LSC 712 Foundations of Digital Libraries

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Office Hours: T 11:00 AM-1:00 PM, and by appointment. I will also be available before and after the class meeting.

Class meetings: M 4:10-6:40 PM #208 Marist Hall

Course description:
This course is designed to prepare students in library and information science for the creation and maintenance of digital libraries. The course will focus on the development and organization of digital collections. It will also cover technical requirements for creation, storage and dissemination of digital materials.

Course objectives:
This course will give students a thorough grounding for understanding, evaluating and working with a wide variety of digital libraries. Upon completion of the course, students will be able
1. To analyze the research literature on digital libraries
2. To demonstrate understanding of the strengths and limitations of current efforts in organizing digital materials
3. To learn the technical components and skills for developing a digital library, such as document and media formats, user interface evaluation criteria, organizing and managing digital materials, digital library development tools, and guidelines for matching technologies to user needs and characteristics
4. To build a digital collection

Instructional methods:
This course is a seminar with an individual or group project that gives the student an opportunity to apply or investigate issues surrounding digital libraries. The course will be formed with lectures, guest lectures, in-class discussions and student presentations.

Course Materials:
No textbook required. Readings will consist of many articles and web resources. However, below are suggested additional books and resources for you to read in detail.

Suggested books/resources:
  Kaufmann Publishers. ISBN 1-55860-790-0
• i-DLR (Interactive Digital Library Resource Information System): the selected links to 
  web sites related to Digital Library http://www.coe.missouri.edu/~DL/iDLR/index.php
• Other Resources and Bibliography of Digital Libraries 
  http://www.azizatech.com/bibliography.html
• Web Developer’s Virtual Library http://wdvl.internet.com/WDVL/ - good web site 
  covering all aspects related to Web development.
• Usable Web links about web usability http://usableweb.com/index.html

**Grading:**

Grades will be based on the following (subject to minor adjustment):

<table>
<thead>
<tr>
<th>Requirements</th>
<th>Description &amp; due date,</th>
<th>Contribution to Grade</th>
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</thead>
<tbody>
<tr>
<td>Review of DL projects</td>
<td></td>
<td>10%</td>
</tr>
<tr>
<td>Six article summaries and presentation (biweekly)</td>
<td>Choose an article from a reading list on two week period (to avoid an overlap, we will arrange the choice of articles in advance). Summarize and present your summary in class in both paper and oral.</td>
<td>25%</td>
</tr>
<tr>
<td>Building a small digital library</td>
<td>Term project (due on April 23rd.)</td>
<td>40%</td>
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<tr>
<td>Final Exam</td>
<td>Comprehensive format</td>
<td>20%</td>
</tr>
<tr>
<td>Class attendance</td>
<td>One class miss is allowed. Additional misses will be penalized.</td>
<td>5%</td>
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Final grades will be determined by the following scale:

- A: 94 – 100
- A-: 90 -93
- B+: 86-89
- B: 82-85
- B-: 78-81
- C: 70-77
- F: Below 70

**Late Policy**

Assignments are due at the start of class. Assignments turned in after the due time without prior approval will be penalized 10% for each 24-hour period that it is late. Assignments that are over 3 days late will NOT be accepted unless arrangements have been made with me. I encourage you to consult with me any special circumstances that will affect your ability to perform your assignments or turn in your assignments on time.

**Note:**
1. Detailed information of assignments and projects will be distributed in class or available on Blackboard (http://bb.cua.edu)
2. Please consult below in the section “Participation and conduct” for other course polices
**Academic Honesty Policy:**

Please read the policy on relevant information on academic honest found in the University’s Online Student Handbook at: [http://studentlife.cua.edu/studenthandbook.pdf](http://studentlife.cua.edu/studenthandbook.pdf) and on the website for the University’s Policies & Procedures at: [http://policies.cua.edu](http://policies.cua.edu). It is expected that all students will adhere to accepted codes of ethical, personal, and civil conduct while in this class and conversing online, using e-mail, or engaging in any online chat sessions. Failure to abide by such codes of conduct and etiquette may result in withdrawal from the course and a failing grade. Academic dishonesty is defined in the *Handbook* as “failure to observe rules of fairness in taking exams or writing papers, plagiarism, fabrication, and cheating”. Any incidence of plagiarism will result in a grade of F (0 points) on the project or exam in question, and will be reported to the Dean of the School of Library and Information Science for possible further action (including failure in the course).

Plagiarism will not be tolerated. Catholic University of America defines plagiarism to include:

"Intentionally or knowingly representing the words or ideas of another as one’s own in any academic exercise"

"Failure to attribute any of the following: quotations, paraphrases, or borrowed information from print sources or web sites"

"Buying completed papers from other to use as one’s own work”

For more on what constitutes plagiarism and how to avoid it, see the guide on the Purdue Online Writing Lab web site at: [http://owl.english.purdue.edu/handouts/research/r_plagiar.html](http://owl.english.purdue.edu/handouts/research/r_plagiar.html).

**Course Tentative Schedule (subject to change)**

<table>
<thead>
<tr>
<th>Date</th>
<th>Topics/Activities/Readings</th>
<th>Assignment</th>
</tr>
</thead>
</table>
| 1 (1/8)| **Topics**  
|       | Introduction to digital libraries: | | |
|       | **Readings**  
| 2 (1/16)| **Topics/Activities**  
|       | • DL Projects | Article summary (1) |
|       | • DL architecture and technology | | |
|       | **Readings**  

- NSDL library architecture: An overview
  http://nsdl.com/nsdl.org/docs/nsdl_arch_overview.pdf
  http://www.dlib.org/dlib/march03/witten/03witten.html

3 (1/22) Topics
- Collection building and managing. Project management

Readings
  http://www.diglib.org/collections/collstrat.htm
  http://www.niso.org/framework/Framework2.html
  http://www.clir.org/pubs/reports/pub101/contents.html
- Project management, Collaborative digitization program
  http://www.cdpheritage.org/digital/projectManagement/index.cfm
- Ch. 10 Project management, Guidelines for digitization, North Carolina ECHO.
  http://www.ncecho.org/guide/management.asp

Assignment 1 due (Review of DL Projects)

4 (1/29) Topics
- DL content and collections
- Digitization: forms, process, techniques and technologies

Readings
- Guideline for digitization http://www.ncecho.org/guide/toc.html
- Smith, Abby (1999). Why digitize?
  http://www.clir.org/pubs/abstract/pub80.html
- Procedures and Practices for Scanning
  http://sunsite.berkeley.edu/Imaging/Databases/Scanning/
- Moving theory into practice: Digital imaging tutorial by Cornell University Library
  http://www.library.cornell.edu/preservation/tutorial/contents.htm l
  http://www.clir.org/pubs/reports/hazen/pub74.html#copyright

Article summary (2)
<table>
<thead>
<tr>
<th></th>
<th>5 (2/5)</th>
<th>6 (2/12)</th>
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</thead>
<tbody>
<tr>
<td><strong>Topics</strong></td>
<td>Information organization and representation</td>
<td>Metadata continued</td>
</tr>
<tr>
<td><strong>Project proposal</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Article summary (3)</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
| 7 (2/19) | **Topics/Activities**  
| | - DL management system  
| | - Introduction to Greenstone  
| **Readings**  
| 2/26 | **Spring Break**  
| 8 (3/5) | **Topics**  
| | - User interfaces  
| **Readings**  
| 9 (3/12) | **Topics/Activities**  
| | - Digital library evaluation  
| **Readings**  
|  | **Project progress report**  
|  | **Article summary (4)**

  http://www.dlib.org/dlib/july02/choudhury/07choudhury.html

**10 (3/19)**

**Topics/Activities**
- Users and uses of digital libraries

**Readings**
  http://informationr.net/ir/7-2/paper123.html
- How are digital resources being used in undergraduate teaching and learning in the humanities and social sciences? [http://cshe.berkeley.edu/research/digitalresourcestudy/about.htm](http://cshe.berkeley.edu/research/digitalresourcestudy/about.htm)

**11 (3/26)**

**Topics**
- Digital library standards, Interoperability, federated searching

**Readings**
  http://www.ariadne.ac.uk/issue24/interoperability/
  http://www.dlib.org/dlib/january02/arms/01arms.html

**12 (4/2)**

**Topics/Activities**
- Management, sustainability, and preservation

**Readings**
- Digital Preservation Coalition Preservation Management of Digital
### Materials: A Handbook


### Topics/Activities (last class)
- Trends and Summary:
- Project presentation

### Project production and paper
Course Policies and Procedures:

Formatting of your assignments.

- For hard copy work securely fasten together any papers that are more than 1 page.
- Place your name and the assignment number on the first page.
- Minimum margins are 1 ¼” left and 1” top, bottom, and 1 ¼” right.
- Use double-spaced line spacing, or space and a half, not single-spaced.
- Submitted work must have a professional appearance and not be handwritten.
- Any work submitted with numerous ungrammaticalities will be penalized.

Participation & Conduct:

- Attendance is mandatory. Attendance is required, in keeping with university policy. Students may miss up to 3 classes without a penalty. Your participation grade will drop by 10 points for every absence after 3 missed classes.

- Late work. Assignments are due at the start of class. Assignments turned in after the due time without prior approval will be penalized 10% for each 24-hour period that it is late. Assignments that are over 3 days late will NOT be accepted unless arrangements have been made with me. I encourage you to consult with me any special circumstances that will affect your ability to perform your assignments or turn in your assignments on time.

- Makeup work. If a student has a legitimate reason, such as a family emergency, the instructors might allow a student to do makeup work. The amount and nature of the work is up to the instructors’ discretion. It will be graded at term’s end.

- Arrive on time. Chronic lateness can negatively affect class participation grades.

- Behave respectfully. Students are expected to behave respectfully while in class. Participation grades will reflect a student’s maturity level and professionalism, and whether the student actively participates in class discussions.

- No phone calls during class. Turn off or silence cell phones and pagers. Students leaving the room for calls are not allowed to return to that class session.

- No grade discussions in class. Instructors will not discuss grades in class. First consider why the instructors deducted points. If you still disagree, explain your disagreement in an e-mail to the instructors.

ADA Accommodation:

Students with disabilities requiring accommodation under federal regulations must present a written accommodation request to the instructor by the second class meeting. It is strongly recommended that the student contact the Office of Disability Support Services, Suite 207, Pryzbyla Center (202-319-5211; email cua-disabilityservices@cua.edu, web http://disabilitysupport.cua.edu/). This is the University office responsible for disability accommodation and services, and its staff can answer questions about services and requirements.
regarding documentation. Special accommodations or other arrangements cannot be made without documentation approved by this office.

Syllabus changes:

- The instructors reserve the right to make changes to this syllabus if circumstances warrant such change. All changes will be provided to students in writing.

Other resources of DLs

- Building Digital Collections ([http://memory.loc.gov/ammem/ftpfiles.html](http://memory.loc.gov/ammem/ftpfiles.html))
  Technical information and background papers from the Library of Congress experiences. Lots of good stuff on technical practices, scanning, markup, workflow, and rights management. Not recently updated.
- Ariadne ([http://www.ariadne.ac.uk/](http://www.ariadne.ac.uk/)) reports on information service developments, information networking issues worldwide and current digital library initiatives. Ariadne is published every three months.
  One of the first, and still the foremost DL Web site, including D-Lib Magazine, D-lib Working Groups, other activities, and an excellent Ready Reference collection.
- Digital Library and Information Resources ([http://www.canis.uic.edu/~bgross/dl/](http://www.canis.uic.edu/~bgross/dl/)) Very current and well annotated resource list, kept up to date by Ben Gross, doctoral student and visiting scholar at the University of Illinois, Urbana Champaign.
- Open Archives Initiative ([http://oaisrv.nsd1.cornell.edu/index.html](http://oaisrv.nsd1.cornell.edu/index.html))
  The OAI is concerned with interoperability standards as they relate to the dissemination of scholarly communication. Site includes articles, tools news, and so on.
- Visual Arts Data Service (VADS) ([http://vads.ahds.ac.uk/index.html](http://vads.ahds.ac.uk/index.html))
  VADS focuses on digital visual arts, providing access to collections as well as Guides to Good Practice and many other resources.
  Links to funded projects and many other resources (also see Digital Libraries Initiative Phase 1 and Digital Libraries Initiative Phase 2).
  Under the umbrella of the Council on Library and Information Resources (CLIR, [http://www.clir.org](http://www.clir.org)), the Federation includes the L of C, NARA, NYPL, RLG, OCLC, CNI, and a host of university libraries. The DLF Publications section leads to a wealth of online reports, conference presentations, handbooks, guides, and so on.
- Journal of Digital Information ([http://jodi.ecs.soton.ac.uk/](http://jodi.ecs.soton.ac.uk/)) Free online journal in HTML
papers, ongoing research, technology, reviews, reports of progress, short notes and forthcoming events. It would act as a portal to the digital information world.”

Specific Projects

This is a selection of digital libraries, research projects, and other initiatives. (for additional projects, visit at http://ei.cs.vt.edu/~dlib/projects.htm)

Web resources for digital libraries and digital projects
3. UNESCO/IFLA Directory of Digitized Collections (http://www.unesco.org/webworld/digicol)
4. Digital Collections as “Featured Collection” appearing in each issue of D-Lib Magazine (http://www.dlib.org)
5. Digital Library Federation’s Public Access Collections (http://www.hti.umich.edu/cgi/b/bib/bib-idx?c=dlfcoll)
6. Smithsonian Institution’s Library and Archival Exhibitions on the Web (http://www.si.si.edu/SILPublications/Online-Exhibitions/search.htm)
7. ARL’s Digital Initiatives Database (http://www.arl.org/did/)
8. IMLS Digital Collections Registry (http://imlsdcc.grainger.uiuc.edu/collections/)

Note: please let an instructor know other good projects in addition to this selection when you found. This selection will be updated with your contribution.

1. American Museum of Natural History, Fossil Vertebrate Collection
5. Cornell University Prototype Digital Library (http://moa.cit.cornell.edu/) Cornell projects are described in detail at the Cornell Institute for Digital Collections. They include the well-known Making of America.
6. Duke University, Digitized Collections (http://scriptorium.lib.duke.edu/#collections) Digital collections which are part of Duke's Rare Book, Manuscript and Special Collections Library.
7. Five Colleges Archives Digital Access Project (http://clio.fivecolleges.edu/) The institutions are Amherst, Hampshire, Mt. Holyoke, and Smith Colleges, and the University of Massachusetts at Amherst. Subject emphasis on women's history.
8. The Networked Computer Science Technical Reports Library (http://www.ncstrl.org/) at Cornell University Department of Computer Science. NCSTRL is a distributed technical report library developed by the ARPA-sponsored Computer Science Technical Report Project. "NCSTRL (pronounced "ancestral") is an international collection of computer science technical reports from CS departments and industrial and government research laboratories. The NCSTRL collection is distributed among a set of interoperating servers operated by participating institutions."
9. The Networked Digital Library of Theses and Dissertations (http://www.ndltd.org/) is a project which aims to increase the availability of theses and dissertations by placing them online with the content in an accessible form. The works may be accessed through the Electronic Thesis and Dissertation Library (http://www.theses.org/).

10. The Los Alamos National Laboratory (LANL) Library Without Walls (http://lib-www.lanl.gov/lww/welcome.html) is a broad based digital library project to make information available to researchers no matter where their desktops are located.

11. The California Digital Library (http://www.cdlib.org/) is a combined resource for the University of California. "Complementing the physical libraries on the nine campuses of the University of California system, the CDL focuses on selecting, building, managing, preserving, and providing access to shared collections of high-quality digital materials for the University and its partners." "[It is] designed to be collaboratively maintained by staff across the UC system and to allow a "local view" of available digital resources at the user's choice."

12. The Perseus Project (http://www.perseus.tufts.edu) centered at the Department of Classics of Tufts University is a well known and respected collection which focuses upon the ancient Greek and Roman world. Perseus contains texts in Greek and in translation. The major authors of the classical period are represented, as well as some later authors from the fifth century B.C. Perseus also contains images of vases, sculptures and sculptural groups, coins, buildings, as well as color maps of Greece taken from satellite images, annotated with place names.

13. The Visible Human Project (http://www.nlm.nih.gov/research/visible/visible_human.html) from National Library of Medicine (NLM) produced "a complete, anatomically detailed, three-dimensional representations of the male and female human body. The current phase of the project is collecting transverse CT, MRI and cryosection images of representative male and female cadavers at one millimeter intervals. The long-term goal of the Visible Human Project is to produce a system of knowledge structures that will transparently link visual knowledge forms to symbolic knowledge formats such as the names of body parts."

14. The American Memory (http://memory.loc.gov/) project contains the historical collections for the National Digital Library at the Library of Congress. It contains "multimedia collections of digitized documents, photographs, recorded sound, moving pictures, and text from the Library's Americana collections. There are currently over 40 collections in American Memory."


16. Indiana University Digital Library Program (http://www.dlib.indiana.edu/) Includes the Hoagy Carmichael Collection, the Victorian Women Writers Project, and much more. Text, images, and music.

17. Johns Hopkins University, Lester S. Levy Collection of Sheet Music (http://levysheetmusic.mse.jhu.edu/)


25. SAGE (http://sage.library.emory.edu/) SAGE stands for Selected Archives at Georgia Tech and Emory, and includes collections of text and multimedia material related to Sam Nunn, Ralph McGill, and the Witness to the Holocaust Project.
26. Stanford University, Stanford Digital Libraries Project (http://www-diglib.stanford.edu/) Not an actual digital library, this page is an access point for various publications and demonstrations of Stanford's DLI-funded work.
27. Texas A&M University, Center for the Study of Digital Libraries (http://csdl.tamu.edu/) The Center fosters digital library research and develops supportive technologies and expertise.
28. University of California at Berkeley, Digital Library Project (http://elib.cs.berkeley.edu/)
29. University of California at Santa Barbara, Alexandria Digital Library Project (http://www.alexandria.ucsb.edu/) Includes the initial project, the Alexandria Digital Library, and new work on the Alexandria Digital Earth Prototype
31. University of Illinois at Urbana-Champaign, Astronomy Digital Image Library (http://adil.ncsa.uiuc.edu/)
32. University of Michigan, Making of America (http://moa.umdl.umich.edu/)
33. University of Texas at Austin, eSkeletons Project (http://www.eskeletons.org/) An interesting integration of image, text, and more.
34. University of Utah, Marriott Library, Digitized Collections (http://www.lib.utah.edu/digital/digcol.html) A variety of projects, including text and images.
35. University of Waikato, New Zealand Digital Library (http://www.nzdl.org/cgi-bin/library)
37. Virginia Tech, Digital Library and Archives (http://scholar.lib.vt.edu/) Formerly the Scholarly Communications projects, includes access to electronic services as well as institutionally created digital collections.
38. Washington State University, Digital Collections (http://www.wsulibs.wsu.edu/holland/masc/imagedatabases.htm)
39. William Blake Archive (http://www.blakearchive.org/)
40. Bodleian Library at University of Oxford Digital Library Project (http://www.bodley.ox.ac.uk/)
41. University of California Museum of Paleontology (UCMP) Collections Database (http://elib.cs.berkeley.edu/ucmp/) See also Photo collection
42. Project Gutenberg http://promo.net/pg
43. The Universal Library http://delta.ulib.org/html/ A Million Book Digital Library project: free access to scanned books without violation of copyright laws
44. The Digital Library Program of the New York Public Library http://digital.nypl.org/
45. i-DLR (Interactive Digital Library Resource Information System): the selected links to web sites related to Digital Library http://www.coe.missouri.edu/~DL/idlr/index.php