

Syllabus for LSIS 5820 – Metadata Analysis

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Fall, 2005 (August 24 – December 3), Thursdays, 6:00pm –8:30pm, Room 322
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This course introduces methods for generating new knowledge and information from legacy data. Students learn about secondary analysis of previously organized text and primary data sets, which can be in print or electronic format. Upon completion students will understand the following strategies and mechanisms: metadata schemas, encoding standards, business intelligence, online analytical processing (OLAP), data mining, dashboards, and knowledge management. The objective of this course is to gain indicative knowledge of metadata tools and systems for information service to businesses, organizations, libraries, and individual end-users.

Primary Text: *Business Intelligence: The Savvy Manager's Guide* -- David Loshin
ISBN 1-55860-916-4

Grading will be based on:

- 30% - 3 In-Class Exercises (“Find the Facts....”); 10% each.
- 10% - Class Presentation on Chapter in Primary Textbook
- 30% - Metadata Project/Paper (IS proposal)
- 25% - Midterm Essays and Final Exam
- 5% - Class participation

SCHEDULE (Note: There will be internet communications and use of Blackboard in addition to class meetings. Also, a guest lecturer is planned for Sept. 20 and Oct. 7.)

- Aug 25 -** Introductions, schedule, textbook, labs, assignments, grading scale, honor code, etc. WHAT IS KNOWLEDGE? WHAT IS METADATA? Lecture/Reading: Introduce Chapter 16 (What is Business Intelligence and Metadata Analysis?) **Lab Practice:** Explore Getty Information Institute; M. Baca on pathways to digital information (2000).
<http://www.getty.edu/research/institute/standards/intrometadata/index.html>)
- Sept 1 -** Lecture/Discussion: Developing Metadata for “Business Intelligence” **READ:** text Ch. 1-2; **Lab: Begin Exercise 1:** Using Dublin Core (metadata element set). See <http://dublincore.org> documents and guidelines for implementing.
- Sept 8-** Lecture/Discussion: Metadata Issues **READ:** Burnett, Bor Ng, and Park (1999), A comparison of two traditions of metadata development, JASIS 50 (13): 1209-1217. Begin Class Chapter summaries.... **Lab: Finish Exercise 1.** Handout Assignment Sheet: **Project.**
- Sept 15 -** Lecture/Discussion: BI Framework and Models. Begin planning Project/ Paper. **READ:** Faulkner on XML (see Blackboard). **Lab: Begin Exercise 2 :** How to Use MARC (for government; Follett Software). <http://www.loc.gov/marc> →/umb (understanding MARC bibliographic) and other aspects.
- Sept 22 -** NO CLASS. Guest Lecturer: ASIST Meeting on Tuesday, Sept. 20. (speaker TBD). **Lab: continue Exercise 2:** MARC. (Note: NCLA conf in Winston-Salem)
- Sept 29 -** Lecture/Discussion Business Models, Data Warehouses, OLAP and Metadata (“dimensional modeling”) **READ:** *Metadata Lessons Learned From the iLumina Digital Library* (on Blackboard).

- Oct 6 -** Midterm Exam. **Lab: Begin Exercise 3:** How to Use XML. www.w3.org or www.w3schools.com/xml.default.asp for expression in HTML/XHTML/XML, standards and other aspects. **Due: Ex. 2.**
- Oct 13 -** Lecture/Discussion: Metadata Issues **READ:** (1)Faulkner on Portals and (2)Business Intelligence (see Blackboard). Meet with partners to prepare presentations on Chapters: 7, 8, 9, 10, 11, 12, 13. NO CLASS.
- Oct 20 -** Lecture/Discussion: Knowledge Discovery and Datamining. **READ:** text - Ch. 14; AND Brian Dooley (April, 2004), *Data Analysis and Data Mining*, Faulkner Information Services, 00016442 (see Blackboard for PDF version). Lab: Online find article. **Project Topic/Thesis (also post to Blackboard) and Ex. 3 DUE.**
- Oct 27 -** NO CLASS. (Note: ICKM and ASIST Conferences in Charlotte, NC.) Discuss Projects on Blackboard.
- Nov 3 -** Lecture/Discussion: Using Publicly Available Data. See text - Ch. 15. **Read:** Ian Palmer (April, 2004), *Enterprise Portals*, Faulkner Information Services, 00016442 (see Blackboard for PDF version). Lab: Online find July 1995 back issue at <http://www.dlib.org/dlib> or copy/paste the following link for search: <http://www.dlib.org/dlib/July95/07weibel.html> **Project Outline Due.**
- Nov 10 -** Lecture/Discussion: **Read:** Stuart Weibel (1995), Metadata: The Foundations of Resource Description, *D-Lib Magazine*.
- Nov 17 -** Lecture/Discussion: **Read:** Knowledge Extraction: Fayyad, U. et.al. The KDD Process for extracting useful knowledge from volumes of data, *Communications of the ACM*, Vol. 39, No. 11, (Nov, 1996), pp. 27-34 and Data Mining: Glymour, C., et.al. Statistical inference and data mining, *Communications of the ACM*, Vol. 39, No. 11, (Nov, 1996), pp. 35-41.
- Dec 1 -** Discussion about translation and globalization of data (see Sugimoto slides on Blackboard). Review for Exam. Final Chapter Presentations.
- Dec 8 -** **Project** (hardcopy and electronic format) and **Final Exam Due.** (Note: **Final Deadline for hardcopy work is 5:00pm, December 15.**)

Warning: if graduating this December, ALL work is due by Friday, Dec. 9!!!!

GRADING SCALE and Curve (plus and minus notations in my records, not NCCU or the SLIS)

99-100 – A+
 96-98 – A
 93-95 – A-
 89-92 – B+
 85-89 – B
 80-84 – B-
 70-79 – C
 60-69 – D
 BELOW 60 – F

Late penalties: 5pts. per week (or per day final assignments). Incompletes are NOT routinely allowed. (You can drop course as late as the last day of classes.)

DISABILITIES: Persons with disabilities will be fully included in this course. Let me know if you need any special accommodations in curriculum, instruction, or assessments to enable you to fully participate.

HONOR CODE: Because we use Blackboard, only meet once a week (or less), and much of your work is done on your own, the instructor depends on your honesty and integrity to do all the work assigned alone (unless a team is designated). **Please take seriously your signature on the pledge with quizzes or exams.** You are promising that you did the work without assistance from another student and without assisting any other student. As take-home exams indicate, you can use notes and textbooks, you can study with others, but you must alone answer questions and indicate the time(s) you worked on the exam.

Any violations will require a meeting with senior faculty and/or the Dean of the SLIS. The imposition of the penalty for academic dishonesty shall be made by the instructor responsible for assigning the final grade in the course. The penalty will be assessed in relation to the gravity of the offense, the type of academic exercise on which the offense occurred, and the weight of that exercise in the computation of the final grade.

MAJOR ASSIGNMENTS

BASIC LAB EXERCISE FORM

A. Define _____ (schema named for this lab):

B. Visit 2-3 Web sites or links.

1. Site: _____

2. Site: _____

3. Site: _____

C. Describe what data you are classifying. You can find a business or archival homepage on the Web, such as Harley-Davidson or Getty Museum site. Then describe objects and metadata assignments for that organization or business based. Enter specific, sample schema, i.e. metadata: elements, fields, or controlled vocabulary etc.

DATA DESCRIPTION:

SAMPLE SCHEMA:

(Extra Credit) Other findings about schema. (Use web or published sources, too.) Write on back.

MAJOR PROJECT PROPOSAL

Imagine proposing the design and development of a knowledge management system to

- an executive in business,
- an administrator in government, OR
- the owner of a collection (music, books, or art).

The system can be either a data warehouse for Business Intelligence applications or a Digital Library for a specific set of users.

What metadata schema should be applied? (Note: you must determine context/environment and artifacts.) You will need to describe all basic requirements for setting the system up and ensuring it is used!!! Maintenance is as crucial as usability. Your future job may depend on both. How this KM system will contribute to a body of knowledge (actionable) is your *thesis*. It can be a contribution to Business Intelligence or to other forms of learning.

For outline ideas, use your textbook, Chapter 4 (for example, BI process pp.47-49+).

Length: (including tables and illustrations, appendices, etc.) 10 pages MINIMUM

Format: both hardcopy and electronic versions need to be submitted.

Milestones:

Project Topic and specific Thesis

Paper Outline

Final Paper

Grading based on a curve and criteria:

- Thoughtful thesis (use of data) and argument to exec/admin/owner - 20 points
- Details for system plan - 45 points (see Chapter 4 of textbook)
- Metadata description – 25 points
- Grammar and readability – 10 points