Course Syllabus

Instructor:  Jesse A. Johnston (jessej@umd.edu)  
Office Hours:  I am available before & after class, or by appointment (in-person or online)  
Location:  MITH Conference Room (Hornbake Rm. 0130)  
Time:  Thursdays, 6:00–8:45 p.m.  
Website:  See ELMS (http://elms.umd.edu/)

This work is licensed under a Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International License.

Course Description

Course Overview
The goal of this class is to develop knowledge and skills in digital curation projects, from a library and archives perspective. One of the major activities of the course will be to work on and complete a client-based project with specific outcomes. Course sessions will allow for the discussion and exploration of current topics, best practices, and tools. For selected practices, this may involve conceptualizing and discussing possible workflows and tools. Weekly readings or exercises will be chosen to allow students to locate, explore, understand, and assess digital curation topics, including standards and tools. Client-based projects will be undertaken in small groups, which will each work with one client on a specific digital curation problem, for example:

- developing and implementing a data management plan;
- designing and working on workflows or tools for creating, acquiring, or ingesting content;
- planning and improving some aspect of an extant collection;
- developing tools to improve use, discovery, or another aspect of a digital collection.

Groups will be constituted by the instructor. Groups may identify a project of their choosing, but unless you have a project already identified, you should select one of the pre-selected ones identified by the instructor.
Learning Outcomes
After completing the course, students should be able to:

- Demonstrate familiarity with the digital curation lifecycle, including translating and communicating the importance and aims of digital curation to others;
- Identify digital curation needs of individuals and organizations, and to transform these needs into specific plans for systems and services. Such needs may include giving input on making information “archive-ready,” preparing data for deposit with a repository, analyzing format and metadata for digital content, finding or customizing software and workflow tools that support specific curation processes, and analyzing issues of accessibility and usability for collections of digital content;
- Implement one or more steps in the digital curation lifecycle;
- Evaluate digital strategies, methods, and tools and to recommend options for long-term curation of digital information, as appropriate for particular content types and user communities;
- Design, evaluate, and select solutions based on assessment and testing results;
- Develop a digital sustainability plan or data management plan;
- Find resources for keeping up with rapid developments, standards, and tools for digital preservation.

Materials
Selected readings and resources will be open-access tools readily available online, or they may require access through the libraries. The instructor will provide all reasonable information to allow you to locate items (e.g., DOIs, URNs or URLs); in some cases, hard-to-find items may be posted for individual educational usage on the course ELMS site. You may want to consult this article from the Library about how to find and access items: [http://umd.libanswers.com/faq/143496](http://umd.libanswers.com/faq/143496).

We will undertake in-class technical activities on certain weeks, so you should plan to use a laptop or other digital device regularly (and actively) in class. All software used will be accessible as free and open source software or via virtualized environments provided by the DCIC. Instructions on accessing the virtual lab will be distributed after the course begins, as will information about specific software and tools that we will explore.

Technical Resources
It is not necessary to be a “digital native” or to be a techie to work with digital content, nor is it necessary to love computers. But, I hope that you bring to the course a generally flexible and open outlook toward digital tools, and if you are building comfort in this area, the course aims to help you gain confidence. At some points in the course, you may encounter new, unfamiliar tools. Look at this as an opportunity for discovery and development. All tools will be available either as free, open-source options or to use as a login service; you will not be asked to purchase software or hardware. If something in your technosphere isn't working as it should,
don't hesitate to search (Google, Bing, etc), look on tech support bulletin boards or forums, ask your instructor, or your colleagues.

For this class, you should have a laptop that you can bring to class. If you don't, we can look into using a loaner from the DCIC, or we will work on pairing up. You may be asked to install various software, which will be useful, and possibly necessary for completing the course. To begin, please note the list of recommended tools:

We will use ELMS will for assignments and distribution of readings as necessary.

**Important Dates**
See also UMD Academic Calendar at https://www.provost.umd.edu/calendar/18.html.

Please refer to the week-by-week diary lower down in this document, which will contain information on weekly themes, activities, and assignments as we move through the semester. Please use this as a high-level overview, and note that it is subject to change as the semester develops.

- **January 31**: First Class Meeting
- **February 7**: Second class meeting, discussion of digital curation
- **February 14**: Begin Module 1... etc
- **March 21**: NO CLASS - Spring recess
- **March 28**: Continue with ... Module 3 ...
- **May 9**: Wrap-Up: Final Class Meeting, Project Presentations
- **May 17**: All individual and group materials must be submitted to instructor

**Assignments & Requirements**
This course is not structured around the formal presentation of new material and topics, so there is not a predefined reading list. You are expected (with guidance from the instructor, other faculty members, invited experts, your student cohort, and others) to identify gaps in your knowledge (about the digital content, research methods, users, policy environment, formats, metadata, potential tools, repository solutions, etc). You will also, in collaboration with your group, identify potential solutions, evaluate them for relevance and feasibility, and present them to your colleagues and clients. In short, the course aims to hone and develop your digital curation skills, offer practice-oriented experience with a digital project, to gain project management experience, and to work collaboratively with a group.
Modules
The assignments should be structured around basic activities related to functions of processing and preparing digital content in a library or archive setting. In general, we will focus on processing, format analysis, metadata, and digital forensics. We will focus on these for about 3 sessions each, and there should be small assignments and a wrap-up assignment.

Module 1: Basic Tools and Processes (for Organizing Data) - February
We will look at some basic tools of use to digital curators, including shell commands and Python basics for manipulating files. Our focus will be on organizing and creating information about digital content.

We will refer to models and standards, including the Digital Curation Lifecycle Model, PREMIS, and OAIS.

Module 2: Formats and Data Integrity (Preparing Data) - February/March
We will look at some of the issues and tools for assessing file formats, and tools for creating information about fixity and format characterization. This unit will work to build upon the previous unit, including techniques for creating fixity and packaging files (BagIt).

Module 3: Metadata and APIs (Describing & Cleaning Data) - March
We will look at various types of metadata, including PREMIS, and methods for retrieving that information from some websites. We will look at gathering data from Web-based REST APIs. We will use OpenRefine to sort and filter received and generated data in bulk.

Module 4: Visualizing and Preserving Data - April
We will look at ways to represent information that is retrieved, such as mapping and timelines. We will look at sustainability tools like data management plans.

Module 5: Digital Forensics - April
We will look into issues for working on handling information with security concerns or on external media. Tools include BitCurator and the suite of tools contained in that environment.

Group Project
Instructor will provide more information about each assignment ahead of time. Most assignments will be submitted electronically via ELMS.

Group Project Milestones
There are milestones for the group project, which are designed to keep you on track:
1. **Group governance covenant**: a statement of your group's name, membership, roles (point of contact with client, secretary, meeting organizer, etc), and communication expectations. **Draft Due: Feb 28; Finalized: March 7.**

2. **Client requirements and Proposed Approaches**: a formal statement naming the client, stating the scope and focus of the group's work, and a statement of the client's requirements as you understand them according to your kickoff meeting with the client. Your document should include a problem statement, and something like a mission and vision, as well as a statement of the assumptions that you are basing your project on (e.g., available resources and feasibility). The aim of clarifying your assumptions is to help imagine potential risks and roadblocks that you may encounter. **Due: March 14.**

3. **Project Statement and Plan**: A statement of the project scope, based on your meetings with the client and a consideration of your list of approaches, and appropriate goals and objectives for your work. Your proposal should include a diagram of the major stakeholders and a characterization of the organizational culture. The project plan should present a timeline of all major tasks already completed and a timeline for how you see the rest of the term. (Format is up to you, but you want something that you can track.) **Due: March 28.**

4. **Implementation Proposal**: This should refine your scope statement and declare how you propose to address the issues you've identified. You should include responsibilities for the group and an updated project plan. You should also include a specific set of achievable criteria (and metrics) that you can use to determine how much progress you make on the project. (For example, a certain number of items enhanced with metadata, or a proposal for a process guide and documentation.) **Due: April 11.**
   
   a. **Progress reports**: weekly through April, we will discuss progress in class.

5. **Final Project Report and Sustainability Plan**: This should be similar to the kind of project report that you might submit to a sponsor or funding agency, and it will also include a sustainability plan (how the project can continue moving forward, and digital assets stay viable, beyond the term). **Due: May 17; draft due: TBD.**

**Participation**
This grade is based on your attendance at regular class sessions, participation in group work, participation on the course blog, and demonstration of engagement with digital curation ideas and literature.

**Grading**

<table>
<thead>
<tr>
<th>Category</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Participation</td>
<td>20%</td>
</tr>
<tr>
<td>Assignments</td>
<td>40%</td>
</tr>
<tr>
<td>Group project</td>
<td>40%</td>
</tr>
</tbody>
</table>
Other Course Policies

Participation
Participation in all class meetings and providing timely responses on assignments is expected. As a class that asks you to engage with members of the University community beyond the iSchool and within the community, you are expected to be positive and respectful ambassadors of the school as well as for information professionals. If you are unable to participate in the course or meet any of the required assignments and due dates, please let the instructor know as soon as possible.

Discussions. In order to learn, we must be open to the views of people different from ourselves. In this time we share together over the semester, please honor the uniqueness of your fellow classmates and appreciate the opportunity we have to learn from one another. Fruitful discussion requires civil and engaged dialogue, which includes respecting each others’ opinions and refraining from personal attacks or demeaning comments of any kind. Finally, remember to keep confidential all issues of a personal or professional nature that are discussed in class.

Group work. Your group and project will entail meetings outside the regularly scheduled hours of the class meetings. Your enthusiasm and commitment to the group and the course are important aspects of participation. Information about participation beyond class sessions will be gathered through self-reporting and group feedback.

Groundrules
- **Confidentiality.** We want to create an atmosphere for open, honest exchange.
- Our primary commitment is to **learn from each other.** We will listen to each other and not talk at each other. We acknowledge differences amongst us in backgrounds, skills, interests, and values. We realize that it is these very differences that will increase our awareness and understanding through this process. We are all still learning and recognize the experience and perspective that others bring to this forum.
- **We will not demean, devalue, or “put down” people** for their experiences, lack of experiences, or difference in interpretation of those experiences.
- We will trust that **people are always doing the best they can.**
- **Challenge the idea and not the person.** If we wish to challenge something that has been said, we will challenge the idea or the practice referred to, not the individual sharing this idea or practice.
- **Speak your discomfort.** If something is bothering you, please share this with the group. Often our emotional reactions to this process offer the most valuable learning opportunities.
- **Share responsibility for including all voices in the discussion.** If you have much to say, try to hold back a bit; if you are hesitant to speak, look for opportunities to contribute to the discussion.
- **Take responsibility for your part of the conversation.** If you are offended by something or think someone else might be, speak up and don’t leave it for someone else to have to respond to it.
- **Step Up, Step Back.** Be mindful of taking up much more space than others. On the same note, empower yourself to speak up when others are dominating the conversation.
- Do you have anything further to suggest...?

These are guidelines, not rules. However, it is important that we all take part in implementing them. If you have concerns about them or see areas where they are being ignored, please chat with the instructor.

**Attendance**
Attendance is expected at all class sessions. If you are unable to attend class, please discuss this with the instructor in advance of missing class. In the event of attendance problems, the instructor will address them on a case-by-case basis.

**Communication**
It is possible that you may not receive an immediate response, but the instructor will respond to all emails within 24 hours.

**Students with Disabilities**
Students with disabilities needing academic accommodation should: (1) register with and provide documentation to the Disability Support Services office, and (2) discuss any necessary academic accommodation with their teachers. This should be done at the beginning of the semester.

**Learning Assistance**
If you are experiencing difficulties in keeping up with the academic demands of this course, contact the Learning Assistance Service, 2202 Shoemaker Building, 301-314-7693. Their educational counselors can help with time management, reading, math learning skills, note-taking and exam preparation skills. All their services are free to UMD students.

**Academic Integrity**
The University of Maryland, College Park, has a nationally recognized Code of Academic Integrity, administered by the Student Honor Society. This Code sets standards for academic integrity at Maryland for all undergraduate and graduate students. As a student, you are responsible for upholding these standards for this course. The Code of Academic Integrity prohibits students from cheating on exams, plagiarizing, submitting fraudulent documents, forging signatures, submitting the same paper for credit in two courses without authorization, and buying papers. It is very important for you to be aware of the consequences of academic dishonesty. Instances of any suspected academic dishonesty will be reported and handled
Plagiarism is of particular concern in the networked digital environment. Students must write their essays and assignments in their own words. Whenever students take an idea or a passage of text from another author, they must acknowledge their source both by using quotation marks where appropriate and by proper referencing using footnotes or in-text citations. For further information about proper citation of sources, consult the UMD Libraries website at http://www.lib.umd.eduguides/honesty.html and http://www.lib.umd.edu/PUBSERV/citations/index.html.

Extensions
Late submissions of deliverables will carry a penalty unless prior arrangements are made with the instructors. If an extension is granted, the work must be submitted within the extension period to avoid grade penalties. Unexcused delays in submission of the assignment will result in a reduction of the grade by one category for each day the paper is late; for example, a paper that would have received a B+ if submitted on time will receive a B if it is submitted a day late, a B- if it is two days late, and so on.

Screen Etiquette in Class
You are encouraged to bring notebook or portable digital devices to class, on the assumption that you will use it as an active learning tool. Therefore, you should:

- Use laptops for taking notes, conducting research required for in-class activities, or for other specific classroom tasks assigned. During class, you should not check email, chat with others on non-course-related topics, IM, game, or otherwise engage in off-task activities.
- Engage in-class activity actively. Your computer (or other devices) should not become a barrier to one-on-one interaction, instead use it to facilitate engagement and the exchange of ideas during class.
- Demonstrate sensitivity to others. Do not display screen images, including wallpapers and screensavers, which might distracting or offensive to others in class.

Course Schedule

Meeting 1 (January 31): Introduction & Discussion of Digital Curation
This session will include an overview of the goals, logistics, and requirements for the course. We will discuss the endeavor of digital curation.
Meeting 2 (February 7): Foundations: Digital Curation Review & Begin Module 1
This week we will review digital curation models and standards. Please have the tasks for the week 1 & 2 modules completed (leave the discussion elements for class).

Due
- Install basic tools (see list here: https://github.com/morskyjezek/digcur/blob/master/what-you-need.md)
- Read the following articles below
  - For discussion, think about activities of a digital curator

Read (before class) and discuss (in class):


Margaret Hedstrom, et al, “Preparing the Workforce for Digital Curation” (National Academies Press), available for free download at https://doi.org/10.17226/18590. Please read: sections 1.5, 2.0-2.8


Discussion rubric (for during class):
https://docs.google.com/document/d/14knZLSa8UW9lpPN2axkBcmgy2GtLeNsQRquXzsGMME/edit?usp=sharing & Slides

Files to download: https://github.com/morskyjezek/digcur/archive/master.zip (we will discuss next week how to update these files as we progress)

Shared in class: Photo Roulette App by Laura Wrubel https://loc-photo-roulette.glitch.me/

Meeting 3 (February 14): Foundations: OAIS, Module 1 (cont’d)
We will discuss the OAIS model to ensure that we all have a shared understanding of its major elements and how it may or may not relate to our work as digital curators. We will continue our investigation of how we can use text-interface (“shell”) commands and review python.
Read (before class) and discuss (in class):
http://dx.doi.org/10.7207/TWR14-02.

Additional resources (optional):


Class materials
Slides & discussion rubric

Due 2/21:
Shell/command line overview & work
Python 1

Meeting 4 (February 21): Module 1 (cont’d.) Project Planning & Group Project Overviews
We will discuss first steps in project planning and review the potential small-group projects. We will continue working with shell and python, with an emphasis on building our skills for inventorying files and gathering metadata.

Read (before class) and discuss (in class):


Resources for Group Work (see ELMS Group Resources page for links)
TRLN, “Library Project Management Resources and Tools,”
https://www.trln.org/initiatives-programs/library-project-management-resources-and-tools/

Frederick Zarndt, “Project management 101: Plan well, communicate a lot, and don’t forget acceptance criteria!”, OCLC Systems & Services 27/3 (2011), 170-174. DOI:
https://doi.org/10.1108/10650751111164542. [NB: You may need to get this from the ELMS Group resources page.]

J.P. Lewis, “Planning the Project,” Ch. 3 from *Fundamentals of Project Management* (ACACOM 2007).


Review additional project planning resources on the ELMS “Group resources” planning page:
https://umd.instructure.com/courses/1258729/pages/group-resources.

DLF Project Managers Toolkit (in development):
https://wiki.diglib.org/DLF_Project_Managers_Toolkit

**Meeting 5 (February 28): Module 1 (complete), Project Planning, Working with Clients, Gathering Information**

We will discuss first steps in project planning as you embark on the group projects. In class, we will discuss basic project management documents and techniques. We will review the usage of Git, basic techniques and how to use it for this class. We will continue our investigation of python as a tool to develop file inventories.

**Resources for Discussion (read before class) and for Group Work (all links from ELMS)**


**Meeting 6 (March 7): Module 2 (File Format Identification), Digital Curation in Practice & “In the Wild,” Assessing Digital Capacity**

As you make first contacts with your group projects, we will discuss how to approach projects in situ (rather than the theoretical environment of the discussions we've focused on so far). We will wrap up module 1 (basic inventory) and talk through module 2 (identifying and fixity).
Read (before class) and discuss (in class):
- JHOVE Project, README on use of tools for identification, validation, etc. [https://github.com/openpreserve/jhove](https://github.com/openpreserve/jhove)

Due
Group governance document

See also: group resources page on ELMS

Meeting 7 (March 14): Module 2 (Complete), Client Interviews, Project Plans
Working through final details of project planning and completing the inventory projects by generating file fixity information.

Read (before class) and discuss (in class):

Due
Project work plans and scope statements.

See also: group resources page on ELMS

March 21: No meeting (Spring Recess)

Meeting 8 (March 28):
Meeting 9 (April 4): Data Management Plans & Sustainability

Meeting 10 (April 11): Data Exchanging and Gathering

Meeting 11 (April 18): Cleaning and Augmenting Data

Meeting 12 (April 25): Preparing Data

Meeting 13 (May 2): Mapping Data (GIS Overview)

Meeting 14 (May 9): WrapUp