

# LBSC 670 – Organization of Information

Course Schedule – Fall 2011, UMD

Erik Mitchell [erik@umd.edu](mailto:erik@umd.edu)

## Syllabus

### ***Course Information***

#### ***General***

Course Prefix and Number: LBSC 670

Course Title: Organization of Information

Credits: 3

#### ***Class Meetings:***

Time – Monday 5:30 – 8:15

Place – Hornbake 105

Class Website – <http://erikmitchell.info/lbsc670fall2011>

#### ***Intended Participants:***

Students in Library and information studies programs

#### ***Electronic support***

##### **Blackboard**

This class will make use of the UMD Blackboard system for course information distribution and assignment submission. The course is located at <http://blackboard.umd.edu>

##### **Course Listserv**

You have been subscribed to the course listserv [lbsc670\\_fall2011@umd.edu](mailto:lbsc670_fall2011@umd.edu). This list will be used for course information and may be used to post questions, observations, and discuss issues.

To send messages to the class list, address e-mails as follows:  
[lbsc670\\_fall2011@umd.edu](mailto:lbsc670_fall2011@umd.edu)

### ***Instructor Information:***

Erik Mitchell

Assistant Professor, University of Maryland

<http://erikmitchell.info>

### ***Contact Information:***

Email: [erik@umd.edu](mailto:erik@umd.edu) - email preferred

### ***Office Hours:***

Monday 1pm – 5pm – Hornbake Library 4121

Tuesday 9am – 1pm – Hornbake Library 4121

By appointment over email, phone, or other means as necessary

### ***Course Description:***

Organizing Information (LBSC 670) explores the issues surrounding the creation, distribution and use of information objects and representations of those objects. In this course, we will explore both the theoretical and technical issues surrounding information organization. Our exploration of theoretical issues will center on understanding organization structures, uses and implications for information systems.

Our exploration of the technical issues surrounding information organization will delve into the fields of information and computer science and will involve work with a wide range of information technology systems. During this process we will learn about representation of information using metadata schemas, encoding of these structures using XML and database technologies and storage, discovery and presentation of these records using server-class information storage and retrieval systems.

Because the realm of information with which we are concerned is largely represented on the web we will also explore what theoretical and technical issues arise when we discuss the use of information organization structures in cloud environments. As part of this process we will leverage cloud platforms to deploy an information retrieval system, consider the technical and theoretical implications of selecting different cloud technologies to deploy our systems and think about the role of information organization in different cloud environments.

We will be working with the Amazon EC2 platform to develop and deploy an information retrieval system for XML based records. This will involve the use of small Amazon EC2 servers, the development of skills with the Linux operating

system and the development of a level of familiarity with running server-based information systems.

### ***Course Objectives and Outcomes:***

To be familiar with the concepts, issues and methods related to organization and management of physical and digital information

To become familiar with the representation and classification of information through cataloging, metadata creation, indexing and organization.

To understand the role of information structures and objects in information systems.

To develop skills for analyzing and processing structured data

To develop skills in systems analysis for existing and planned information systems.

To create new information structures and services using IO theoretical knowledge and practical skills

### ***Teaching Strategies:***

Class lecture, readings, exploration, and discussion

Individual and group in class work and outside of class assignments

Student presentations, reflection, writing, class participation

### ***Course Requirements***

### ***Evaluation and Assignments:***

This class will use employ a contract grading approach. In contract grading the student determines which assignments they will complete. Satisfactory completion of the five required elements (participation, representation, transformation, ontology and poster session) will be eligible for a B. Students who satisfactorily complete a research project will be eligible for an A. The research project may be an expansion or derivative of the poster work.

### ***Class quizzes, participation and reflection***

- Weight: 25%
- Description

- Class participation is an important part of this course. There will be in-class quizzes on reading and in-class exercise materials, opportunities in every class to discuss readings, current events, and issues. Please ask questions and participate in the discussions – by doing so you will make the class much more interesting.
- Due Date
  - Ongoing throughout the semester

## **Representation assignment**

- Weight: 15%
- Objective
  - To practice representation and description using metadata
  - To work with metadata standards
  - To investigate representation / metadata issues
- Description
  - This three part assignment includes:
  - The creation of two metadata records describing a web based resource (website, electronic book, audio/visual material, etc). The two metadata records will follow the Dublin Core and MARC standards
  - The encoding of metadata using XML and MARC standards
  - The investigation and discussion of representation/metadata issues
- Date Assigned/due
  - See course calendar (below) for assignment and due dates

## **Transformation Assignment**

- Weight: 20%
- Objective
  - To work with the XML, XSL, and HTML Document Object Models to migrate data from one organization structure to another. To understand the relationships between data, structure, and services

- Description
  - Students will select an RSS feed and write an XSL stylesheet to transform that feed into an XHTML compliant document. You may also create a CSS style sheet to format that document
- Date Assigned/due
  - See course calendar (below) for assignment and due dates

### **Ontology Assignment**

- Weight: 20%
- Objective
  - To investigate ontology construction
  - To explore ontology management software
- Description
  - In this assignment, you will form into small groups and develop an ontology on a topic of your choice. You will use an ontology management application (Protégé) to develop your ontology. On the day your ontology is due, your group will give a short (10 minute) presentation on your ontology.
- Date Assigned/due
  - See course calendar (below) for assignment and due dates

### **Class research project / Poster session**

- Weight: 25%
- Objective
  - To allow you to select a topic of interest related to Information Organization and pursue in-depth. This project will include both group work and individual work.
- Description
  - During the middle of the semester you will be asked to form groups (~4 people) and select a topic of interest which your group will pursue during the remaining part of the semester. This project may include

research, literature review, technical work/programming, etc. On the final day of class we will share our research findings using a poster, website, video, or other shareable document. The project producibles should include a project proposal due mid-way through the semester, a poster, application, or website ; a short (5-7 minute) oral presentation of your group's work, and a individual reflective statement (~2 pages).

- Date Assigned/due
  - See course calendar (below) for assignment and due dates. Note this assignment includes a proposal due date as well as final project due date. Note also that a portion of your grade in this project is based on individual work and your group's assessment of your work.

### ***Grading scale***

Graduate: A+ 100-97%, A 96-90%, B+ 89-85%, B 84-80%, C 79-70%, D < 69%

### ***Attendance Policy:***

Attendance, preparation for and participation in this class are expected and highly valued by the instructor and your peers. Students need to arrive on time, attend each class and participate actively. While attendance in class is required, I realize that an absence may be necessary. Please contact me by email or leave a message when you know you are going to be absent. If you must miss class, coordinate with a class colleague to review the session and collect handouts and get with me if needed.

### ***Academic Integrity Policy***

Students are expected to follow the obligations of academic integrity described in the UMD Code of Academic Integrity. Students should make themselves familiar with this document and realize that they will be held accountable for understanding and following these guidelines for all activities and assignments. However, collaboration, discussion, and seeking assistance from students is encouraged and is not inconsistent with the Code of Academic Integrity.

### ***Syllabus Status***

This syllabus will contain up-to-date information throughout the semester. When modified I will try to notify you. It is your responsibility however to make sure that your preparation each week is based on the current syllabus and Blackboard information.

## ***Course Materials and Access***

### ***Course Location***

The class meets in Hornbake 105 on Monday evenings at 5:30 – 8:15

Course materials can be accessed via the Blackboard site at  
<http://blackboard.umd.edu>

### ***Required Text:***

The required text for this class is Introduction to modern information retrieval by G.G. Chowdhury, Third edition.

In addition to this text there will be selected chapters, articles and other readings made available via the course packet, blackboard or UMD ereserves system.

### ***Assignment guidelines:***

Assignments must be typed and turned in through Blackboard. If you have difficulty using blackboard see the tutorial at  
[https://elms.umd.edu/webapps/portal/frameset.jsp?tab\\_id=\\_300\\_1](https://elms.umd.edu/webapps/portal/frameset.jsp?tab_id=_300_1)

Assignments must be turned in on time.

Assignments turned in late will be docked the equivalent of one letter grade (e.g. a B instead of an A). If you are unable to turn the assignment in by the due date, contact me prior to the due date to arrange an alternative due date to ensure full credit.

Please see me individually and email me if you have an emergency and feel that your emergency warrants an exception to this rule.

Blackboard and the UMD email system will be used to provide up-to-date class information. Please check your email weekly for class information. Blackboard has links to course information and documents that may be useful.

PLEASE NOTE: Students who have any disability, which might affect their academic performance in this class, are encouraged to seek assistance from the instructor at the beginning of the semester or as soon as possible after an initial diagnosis. If you have a disability that qualifies under the American with Disabilities Act and requires special accommodations, you should contact the office of Disability Services (<http://disabilityservices.umd.edu/help/academic.html>). Documentation of the disability must be on file. Specific accommodations will be determined on an individual basis.



## Course Schedule and Contents

Week	Class Topic	Prior to class	Class Activity	Assignment dates
9/12/2011	Class 1: Introductions and core concepts	Introductory Reading		
9/19/2011	Class 2: Definitions: What/who		XHTML DOM	Class research project (4) introduced
9/26/2011	Class 3: Organization mechanisms and standards		Description of resources	
10/3/2011	Class 4: Metadata Models	Install XML Editor	XML exercise	Representation Assignment (1) introduced
10/10/2011	Class 5: Metadata models continued	Install MarcEdit	MARC exercise	
10/17/2011	Class 6: Classification & XSL		XSL exercise	Transformation Assignment (2) introduced
10/24/2011	Class 7: Knowledge management and categorization continued		Launch EC2 server Guest Speaker	Assignment 1 due Form groups for final assignment
10/31/2011	Class 8: Controlled vocabularies		Install SOLR on EC2 server, index resources Guest Speaker	

11/7/2011	Class 9: Thesauri, taxonomies, and ontologies	Install Protégé	Ontology Development  Work with Protege	Ontology Assignment (3) introduced
11/14/2011	Class 10: Systems for IO search and retrieval		Guest Speaker  Ontology Development	Assignment 2 due  Assignment 4 proposal due
11/21/2011	Class 11: Creating Services from metadata		Service design exercise – Expand on EC2 server  Guest Speaker	
11/28/2011	Class 12: Guest lecturer			
12/5/2011	Class 13: Semantic Web & Miscellaneous description		Ontology presentations  Yahoo Pipes & Google Gadgets	Assignment 3 due
12/12/2011	Class 14: Course review, Final project presentations due		Project presentations	Assignment 4 due by 5pm