

## **S582 Digital Preservation**

**Spring 2019 Syllabus**

**January 9 – April 30**

**Each week begins on Wednesday and ends on Tuesday**

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### **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 2 weeks 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
  - OR
  - 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](http://iuware.iu.edu/) (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](http://kb.iu.edu/d/bcII) (kb.iu.edu/d/bcII)

## Readings and Sources

Aside from the required textbook, 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, and they will enable better outcomes for assigned work. Often supplemental readings are provided in addition to required articles to provide opportunity to solidify your understanding and further explore subjects.

### Required reading materials

- One textbook is required for this course and is available through commercial online retailers and the [SAA Bookstore](https://saa.archivists.org/store/digital-preservation-essentials/5285/) (https://saa.archivists.org/store/digital-preservation-essentials/5285/ ); \$34.99; PDF and EPUB options available:

Prom, C. J. (Ed.). (2016). *Digital preservation essentials*. Chicago: Society of American Archivists.

- Remaining 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**

Depending on class interest and logistics, *optional* [Zoom](https://zoom.iu.edu) (zoom.iu.edu) sessions may 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.*

### **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. Assignment documents may include additional resources and readings to review in addition to weekly assigned readings.

- 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: Subject selection for 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:

Points Range	Letter Grade
96-100	A
91-95	A-
87-90	B+
83-86	B
79-82	B-
76-78	C+
73-75	C
69-72	C-
Below 68	F

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

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

## 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

Week	Description	Assignment	Pts	Due Date	
1	Jan 9 - Jan 15	Intro to digital preservation: Dilemmas and critical challenges	1: Intro & Discussion	5	2019-01-15
2	Jan 16 - Jan 22	Fundamentals of digital preservation 1: Concepts, terminology, standards, systems	2: Discussion 2	5	2019-01-22
3	Jan 23 - Jan 29	Fundamentals of digital preservation 2: Integrity, stability, and authenticity	3: Quiz 1	8	2019-01-29
4	Jan 30 - Feb 5	Digital preservation framework	4: Quiz 2	8	2019-02-05
5	Feb 6 - Feb 12	Understanding the digital object	5: File Format Assessment	10	2019-02-12
6	Feb 13 - Feb 19	Strategies for digital preservation	6: Debate 1	5	2019-02-19
7	Feb 20 - Feb 26	Preservation planning	–	–	–
8	Feb 27 - March 5	Selection and appraisal for preservation & preserving characteristics	8: Significant Property Exercise	9	2019-03-05
9	March 6 - March 12	Preservation metadata	9: Video Reflection	3	2019-03-12

Week	Description	Assignment	Pts	Due Date	
10	March 13 - March 19	<i>Spring break</i>	NA	NA	
11	March 20 - March 26	Storage management and digital repository technology	11: Tool Exploration	12	2019-03-26
12	March 27 - April 2	Trusted repository	12: Discussion 3	5	2019-04-02
13	April 3 - April 9	Sustainable preservation	13: Subject selection for final project	–	2019-04-09
14	April 10 - April 16	Ethical access and use, right management	14: Debate 2	5	2019-04-16
15	April 17 - April 23	Future of digital preservation	15: Discussion 4	5	2019-04-23
16	April 24 – April 30	<i>Free week-Final project!</i>	16: Final Project	20	2019-04-30
			<b>TOTAL</b>	<b>100</b>	

### 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](https://zoom.us) (zoom.iu.edu). Instructions are available via [IU's Knowledge Base](https://kb.iu.edu/d/bfqu) (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](http://studentcode.iu.edu/) (studentcode.iu.edu/)
- All students must also successfully complete the [Indiana University Department of Education "How to Recognize Plagiarism" Tutorials and Tests](http://www.indiana.edu/~academy/firstPrinciples/) (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 \(registrar.iupui.edu/withdrawal-policy.html\)](http://registrar.iupui.edu/withdrawal-policy.html)
  - **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.
  - **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.
  - **Counseling and Psychological Services (CAPS):** Students seeking counseling or other psychological services should contact the CAPS office at 274-2548 or [capsindy@iupui.edu](mailto:capsindy@iupui.edu). For more information visit the [CAPS website \(studentaffairs.iupui.edu/health-wellness/counseling-\)](http://studentaffairs.iupui.edu/health-wellness/counseling-)

[psychology/](#))

- **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.
- **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.
- **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.
- **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 \(protect.iu.edu/emergency\)](#)
- **IUPUI course policies:** Several campus policies governing IUPUI courses may be found at [IUPUI Course Policies \(registrar.iupui.edu/course\\_policies.html\)](#)
- **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 \(registrar.iupui.edu/official-enrollment-class-attendance.html\)](#)
- **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 \(registrar.iupui.edu/religious.html\)](#).
- **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.
- **Sexual misconduct:** IU does not tolerate sexual harassment or violence. For more information and resources, visit [Stop Sexual Violence \(stopsexualviolence.iu.edu/\)](#)
- **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](mailto: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](http://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 required reading citations by week, which are listed in each week's Canvas module. Discussion prompts and assignments are not included, and additional resources and readings will be provided in Canvas by module. 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 analog preservation?

#### Required reading:

- Ghosh, P. (2015 February 13). [Google's Vint Cerf warns of 'digital dark age'](http://www.bbc.com/news/science-environment-31450389). (http://www.bbc.com/news/science-environment-31450389 )
- Wernick, A. (2019 Jan. 1). [Scientists warn we may be creating a 'digital dark age'](https://www.pri.org/stories/2019-01-01/scientists-warn-we-may-be-creating-digital-dark-age). [Science Friday](#). (https://www.pri.org/stories/2019-01-01/scientists-warn-we-may-be-creating-digital-dark-age)
- Owens, T. (2017). The theory and craft of digital preservation (preprint). [LIS Scholarship Archive Works](https://osf.io/preprints/lissa/5cpj) (https://osf.io/preprints/lissa/5cpj) [Chapter 1, page 1-10]
- Harvey, R. (2011). What is preservation in the digital age? Changing preservation paradigms. In *Preserving digital materials* (Ch. 1 pp. 7-24). Berlin, Boston: De Gruyter Saur.

### Week 2. Fundamentals of digital preservation 1: Concepts, terminology, standards, systems

- Basic terminology
- Overview of standards and systems

#### Required reading:

- Rimkus, K. J. (2016). Digital preservation: a challenge for our time. In Prom, C. J. (Ed.), *Digital preservation essentials* (pp. 1-4). Chicago: Society of American Archivists.
- O'Meara, E. & Stratton, K. (2016). Module 12: Preserving digital objects. In Prom, C. J. (Ed.), *Digital preservation essentials* (pp. 5-38). Chicago: Society of American Archivists.
  - Read 1 of the case studies following Module 12
  - Read Appendix E: glossary

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

- Concept of longevity
- Concepts of integrity, stability and authenticity

#### Required reading:

- Adam, S. (2010). Preserving authenticity in the digital age. *Library Hi Tech*, 28(4), 595-604.
- Lynch, C. (2000). Authenticity and integrity in the digital environment: an exploratory analysis of

the central role of trust. In *Authenticity in the digital environment*. (pp. 32-50). Washington, DC: Council on Library and Information Resources.

- Owens, T. (2017). The theory and craft of digital preservation (preprint). [LIS Scholarship Archive Works](https://osf.io/preprints/lissa/5cpj) (https://osf.io/preprints/lissa/5cpj) [Chapter 2, page 11-25]

#### 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=la7mqi5vq4o) (https://www.youtube.com/watch?v=la7mqi5vq4o, 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](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.

- Lavoie, B. F. (2014). The Open Archival Information System (OAIS) Reference Model: Introductory guide. (2<sup>nd</sup> ed.). [DPC Technology Watch Report, 14\(2\)](http://dx.doi.org/10.7207/twr14-02). (http://dx.doi.org/10.7207/twr14-02)
- Higgins, S. (2008). The DCC Curation Lifecycle Model. [International Journal of Digital Curation, 3\(1\)](http://dx.doi.org/10.2218/ijdc.v3i1.48). 134-140. (http://dx.doi.org/10.2218/ijdc.v3i1.48)

#### Week 5. Understanding the digital object

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

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:

- Owens, T. (2017). The theory and craft of digital preservation (preprint). [LIS Scholarship Archive Works](https://osf.io/preprints/lissa/5cpj) (https://osf.io/preprints/lissa/5cpj) [Chapter 3, page 26-38]

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

Additional resources and readings are listed in Canvas to assist with your file format assessment assignment.

### Week 6. Strategies for digital preservation

- Short-term and long-term strategies
- Refreshing, migration, emulation, LOCKSS (Lots of Copies Keeps Stuff Safe)
- Reformatting for Access with Preservation in Mind

### Required Readings

- Owens, T. (2017). The theory and craft of digital preservation (preprint). [LIS Scholarship Archive Works](https://osf.io/preprints/lissa/5cpj) (https://osf.io/preprints/lissa/5cpj) [Chapter 5-7, page 50-84]

**Supplemental Readings:** Additional readings are provided in Canvas for students to peruse and select as support to debate a position in our discussion forums this week. As an emerging information science professional, you are welcome to discover and evaluate, then cite and link to additional sources to make your point.

### Week 7. Preservation planning

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

### Required reading:

- Digital Preservation Coalition. [Preservation planning \(in Digital Preservation Handbook\)](http://www.dpconline.org/handbook/organisational-activities/preservation-planning). (http://www.dpconline.org/handbook/organisational-activities/preservation-planning)
- Strodl, Becker, Neumayer, & Rauber. (2007). [How to Choose a Digital Preservation Strategy: Evaluating a Preservation Planning Procedure](http://www.ifs.tuwien.ac.at/~becker/pubs/strodl_choose_JCDL07.pdf). JCDL. (http://www.ifs.tuwien.ac.at/~becker/pubs/strodl\_choose\_JCDL07.pdf)
- Northeast Document Conservation Center, [Planning for Digital Preservation: A Self-Assessment Tool](https://www.nedcc.org/assets/media/documents/DigitalPreservationSelfAssessmentfinal.pdf) (https://www.nedcc.org/assets/media/documents/DigitalPreservationSelfAssessmentfinal.pdf)
- Electronic Resource Preservation and Access Network. (2003). [ERPA guidance: Digital preservation policy tool](http://www.erpanet.org/guidance/docs/ERPANETPolicyTool.pdf). (http://www.erpanet.org/guidance/docs/ERPANETPolicyTool.pdf)

**Require review:**

- [Plan for the National Digital Information Infrastructure and Preservation Program. \(2002\).](http://www.digitalpreservation.gov/documents/ndiipp_plan.pdf)  
([http://www.digitalpreservation.gov/documents/ndiipp\\_plan.pdf](http://www.digitalpreservation.gov/documents/ndiipp_plan.pdf))

Additional examples of digital preservation plans and policies and planning tools are available for review in Canvas.

**Week 8. Selection and appraisal for preservation & preserving characteristics**

- Selection and appraisal for short-term and long-term retention
- Importance of preserving context
- Significant properties

**Required reading:**

- Harvey, R. (2011). Selection for preservation: The critical decision. In *Preserving digital materials* (Ch. 4 pp. 56-74). Berlin, Boston: De Gruyter Saur.
- Knight, G. & Pennock, M. (2009). Data without meaning: Establishing the significant properties of digital research. *International Journal of Digital Curation, 4(1)*.  
(<http://www.ijdc.net/index.php/ijdc/article/view/110> )
- Hockx-Yu, H. & Knight, G. (2008). What to preserve?: [Significant properties of digital objects.](#) *International Journal of Digital Curation, 3(1), 141-153.*  
(<http://www.ijdc.net/index.php/ijdc/article/view/70/49> )

Additional reading on selection and appraisal, significant properties, and case studies are available in Canvas.

**Week 9. Preservation metadata**

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

**Watch Videos:**

- [Digital Preservation Metadata and Improvements to PREMIS in Version 3.0](https://www.youtube.com/watch?v=MU3Od6mviQs)  
(<https://www.youtube.com/watch?v=MU3Od6mviQs>) (beginning to 37min)
- Pomerantz, J. (2017, Jan. 11). [Metadata MOOC 4-9: PREMIS Data Dictionary for Preservation Metadata, Part 1.](https://www.youtube.com/watch?v=-_rntZXG7TY) ([https://www.youtube.com/watch?v=-\\_rntZXG7TY](https://www.youtube.com/watch?v=-_rntZXG7TY))
- Pomerantz, J. (2017, Jan. 11). [Metadata MOOC 4-10: PREMIS Data Dictionary for Preservation Metadata, Part 2.](https://www.youtube.com/watch?v=2JFaC6kFXpo) (<https://www.youtube.com/watch?v=2JFaC6kFXpo>)
- Pomerantz, J. (2017 Jan. 11). [Metadata MOOC 4-12: Metadata Encoding and Transmission Standard \(METS\).](https://www.youtube.com/watch?v=i0Uet7MLqrg) (<https://www.youtube.com/watch?v=i0Uet7MLqrg>)

**Required reading:**

- Dappert, A. & Enders, M. (2010). Digital preservation metadata standards. *Information Standards Quarterly*, 22(2), 4-13.
- Cornell University Library. (2014). [Tutorial] 4c, Preservation metadata. In [Digital Preservation management: Implementing short-term strategies for long-term preservation](#). (<http://www.dpworkshop.org/dpm-eng/foundation/metadata/index.html>)
- Lavoie, B. & Gartner, R. (2013). *Preservation metadata* (2nd ed.). [DPC Technology Watch Report, 13\(3\)](#). (<http://dx.doi.org/10.7207/twr13-03>)
- Wilson, A. (2010). How much is enough: Metadata for preserving digital data. *Journal of Library Metadata*, 10(2-3), 205-217.

## 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:

- O'Meara, E. & Stratton, K. (2016). Module 13: Digital Preservation Storage. In Prom, C. J. (Ed.), *Digital preservation essentials* (pp. 75-99). Chicago: Society of American Archivists.
  - Review Glossary
  - Select and read one case study
- 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.
- Kirschenbaum, M. G., Ovenden, R., & Redwine, G. (2010). *Digital forensics and born-digital content in cultural heritage collections*. Washington, DC: Council on Library and Information Resources. [Read 1. Introduction]
- **Brief overview of strategy, workflow, and tools at the Getty** (4 min read)  
Wang, L. (2016 October 10). [Saving electronic records from rot and decay. The Iris: Behind the scenes at the Getty](#). (<http://blogs.getty.edu/iris/saving-electronic-records-from-rot-and-decay/>)

Examples of repository software and supplemental readings are available in Canvas.

## Week 12. Trusted repository

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

### Required readings:

- Research Libraries Group, OCLC. (2002). *Trusted digital repositories: Attributes and responsibilities*. Mountain View, CA: RLG, Inc.

- CCSDS. (2011). Recommendation for space data system practices: Audit and certification of trustworthy digital repositories. *Recommended Practice, 1*. Washington, D. C.: CCSDS Secretariat.
- Center for Research Libraries & OCLC. (2007). [Trustworthy repositories audit & certification: criteria and checklist, 1.0](http://www.crl.edu/sites/default/files/attachments/pages/trac_0.pdf).  
([http://www.crl.edu/sites/default/files/attachments/pages/trac\\_0.pdf](http://www.crl.edu/sites/default/files/attachments/pages/trac_0.pdf))
  - [This is an evolution of TRAC. I don't expect you to read entire documents; focus on high level attributes and responsibilities]
- Yakel, E. , Faniel, I., Kriesberg, A., & Yoon, A. (2013). [Trust in digital repositories. \*International Journal of Digital Curation, 8\(1\), 143-156\*](http://www.ijdc.net/index.php/ijdc/article/view/8.1.143/303).  
(<http://www.ijdc.net/index.php/ijdc/article/view/8.1.143/303>)

Supplemental readings are in Canvas.

### Week 13. Sustainable preservation

- Risk management
- Disaster planning
- Economics of digital preservation

#### Required reading:

- Cornell University Library. (2014). [Tutorial] 3, Obsolescence and Physical Threats. In [Digital Preservation management: Implementing short-term strategies for long-term preservation](http://www.dpworkshop.org/dpm-eng/oldmedia/index.html).  
(<http://www.dpworkshop.org/dpm-eng/oldmedia/index.html>)
- Lavoie, B. F. (2008). [The fifth blackbird: Some thoughts on economically sustainable digital preservation. \*D-Lib Magazine, 14\(3/4\)\*](http://www.dlib.org/dlib/march08/lavoie/03lavoie.html).  
(<http://www.dlib.org/dlib/march08/lavoie/03lavoie.html>)

#### Required review:

- Shallcross, M. (2009). *HathiTrust is a solution: The foundations of a disaster recovery plan for the shared digital repository*. Ann Arbor, MI: University of Michigan.
- [Sustainability of digital formats: Planning for the Library of Congress](http://www.digitalpreservation.gov/formats/index.shtml).  
(<http://www.digitalpreservation.gov/formats/index.shtml>)

Several supplementary disaster planning resources and policy frameworks are in Canvas for review.

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

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

#### Background review:

- Hirtle, P. (2007). [Copyright term and the public domain in the United States. \[table\]](http://cmsimpact.org/wp-content/uploads/2016/01/copyrightterm.pdf).  
(<http://cmsimpact.org/wp-content/uploads/2016/01/copyrightterm.pdf>)

**Required reading:**

- Caplan-Bricker, N. (2018 Dec) [Preservation acts: toward and ethical archives of the web](https://harpers.org/archive/2018/12/preservation-acts-archiving-twitter-social-media-movements/). In *Harper's Magazine*. (https://harpers.org/archive/2018/12/preservation-acts-archiving-twitter-social-media-movements/)
- Jones-Smith, D. P. (2016 Nov-Dec). [Centering the person](https://www.bluetoad.com/publication/?i=358515#{). *Archival Outlook*, p. 6, 31. (https://www.bluetoad.com/publication/?i=358515#{"issue\_id":358515,"page":8})
- Hirtle, P. (2003, November 10). [Digital preservation and copyright](http://fairuse.stanford.edu/2003/11/10/digital_preservation_and_copyr/). *Copyright & Fair Use, Stanford University Libraries*. [blog]. (http://fairuse.stanford.edu/2003/11/10/digital\_preservation\_and\_copyr/ )

**Required review:**

- Library of Congress et al. (2008). *International study on the impact of copyright law on digital preservation*. A joint report of The Library of Congress National Digital Information Infrastructure and Preservation Program, the Joint Information Systems Committee, the Open Access to Knowledge (OAK) Law Project, and the SURFfoundation.
  - [Review Parts 1, 5, and 6]
- AIMS Working Group. (2012). [AIMS born digital collections: An inter-institutional model for stewardship](https://dcs.library.virginia.edu/files/2013/02/AIMS_final_text.pdf). *University of Virginia Library*. (https://dcs.library.virginia.edu/files/2013/02/AIMS\_final\_text.pdf)
  - [Read Access section]
- Leary, H., Lundstrom, K., & Martin, P. (2012). Copyright solutions for institutional repositories: A collaboration with subject librarians. *Journal of Library Innovation*, 3(1), 101-110.

**Week 15. Future of digital preservation**

- What's next for the field of digital preservation?
- What are scholars predicting or working on for the future?

**Required reading:**

- Owens, T. (2017). The theory and craft of digital preservation (preprint). [LIS Scholarship Archive Works](https://osf.io/preprints/lissa/5cpj) (https://osf.io/preprints/lissa/5cpj) [Chapter 10, page 122-130]
- One additional article of student's choice

Additional readings provided in Canvas.

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