
</tr>
<tr>
<td>87-90</td>
<td>B+</td>
</tr>
<tr>
<td>83-86</td>
<td>B</td>
</tr>
<tr>
<td>79-82</td>
<td>B-</td>
</tr>
<tr>
<td>76-78</td>
<td>C+</td>
</tr>
<tr>
<td>73-75</td>
<td>C</td>
</tr>
<tr>
<td>69-72</td>
<td>C-</td>
</tr>
<tr>
<td>Below 68</td>
<td>F</td>
</tr>
</tbody>
</table>

The meaning of the letter grades follows the DLIS Grading Policy:

**A:** Outstanding achievement. Student performance demonstrates full command of the course materials and evinces a high level of originality and/or creativity that far surpasses course expectations. The grade of A+ is not granted in DLIS, except in very exceptional cases.

**A-:** Excellent achievement. Student performance demonstrates thorough knowledge of the course materials and exceeds course expectations by completing all requirements in a superior manner.

**B+:** Very good work. Student performance demonstrates above-average comprehension of the course materials and exceeds course expectations on all tasks defined in the course syllabus.

**B:** Good work. Student performance meets designated course expectations, demonstrates understanding of the course materials, and has performed at an acceptable level.

**B-:** Marginal work. Student performance demonstrates incomplete understanding of course materials.

**C+, C, C-:** Unsatisfactory work and inadequate understanding of course materials.

**D+, D, D-:** Unacceptable work; course work completed at this level will not count toward the MLS degree.

**F:** Failing. May result in an overall grade point average below 3.0 and possible removal from the program.

Note: The course instructor will issue the grade F if a student does not finish all required assignments.

A final grade of "I" or "Incomplete" will NOT be given except in extreme situations. Inform the instructor if you are having difficulty completing the requirements of this course.
Course Learning Outcomes

Revised Bloom’s Taxonomy (RBT)
1. **Knowledge/Remembering**: The ability to recall or recognize specific information or data.
2. **Understanding**: Understanding the meaning of informational materials, translation, interpolation and interpretation of instructions and problems.
3. **Application**: The use of previously learned information in new and concrete situations to solve problems that have single or best answers.
4. **Analysis**: Breaks down information/concepts into smaller components. Each component is identified and understood as is the relationship of these components to the whole.
5. **Evaluation**: The ability to apply a criterion or set of standards to conclude a value judgment.
6. **Creation, Synthesis**: The ability to merge knowledge into creating a new meaning or structure including demonstrating how and why various diverse elements work together.

Principles of Graduate and Professional Learning (PGPL)
Learning outcomes are assessed in the following areas:
1. Demonstrate the knowledge and skills needed to meet disciplinary standards of performance, as stated for each individual degree – **Major emphasis**
2. Communicate effectively with their peers, their clientele, and the public – **Moderate emphasis**
3. Think critically and creatively to improve practice in their field – **Some emphasis**
4. Meet all ethical standards established for the discipline

Learning Outcomes Chart

<table>
<thead>
<tr>
<th>Upon completion of this course, students will:</th>
<th>RBT</th>
<th>PGPL</th>
<th>Assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Identify and define the primary considerations in preserving digital media</td>
<td>6</td>
<td>1</td>
<td>D1, D2, Q1 Significant Properties Exercise, D4</td>
</tr>
<tr>
<td>2. Evaluate and select the media and format most appropriate for the long-term storage of digital objects</td>
<td>5</td>
<td>3</td>
<td>File Format Assessment</td>
</tr>
<tr>
<td>3. Evaluate digital preservation strategies, methods, and tools and decide which are appropriate for specific types of content and user communities</td>
<td>6</td>
<td>3</td>
<td>Q2, Tool Exploration, Debate 2, Final Project</td>
</tr>
<tr>
<td>4. Compare and discriminate among the different short-term and long-term strategies for digital preservation, including refreshing, migration, and emulation</td>
<td>5</td>
<td>3</td>
<td>D2, Debate 1</td>
</tr>
<tr>
<td>5. Identify the metadata requirements for preservation of digital resources</td>
<td>3</td>
<td>1</td>
<td>Video Reflection, D3</td>
</tr>
<tr>
<td>6. Evaluate the risks to digital collections and suggest potential solutions for reducing risk</td>
<td>6</td>
<td>3</td>
<td>Q2, Significant Properties Exercise, D3, Debate 2, Final Project</td>
</tr>
<tr>
<td>7. Compare digitization and other reformatting options, recommending the method most</td>
<td>5</td>
<td>3</td>
<td>Debate 1, File Format Assessment</td>
</tr>
</tbody>
</table>
Upon completion of this course, students will:

| suitable to the preservation goals of a project |
| RBT | PGPL | Assessment |

**MLS Program Outcomes**

Develop and Manage Collections of Information Resources

- Manage, evaluate, and preserve physical and virtual collections of information resources
- Uphold ethical and legal standards in acquiring, leasing, preserving, and providing access to information resources

**Core Competencies of Librarianship**

as formulated by the American Library Association were approved and adopted as policy by the ALA Council, January 27 2009. A person graduating from an ALA accredited master’s program in library and information science should know and, where appropriate, be able to employ the following:

2. Information Resources
2A. Concepts and issues related to the lifecycle of recorded knowledge and information, from creation through various stages of use to disposition.
2B. Concepts, issues, and methods related to the acquisition and disposition of resources, including evaluation, selection, purchasing, processing, storing, and de-selection.
2C. Concepts, issues, and methods related to the management of various collections.
2D. Concepts, issues, and methods related to the maintenance of collections, including preservation and conservation.

**Logistics**

Please take time to review the below information with care.

**Master overview of coursework and points values**

<table>
<thead>
<tr>
<th>Week</th>
<th>Description</th>
<th>Assignment</th>
<th>Pts</th>
<th>Due Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Jan 10 - Jan 16</td>
<td>Intro to digital preservation: Dilemmas and critical challenges</td>
<td>1: Intro &amp; Discussion</td>
<td>5</td>
</tr>
<tr>
<td>2</td>
<td>Jan 17 - Jan 23</td>
<td>Fundamentals of digital preservation 1: Concepts, terminology, and responsibility</td>
<td>2: Discussion 2</td>
<td>5</td>
</tr>
<tr>
<td>3</td>
<td>Jan 24 - Jan 30</td>
<td>Fundamentals of digital preservation 2: Integrity, stability, and authenticity</td>
<td>3: Quiz 1</td>
<td>8</td>
</tr>
<tr>
<td>4</td>
<td>Jan 31 - Feb 6</td>
<td>Digital preservation framework</td>
<td>4: Quiz 2</td>
<td>8</td>
</tr>
<tr>
<td>5</td>
<td>Feb 7 - Feb 13</td>
<td>Understanding the digital object</td>
<td>5: File Format Assessment</td>
<td>10</td>
</tr>
<tr>
<td>6</td>
<td>Feb 14 - Feb 20</td>
<td>Strategies for digital preservation</td>
<td>6: Debate 1</td>
<td>5</td>
</tr>
<tr>
<td>7</td>
<td>Feb 21 - Feb 27</td>
<td>Preservation planning</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Week</td>
<td>Description</td>
<td>Assignment</td>
<td>Pts</td>
<td>Due Date</td>
</tr>
<tr>
<td>------</td>
<td>-----------------------------------------------------------------------------</td>
<td>-----------------------------</td>
<td>-----</td>
<td>----------------</td>
</tr>
<tr>
<td>8</td>
<td>Feb 28 - March 6 Selection and appraisal for preservation &amp; preserving</td>
<td>8: Significant Property</td>
<td>9</td>
<td>2017-03-06</td>
</tr>
<tr>
<td></td>
<td>characteristics</td>
<td>Exercise</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>March 7 - March 13 Preservation metadata</td>
<td>9: Video Reflection</td>
<td>3</td>
<td>2017-03-13</td>
</tr>
<tr>
<td>10</td>
<td>March 14 - March 20 Spring break</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>11</td>
<td>March 21 - March 27 Storage management and digital repository technology</td>
<td>11: Tool Exploration</td>
<td>12</td>
<td>2017-03-27</td>
</tr>
<tr>
<td>12</td>
<td>March 28 - April 3 Trusted repository</td>
<td>12: Discussion 3</td>
<td>5</td>
<td>2017-04-03</td>
</tr>
<tr>
<td>13</td>
<td>April 4 - April 10 Sustainable preservation</td>
<td>13: Site selection for</td>
<td>–</td>
<td>2017-04-10</td>
</tr>
<tr>
<td></td>
<td></td>
<td>final project</td>
<td></td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>April 11 - April 17 Ethical access and use, right management</td>
<td>14: Debate 2</td>
<td>5</td>
<td>2017-04-17</td>
</tr>
<tr>
<td>15</td>
<td>April 18 - April 24 Future of digital preservation</td>
<td>15: Discussion 4</td>
<td>5</td>
<td>2017-04-24</td>
</tr>
<tr>
<td>16</td>
<td>April 25 – May 1 Free week-Final project!</td>
<td>16: Final Project:</td>
<td>20</td>
<td>2017-05-01</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Repository Assessment</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**TOTAL 100**

**Citation (style)**

Students in this course must **format all citations** in written work using the American Psychological Association Publication Manual. In discussion forums, you may refer to course readings simply by author’s last name and date. If you reference an additional resource in a discussion, please cite it and provide a link for your colleagues.

**Turning in Work**

Unless it is built into Canvas (e.g. a quiz or discussion), all written assignments are to be turned in via Canvas using the following formats: .doc, .docx, .xlsx. **Please put your last name and assignment name in the file name.** The assignment description and upload function can be found in the module the week it is due.

Video reflections can be recorded with Zoom (zoom.iu.edu). Instructions are available via IU’s Knowledge Base (kb.iu.edu/d/bfqu).

**Late Submissions**

In fairness to students who turn in assignments on time, late assignments will be penalized. The earned grade will be lowered one grade level (e.g., from A- to B+) for each day that the assignment is late. **All assignments must be turned in by the close of class on May 2.**

**Code of Conduct**

All students should aspire to the highest standards of academic integrity. Using another student’s work
on an assignment, cheating on a test, not quoting or citing references correctly, or any other form of dishonesty or plagiarism shall result in a grade of zero on the item and possibly an F in the course. Incidences of academic misconduct shall be referred to the Department Chair and repeated violations shall result in dismissal from the program.

All students are responsible for reading, understanding, and applying the Code of Student Rights, Responsibilities and Conduct and in particular the section on academic misconduct. Refer to The Code of Student Rights (studentcode.iu.edu/)

All students must also successfully complete the Indiana University Department of Education “How to Recognize Plagiarism” Tutorials and Tests (www.indiana.edu/~academy/firstPrinciples/)

You must document the difference between your writing and that of others. Use quotation marks in addition to a citation, page number, and reference whenever writing someone else’s words (e.g., following the Publication Manual of the American Psychological Association). To detect plagiarism instructors apply a range of methods.

Academic Misconduct

1. Cheating: Cheating is considered to be an attempt to use or provide unauthorized assistance, materials, information, or study aids in any form and in any academic exercise or environment.
   a. A student must not use external assistance on any “in-class” or “take-home” examination, unless the instructor specifically has authorized external assistance. This prohibition includes, but is not limited to, the use of tutors, books, notes, calculators, computers, and wireless communication devices.
   b. A student must not use another person as a substitute in the taking of an examination or quiz, nor allow other persons to conduct research or to prepare work, without advanced authorization from the instructor to whom the work is being submitted.
   c. A student must not use materials from a commercial term paper company, files of papers prepared by other persons, or submit documents found on the Internet.
   d. A student must not collaborate with other persons on a particular project and submit a copy of a written report that is represented explicitly or implicitly as the student’s individual work.
   e. A student must not use any unauthorized assistance in a laboratory, at a computer terminal, or on fieldwork.
   f. A student must not steal examinations or other course materials, including but not limited to, physical copies and photographic or electronic images.
   g. A student must not submit substantial portions of the same academic work for credit or honors more than once without permission of the instructor or program to whom the work is being submitted.
   h. A student must not, without authorization, alter a grade or score in any way, nor alter answers on a returned exam or assignment for credit.

2. Fabrication: A student must not falsify or invent any information or data in an academic exercise including, but not limited to, records or reports, laboratory results, and citation to the sources of information.

3. Plagiarism: Plagiarism is defined as presenting someone else’s work, including the work of other students, as one’s own. Any ideas or materials taken from another source for either written or oral use must be fully acknowledged, unless the information is common knowledge. What is considered “common knowledge” may differ from course to course.
   a. A student must not adopt or reproduce ideas, opinions, theories, formulas, graphics, or pictures of another person without acknowledgment.
b. A student must give credit to the originality of others and acknowledge indebtedness whenever:
   1. directly quoting another person’s actual words, whether oral or written;
   2. using another person’s ideas, opinions, or theories;
   3. paraphrasing the words, ideas, opinions, or theories of others, whether oral or written;
   4. borrowing facts, statistics, or illustrative material; or
   5. offering materials assembled or collected by others in the form of projects or collections without acknowledgment

4. **Interference:** A student must not steal, change, destroy, or impede another student’s work, nor should the student unjustly attempt, through a bribe, a promise of favors or threats, to affect any student’s grade or the evaluation of academic performance. Impeding another student’s work includes, but is not limited to, the theft, defacement, or mutilation of resources so as to deprive others of the information they contain.

5. **Violation of Course Rules:** A student must not violate course rules established by a department, the course syllabus, verbal or written instructions, or the course materials that are rationally related to the content of the course or to the enhancement of the learning process in the course.

6. **Facilitating Academic Dishonesty:** A student must not intentionally or knowingly help or attempt to help another student to commit an act of academic misconduct, nor allow another student to use his or her work or resources to commit an act of misconduct.

**Other Policies**

1. **Administrative withdrawal:** A basic requirement of this course is that students complete all required course activities. If a student is unable to attend, participate in, or complete an assignment on time, it is the student’s responsibility to inform the instructor. If a student misses more than half of the required activities within the first 25% of the course without contacting the instructor, the student may be administratively withdrawn from this course. Administrative withdrawal may have academic, financial, and financial aid implications. Administrative withdrawal will take place after the full refund period, and a student who has been administratively withdrawn from a course is ineligible for a tuition refund. Contact the instructor with questions concerning administrative withdrawal. Learn more at [IUPUI Administrative Withdrawal Policy](registrar.iupui.edu/withdrawal-policy.html)

2. **Civility:** To maintain an effective and inclusive learning environment, it is important to be an attentive and respectful participant in all course exercises. IUPUI nurtures and promotes “a campus climate that seeks, values, and cultivates diversity in all of its forms and that provides conditions necessary for all campus community members to feel welcomed, supported, included, and valued” (IUPUI Strategic Initiative 9). IUPUI prohibits “discrimination against anyone for reasons of race, color, religion, national origin, sex, sexual orientation, marital status, age, disability, or veteran status” (Office of Equal Opportunity). Profanity or derogatory comments about the instructor, fellow students, invited speakers, or any members of the campus community shall not be tolerated. A violation of this rule shall result in a warning and, if the offense continues, possible disciplinary action.

3. **Communication:** For online courses, the instructor or teaching assistant should respond to emails within two Indiana University working days, which excludes weekends and holidays. The instructor should accept appointments for face-to-face, telephone, or teleconferenced meetings, and announce periods of extended absence in advance.

4. **Counseling and Psychological Services (CAPS):** Students seeking counseling or other psychological
services should contact the CAPS office at 274-2548 or capsindy@iupui.edu. For more information visit the CAPS website (studentaffairs.iupui.edu/health-wellness/counseling-psychology/)

5. **Course evaluations:** Course evaluations provide vital information for improving the quality of courses and programs. Students are not required to complete a course or instructor evaluation for any section in which they are enrolled at the School of Informatics and Computing. Course evaluations are completed in Canvas (Course Questionnaire). Course evaluations are open from the eleventh week. Course evaluations are anonymous, which means that no one can view the name of the student completing the evaluation. In addition, no one can view the evaluation itself until after the instructor has submitted the final grades for the course. In small sections, demographic information should be left blank, if it could be used to identify the student.

6. **Disabilities policy:** In compliance with the Americans with Disabilities Act (ADA), all qualified students enrolled in this course are entitled to reasonable accommodations. Please notify the instructor during the first week of class of accommodations needed for the course. Students requiring accommodations because of a disability must register with Adaptive Educational Services (AES) and complete the appropriate AES-issued before receiving accommodations. Students with learning disabilities for which accommodations are desired should contact the Adaptive Educational Services office on campus, and inform the instructor as soon as possible: Adaptive Educational Services (AES) (aes.iupui.edu/) 317-274-3241.

7. **Email:** Indiana University uses your IU email account as an official means of communication, and students should check it daily. Although you may have your IU email forwarded to an outside email account, please email faculty and staff from your IU email account.

8. **Emergency preparedness:** Know what to do in an emergency so that you can protect yourself and others. For more information, visit the emergency management website at Protect IU (protect.iu.edu/emergency)

9. **IUPUI course policies:** Several campus policies governing IUPUI courses may be found at IUPUI Course Policies (registrar.iupui.edu/course_policies.html)

10. **No class attendance without enrollment.** Only those who are officially enrolled in this course may attend class unless enrolled as an auditor or making up an Incomplete by prior arrangement with the instructor. This policy does not apply to those assisting a student with a documented disability, serving in an instructional role, or administrative personnel. See Administrative Policy: No Class Attendance without Official Enrollment (registrar.iupui.edu/official-enrollment-class-attendance.html)

11. **Religious holidays:** Students seeking accommodation for religious observances must submit a request form to the course instructor by the end of the second week of the semester. For information visit IUPUI Policy on Religious Holidays (registrar.iupui.edu/religious.html).

12. **Right to revise:** The instructor reserves the right to make changes to this syllabus as necessary and, in such an event, will notify students of the changes immediately.

13. **Sexual misconduct:** IU does not tolerate sexual harassment or violence. For more information and resources, visit Stop Sexual Violence (stopsexualviolence.iu.edu/)

14. **Student advocate:** The Student Advocate assists students with personal, financial, and academic issues. The Student Advocate is in the Campus Center, Suite 350, and may also be contacted at 317 274-4431 or studvoc@iupui.edu. For more information visit Division of Student Affairs (studentaffairs.iupui.edu/advocate)
IUPUI Course Policies
A number of campus policies governing IUPUI courses may be found at the following link: Course Policies (registrar.iupui.edu/course_policies.html)

See the Important Supplement for IUPUI Syllabi (.pdf). This link is also automatically inserted at the top of the Canvas Syllabus page. This supplement covers:

- IUPUI Policy on Disability Accommodations
- IUPUI Policy on Religious Holidays
- IUPUI Policy on Academic Integrity
- IUPUI Policy on Sexual Misconduct
- Education and Title VI
- Military Related Personnel Statement
- Two-Step Login (Duo)

Mission Statement
The Mission of IUPUI is to provide for its constituents excellence in

- Teaching and Learning;
- Research, Scholarship, and Creative Activity; and
- Civic Engagement.

With each of these core activities characterized by

- Collaboration within and across disciplines and with the community;
- A commitment to ensuring diversity; and
- Pursuit of best practices.

IUPUI’s mission is derived from and aligned with the principal components—Communities of Learning, Responsibilities of Excellence, Accountability and Best Practices—of Indiana University’s Strategic Directions Charter.

Statement of Values
IUPUI values the commitment of students to learning; of faculty to the highest standards of teaching, scholarship, and service; and of staff to the highest standards of service. IUPUI recognizes students as partners in learning. IUPUI values the opportunities afforded by its location in Indiana’s capital city and is committed to serving the needs of its community. Thus, IUPUI students, faculty, and staff are involved in the community, both to provide educational programs and patient care and to apply learning to community needs through service. As a leader in fostering collaborative relationships, IUPUI values collegiality, cooperation, creativity, innovation, and entrepreneurship as well as honesty, integrity, and support for open inquiry and dissemination of findings. IUPUI is committed to the personal and professional development of its students, faculty, and staff and to continuous improvement of its programs and services.
Course Reading Schedule

If you prefer to print them out or would like to save a copy for future reference, this schedule compiles the reading citations by week, which are listed in each week’s Canvas module. Discussion prompts and assignments are not included. They are all in the Canvas environment by module, and an overview is available in the Canvas course syllabus landing page.

Week 1. Intro to digital preservation: Dilemmas and critical challenges

- What is digital preservation?
- Why should we care about digital preservation?
- How is digital preservation different from simple photocopying or microfilming?

Required reading 1: Please view this introductory video and read the short BBC article on Vint Cerf. The Issues and Advocacy blog posts are best read in chronological order, as Tansey’s is a response to Lyons’.


Required reading 2: Choose 2 of the below listed articles


Please view these two short videos:


Additional reading:

• Rothenberg, J. [archivesnz]. (2012 April 12). *Digital preservation in perspective how far have we come and what’s next*. [http://www.youtube.com/watch?v=2Idbur1qR8I](http://www.youtube.com/watch?v=2Idbur1qR8I)
  ○ Slides at: [http://www.slideshare.net/FuturePerfect_/jeff-rothenberg-digital-preservation-perspective](http://www.slideshare.net/FuturePerfect_/jeff-rothenberg-digital-preservation-perspective)

**Week 2. Fundamentals of digital preservation 1: Concepts, terminology, and responsibility**

• Basic terminology
• Concept of digital longevity
• Who's Responsible for Preserving Digital Material?

**Required reading:**

A quick intro to the terminology [from Cornell University Library, 2000-2003]:


Another good glossary for quick reference:

• *Digital Preservation at Yale University Library: a guide to Digital Preservation resources at Yale University Library and beyond*. [http://guides.library.yale.edu/digitalpreservation/glossary](http://guides.library.yale.edu/digitalpreservation/glossary)

**Additional readings:**

• O'Toole, J. M. (1989). On the idea of permanence. *American Archivist*, 52, 10-25. (This is a classic!)

**Week 3. Fundamentals of digital preservation 2: Integrity, stability, and authenticity**

• Continue the concept of longevity
• Concept of integrity, stability and authenticity
Required reading:


Additional reading:


Week 4. Digital preservation framework

- Open Archival Information System (OAIS) model
- Digital Curation Center (DCC) Curation Lifecycle model

Watch the videos below:

- Open Archival Information Systems Reference Model: [https://www.youtube.com/watch?v=la7mqi5vg4o](https://www.youtube.com/watch?v=la7mqi5vg4o) (8 min)
- SERI Educational Webinar: Introduction to OAIS: [https://www.youtube.com/watch?v=MWITvx5yAEs](https://www.youtube.com/watch?v=MWITvx5yAEs) (40 min)
- What is Digital Curation and Why Should We Care?: [https://www.youtube.com/watch?v=BEf6gDNPPs0&t=902s](https://www.youtube.com/watch?v=BEf6gDNPPs0&t=902s) (only watch from 9:52 to 16:50 which explains DCC Curation Lifecycle model)
- Also review DCC Curation Lifecycle Model at [http://www.dcc.ac.uk/resources/curation-lifecycle-model](http://www.dcc.ac.uk/resources/curation-lifecycle-model)

Required readings:
Lavoie and Higgins are available for you as files in the module, as well as accessible online. It may help to download so you can highlight and make bookmarks for future reference your degree program, and your career.

  [http://dx.doi.org/10.7207/twr14-02](http://dx.doi.org/10.7207/twr14-02)
  [http://dx.doi.org/10.2218/ijdc.v3i1.48](http://dx.doi.org/10.2218/ijdc.v3i1.48)

**Additional reading:**


**Week 5. Understanding the digital object**

- Nature of digital information and media
- Hard drive, digital formats, source code
- File format identification

**Resources and readings listed below are to assist with your file format assessment.**

There is no discussion assignment this week, but you may use the open forum to pose questions or observations to the class after reviewing the resources.

**Required reading:**

- Digital Preservation Coalition, File formats and standards in Digital Preservation Handbook:  
- Digital Preservation Coalition, Fixity and checksums in Digital Preservation Handbook:  
- Digital Preservation Coalition, The 'Bit List' of Digitally Endangered Species  
  [http://dpconline.org/our-work/bit-list](http://dpconline.org/our-work/bit-list)

**General guidance or file format recommendation websites and reports:**

- Sustainability of digital formats: Planning for the Library of Congress:
Helpful background article, written during the framework's development:
http://memory.loc.gov/ammem/techdocs/digform/Formats_IST05_paper.pdf


Florida University. (2012). Recommended data formats for preservation purposes in the Florida Digital Archive.
https://libraries.flvc.org/documents/181844/502298/Recommended+Data+Formats/0b25496f-33ac-4f56-9550-12c34f3d5d7c

Florida Digital Archives site: https://libraries.flvc.org/florida-digital-archive
- Check out some of the other documentation and reports linked on that page
- See preservation levels info: https://support.flvc.org/knowledge-base/kbdw/KBA-01661-X4H8

Evaluation using FDA as starting point:

http://www.dlib.org/dlib/march14/rimkus/03rimkus.html

File format obsolescence:


Identification and validation tools:

https://pdfs.semanticscholar.org/5bcd/a64a9fa9500da423ed7ef5d84e6551cf5a73.pdf


Examples of tools:
See the COPTR registry for comprehensive listing and links. http://coptr.digipres.org/Category:Function
Specific formats, concepts:

Theory


Social Media, software, databases, and VR


Audio, Analog carrier preservation and transfer [FYI. transfer is not a focus of this course]


Additional reading/for future reference:

- Digital Preservation Coalition, Digital forensics in Digital Preservation Handbook:
Readings: Use these readings as a starting point to debate your position in our discussion forums this week. There are some older but still relevant articles. As an emerging library science professional, you are welcome to discover and evaluate, then cite and link to additional sources to make your point.

  o (explore the links from this page about the history and purpose of Lots of Copies Keeps Stuff Safe)

• Castro, R., Faria, L., Becker, C., & Hamm M. (2011). SCAPE (Scalable preservation environments): Identification and selection of large-scale migration tools and services. [http://hdl.handle.net/1822/30697](http://hdl.handle.net/1822/30697)


• Preservation and metadata working group. (2010, December). DataONE preservation strategy document. [https://releases.dataone.org/online/api-documentation-v2.0/design/PreservationStrategy.html](https://releases.dataone.org/online/api-documentation-v2.0/design/PreservationStrategy.html)


**Week 7. Preservation planning**

- Elements of Preservation Programs
- Digital Preservation Program Planning
- Developing Preservation Policy

**Required reading:**

Examples of Digital Preservation Plans and Policies

- Yale University Library: http://web.library.yale.edu/departments/preservation/policies-procedures-guidelines

Digital Preservation Planning Tool

- Plato: http://www ifs.tuwien.ac.at/dp/plato/intro/
- PLANETS: http://www.planets-project.eu/

Additional reading


Week 8. Selection and appraisal for preservation & preserving characteristics

- Selection and appraisal for short-term and long-term retention
- Cost of preservation
Importance of preserving context

Significant properties

Required reading:


Additional reading on selection and appraisal:


Additional reading on Significant properties:


**Significant properties Case studies:**

• *The Significant Properties site* appears inaccessible as of 2017-01; try reading section 3.1 and 3.2 of this 2008 InSPECT project document: [https://www.kdl.kcl.ac.uk/fileadmin/documents/digifutures/materials/preservation/DF09_prsrv_knight-definingSigProperties.pdf](https://www.kdl.kcl.ac.uk/fileadmin/documents/digifutures/materials/preservation/DF09_prsrv_knight-definingSigProperties.pdf)

**Week 9. Preservation metadata**

• Emerging standards and tools for implementation
• Preservation Metadata Implementation Strategies (PREMIS)
• Metadata Encoding Transmission System (METS)

**Watch Video:**

• Digital Preservation Metadata and Improvements to PREMIS in Version 3.0 [https://www.youtube.com/watch?v=WptO1ICV1ZM](https://www.youtube.com/watch?v=WptO1ICV1ZM) (beginning to 37min)

**Required reading:**


Please view:


Preservation metadata resources:

  - A schema for encoding metadata and expressing links between various forms of metadata
- Preservation Metadata for Digital Objects (PMDO): [http://www.oclc.org/content/dam/research/activities/pmwg/presmeta_wp.pdf](http://www.oclc.org/content/dam/research/activities/pmwg/presmeta_wp.pdf)

Additional reading:

Week 10. Spring break

Week 11. Storage management and digital repository technology

- Long-term storage management
- Open source software to support digital preservation activities
- Digital preservation infrastructure
- Fixity check
- Digital forensics

Required reading:

- National Digital Stewardship Alliance. (2014). *What is fixity, and when should I be checking it?: Checking your digital content, an NDSA publication*. Washington, D.C.: NDSA.
- *Brief overview of strategy, workflow, and tools at the Getty* (4 min read)

Repository software:

- DSpace ([http://www.dspace.org](http://www.dspace.org))
- Fedora ([http://www.fedora-commons.org](http://www.fedora-commons.org))
- iRods ([https://irods.org/](https://irods.org/))
- ArchivesSpace ([http://www.archivespace.org](http://www.archivespace.org))

Additional reading:

  o Presentation PDFs and background readings are available on this page. The Brian Wheeler, Indiana University Media Digitization and Preservation Initiative presentation may be of interest.


**Week 12. Trusted repository**

- Concept of Trusted Digital Repositories (TDRs)
- RLG/NARA Trusted Digital Repository (TDR) Certification Checklist

**Required readings:**

    ▪ [This is an evolution of TRAC. I don’t expect you to read entire documents; focus on high level attributes and responsibilities]


**Additional reading:**

Week 13. Sustainable preservation

- Risk management
- Disaster planning
- Economics of digital preservation

Review:

- ICPSR Disaster Planning Resources (skim plans and documents), [http://www.icpsr.umich.edu/icpsrweb/content/datamanagement/disaster/index.html](http://www.icpsr.umich.edu/icpsrweb/content/datamanagement/disaster/index.html)

Required reading:


Additional reading:


**Week 14. Ethical access and use, rights management**

- Ethical access and use of digital content
- Copyright and rights management

**Background:**


**Required reading:**

  - [Read Parts 1, 5, and 6]
  - [Read Access section]

**Additional reading:**


### Week 15. Future of digital preservation


### Week 16. No course readings: Final project