

# LIS 853, Organization of Information

Information School, University of Wisconsin-Madison  
Summer 2017

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## Course objectives

Upon completion of the course, you will:

- Understand the principles, concepts and types of metadata
- Recognize and evaluate various metadata schemes and element sets and their appropriateness in specific domains
- Understand the historical development and present-day institutional, intellectual and technological contexts for the development and application of metadata schemas
- Understand the relationship of metadata issues to other areas of library and information science
- Apply Dublin Core, VRA, and MODS metadata to digital objects, using basic XML encoding
- Design and document a metadata scheme for use with a particular collection or digital library, based on an understanding of the information needs and behaviors of individuals and user communities
- Select and implement appropriate controlled vocabularies for metadata value spaces
- Understand major factors in management of digital collections that use metadata, including project leadership, needed skills, project management approaches, quality control, and collaboration
- Work as a member of a team in making decisions regarding metadata creation and application
- Communicate clearly and effectively to report on, debate and instruct others on the topic of metadata creation and related issues

This course is designed to assess the following SLIS learning outcomes: 3a, 3d, 4a, 4b, 4d.

## Course Policies

**I wish to fully include persons with disabilities in this course. Please let me know within one week how I can best meet your needs. I will try to maintain the confidentiality of this information.**

Academic Integrity: I follow the academic standards for cheating and plagiarism set forth by the University of Wisconsin at <http://students.wisc.edu/saja/misconduct/misconduct.html>.

### Contacting me

**READ THE SYLLABUS** before asking a question, please; the syllabus may answer it! For any difficulty with the course that is not private or confidential, please use the Canvas help forum; *I will not answer such questions by email*. Please also do your best to assist your classmates on the help forum. I am not available weekends; otherwise, I do my level best to answer forum questions and email within one business day.

Should you see dead links (it does happen, usually with no notice), weird due dates, or other syllabus problems, please post them to the “Syllabus questions and problems” forum on Canvas as soon as you see them.

### Course schedule

As with all 3-credit summer courses, this course is 15 weeks (“modules”) of content compressed into 8. Please plan your work time accordingly! Each calendar week of the course will begin Sunday at midnight and comprise two modules of course content, *except* the week beginning July 2, which will accommodate the July 4 holiday by comprising only one module.

### Textbooks

We will rely heavily on Steven J. Miller’s *Metadata for Digital Collections*. It is on print reserve at the Laboratory Library. It is also a very useful book (prior students in this class agree) and I strongly recommend you purchase a copy!

Linklists are for enrichment and reference; you are **NOT** required to read everything on them.

## Unit 1: Building blocks

### Module 1: Course introduction. What is metadata? Seeing metadata.

*Learning objectives: Course structure, assignments, assessment, policies. Defining metadata, metadata vs cataloging, metadata is for users, types of metadata.*

Linklist(s): <https://pinboard.in/u:dsalo/t:metadata>

Watters/Oates. "The search for a minimum viable record." <http://radar.oreilly.com/2011/05/minimum-viable-record.html>

Miller, *Metadata for Digital Collections*, chapter 1.

Gilliland, "Setting the Stage." [https://www.getty.edu/research/publications/electronic\\_publications/intrometadata/setting.html](https://www.getty.edu/research/publications/electronic_publications/intrometadata/setting.html) (This is a classic, and for good reason.)

### Module 2: Metadata blueprints. What goes into a (metadata) standard?

*Learning objectives: Identifiers. Interoperability, and how it drives standards construction. Controlled vocabularies; enumerations, taxonomies, thesauri, ontologies, synonym rings, authority files. The power of naming. Content standards vs. structure standards. The standards universe.*

Linklist(s): <https://pinboard.in/u:dsalo/t:identifiers>, <https://pinboard.in/u:dsalo/t:authoritycontrol>, <https://pinboard.in/u:dsalo/t:socialjustice/t:551>, <https://pinboard.in/u:dsalo/t:standards>

McKenzie. "Falsehoods programmers believe about names." <http://www.kalzumeus.com/2010/06/17/falsehoods-programmers-believe-about-names/>

Paskin. "On making and identifying a 'copy.'" <http://www.dlib.org/dlib/january03/paskin/01paskin.html> (As you read, keep the question "what exactly does an identifier actually identify?" in mind.)

Fast/Leise/Steckel. "What is a controlled vocabulary?" <http://boxesandarrows.com/what-is-a-controlled-vocabulary/>

Rayburn. "Taxonomies and thesauri." <http://www.ischool.utexas.edu/~i385e/readings/Warner-aTaxonomyPrimer.html>

Duarte/Belarde-Lewis. "Imagining: Creating Spaces for Indigenous Ontologies." <http://doi.org/10.1080/01639374.2015.1018396>

Optional, but excellent: Cargill. "Why standardization efforts fail." <http://quod.lib.umich.edu/j/jep/3336451.0014.103?rgn=main;view=fulltext>

### Module 3: Metadata creation, storage and display: decisions and systems.

*Learning objectives: Data models: tabular data, relational databases, (meta) markup, RDF-linked data. Advantages and disadvantages of data models. Sources of metadata: manual generation, automatic generation, harvested metadata, converted metadata, user-contributed metadata. External storage, internal storage. Functional requirements, search and browse options.*

Linklist(s): <https://pinboard.in/u:dsalo/t:models>, <https://pinboard.in/u:dsalo/t:751>, <https://pinboard.in/u:dsalo/t:sql>

Scott. "How much description is enough? A brief history on the debate over the Dublin Core Metadata Initiative." [http://www.eliotscott.com/documents/dublin\\_core.pdf](http://www.eliotscott.com/documents/dublin_core.pdf)

Hooland/Verborgh. "Chapter 2: Modelling," sections 1 through 6. *Linked data for libraries, archives and museums: how to clean, link and publish your metadata.* (The library owns this, print and electronic.)

Gilbert/Mobley. "Breaking Up With CONTENTdm: Why and How One Institution Took the Leap to Open Source." <http://journal.code4lib.org/articles/8327>

Zeng/Qin, *Metadata*, Section 3.5 "Metadata Sources"

Zeng/Qin, *Metadata*, Section 3.6 "Metadata Storage"

### Module 4: Sharing and harvesting metadata.

*Learning objectives: federated searching vs aggregation, crosswalks, mapping, how the mapping process works (you win some, you lose some), sharing metadata - solutions, OAI-PMH, METS, PCDM.*

Helland. "The power of babble." <https://queue.acm.org/detail.cfm?ref=rss&id=3003188>

Woodley. "Crosswalks, Metadata Harvesting, Federated Searching, Metasearching." [https://www.getty.edu/research/publications/electronic\\_publications/intrometadata/setting.html](https://www.getty.edu/research/publications/electronic_publications/intrometadata/setting.html)

Shreeves/Riley/Milewicz. "Moving towards shareable metadata." <http://firstmonday.org/ojs/index.php/fm/article/view/1386>

Gregory/Williams. "On being a hub: some details behind providing metadata for the Digital Public Library of America." <http://www.dlib.org/dlib/july14/gregory/07gregory.html>

Gueguen et al. "Metadata aggregation." <https://dp.la/info/2015/01/28/metadata-aggregation-webinar-video-and-extended-qa/> (Just the Q&A; you do not need to watch the webinar.)

## Unit 2: Coping with metadata

### Module 5: Training and human resources for metadata.

*Learning objectives: Networks of practice, technological frames, project management, generational issues, MARC to non-MARC transition. Metadata careers: trends in careers and job postings. Planning your post-graduation professional development, self-teaching.*

Chopey, Michael A. "Planning and Implementing a Metadata-Driven Digital Repository." *Cataloging & Classification Quarterly* 40, no. 3/4 (August 2005): 255–287. <http://scholarspace.manoa.hawaii.edu/bitstream/10125/337/1/0409CCQPlanningImplementing.pdf>

Khoo/Hall. "Managing Metadata: Networks of Practice, Technological Frames, and Metadata Work in a Digital Library." *Information and Organization* 23:2: 81–106. [http://cci.drexel.edu/faculty/mkhoo/docs/13\\_info\\_org.pdf](http://cci.drexel.edu/faculty/mkhoo/docs/13_info_org.pdf)

Thompson, K. J. (2015). "What If I Break It?" Project Management for Intergenerational Library Teams Creating Non-MARC Metadata. *The Code4Lib Journal*, (28). <http://journal.code4lib.org/articles/10395>

Metadata Discussion Group – data nerdery in the service of resource discovery. <https://blogs.libraries.indiana.edu/metadata/> (Skim the first two or three pages of posts.)

Mackeil-Pepin. "On addressing weaknesses." <https://hacklibraryschool.com/2015/01/28/on-addressing-weaknesses/>

### Module 6: Managing metadata quality.

*Learning objectives: What is data quality? Functional requirements, quality and granularity. Measuring data quality. Tools for quality control. Training. Acceptably bad quality. Metadata remediation, OpenRefine.*

*Linklist(s):* <https://pinboard.in/u:dsalo/t:openrefine>

Hooland/Verborgh. "Chapter 3: Cleaning." In *Linked Data for Libraries, Archives and Museums: How to Clean, Link and Publish Your Metadata*. Chicago: ALA Editions, 2014.

Dangerfield/Kalshoven. "Report and Recommendations from the Task Force on Metadata Quality." [http://pro.europeana.eu/files/Europeana\\_Professional/Publications/Metadata%20Quality%20Report.pdf](http://pro.europeana.eu/files/Europeana_Professional/Publications/Metadata%20Quality%20Report.pdf) (Executive Summary, then pp. 32-end)

Phillips/Tarver/Frakes. "Implementing a collaborative workflow for metadata analysis, quality improvement, and mapping." <http://journal.code4lib.org/articles/9199>

### Module 7: Designing/choosing a metadata schema.

*Learning objectives: Focusing on user needs, user behavior, corporate culture. Selecting and developing an element set, adapting vs. starting from scratch, general vs. domain specific element sets, factors in choice of metadata element set, mandatory vs. optional. Content guidelines, documenting your schema. Examples of design process and documentation. Copyright and metadata.*

Miller. Chapter 10: Designing and Documenting a Metadata Schema.

"Principles for evaluating metadata standards." <http://metaware.buzz/2016/08/04/principles-for-evaluating-metadata-standards/>

Greenberg et al. "Metadata ownership and metadata rights." <https://www.slideshare.net/slideshow/view?login=chelciesansmerci&preview=no&slideid=1&title=metadata-ownership-metadata-rights>

Read/explore at least four of the case studies provided on Canvas.

## Unit 3: Metadata Carriers and Technologies

### Module 8: Getting started with descriptive metadata: Dublin Core.

*Learning objectives: History and goals of Dublin Core. One-to-one principle, dumb-down principle. Using documentation. Simple vs. qualified DC, DC application profiles. Challenging elements, limitations of Dublin Core. Metadata creation by non-experts.*

Baker. "A grammar of Dublin Core." <http://www.dlib.org/dlib/october00/baker/10baker.html>  
Urban. "Principle paradigms: revisiting the Dublin Core 1:1 principle." [https://www.ideals.illinois.edu/bitstream/handle/2142/31109/urban\\_richard.pdf?sequence=1&isAllowed=y](https://www.ideals.illinois.edu/bitstream/handle/2142/31109/urban_richard.pdf?sequence=1&isAllowed=y) (Abstract only.)  
Chapter 3, "Using Dublin Core" in *The metadata manual: a practical workbook*.  
Coyle/Baker. "Guidelines for Dublin Core Application Profiles." <http://dublincore.org/documents/2008/11/03/profile-guidelines/>

## Module 9: Introduction to XML.

*Learning objectives: history of XML, function vs. format (markup vs. makeup), well-formed, valid, element, attribute, DTD/schema, namespace, common encoding errors*

*Linklist(s):* <https://pinboard.in/u:dsalo/t:551/t:xml>

W3C. XML in Ten Points. <http://www.w3.org/XML/1999/XML-in-10-points.html.en>  
Cole/Han. Chapter 2: XML: Why It's Important for Catalogers and Metadata Librarians. In *XML for catalogers and metadata librarians* (pp. 25–43).  
Harold/Means. "How XML Works." XML in a Nutshell.  
And your choice of:  
Harold/Means. "XML Fundamentals." *XML in a Nutshell*. OR  
Cole/Han. Chapter 3: XML: Core Syntax and Grammar. In *XML for catalogers and metadata librarians* (pp. 45–63).

## Module 10: Applications of XML: MODS and family.

*Learning objectives: comparing MARCXML, MODS and DC, choosing a Descriptive Standard, MODS - what is it is, how it is used, Sample MODS implementation - the DLF Aquifer Project*

*Linklist(s):* <https://pinboard.in/u:dsalo/t:mods>, <https://pinboard.in/u:dsalo/t:marcxml>

"DLF/Aquifer Implementation Guidelines for shareable MODS records." [https://wiki.dlib.indiana.edu/confluence/download/attachments/24288/DLFMODS\\_ImplementationGuidelines.pdf](https://wiki.dlib.indiana.edu/confluence/download/attachments/24288/DLFMODS_ImplementationGuidelines.pdf) (Introduction and Summary of Requirements and Recommendations; the rest is for your reference.)  
"MODS Guidelines Levels of Adoption." <https://wiki.dlib.indiana.edu/display/DLFAquifer/MODS+Guidelines+Levels+of+Adoption>

## Module 11: A (very) short introduction to linked data.

*Learning objectives: Escaping information silos. RDF. Ontologies. Linked data. Triples as statements. URIs as identifiers. The "open world assumption." Domain/range. Reconciliation.*

Voss/OCLC. "Linked data for libraries." <http://lodlam.net/2012/08/09/linked-data-for-libraries-video-from-oclc/>  
Tauberer, "What is RDF and what is it good for?" <https://github.com/JoshData/rdfabout/blob/gh-pages/intro-to-rdf.md#> (Sections 1-4; pay special attention to Tauberer's answers to the second question in his title, please.)  
Hilton. "Rise of the machines." <http://blog.wellcomelibrary.org/2013/12/rise-of-the-machines/>  
Noy and McGuinness. "Ontology development 101." <http://www.ksl.stanford.edu/people/dlm/papers/ontology-tutorial-noy-mcguinness-abstract.html>  
Kelley, Michael. "How the W3C has come to love library linked data." [http://www.libraryjournal.com/lj/home/891826-264/how\\_the\\_w3c\\_has\\_come.html.csp](http://www.libraryjournal.com/lj/home/891826-264/how_the_w3c_has_come.html.csp)

# Unit 4: Metadata in context

## Module 12: Metadata for audio and visual resources

*Learning objectives: ID3v2, PBCore, VRA Core. Controlled vocabularies for visual resources (TGN, AAT, ULAN). Subject access to art objects (a painting is not usually about painting).*

*Linklist(s):* <https://pinboard.in/u:dsalo/t:audio/t:metadata>, <https://pinboard.in/u:dsalo/t:video/t:metadata>

ID3.org "Welcome" and "FAQ." <http://id3.org/Home> and <http://id3.org/FAQ>  
"PBCore FAQs." <http://pbcore.org/faqs/>  
"About the ULAN." <https://www.getty.edu/research/tools/vocabularies/ulan/about.html> (skip History)  
"Cataloging Cultural Objects: Part I, General Guidelines" [http://cco.vrafoundation.org/downloads/PartOne\\_GeneralGuidelines.pdf](http://cco.vrafoundation.org/downloads/PartOne_GeneralGuidelines.pdf)

Layne "Subject Access to Art Images." [http://www.getty.edu/research/publications/electronic\\_publications/intro\\_aia/layne.pdf](http://www.getty.edu/research/publications/electronic_publications/intro_aia/layne.pdf).

### Module 13: Administrative metadata: preservation, technical, and rights metadata

*Learning objectives: Defining administrative metadata, rights management metadata, preservation metadata. EXIF, PREMIS, provenance metadata, event, entity, agent, activity. Quick tools for determining rights for cultural objects, METS (again), RightsStatements.org, localcontexts.org.*

*Linklist(s):* <https://pinboard.in/u:dsalo/t:mets>

"EXIF data explained." <http://www.photographymad.com/pages/view/exif-data-explained>

Whalen. "Rights Metadata Made Simple." [http://www.getty.edu/research/publications/electronic\\_publications/intrometadata/rights.pdf](http://www.getty.edu/research/publications/electronic_publications/intrometadata/rights.pdf)

"A primer on PREMIS and PREMIS Rights." <https://archival-integration.blogspot.com/2016/02/a-primer-on-premis-and-premis-rights.html>

"Recommendations for standardized international rights statements." [http://rightsstatements.org/files/160208recommendations\\_for\\_standardized\\_international\\_rights\\_statements\\_v1.1.pdf](http://rightsstatements.org/files/160208recommendations_for_standardized_international_rights_statements_v1.1.pdf)

"Traditional Knowledge (TK) labels." <http://www.localcontexts.org/tk-labels/>

### Module 14: Metadata for organizational knowledge: business and records management

*Learning objectives: use metadata, data exhaust, paradata, ONIX, EPUB, IPTC Metadata Standard, reference data, corporate taxonomies, data warehousing, examples of business metadata, business metadata vs. technical metadata, structured vs unstructured business metadata, master data management*

EDItEUR. "ONIX FAQs." <http://www.editeur.org/74/FAQs/>

GPO. "ONIX Metadata Information Template." [https://www.gpo.gov/pdfs/customers/sfas/ONIX\\_Metadata\\_Information\\_Template.pdf](https://www.gpo.gov/pdfs/customers/sfas/ONIX_Metadata_Information_Template.pdf)

Chastain. "About EXIF, IPTC, and XMP use in graphics software." <https://www.thoughtco.com/what-is-metadata-1701735>

Ceglowski. "Haunted by data." [http://idlewords.com/talks/haunted\\_by\\_data.htm](http://idlewords.com/talks/haunted_by_data.htm)

Inmon, William H, Bonnie K O'Neil, and Lowell Fryman. "Chapter 1: Introducing Business Metadata." *Business Metadata: Capturing Enterprise Knowledge*. (The library has this as an ebook.)

### Module 15: Metadata for research data: geospatial, digital humanities, scientific data

*Learning objectives: geospatial metadata, biodiversity and ecology data, social science research data, DDI, DarwinCore, EML, ORCID, examples of metadata for research data*

*Linklist(s):* <https://pinboard.in/u:dsalo/t:datauration/t:metadata>

UW-Madison Research Data Services. Metadata. <http://researchdata.wisc.edu/metadata/>

Briney. "README.txt" <http://dataabinitio.com/?p=378> and "Data dictionaries." <http://dataabinitio.com/?p=454>

Digital Curation Center. "Disciplinary metadata." <http://www.dcc.ac.uk/resources/metadata-standards> (and skim a few from the lists: minimally, DDI, DarwinCore, EML.)

Emmelhainz. "Adding metadata to a qualitative data project." <http://databrarians.org/2015/11/adding-metadata-to-a-qualitative-data-project/>

Meadows. "Everything you ever wanted to know about ORCID." <http://crln.acrl.org/index.php/crlnews/article/view/9428/10644>

Mannheimer. "Using data dictionary creation as the teaching moment for metadata." <http://connect.clir.org/blogs/sara-mannheimer/2015/05/21/teaching-moment>

## Weekly due-date table

	Starts	Modules	Due at 11:59pm:
Week 1	6/11	1, 2	6/17: Team Compact/Schedule/OnePager
Week 2	6/18	3, 4	
Week 3	6/25	5, 6	
Week 4	7/2	7	
Week 5	7/9	8,9	7/15: Dublin Core
Week 6	7/16	10, 11	7/22: MODS/XML, Schema in 10 Points
Week 7	7/23	12, 13	7/29: VRA Core
Week 8	7/30	14, 15	8/5: Metadata schema documentation

## ASSIGNMENTS

All assignments are due at 11:59 pm on the dates listed in the table above (the module designations below are mostly for me). One final-grade percentage point will be lost per day or fraction thereof late. If you are comfortable working ahead, feel free.

### Assignments at-a-glance

	% of final grade	Due date:
Dublin Core	15%	Module 8
MODS/XML	15%	Module 10
VRA Core	10%	Module 12
Schema in 10 Points	15%	Module 11
Group project: metadata schema design and documentation		
Team Compact/Schedule/One-Pager	5%	Module 2
Documentation	20%	Module 15
Class participation	20%	throughout

No extra credit opportunities are available in this class.

Final grade scale: 100-93.5 A; 93.4-89.5 AB; 89.4-83.5 B; 83.4-79.5 BC; 79.4-73.5 C, 69.5-73.4 D, below 69.5 F

## Assignment descriptions

Unless otherwise stated, turn in assignments to the appropriate homework dropbox on Canvas.

### Dublin Core

For this assignment, the class will be creating metadata for digitized materials specified on Canvas. Please follow Dublin Core metadata guidelines provided by Recollection Wisconsin: <http://recollectionwisconsin.org/wp-content/uploads/2016/12/RecollectionWisconsinMetadataEssentials.pdf>. Each student will create metadata for at least 5 items: if you would like to create metadata for additional items, you may tell me which records to grade for this assignment.

### MODS/XML

This assignment has 2 parts. In part 1, students map one of the records they created for the Dublin Core assignment to the MODS schema. In part 2, students create a MODS record for an object for which a MARC record already exists. Create the record according to the "DLF/Aquifer Summary of MODS Requirements and Recommendations Table" (<http://www.loc.gov/standards/mods/userguide/dlfaquifer.html>).

## VRA Core

This assignment has 2 parts. In part 1, students will create metadata records for 2 items in a Qualified Dublin Core schema aimed at ingestion into DSpace. In the second part, students will choose one of the items and create a valid XML metadata record for it according to the VRA Core 4.0 standard.

## Schema in 10 Points

In the XML module, you will read “XML in 10 points”, a document that synthesizes the ten most important things you need to know about XML in 10 points. For this assignment, you will research a metadata schema *other than Dublin Core, MODS, METS, MARC, VRA or EAD*, and prepare a similar training document, presented as a Canvas discussion post. (Note: a placeholder post consisting of your document as a Word or PDF attachment *will receive an automatic o*. You may, however, attach appropriate supplemental files, e.g. sample records.) You are encouraged to include images, links and other material that you think your audience will find helpful. Your intended audience is your classmates: early-career professionals who need to know the essentials of a metadata schema so that they can a) interpret records in that schema that they encounter in their work b) decide whether that schema is an appropriate choice for a metadata creation project and c) make decisions about how much future training to pursue related to that schema.

Make your choice from the list below on Canvas (try to spread the wealth, please; we’ll all learn more that way!), or choose another schema in consultation with me.

- TEI (text encoding initiative; focus on the TEI Header)
- PBCore
- Learning Object Metadata
- DarwinCore
- Mukurtu (this is not technically a schema, but can be used for this assignment; focus on Mukurtu’s metadata use)
- EAC (Encoded Archival Context)
- DDI (Data Documentation Initiative)
- ONIX (used in publishing/book market; more than one schema, so you may focus on one)
- DataCite
- ISO 19115 (geospatial metadata)
- RightsStatements.org
- schema.org microdata
- SKOS

## Final Project – Metadata Schema Design and Documentation

This project simulates the extremely common real-world situation of a brand-new digitization/data project where nobody is sure which metadata is desirable, what it should look like, or how to collect it.

Working as a team of 4-5 students, identify a digitized or born-digital collection consisting of *heterogeneous* objects. (By “heterogeneous,” I mean that the collection must contain examples of *at least three types* from the DCMI Type Vocabulary <http://dublincore.org/documents/dcmi-type-vocabulary/#H7>, “Collection,” “Event,” “Service,” and “PhysicalObject” excluded.) Design and document a mostly *descriptive* metadata schema (though it may contain other types of metadata as needed) suitable for your collection, following the instructions in Miller chapter 10. To test the applicability of your schema, create metadata descriptions for *five* example objects from your collection, representing each of at least *three* DCMI types.

Your group is first responsible for:

- a Team Compact to guide your work, based on the advice at <http://www.leadingvirtually.com/virtual-team-tools-team-compact/> and the associated matrix <http://www.leadingvirtually.com/wp-content/uploads/2008/07/rulesofengagementmatrix.pdf>. Along with this, please turn in a detailed week-by-week schedule of who is responsible for which concrete project tasks.
- a 1-page (300 word) proposal for your project, which should consist primarily of a description of the *target collection* and *user communities* for your schema. In addition, you are encouraged to pose questions or discuss challenges that you anticipate in creating a schema for the collection/community; I will try to address your questions in my feedback to help you work towards the documentation.

Your group’s final documentation should include:

1. An abstract/executive summary of your findings and decisions
2. Characteristics of your collection

3. Characteristics of the primary user community for your collection, including their information behavior and needs
4. Your element set, including identifying core, or required elements vs. optional elements, and database field specifications for each element
5. Crosswalk of local or custom elements to standard schemas; as applicable, transformation of metadata to its desired final form (e.g. spreadsheets to XML)
6. Guidelines/rules for creating metadata
7. Controlled vocabularies, enumerations, thesauri, or ontologies in use
8. Five metadata records for five sample objects in your collection
9. Bibliography of sources used

The documentation should be roughly 8-10 pages in length, not including the five sample records.

## ON GROUP PROJECTS

The idea that group projects are uniquely designed to torture iSchool students is a snare and a delusion. All information professions include immense amounts of collaborative work, from grantwriting to local committees and task forces to involvement in national professional organizations and everything in between. None of the obstacles to working in groups—scheduling, free riders, personality conflicts—disappears when you receive your degree. If you are not good at working in a team, now is the time to learn!

Likewise, formal project management is a highly marketable skill. Even if you are not your group’s PM, learning everything you can about how to plan, charter, schedule, steer, and budget a project will serve you well, as will thoughtful reflection on how best to encourage fruitful teamwork among colleagues.

## Learning outcomes table

Course Learning Objective	SLIS Program-level learning outcome	How will mastery of learning outcomes be assessed?	Criteria for demonstrating mastery of learning outcomes
<p>Recognize and evaluate various metadata schemas and element sets and their appropriateness in specific domains</p> <p>Select and implement appropriate controlled vocabularies for metadata value spaces</p> <p>Apply Dublin Core, VRA, MODS metadata to digital objects, using basic XML encoding when appropriate</p> <p>Design and document a metadata scheme for use with a particular collection or digital library, based on an understanding of the information needs and behaviors of individuals and user communities</p>	<p>3a. Students organize and describe print and digital information resources</p> <p>3d. Students understand and use appropriate information technologies</p>	<p>Dublin Core, VRA, MODS assignments</p> <p>Final Project – Metadata Schema Design and Documentation</p>	<p>In Dublin Core, VRA and MODS assignments, students describe resources using various metadata standards, demonstrating appropriate use of elements, field specifications and controlled vocabularies</p> <p>Students create a metadata schema appropriate for a collection of their choosing, and describe 5 resources according to their profile guidelines. They will select and implement appropriate controlled vocabularies for user communities.</p>

Course Learning Objective	SLIS Program-level learning outcome	How will mastery of learning outcomes be assessed?	Criteria for demonstrating mastery of learning outcomes
<p>Work as a member of a team in making decisions regarding metadata creation and application</p>	<p>4a. Students evaluate, problem solve and think critically, both individually and in teams.</p>	<p>Final Project – Metadata Schema Design and Documentation</p> <p>Assignment peer reviews</p> <p>Group discussion activities</p> <p>Written reflection components of DC, MODS and VRA assignments.</p>	<p>In the final project, students work collaboratively to make decisions regarding the design of the metadata application profile, description of resources, and compilation of the report. Decisions regarding schema design and documentation demonstrate appropriate research, critical thinking and creative problem-solving.</p> <p>Peer review comments demonstrate critical thinking and problem solving skills applied to improving work of peers</p> <p>Written reflections demonstrate problem-solving process and critical thinking in making decisions about metadata creation, especially related to user needs, documentation, metadata shareability and quality</p>
<p>Understand major factors in management of digital collections that use metadata, including project leadership, innovation, needed skills, project management approaches, quality control, and collaboration</p>	<p>4d. Students demonstrate innovation and skills necessary for leadership (possible)</p>	<p>Final Project – Metadata Schema Design and Documentation</p> <p>In-class discussion of metadata management issues and metadata careers</p>	<p>In-class discussion of metadata management and careers demonstrates understanding of major factors in management of digital collections, and may innovative approaches to trends and leadership in the field.</p> <p>Final Project reports may demonstrate potential abilities for leading metadata projects, including innovation, creativity, synthesis, and sensitivity to user communities</p>

<b>Course Learning Objective</b>	<b>SLIS Program-level learning outcome</b>	<b>How will mastery of learning outcomes be assessed?</b>	<b>Criteria for demonstrating mastery of learning outcomes</b>
<p>Communicate clearly and effectively to report on, debate and instruct others on the topic of metadata creation and related issues</p>	<p>4b. Students demonstrate good oral and written communication skills</p>	<p>Final Project – Metadata Schema Design and Documentation</p> <p>Schema in 10 points</p> <p>Discussion Forums and peer reviews (participation)</p>	<p>The Final Project report, the Schema in 10 points assignment, and the written reflection components of the DC, MODS and VRA assignments will be well-organized and structured, written in clear, concise and mechanically correct language, making correct use of appropriate terminology, detail and supporting examples.</p> <p>Discussion forum posts and Schema in 10 Points demonstrate clarity of expression and effective supporting detail and examples in order to report on, debate and instruct others regarding metadata issues.</p>