

# INF 7910: Metadata in Theory and Practice

*Fall 2018 - Online*

# Instructor: Dr. Joan E. Beaudoin

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| **Online Office Hours:** | Wednesday 8 p.m.-9 p.m. EST |

*Communicating with the Instructor*

Each week on Wednesday from 8-9 p.m. I am online and available for office hours through Canvas. I strongly suggest that you attend these meetings when you have questions or you are not fully grasping the course content. Office hours are held in Canvas, and can be accessed through the Conferences menu item within the course. If no one shows up by 8:15 p.m. I may sign out, unless we have made prior arrangements to “meet” later. The second best option is to post your questions to the thread set up for this on the discussion board. Email me any questions or concerns of a personal nature, but be aware that I often receive hundreds of emails a day and so I may miss what you send until I have the time to perform my weekly email review.

# Course Description and Course Competencies

# Course Description

Through the course students develop an understanding of the theoretical and practical principles of metadata. Students examine critical issues surrounding the development and application of metadata for particular domains and settings. The primary goals of this course are 1) to increase students’ awareness and understanding of metadata schemas and the multiplicity of metadata standards, and 2) to increase their knowledge through the development and application of metadata elements, schema and authority controls in a setting specific collections.

# Course Competencies

The over-arching expectation for this course is that students will comprehend the fundamental principles, practices and types of metadata.

The specific skills to be mastered are:

* Define metadata, and understand the terminology of metadata.
* Comprehend and identify domain specific metadata schemas.
* Apply standard metadata element sets and schemas to records or collections.
* Develop and document modified metadata element sets and schema in various setting-specific records or collections.
* Comprehend and use basic mark-up languages.
* Develop descriptive and administrative metadata for a collection of items.
* Understand, develop and implement authority controls for a collection.

## **Course Policies**

## **Academic Integrity**

The School Information Sciences is clear on its policies surrounding academic honesty. Plagiarism and cheating are considered serious acts of academic misconduct by the university and infractions will result in dismissal from the School Information Sciences. The School’s policy regarding academic integrity can be reviewed here: <http://sis.wayne.edu/students/policies/academic_integrity.php>[.](http://slis.wayne.edu/about/policies.php#plagiarism)

*Plagiarism -* In case this term is not clear to you, plagiarism is defined as using the words or ideas of another and presenting them as your own. ***This means the quoting or para-phrasing of words from books, articles, websites, blogs, newspapers, emails, personal conversations, letters, etc., and not providing a citation to indicate where these ideas were found.*** To be safe, cite your sources (and your readers will thank you for providing additional resources on the topic).

Standards for academic integrity are described in Wayne State University’s *Student Code of Conduct*

[(](http://doso.wayne.edu/assets/student-code-of-conduct-brochure.pdf)<http://sis.wayne.edu/students/policies/student_code.php>[)](http://doso.wayne.edu/assets/student-code-of-conduct-brochure.pdf). You are responsible for reading and understanding these rules. Be aware that submitting an assignment from a previous course is prohibited. Also, unless the assignment explicitly indicates that group work is allowed, you are expected to complete assignments on your own and in your own words.

## **Use of Class Materials**

## The course materials, including, but not limited to, presentations, lecture notes, course documents, and assignments are copyright protected works. Any unauthorized copying of the course materials is a violation of federal law and may result in disciplinary or legal action. Additionally, the sharing of course materials without the specific, express approval of the instructor may be in violation of the University's Student Code of Conduct. As such it is an act of academic dishonesty, which could result in further disciplinary action. Unauthorized use includes, among other things, emailing or uploading course materials to websites and other content management systems for the purpose of sharing those materials with individuals and groups not enrolled in the course during the current semester.

## **E-Portfolio Requirements**

An E-Portfolio is required for graduation by all students who entered the MLIS in Fall 2009 and thereafter. Be sure to archive course assignments in preparation for completing this graduation requirement. To post a group project to your portfolio get the written consent of all group members and make sure that all members are clearly identified in the project. Details about the portfolio may be found on the SIS website: <http://sis.wayne.edu/students/eportfolios/index.php>[.](http://slis.wayne.edu/students/eportfolios/index.php)

## **Student Disabilities Services**

If you have a documented disability that requires accommodations, you will need to register with Student Disability Services for coordination of your academic accommodations. The Student Disability Services (SDS) office is located at 1600 David Adamany Undergraduate Library in the Student Academic Success Services department. SDS telephone number is 313-577-1851 or 313-577-3365 (TDD only). Once you have your accommodations in place, I will be glad to discuss with you privately your special needs. Student Disability Services’ mission is to assist the university in creating an accessible community where students with disabilities have an equal opportunity to fully participate in their educational experience at Wayne State University. Please refer to the SDS website for further information about students with disabilities and the services provided for faculty and students: [http://studentdisability.wayne.edu/.](http://studentdisability.wayne.edu/)

## **Student Privacy and Information Security**

SIS follows all WSU policies and procedures regarding student privacy and security as outlined by the Family Educational Rights and Privacy Act (FERPA)--a federal mandate: [http://reg.wayne.edu/students/privacy.php.](http://reg.wayne.edu/students/privacy.php)

## **Graduate Professional Student Responsibilities**

Graduate professional education is rigorous, substantial and largely self-directed. Students have a responsibility to be prepared for class, participate effectively and interact appropriately with students and instructors. The best way to achieve this is to work through the course content (i.e., examine the syllabus for due dates, do the assigned readings, take notes on the lectures, read assignment instructions, read through the office hours transcripts, look at the discussion board forums, etc.). Examining topical content outside of the course, to check and solidify your knowledge, is a proven way to ensure you are fully grasping the material. Communication, whether written or oral, should be professional and adhere to generally acceptable courtesy expectations. Professional communication and behavior is an integral component of the graduate learning experience. Please remember to identify the course when communicating with the instructor via email.

## **Expectations**

**My expectations of you:**

* You will log into the course at least once a day during the work week (M-F).
* This is a graduate course, and as such its workload is demanding. If you have problems keeping up, you will contact me ***before*** things become critical.
* You will read the assigned readings and participate ***substantially*** in course discussions.
* You will respond to your 5 assigned discussion question(s) by midnight on Wednesday in your assigned weeks.
* You will comment on a discussion posting of at least one of your classmates by the end of each of your 5 assigned discussion weeks (i.e., midnight on Friday).
* You will turn in assignments on their due dates. Late assignments receive a lower grade (10% for each day late, and after a week the grade will automatically result in a zero). These assignment rules apply unless we have discussed modifying the due date in advance or there are strongly extenuating circumstances.
* All individual work turned in for grade will be the student’s own work prepared expressly for this course.

**Your expectations of me:**

* I will treat all students fairly.
* I will check the discussion area at least once a day during the work week (M-F) for the entire semester.
* I make every effort to respond to posted questions within 24 hours during the work week (M-F).
* I make every effort to return graded material within two weeks after the assignment is due, but this may take longer depending on the extent of the grading needed for a particular assignment and my current course load. Please keep in mind that I may have 60-90+ assignments to grade each week.

**Grading Scale**

## **Grading Policies**

See the SIS polices website [-](http://slis.wayne.edu/students/policies/index.php%23academicprogress) <http://sis.wayne.edu/students/policies/academic_progress.php>- for the specifics of the School’s policies regarding academic progress.

The grading scale used for this course is a point system with 100 points being a perfect score.

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| A / 93-100 Outstanding achievement. Work shows a full command of course material and exhibits a high level of originality and/or creativity. |
| A- / 90-92 Excellent achievement. Demonstrates thorough knowledge of the course material and all requirements are completed in a superior manner. |
| B+ / 87-89 Very good work. Demonstrates above-average comprehension of the course materials and exceeds assignment and course expectations on all tasks. |
| B / 83-86 Good work. Demonstrates an understanding of the course materials at an acceptable level. Meets designated assignment and course expectations. |
| B- / 80-82 Marginal work. Incomplete understanding of course materials, and/or weak assignments. |
| 79 & below Unsatisfactory work. Incomplete understanding and weak assignments. In graduate school a **C** does not mean satisfactory, but instead indicates issues needing to be addressed. |

# Graded Course Assignments

# Course Discussion [3 points per 5 discussion weeks - 15 points total]

Active participation is required for you to “know” the material we will cover. As Einstein said, “knowledge is experience, everything else is just information.” You must read and reflect upon the information to make it a part of your own knowledge construction. Each week there will be discussions of the readings and what we have learned from them. I will post a discussion question or two based on the weekly topic being addressed. I will assign 5 discussion weeks to each class member. We all take different pieces of information from the things we read (a prime example of situational relevance!) and so each of us has a unique voice to add to the conversation. The varied points of view that each class member offers make the learning experience richer and more interesting for all involved. In your 5 assigned weeks you will reflect upon the question(s) and post a thoughtful response to the question by midnight on Wednesday. You will also post a substantial follow-up comment to one of your colleague’s posts by midnight on Friday in the 5 weeks assigned to you. I look at the postings and evaluate these on depth of reflection and ideas expressed. Thus, “I thought the same thing, too!” type comments don’t receive credit.

**Homework Assignment 1 -** **Working with Metadata Using Open Refine [10 points]**

In this assignment you perform work on a data set using Open Refine. Evaluation is based on how well you are able to analyze and clean up the variations and issues found in the assigned data file.

# Homework Assignment 2 - Element Mapping [10 points]

In this assignment you will assign given elements to those of several known schemas. Evaluation is based on the selection of the correct schema for each example element.

# Homework Assignment 3 - XML & DTD [10 points]

In this assignment you create XML code and a DTD for an item. Evaluation is based on the correctness of the coding used in the record and the accompanying DTD.

# Homework Assignment 4 - Schema Identification [10 points]

In this assignment you will be provided with metadata records and be asked to identify their schemas. Evaluation is based on identifying the correct schema for the given metadata.

# Term Project [5 steps - 45 points]

For this assignment you will develop metadata for a collection of 25 items across multiple steps across the semester. Evaluation is based on how well the course concepts have been incorporated into each step, how well the instructor’s and classmates’ feedback has been incorporated into the final step, and the degree of care used in completing each step. The 5 separately graded steps are as follows:

**Step 1: Collection Identification & Definition - 5 points**

In this step you identify and provide a title for the collection that you will work on. The assignment also asks you to define the scope of the collection.

**Step 2: Metadata Creation - 10 points**

In this step of the project you will provide metadata for your collection of items.

**Step 3: Metadata Assessment - 10 points**

In this step you will evaluate the metadata provided by your classmates using an assessment rubric.

**Step 4: Application Profile - 10 points**

In this step you will develop and document the elements, rules of entry, controlled vocabularies, and other metadata guidelines useful to understanding your collection’s metadata.

**Step 5: Collection Online - 10 points**

In this final step you will use the feedback provided by the instructor and your classmates to strengthen your collection’s metadata. The final form of your metadata will be presented in a digital library system.

# Textbooks, Readings and Style Manual

**MAIN text:**

Miller, Steven J. (2011). *Metadata for Digital Collections.* (New York: Neal-Schuman).

**REQUIRED MANUAL OF STYLE:**

*Publication Manual of the American Psychological Association* (2010). 6th edition. (Washington, DC: American Psychological Association).

**SECONDARY texts** (many of these are optional readings)**:**

Aitchison J. (1987). Chapters 4, 5, & 7 from *Words in the Mind*. (Oxford, UK; New York, NY: B. Blackwell). [Useful Documents].

Anderson, J.D. and J. Pérez-Carballo. (2001a). The nature of indexing: how humans and machines analyze messages and texts for retrieval: Part I. *Information Processing & Management*, 37, 231-254. [Useful Documents].

-----. (2001b). The nature of indexing: how humans and machines analyze messages and texts for retrieval: Part II. *Information Processing & Management*, 37, 255-277. [Useful Documents].

*ASIST Bulletin* Folksonomies issue (first two articles on folksonomies & Beaudoin’s article on Flickr image tagging)[: http://www.asis.org/Bulletin/Oct-07/index.html](http://www.asis.org/Bulletin/Oct-07/index.html)

Bates, M. J. (1996). Rigorous Systematic Bibliography. Chapter 5, 117-130. In Howard D. White; Marcia J. Bates & Patrick Wilson (eds.), *For Information Specialists. Interpretations of Reference and Bibliographic Work*. (Norwood, NJ: Ablex). [Useful Documents].

Beaudoin, J. (2008). On Tagging. [Useful Documents].

Beisler, A., & Willis, G. (2009). Beyond theory: preparing Dublin Core metadata for OAI-PMH harvesting. *Journal of Library Metadata, 9*(1/2), 65-97.

Boulding, K. (1956). Chapter 1. *The Image*. (Ann Arbor, MI: University of Michigan). [Useful Documents].

Bowker, G. C. and Star, S. L. (1999). Introduction: To Classify is Human. *Sorting Things Out: Classification and Its Consequences*. (Cambridge, MA: MIT Press). [Available online:

[http://www.ics.uci.edu/~gbowker/classification/]](http://www.ics.uci.edu/~gbowker/classification/).

Buckland, M. (1991a). Information as Thing. *Journal for the American Society of Information Science (JASIS)*, 42(5), 351-360. [Useful Documents].

Caplan, P. (2003a). Chapter 1: Metadata Basics in her *Metadata Fundamentals for All Librarians*. (Chicago, IL: ALA). [Useful Documents].

-----. (2003b). Chapter 9: Archival Description and the EAD, in her *Metadata Fundamentals for All Librarians*. (Chicago, IL: ALA). [Useful Documents].

Carlyle, A. (2001). Developing organized information displays for voluminous works: A study of user clustering behavior. *Information Processing & Management*, 37, 677-699. [Useful Documents].

Choi, Y. and Rasmussen, E. M. (2003). Searching for images: The analysis of users’ queries for image retrieval in American history. *Journal for the American Society of Information Science and Technology (JASIST)*, 54(6), 498-511. [Useful Documents].

Downie, J. S. (2003). Music information retrieval. *Annual Review of Information Science and Technology*, 37, 295-340. [Useful Documents].

*Dublin Core Metadata Element Set*. [Useful Documents].

*Dublin Core (DC) Metadata Initiative* home page: Available from[: http://dublincore.org/](http://dublincore.org/)

Fidel, R. (1994). User-Centered Indexing. *Journal for the American Society of Information Science (JASIS)*, 45(8), 572-576. [Useful Documents].

Harpring, P. (2010). *Introduction to Controlled Vocabularies: Terminology for Art, Architecture, and Other Cultural Works.*(Los Angeles: Getty Research Institute). Available from:

<http://www.getty.edu/research/publications/electronic_publications/intro_controlled_vocab/index.html>

Hillmann, D., & Westbrooks, E. (Eds.) (2004). *Metadata in Practice.* (Chicago: ALA). Available as an eBook via WSU.

Hodge, G. (2001). *Metadata Made Simpler.* (Bethesda, MD : NISO Press). [Useful Documents].

Hollink, L., et al. (2004). Classification of user image descriptions. *International Journal of Human-Computer Studies*, 61(5), 601-626. Available from[: http://www.cs.vu.nl/~laurah/1/papers/Hollink04\_coid.pdf](http://www.cs.vu.nl/~laurah/1/papers/Hollink04_coid.pdf) [also in Useful Documents].

Jörgensen, C. (2003). Chapter 3: Organizing and Providing Access to Images*. Image Retrieval*. (Latham, MS: Scarecrow Press). [Useful Documents].

Library of Congress. (2010). Conversions. *Metadata Object Description Schema (MODS).* Available from:

[http://www.loc.gov/standards/mods/mods-conversions.html.](http://www.loc.gov/standards/mods/mods-conversions.html)

-----. (2010). Outline of Elements and Attributes in MODS Version 3.4. *Metadata Object Description Schema (MODS).* Available from[**:** http://www.loc.gov/standards/mods/mods-outline.html**.**](http://www.loc.gov/standards/mods/mods-outline.html)

NISO (National Information Standards Organization). (2004). *Understanding Metadata*. [Useful Documents].

Novak, J. D. and A. J. Cañas. (2008). *The theory underlying concept maps & how to construct them*. Available

from[: http://cmap.ihmc.us/Publications/ResearchPapers/TheoryCmaps/TheoryUnderlyingConceptMaps.htm](http://cmap.ihmc.us/Publications/ResearchPapers/TheoryCmaps/TheoryUnderlyingConceptMaps.htm)

Park, J.-R. (2009). Metadata Quality in Digital Repositories: A Survey of the Current State of the Art, *Cataloging & Classification Quarterly*, 47(3-4), 213-228. [Useful Docs].

RLG EAD Advisory Board. (2002). *RLG Best Practice Guidelines for Encoded Archival Description.* Available from[: http://www.oclc.org/research/activities/past/rlg/ead/bpg.pdf.](http://www.oclc.org/research/activities/past/rlg/ead/bpg.pdf)

Ruth, J. (1997) Encoded Archival Description: A structural overview. *American Archivist*, 60, 310-329. Accessed from[: http://archivists.metapress.com/content/g121j46347828122/fulltext.pdf.](http://archivists.metapress.com/content/g121j46347828122/fulltext.pdf)

Shadbolt, et al. (2006). The Semantic Web revisited. *IEEE Intelligent Systems*, May/June, 96-101. Available from:<http://eprints.ecs.soton.ac.uk/12614/1/Semantic_Web_Revisted.pdf>[Useful Documents].

Vickery, B.C. (1986). Knowledge Representation: A Brief Review. *Journal of Documentation*, 42(3), 145-159. [Useful Documents].

Visual Resources Association (VRA) Data Standard: Available from[: http://www.loc.gov/standards/vracore/](http://www.loc.gov/standards/vracore/)

Wilson, P. (1968). *Two Kinds of Power*. (Berkeley, CA: University of California Press).

Woodley, M. S. (2008). Crosswalks, Metadata Harvesting, Federated Searching, Metasearching: Using Metadata to Connect Users and Information**.** In M. Baca (ed.) *Introduction to Metadata: Pathway to Digital Information*. (Los Angeles: Getty Research Institute). Available from:

<http://www.getty.edu/research/publications/electronic_publications/intrometadata/path.html>

Zeng, M. L. and J. Qin. (2008). *Metadata.* (New York: Neal-Schuman).

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| **Course Calendar** | | | |  | **Mandatory Readings**  *Additional Readings* | **Course Deliverables** *DUE Friday by midnight* |
| **Week**  Begins | **Topics** | **Mandatory Readings**  *Additional Readings* | **Course Deliverables**  *DUE Friday by midnight* |
| **1**  8/29  \* Note  extra days | **Foundations**  Information retrieval systems  Information models  Information defined  Indexing and indexes  Finding aids | Boulding (1956), Ch. 1  Fidel (1994)  Buckland (1991a)  *Anderson & Perez (2001a & b)* | Introduction |
| **Note the extra days to the first week.** If you plan on doing the majority of your school work on the weekends, this is the perfect opportunity to get ahead on the readings. You will then have the weekend (at the start of each week) to watch the lectures and complete the course deliverables. | | | |
| **2**  9/10 | **Introduction to metadata**  Metadata defined  Purpose of metadata  Types of metadata  Metadata schemas | Miller (2011), Ch. 1  NISO (2004)  *Caplan (2003a)*  *Hodge (2001)* | **HW 1: Working with**  **Open Refine** |
| **3**  9/17 | **Controlled vocabularies &**  **subject analysis**  Purpose of controlled vocabularies  Types of controlled vocabularies  Using controlled vocabularies  Creating controlled vocabularies | Miller (2011), Ch. 5  Aitchison (1987)  *Novak (2008)* | **Term Project: Step 1**  **Collection ID & Definition** |
| **4**  9/24 | **Images & Sound**  Image content & indexing  Image access issues  Vocabularies for image indexing  Content-based image indexing  Representing music | Jorgensen (2003)  *Choi\_Rasmussen (2003)*  *Downie (2003)*  *Hollink (2004)* |  |
| **5**  10/1 | **Classification theory & practice**  Classification & cognitive processing  Classification basics  Classification schemes  Taxonomies  Folksonomies | Carlyle (2001)  Beaudoin (2008)  *Bowker & Star (1999)*  *ASIST Bulletin (2007)* |  |
| **6**  10/8 | **Resource description & Dublin Core**  Basics of resource description  Introduction to Dublin Core | Miller (2011), Ch. 2  Dublin Core (DC) home page  DC Metadata Element Set  *Zeng and Qin (2008), Ch.* *2* |  |
| **7** 10/15 | **Resource ID & responsibility**  Elements for:  Resource identification  Name & responsibility  Intellectual property | Miller (2011), Ch. 3  *Zeng and Qin (2008), Ch.5* | **Term Project: Step 2**  **Metadata Creation** |
| **Week**  Begins | **Topics** | **Mandatory Readings**  *Additional Readings* | **Course Deliverables**  *DUE Friday by midnight* |
| **8**  10/22 | **Resource content & relationship** Elements for resource content & carrier, & subject content  Dublin Core examples  Mapping elements | Miller (2011), Ch. 4  Woodley (2008) | **HW 2: Element Mapping** |
| **9** 10/29 | **XML**  Basics of XML  XML record examples  XML record anatomy | Miller (2011), Ch. 6  *Zeng and Qin (2008), Ch. 4* | **HW 3: XML & DTD** |
| **10**  11/5 | **MODS**  Basics of MODS  MODS elements  MODS records  DC - MODS mapping | Miller (2011), Ch. 7 |  |
| **11**  11/12 | **VRA, EAD & PBCore**  Basics of VRA  VRA records  Basics of EAD  EAD records  Basics of PBCore  PBCore records | Miller (2011), Ch. 8  Caplan (2003b), Ch 9  *RLG (2002)* | **HW 4: Schema Identification** |
| 11/19 | **Thanksgiving Break – Catch-up week**  Work on your term project  No office hours this week | | |
| **12**  11/26 | **Metadata exchange & quality**  Metadata shelf life  Sharing, harvesting & aggregating  OAI metadata harvesting  Metadata quality assessment | Miller (2011), Ch. 9  *Park (2009)*  *Zeng and Qin (2008), Ch.* 7 *& 8* | **Term Project: Step 3**  **Metadata Assessment** |
| **13**  12/3 | **Metadata schemas**  Designing and documenting a schema  Design examples | Miller (2011), Ch. 10  *Zeng and Qin (2008), Ch.* *3* | **Term Project: Step 4**  **Application Profile** |
| **14**  12/10 | **Linked data & the semantic web**  Definitions & purpose of linked data and the semantic web  Metadata registries | Miller (2011), Ch. 11  *Shadbolt (2006)*  *Zeng and Qin (2008), Ch. 6 & 9* | **Term Project: Step 5**  **Collection Online** |