INF 384M TOPICS IN DESCRIPTION AND METADATA:
THEORIES & APPLICATIONS OF METADATA
Fall 2019
School of Information
University of Texas at Austin
Instructor: Dr. Amelia Acker

Course Information
Class location UTA 1.502

AM Section, Unique Number: 27210
Class day and time: Wednesdays, 9:00 am – 12 pm

Instructor Information
Instructor: Dr. Amelia Acker
Email: aacker@ischool.utexas.edu
Telephone: 512-471-8487
Office hours: Tuesdays 3:30 – 5 pm (and by appointment)
Office location: 5.434

Teaching Assistant Information
TA: Hannah Cahoon
Email: johannacohoon@gmail.com

Course Description
Introduction to the theoretical foundations, history, principles, and research surrounding the representation of information, digital collections, and data with metadata, with emphasis on concepts of standardization, infrastructure, formats, and exchange. Major topics will include metadata types, value and content standards, formats, data interchange standards and protocols. The course introduces participants to the examination and analysis surrounding issues of effectiveness, economics, values and audience surrounding different types of metadata applications. Provides background for further studies in information organization, preservation, and database management.

Course Rationale
This course examines the nexus between people, information, and technologies in systems that use metadata to provide access to information, data, and collections. Representing information in systems and providing access to it with infrastructure are core functions of the information professions. Many information professionals carry out their work with metadata standards, systems, applications, and techniques that incorporate descriptive and content standards, data structures, controlled vocabularies, and database systems, amongst other kinds of networked database technologies. As contexts for data collection and analytics increase, information professionals such as digital archivists, data librarians, and digital asset managers are increasingly involved in standards development and implementation. The ways in which metadata is created to describe, present, and use information influence the ways that users access evidence and create traces in information infrastructures—ranging from finding books and historical manuscripts in libraries, to writing tweets and emoji on social media platforms, to purchasing

things from Amazon with 1-click ordering. In fundamental ways, metadata schemas shape how publics create and access the cultural record, form cultural memory, build identities and relationships to the past.

The course is designed to teach fundamental concepts and theories of metadata applications in ways that will be relevant to professional practice in information, library, archival, and cultural heritage institutions. The course will focus upon metadata concepts of enduring value that can be used in the analysis, use, and administration of information services that provide access to information in structured collections. Given the broadness of the topic, the course will be structured around a handful of themes connected to contemporary debates and information artifacts. While neither historically nor thematically exhaustive, these themes capture significant horizons in the future of metadata applications, both in terms of technical innovation and social change in society as we move from an information age to a data society. We will be especially concerned with how information professionals and information institutions figure into these themes, and how our roles may change as the metadata applications and structures expand. While it is usual to cast a distinction between technical and social dimensions when discussing technology, in this course we consider technological innovation as a complex process involving not only technical objects, but also people, ideas, organization, social coordination, markets, politics, and culture.

By the end of the course, participants will be familiar with contemporary descriptive standards, format registries, data interchange, and access tools as related to what data scholars identify as the "data lifecycle" or the "metadata continuum". Students will also be introduced to a variety of web based, social and interactive metadata applications that are currently employed by archives, libraries, and museums to provide access to analog and digital collections, including bibliographic networked systems and social media APIs. The course will combine foundational themes from archival theory, concepts from the philosophy and history of information, debates from critical data studies and infrastructure studies, with practical applications of metadata standards, including interactive practicums and group work. There will be emphasis on emerging practices of data management, standardization, network infrastructures, and new contexts of metadata collection for re-use. Students will gain an overview of a wide range of metadata topics related to information services, and will be introduced to concepts that will be developed in more depth in other courses throughout the curriculum. The course provides participants background for further studies in reference, metadata transformation, linked open data, information organization and retrieval, database management, issues in digitization and digital preservation.

Course objectives and learning outcomes
The approach of this course is to expose participants to a range of metadata applications that currently shape and have a history of shaping our everyday lives as part of retrieving and accessing information. Students will expand their knowledge base about critical data studies, the history of representation, cataloging and classification, standards and formats. Course participants will learn historical facts about infrastructure and standards development in a variety of metadata applications that allow participants to understand how technological innovation is a complex process involving people, ideas, social coordination, markets, and culture. Upon completion of this course, students will have demonstrated their understanding of, and familiarity with the theories and applications of metadata throughout the data lifecycle, including the processes of creation, description, classification, standardization, processing, annotation, duration, storage—and the opportunities and challenges for information professionals at each stage.

By the end of the course, participants will be able to:

- Describe principles, types, and applications of metadata
- Apply selected metadata standards to the creation of metadata descriptions according to local needs
- Learn how to plan and execute a metadata project, including how to select appropriate metadata standards to support a defined purpose and audience
- Develop guidelines, documentation, and policy for metadata workflows and processes
- Familiarity with quality control, crosswalks and transformation
- Introduction to a wide array of current structural, content, encoding standards, and an understanding for how standards evolve within communities
- Tools and techniques for metadata creation and manipulation

Method of instruction
Each week the instructor will give a lecture and lead classroom discussion, supported by Google sheets, handouts, and online demonstrations. We shall discuss a selected set of readings, all of which are required. It is important that everyone comes to class well prepared and having read the material ready to discuss the week's readings. After discussing the readings, we will have in-class labs, tool tutorials, or small workshops. Following these practicums, we will have a group discussion after the presentations to discuss the use, need, and future possibilities of these tools, systems, and practices. Course participants are expected to be actively involved in these group discussions, labs and practicums. Periodically, you will be asked to download software to participate in class, it is your responsibility to have an appropriate machine with security certificates in order for you to download software. If you do not have access to a personal computer, please notify the instructor. A portion of your grade will be based on your preparation for and participation in the class discussions and practicums. We will adopt a studio approach to the labs and projects and incorporate a variety of peer learning techniques throughout the course.

Course Readings and Materials:
- All course readings are available on the course Canvas site.
- Please make sure to complete all readings before coming to class each week.
- You will need to do additional readings and outside labs to complete your final project.
- Bring a machine that can connect to the internet each week.

COURSE POLICIES

Instructor Communication: E-mail is the official mode of communication for the university and the most reliable means of contact for me. It is always helpful if your e-mail includes a targeted subject line that begins with "INF 384M." Do not use the messaging facilities in Canvas; these messages do not arrive in my e-mail in-box. Please allow a 24-hour window for email responses and plan accordingly. Please limit emails to 5 sentences or less. If your query about a reading or an assignment for the class takes more than 5 sentences to express, please come see me face to face in office hours. If you do not receive a sufficient answer to a question in more than one follow-up email (that is, a total of 2 personal emails from me) about the same question, please come meet with me. If you cannot make office hours, please email me to arrange an appointment. These policies are based on my belief in the sanctity and value of high-bandwidth communication (that is, face to face conversations).

Classroom Etiquette: Please come on time to class prepared, bringing soft or hard copies of readings for reference; bring appropriate tools for writing and note taking. Bring personal machines powered up, or plug them in before class begins, silence phones. *Drinks are welcome but food is not. Please eat before class or during the break period*.

Habits of mind: Respect for others; imagination; wonder; willingness to try and fail in front of others; empathy for others—in the past, present and future. I will discuss what I mean by habits of mind on the first day and throughout the course.

Copyright Notice: These materials may be protected by copyright. United States copyright law, 17 USC section 101, et seq., in addition to University policy and procedures, prohibit unauthorized duplication or retransmission of course materials.

Statement on Classroom Recording: To ensure the free and open discussion of ideas, students may not record classroom lectures, discussion and/or activities without the advance written permission of the instructor, and any such recording properly approved in advance can be used solely for the student's own private use.

On original work: cheating and plagiarism will not be tolerated. If an assignment turned in for credit is found to have been plagiarized, you will receive a grade of 0 points and a formal reprimand in your student file. You will be subject to the University's disciplinary penalties, including the possibility of failure in the course.

Late assignments: *I do not accept late assignments*. Students who anticipate difficulties with completing assignments on time should consult with the instructor as soon as possible so that alternate solutions can be discussed. When negotiated in advance, arrangements can often be made.

Attendance: Attendance is not taken. You do not need to inform me of absences, nor do you need to "make up" anything if you are absent. While participation is an important part of your grade, and attendance is important, there are no specific requirements for mandatory attendance. However, please be aware that a substantial in-class component of the course will be hands-on labs that are successive and cumulatively build skills. Missing a class may impact your ability to follow along in the next week's lab component.

Style manual: Please use the American Psychological Association's style manual. In particular, please be sure to follow its citation formats and rules on language bias.

Gun policy: Please ask me about my policy on guns in my office when you visit.

UNIVERSITY POLICIES

Religious holy days: A student who misses classes or other required activities, including examinations, for the observance of a religious holy day should inform the instructor as far in advance of the absence as possible, so that arrangements can be made to complete an assignment within a reasonable time after the absence.

Use of E-mail for Official Correspondence: All students should become familiar with the University's official e-mail student notification policy. It is the student's responsibility to keep the University informed as to changes in his or her e-mail address. Students are expected to check e-mail on a frequent and regular basis in order to stay current with University-related communications, recognizing that certain communications may be time-critical. It is recommended that e-mail be checked daily, but at a minimum, twice per week. The complete text of this policy and instructions for updating your e-mail address are available at http://www.utexas.edu/its/help/utmail/1564

Documented Disability Statement: You will need to provide documentation to the Dean of Student's Office so the most appropriate accommodations can be determined. Specialized services are available on campus through Services for Students with Disabilities (SSB 4.104, 471-6259). Any student who requires special accommodations must obtain a letter that documents the disability from the Services for Students with Disabilities area of the Division of Diversity and Community Engagement (471-6259 voice or 471-4641 TTY for users who are deaf or hard of hearing). Present the letter to the professor at the beginning of the semester so that needed accommodations can be discussed. The student should remind the professor of any testing accommodations no later than five business days before an exam. *If you plan to make use of specialized services through SSD please inform me before the second class meeting*. For more information, visit http://www.utexas.edu/diversity/ddce/ssd/

Behavior Concerns Advice Line (BCAL): If you are worried about someone who is acting differently, you may use the Behavior Concerns Advice Line to discuss by phone your concerns about another individual's behavior. This service is provided through a partnership among the Office of the Dean of Students, the Counseling and Mental Health Center (CMHC), the Employee Assistance Program (EAP), and The University of Texas Police Department (UTPD). Call 512-232-5050 or visit http://www.utexas.edu/safety/bcal.

Emergency Evacuation Policy: Occupants of buildings on the UT Austin campus are required to evacuate and assemble outside when a fire alarm is activated or an announcement is made. Please be aware of the following policies regarding evacuation:
- Familiarize yourself with all exit doors of the classroom and the building. Remember that the nearest exit door may not be the one you used when you entered the building.
- If you require assistance to evacuate, inform me in writing during the first week of class.
- In the event of an evacuation, follow my instructions or those of class instructors. Do not re-enter a building unless you are given instructions by the Austin Fire Department, the UT Austin Police Department, or the Fire Prevention Services office.

Policy on Scholastic Dishonesty: Students who violate University rules on scholastic dishonesty are subject to disciplinary penalties, including the possibility of failure in the course and/or dismissal from the University. Since such dishonesty harms the individual, all students and the integrity of the University, policies on scholastic dishonesty will be strictly enforced. For further information, please visit the Student Judicial Services web site at http://deanofstudents.utexas.edu/sjs/

University of Texas Core Values and Honor Code: The core values of The University of Texas at Austin are learning, discovery, freedom, leadership, individual opportunity, and responsibility. Each member of the university is expected to uphold these values through integrity, honesty, trust, fairness, and respect toward peers and community. As a student of the University of Texas at Austin, I shall abide by πthe core values of the University and uphold academic integrity.

UNIVERSITY RESOURCES FOR STUDENTS
The university has numerous resources for students to provide assistance and support for your learning, use these to help you succeed in your classes

The University Writing Center
The University Writing Center offers free, individualized, expert help with writing for any UT student, by appointment or on a drop-in basis. Consultants help students develop strategies to improve their writing. The assistance we provide is intended to foster students' resourcefulness and self-reliance. http://uwc.utexas.edu/

Counseling and Mental Health Center
The Counseling and Mental Health Center (CMHC) provides counseling, psychiatric, consultation, and prevention services that facilitate students' academic and life goals and enhance their personal growth and well-being. http://cmhc.utexas.edu/

Basic Needs Security: Any student who faces challenges of affording groceries or accessing sufficient food to eat every day, or who lacks a safe and stable place to live, and believe this may affect their performance in the course, is encouraged to contact the Office of the Dean of Students – Student Emergency Services (SES) for support. Please notify the instructor if you are comfortable doing so and I will make efforts to provide any resources that I may possess to help you navigate issues of food insecurity or residential displacement.

- SES Concerns and Emergencies: http://deanofstudents.utexas.edu/emergency/concernsemergencies.php
- SES Food Pantry:
- http://deanofstudents.utexas.edu/emergency/pantry.php
- SES Confidential Advocacy and Support: http://deanofstudents.utexas.edu/emergency/advocacysupport.php

ITS
Need help with technology? http://www.utexas.edu/its/

Libraries
Need help searching for information? http://www.lib.utexas.edu/

Canvas
Canvas help is available 24/7 at https://utexas.instructure.com/courses/633028/pages/student-tutorials

---

Grading Scale
This class employs a plus/minus grading system. For more information on this system, please consult the University's *General Information Catalog*. Below is the grade scale the University employs and which will be used in this class:

Meets major requirement		Does not meet requirement	
Grade	Points	Grade	Points
A	≥93.00	C-	70.00-72.99
A-	90.00-92.99	D+	67.00-69.99
B+	87.00-89.99	D	63.00-66.99
B	83.00-86.99	D-	60.00-62.99
B-	80.00-82.99	F	<60.00
C+	77.00-79.99		
C	73.00-76.99		

Assignment overview. *Assignment expectations, rubrics, and directions will be discussed in class.*

Individual assignments (50%)
1. Class Participation (20%)
2. Weekly Challenge labs (15%)
3. Weekly Reading responses, 9 total (10%)
4. Metadata problem & solution pitch (5%)

Small group assignments (50%)
5. Project proposal, small group (10%)
6. Final Project and presentation, small group (40%)

COURSE AT A GLANCE
Meeting weekly on Wednesdays, this Fall from August 28 to December 4, 2019 unless otherwise noted.

Week, Date	Topic	Note or Major Deadline
Week 1, August 28	Introduction	
Week 2, Sept 4	Definitions	Weekly response due
Week 3, Sept 11	Early structures	Weekly response due
Week 4, Sept 18	Digital, open, linked	Weekly response due
Week 5, Sept 25	Schemas, crosswalks, element sets	Weekly response due
Week 6, Oct 2	Metadata problem & solution pitch	In class presentation due*
Week 7, Oct 9	Metadata in Society	Weekly response due
Week 8, Oct 16	Jobs discussion	Weekly response due
Week 9, Oct 23	Team project	No Class*
Week 10, Oct 30	Metadata and the web	Project Proposal Due*
Week 11, Nov 6	Final project studio	Weekly response due
Week 12, Nov 13	Final project studio	Weekly response due
Week 13, Nov 20	Final project studio	Weekly response due
Week 14, Nov 27	Thanksgiving Holiday	No Class*
Week 15, Dec 4	Final week presentations	In class presentation*
Week 16, Dec 11	Finals Week	Final Projects due*

COURSE SCHEDULE
Unit 1, weeks 1-5

Week 1: Introduction to the course
Please bring your machine to class and download the Chrome browser in advance.
In class lab: Screenscraping tables and links using importHTML and importXML.

Week 2: Definitions
Weekly response due day before class.
1. Gartner, Richard. "Chapter 1. What Metadata is and Why It Matters," Metadata: Shaping Knowledge from Antiquity to the Semantic web. Springer, 2016.
2. Gilliland, Anne J. "Setting the stage." Introduction to metadata 3.0 (2008): 1-19.
3. Kitchin, Rob. "Chapter 1. Conceptualising Data," The data revolution: Big data, open data, data infrastructures and their consequences. Sage, 2014.

Week 3: Early metadata structures
Weekly response due day before class.
1. Gartner, Richard. "Chapter 2. Clay, Goats and Trees: Metadata Before the Byte" Metadata: Shaping Knowledge from Antiquity to the Semantic web. Springer, 2016.
2. Kitchin, Rob. "Chapter 2. Small Data, Data Infrastructures and Data Brokers," The data revolution: Big data, open data, data infrastructures and their consequences. Sage, 2014.
3. Schifman, Jonathan. "How the Humble Index Card Foresaw the Internet," Popular Mechanics, 2016. http://www.popularmechanics.com/culture/a19379/a-short-history-of-the-index-card/

Week 4: Metadata becomes digital, open, and linked
Weekly response due day before class.
1. Gartner, Richard. "Chapter 3. Metadata becomes Digital," Metadata: Shaping Knowledge from Antiquity to the Semantic web. Springer, 2016.
2. Kitchin, Rob. "Chapter 3. Open and Linked Data," The data revolution: Big data, open data, data infrastructures and their consequences. Sage, 2014.
3. Krajewski, Markus. "Tell Data from Meta: Tracing the Origins of Big Data, Bibliometrics, and the OPAC." *Osiris* 32.1 (2017): 224-240.

Week 5: Schemas, crosswalks, element sets
Weekly response due day before class.
Readings TBD.

🌲 🌲🌲 Let's save some trees 🌲 🌲🌲
Readings, assignments, and activities for Unit 2, weeks 6-10 and Unit 3, weeks 11-15 will be released on the Canvas course website.