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<p>Web site: www.dsoergel.com/571/ (All materials searchable, advanced materials)</p>	

Department of Library and Information Studies. University at Buffalo

LIS 571

Organization and Control of Recorded Knowledge

Spring 2011

<p>Catalog Description</p>	<p>Knowledge analysis and representation; information presentation and assimilation; bibliographic and record control.</p>
<p>General objectives</p>	<p>Theoretical foundation of all types of information systems You will acquire the theoretical foundation needed to understand and apply a range of concepts and techniques to create and fully use traditional, modern, and future information systems:</p> <ul style="list-style-type: none"> • paper and digital libraries, • the Web, • management information systems, content management, intranets, and enterprise portals in organizations, • substantive databases, • artificial intelligence and expert systems (e.g. , for diagnosis). The Semantic Web. <p>Put differently, you will understand the primary conceptual structures that organize data, information, knowledge, language, and text. Often the course will not create full knowledge but open a window into more advanced work.</p> <hr/> <p>User orientation as an essential principle You will acquire a user-oriented (problem-oriented, request-oriented) approach to the design and operation of information systems.</p> <hr/> <p>Emphasis on concepts for lifelong learning The emphasis is not on specific skills but on concepts that give the student the foundation for acquiring a wide range of skills as required by the tasks at hand over a life-time career.</p>

Disability, religious observance, academic integrity see p. 18

Reference list of detailed objectives and practical applications

Refer to these objectives throughout the class and read again towards the end of the class.

	Main theme	Objectives: You should	Information professional task supported
0	User orientation	.1 have the spirit of user-orientation.	- everything information professionals do
1	Types of knowledge Types of concepts Lect. 2.1-2.2, 5.2-6.1	.1 understand the characteristics and facets of different types of knowledge; .2 be able to apply this understanding to an analysis of information needs, to the organization of information, and to the evaluation of information found.	- understanding information needs (as in a reference interview); - analyzing and assessing info. found; - organizing different kinds of knowledge in an information system. - understanding how people think; thus - understanding how people ask questions and how they process information; thus - presenting the right content in the right form.
2	Knowledge representation Lect. 2.1-2.2, 5.2-6.1	.1 understand the main issues in and approaches to knowledge representation; apply this understanding in the analysis and design of information systems.	- adapting answers to users' mental structures; - searching effectively; - organizing a body of knowledge for simple retrieval, and
3	Information structure Lectures 1.1-3.1, 4.1-5.1	.1 be able to design the conceptual data schema for a new info. system; .2 be able to analyze the conceptual data schema of an existing information system; .3 be able to apply this understanding to indexing and query formulation.	for more complex inference. (Inference enables a system to draw conclusions from the knowledge stored, creating new knowledge.)
4	Retrieval performance measures Lecture 3.2	.1 understand retrieval performance measures and be able to apply them to: the specification of individual search requirements; the determination of optimal search effort; the evaluation of search results; and the evaluation of an information system as a whole.	- establishing and meeting the requirements for individual searches; - selecting information systems to be acquired; - designing information systems to meet performance criteria.
5	File organization and search algorithms Lecture 5.1	.1 understand basic principles of file organization, storage structures, and index structures .2 understand search algorithms, including ranked retrieval.	- searching: formulating simple Boolean queries; using knowledge of search algorithms for effective searching; - designing efficient storage structures, incl. the use of hierarchical inheritance.

	Main theme	Objectives: You should	Information professional task supported
6	Information structure and usability. Document design Lectures 5.2-6.2	.1 understand the relationship between information structure/representation and usability; .2 be able to apply principles of document design and text structure to the creation and selection of good documents.	- designing systems that can generate tailor-made documents; - preparing customized answers; - delivering search results in a useful layout; - evaluating documents.
7	Linguistic techniques: syntactic and semantic analysis Lecture 6.1	.1 be aware of linguistic techniques and their applications in info. retrieval (IR). .2 understand the basics of parsing sentences and semantic analysis, including word sense disambiguation. .3 understand anaphora and its effect on retrieval and fact extraction.	- replacing labor-intensive human processing of vast amounts of text with automated techniques for text processing based on linguistics. Many commercial products available. - understanding free-text search systems; - understanding systems that extract from text just the data the user needs; - understanding automated translation - increasingly important with globalization, and very important in the Web.
8	Descriptive cataloging of documents Lectures 7.1-7.2	.1 understand the application of general information structure principles to the descriptive cataloging of documents; .2 be aware of the variety of codes for bibliographic description; and .3 be able to catalog consulting AACR2.	- understanding and applying traditional descriptive cataloging; - describing and organizing electronic documents — in an organization's collection of documents/records or in the huge document collection on the World Wide Web (metadata).
9	Vocabulary control Lectures 8.1-8.2	.1 understand the problems and principles of vocabulary control and be able to apply these principles to indexing and searching.	- designing systems that help users cope with vocabulary confusion through controlled vocabulary or query term expansion; - doing good searches without such support.
10	Functions of classification Lectures 8.2, 9.2, 11.2	.1 understand the functions of classification in information retrieval systems, especially request-oriented indexing and inclusive searching. .2 Understand the functions and importance of classification for a wide range of other tasks.	- applying request-oriented indexing for improved system performance; - exploiting the vast intellectual capital available in classifications for functions beyond bibliographic retrieval, at the same time increasing compatibility and synergy between different information functions.
11	Structure of subject classification: Facet structure and hierarchy Lectures 8.1-14.2	.1 understand the principles of the structure of subject classification, in particular facet organization and hierarchy; .2 be able to apply these principles to the analysis of existing schemes and to indexing and query formulation.	- indexing (cataloging); - analyzing a search topic and formulating the query, using hierarchic expansion; - designing systems that assist users in search topic clarification and in query formulation; - developing classifications / thesauri. See also functions of classification above.

	Main theme	Objectives: You should	Information professional task supported
12	Familiarity with specific subject classification schemes Lectures 12.1-14.2	.1 be aware of the variety of classification schemes, thesauri, etc. and be acquainted with major American schemes: Yahoo (or DMOZ) Classification, Dewey Decimal Classification, Library of Congress Classification, Library of Congress Subject Headings.	- provides a door into a vast array of sources of knowledge about concepts and terminology, knowledge that lets you apply the general principles of facet structure and hierarchy to high-quality indexing (cataloging) and searching.

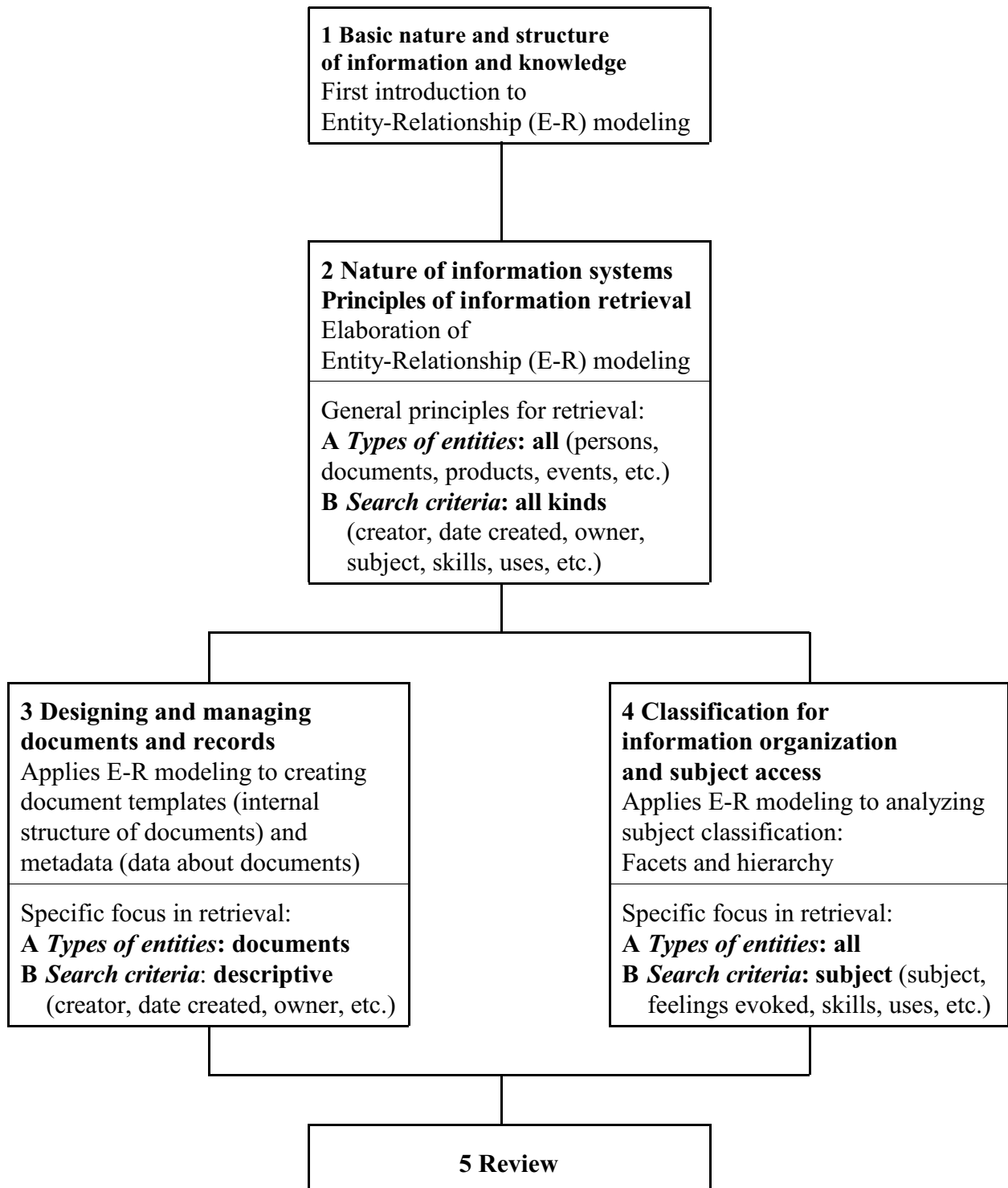
Syllabus table of contents

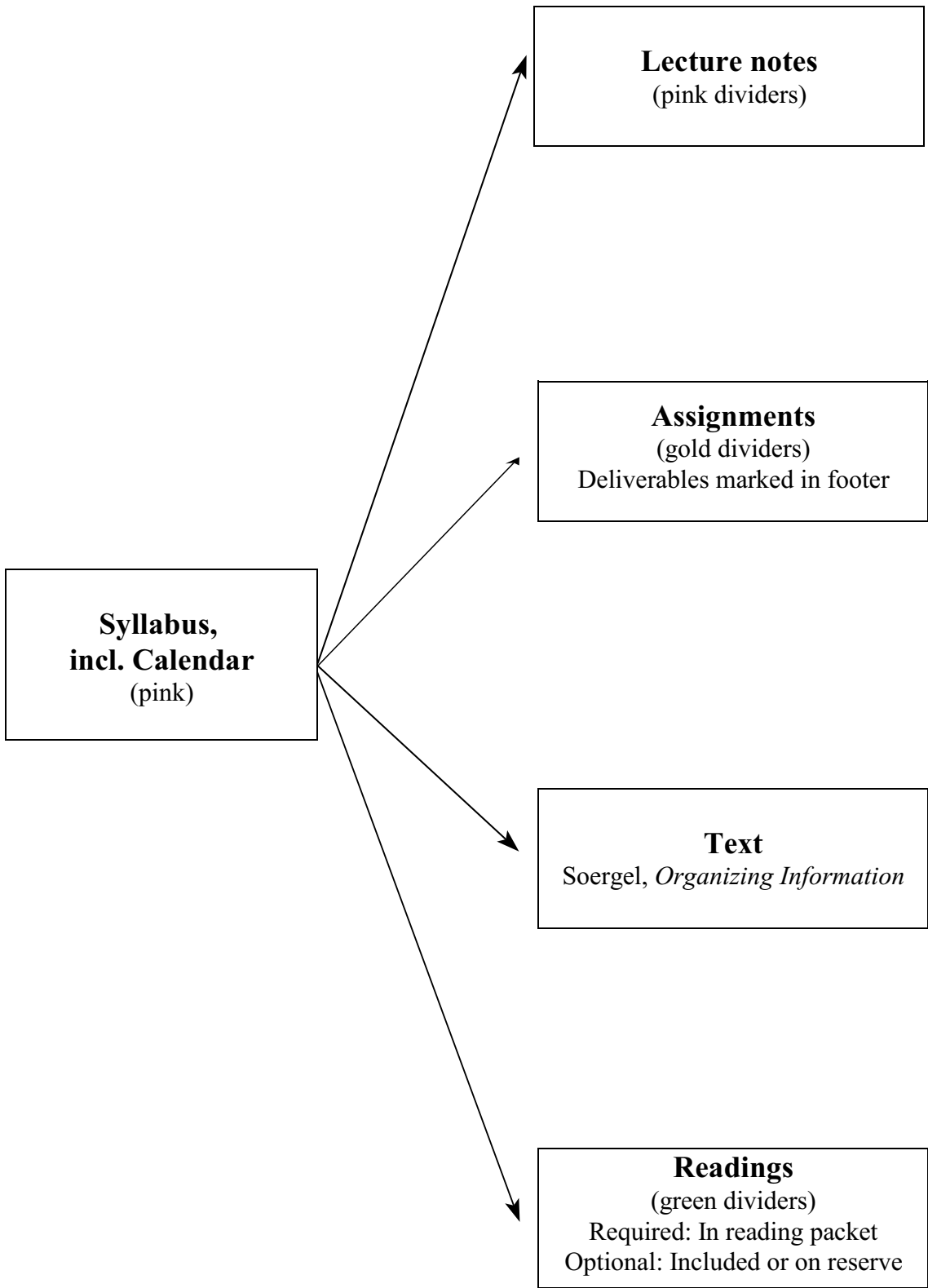
Multiple perspectives on the big picture	
<p>Reference list of detailed objectives and practical applications 2 - 3</p> <p>This two-page spread shows what you will learn in the course and why. Refer to this throughout the course to keep the big picture in mind.</p> <p>The nature of the course 6</p> <p>A summary of the overall perspective, the content, and the progression from principles to applications, and from theory to practice in the four parts of the course</p> <p>The structure of the course 7</p> <p>An overview diagram showing how the parts of the course relate to each other and an overview of each part</p>	
Materials and conduct of the course	
<p>Materials for the course 8 - 9</p> <p>An overview diagram and a list of the course materials</p> <p>Conduct of the course 10 - 12</p> <p>A discussion of learning and teaching methods, course requirements, and grading. Includes description of the free-writes at the end of each day and a statement on disability, religious observance, and academic integrity.</p>	
Calendar (pink pages)	
<p>Calendar overview 13</p> <p>Provides an outline of the course</p> <p>List of assignments 14</p> <p>Calendar 15 - 46</p> <p>One sheet for each week. Each class meeting is divided into two 75-minute lectures numbered 1.1, 1.2, 2.1, 2.2, etc. For each week the calendar gives readings, assignments due, and assignments assigned (marked with ►).</p>	
<p>Calendar overview by part of course 47-51</p> <p>(Read only if you need another look at the structure of the course)</p>	

The nature of the course

<p>Broad course, prepares for wide range of jobs</p>	<p>The course considers all kinds of information systems and a wide range of concepts and techniques. Emphasis is on concepts rather than specific skills to provide a solid basis for life-long learning as required by ever-changing practice. The course introduces some topics as windows into new areas so you can discover interests you want to pursue in more depth later.</p> <p>The course prepares you for pursuing a wide range of interests. It generalizes insights gained in the library world over decades or even centuries and makes them useful for other contexts, such as expert systems, digital libraries, content management systems, or the World Wide Web, where they are desperately needed. Library cataloging is included as an example of general principles.</p>
<p>Content: structure & representation of information</p>	<p>Information and knowledge structure serves two purposes:</p> <ol style="list-style-type: none"> (1) finding and applying information (as in the Semantic Web); often involves logical inference or statistical processing to derive an answer or have a system take action. (2) presenting information in a structure and format the user can assimilate and understand so that she can put the information to use. Thus, we must consider the structure of information in the user's mind. This is crucial for learning and instruction. <p>Information Architecture and Instructional Design, each from its own perspective, use the study of Information Organization and contribute to it.</p>
<p>Four parts: From principles to applications</p>	<ol style="list-style-type: none"> 1 Basic nature and structure of information and knowledge 2 The nature of information systems & principles of information retrieval, which are applied and made more concrete in Parts 3 and 4 3 Designing and managing documents and records 4 Classification for information organization and subject access
<p>Theory for improved practice</p>	<p>The course presents theory in the service of improved practice. You will</p> <ul style="list-style-type: none"> • be able to apply course concepts to practical problems; • understand the principles that underlie current practice and thus be able to do a job intelligently; • have a sound basis for changing current practice for new requirements.

The structure of the course





Materials for the course

<p>Syllabus, lecture notes and assignments (One packet, from instructor, ca. \$40)</p>	<p>Calendar (pink). "Information Central", gives for each lecture:</p> <ul style="list-style-type: none"> - the theme(s) of the lecture - the readings (do beforehand to prepare for the lecture) - the assignments (do afterwards to apply and reinforce the concepts). <hr/> <p>Lecture Notes (pink dividers)</p> <ul style="list-style-type: none"> - Intended to help you follow along during the lecture, not to replace it <hr/> <p>Assignments (yellow dividers)</p> <ul style="list-style-type: none"> - Descriptions of tasks / deliverables and worksheets (marked in footer) - Assignment materials (explanations, examples, materials to work with) - Word templates for assignment deliverables (emailed,)
<p>Text</p>	<p>Soergel, Dagobert Organizing information. Principles of database and retrieval systems. Orlando, FL.:Academic Press; 1985. 450 p. ISBN 012-654261-9</p> <p>Used copies may be available (\$20-40), new copies from instructor (\$80)</p>
<p>Readings</p>	<p>Reading packet (white). fr. instructor, ca. \$60 for copying and copyright fees Required and some optional readings, arranged by lecture, green dividers. Model Catalog (first reading): MARC records illustrating descriptive and subject cataloging. Used throughout, examples for Assignments 9 and 13 Electronic version emailed.</p> <p>AACR-2R-2002, 2005 update. and Resource Description and Access (RDA) Anglo-American Cataloguing Rules, Second Edition, 2002 Revision, 2005 Update Published Jointly by the American Library Association (ALA), the Canadian Library Association (CLA), and the Chartered Institute of Library and Information Professionals (CILIP). © 2005. Complete text with annual updates from 2003 through 2005, 750 pages Available from www.alastore.ala.org/, click on <i>Cataloging and Classification</i> Entirely new version: RDA, av. now electronic, www.rdatoolkit.org, both in Baldy14A.</p> <p>Other useful book (on UBlerns): Jonassen, David H.; Beissner, K.; Yacci, M. Structural knowledge. Techniques for representing, conveying, and acquiring structural knowledge. Hillsdale, NJ: Erlbaum; 1993. 265p.</p> <p>Optional readings go deeper or cover advanced topics. Some are included in the reading packet and the lecture notes+assignments, all are in Baldy 14A, some emailed as pdf.</p>

Put these materials into two 1.5" or 2" three-ring notebooks:

(1) Lecture Notes and Assignments, (2) Readings. Alternatively, put everything for one lecture together.

Always bring the day's lecture notes, assignments, & readings (incl. the text).

To save time, mark the proper place.

Conduct of the course

<p>Course meetings</p>	<p>There are two 75-min. lectures/ class periods each day, labeled 1.1, 1.2, ... Lecture and discussion, review of text, examples, in-class exercises. Free-write at the end of the day (see p. 18).</p> <p>In Weeks 1, 8, 9, and 10 classes are held as small-group sessions to deal with key topics that require more interaction.</p> <p>Small-group sessions are the most important classes, they are not extras and not optional; there will be a sign-up sheet for scheduling</p> <p>To prepare for lectures and small group sessions:</p> <ul style="list-style-type: none"> - In the Lecture Notes, read the objectives, notes on practical significance, and discussion questions. Previewing the lecture outlines will help in following the class. Do the readings. - Think about the discussion questions. Be prepared to ask questions about course materials and assignments and enter into discussion. - Read the assignments assigned that day; you may need clarification. <p>Do the required readings, or you will be lost in class.</p> <p>Always bring the applicable lecture notes, assignments, and readings (including the text).</p> <p>To save time, mark the proper place.</p>
<p>Assignments</p>	<p>13 assignments (typically 2 -3 hrs) to practice the course concepts. Unless stated otherwise in the assignment, assignments can be done in teams of 2 -3 with one copy handed in, except individual essays.</p> <p>Assignments are for learning; they must be handed in and are graded for feedback. But what really counts (for taking further courses and ultimately in the work place) is what you have learned through doing the assignment and reading the answer sheet (see Grading below.) Do not overdo the assignments; the answer sheets are generally more complete than what is expected from your answers.</p> <p>Assignments 9 and 13 are required to receive a grade in the course; you can work on them in teams but you must hand them in individually.</p> <p>If it would save you a trip, email assignments to the GA with a copy to me (attachments preferred, multiple pieces combined into a single file).</p> <p>Students who skip the assignments will not master the concepts or integrate them in their knowledge and thus will fall behind.</p>

<p>Other work</p>	<p>Midterm (take-home, closed-book, 90 min) for feedback. Sample questions on pages following Lecture 7.2 in the lecture notes.</p> <p>Term paper / end-of-term essay. (See form following Assignment 6) A reflective essay on a theme of your choice, guideline 4,000-5,000 words:</p> <ul style="list-style-type: none"> - <u>make connections</u> between ideas gleaned from the readings, assignments, and class discussions; - consider implications and applications; - identify issues, questions, problems for further study. <p>This can be a personal essay that reflects your personal experience and views. Starting with Lecture 1 and continuing throughout the course, jot down ideas and connections as they occur to you. Short description due March 2nd.</p> <p>You are encouraged to form study groups and arrange meetings with the instructor or the GA.</p> <p>You are welcome to email questions to the instructor.</p>
<p>Course requirements</p> <p>All requirements must be fulfilled to receive a grade in the course</p>	<p>Final (in class, closed-book, 3 hours) covering concepts from all lectures, readings, and assignments, <u>except</u> specifics from Assignments 9 and 13. Sample questions in Lectures 15.1 and 15.2. You may bring two pages of notes (1 sheet two-sided or 2 sheets one-sided).</p> <p>Term paper / end-of-term essay</p> <p>Satisfactory completion of Assignment 9 (Descriptive cataloging practice) and Assignment 13 (Subject cataloging and searching practice), showing knowledge of these topics. These assignments are required because they are not covered in the final.</p>
<p>Grading</p>	<p>The instructor will consider all available evidence of a student's understanding and ability to apply course concepts to practical problems.</p> <p>The final exam and the end-of-term essay are the primary sources of evidence for grading, with more emphasis on the better of the two.</p> <ul style="list-style-type: none"> • If the final and paper result in a grade of A, that is the grade. • If final and paper result in a grade below A, the following will be considered as subsidiary evidence that might improve the grade: <ul style="list-style-type: none"> • midterm (whose main purpose is feedback), • the assignments (whose main purpose is learning), • comments and questions in class, in study group sessions with the instructor, or in other interactions with the instructor, • (at the student's option) the free-writes (see p. 18). <p>If you have done good work all semester, you should not be anxious about the grade. If a student has put forth adequate effort but still has not achieved a grade of B, I will provide guidance for further study which is intended (but not guaranteed) to lead to the understanding needed for a satisfactory grade.</p>

Free-writes

At the end of the day, 5 minutes are set aside for a free-write (use the form in the lecture notes). This is an opportunity

- to reflect – what you learned, what was most important, what was most interesting,, what was extraneous;
- to ask questions – ask for more explanation, how is a concept connected to other concepts, why is a concept important, how can it be applied, why is a reading important;
- offer critique and suggestions;
- say anything else you want to.

Of course you can jot down any of these thoughts on the free-write sheet during the class.

You may put your name and mailbox number on the sheet in which case it will be returned, with a copy kept by the student assistant.

The instructor will not see the free-writes, nor will the GA. They will be summarized every week by a student assistant (not the GA), and the instructor will see only that summary. The instructor will answer questions in class or through email.

If there is doubt about your grade, the instructor will ask for permission to read your free-writes and consider them as evidence in grading (only if you put your name on the sheet).

Academic Integrity

"When an instance of suspected or alleged academic dishonesty by a student arises, it shall be resolved according to the procedures set forth herein. These procedures assume that many questions of academic dishonesty will be resolved through consultative resolution between the student and the instructor." Full statement at www.grad.buffalo.edu/policies/academicintegrity.php

Religious Holidays

It is a policy throughout the State University system that: "on those religious holidays when members of a faith typically observe the expectation of church or synagogue that they be absent from school or work, campuses will avoid the scheduling of such events as registration, the first day of classes, or student convocations, and individual students will be excused from class without penalty if expressly requested." (From SUNY Policy Manual, 1975, Section No. 091.3.) If such a requested absence results in a student's inability to fulfill an academic requirement of a course scheduled on that particular day, the instructor should provide an opportunity for the student to make up the requirement without penalty.

Accommodations for students with disability

Please work with UB Disability Services to receive the support that enables you get the most out of your education. I am also looking forward to working with you to make the course a good experience. "Government regulations require that university policies, practices, and procedures not discriminate on the basis of disability. Disability Services coordinates reasonable modifications so that individuals with

disabilities can access and benefit from all programs, services, and activities of the university."
www.ub-disability.buffalo.edu/servc.php

Outline and calendar. Overview

Part 1. Foundations. Knowledge and knowledge representation

- * 1.1-1.2 Jan. 19 Intro. and overview. Information systems and information structure. **Small Groups 0**
- 2.1-2.2 Jan. 26 The nature of knowledge and knowledge representation

Part 2. Information retrieval: General principles and methods

- 3.1 Feb. 2 The structure of information systems.
- 3.2 Objectives and performance measures for information systems
- 4.1 Feb. 9 An integrated information structure model
- 4.2 Data schemas and formats
- 5.1 Feb. 16 Access to information: data structure & search modes. Retrieval as prediction. Ranking

Part 3. The nature, design, and management of documents and records

- 5.2 Feb. 16 Document function, structure, analysis, and design.
Knowledge (re)presentation in text and images. Text linguistics.
- 6.1, 6.2 Feb. 23 Text analysis. Natural language processing, syntactic and semantic parsing
Document macrostructure. Document design. (Mentioned: Markup languages)
- 7.1-7.2 Mar. 2 Cataloging and metadata. Bibliographic control: description, entries and access
Take home midterm exam distributed. Due for Small Groups 2: March 22 -24

Part 4. Classification and subject access

- 8.1 **Mar. 8 -** **Small Groups 1.** Explorations in subject access Continuing Ass.10. (to be scheduled)
- 8.2 **Mar. 10** Small Groups 1. Vocabulary control. Lexical relationships. Index language functions
- 9.1 **Mar. 22-** **Small Groups 2.** Index language structure 1: conceptual (to be scheduled)
- 9.2 **Mar. 24** Small Groups 2. Application of index language structure to searching
- 10.1 **Mar. 29-** **Small Groups 3.** On constructing a hierarchy from facet combination (to be scheduled)
- 10.2 **Mar. 31** Brief discussion of Assignment 13 Subject cataloging and searching practice
- 11.1 Apr. 6 Index language structure 2: database organization
- 11.2 Indexing and system performance (conceptually also belongs to Part 2)
- 12.1-12.2 Apr. 13 Discussion and in-class exercise: DDC. Short Media Streams Demo
- 13.1-13.2 Apr. 20 Introductory discussion and in-class exercise: Yahoo, LCC, Media Streams
- 14.1 Apr. 27 Exploration of classification schemes and thesauri
- 14.2 Concluding discussion and comparison of classification schemes and thesauri

Conclusion

- 15.1- 15.2 May 4 Final review - optional (Reading Day)
- May 11** Final exam
- Monday May 16 Term paper due. Last day for handing in Assignment 9 and Assignment 13

* Lecture number: 1.1 is Week 1, Lecture 1, 1.2 is Week 1, Lecture 2, ...

List of Assignments

No	Assignment	Assigned	Due
1	Hypermedia exploration: Perseus (Lecture 1.2; 2.5 hours)	Jan. 19	Feb. 2
2	Bibliographic retrieval system exploration: MEDLINE (Lecture 1.2; 3 hours)	Jan. 19	Feb. 2
3	Online catalog search exercise (Lecture 1.2; 1.5 hours)	Jan. 19	Feb. 2
4	Analytical description of an information system (Lecture 3.1; 3 h)	Feb. 2	Feb. 9
5	Developing a conceptual data schema (Lecture 4.2; 1.5 hrs)	Feb. 9	Feb. 16
6	Restructuring a semantic network (Lecture 5.1; 1 hour)	Feb. 16	Feb. 23
	Short description of term paper (Lecture 5.1)	Feb. 16	Mar. 2
7	Apply linguistic techniques to retrieval problems (Lect. 6.1A; 2 h)	Feb. 23	Mar. 2
8	Problems of entry (Lecture 7.2A; 1.5 hours)	Mar. 2	Mar. 23
9	Descriptive cataloging practice (Lect. 7.2A; 4 hrs)(flex. due date)	Mar. 2	Mar. 23+
10	Indexing of three documents and prep for Lecture 8.1 (2 hrs) (do before Small Groups 1)	Mar. 2	Mar. 8 - 10
11	Request-oriented indexing (Lecture 8.2B, 2 hours)	Mar. 9	Mar. 23
***	Take-home midterm, covers Weeks 1 - 7 (1.5 hrs)	Mar. 9	Mar. 23
12	Conceptual analysis and synthesis (Lecture 9.2) (total 7 h) 12.1 Semantic factoring (1.5 hours) 12.2 Building a hierarchy of elemental concepts (1.5 h) 12.3 Hierarchy from facet combination (2 hours) Complete (start) before Small Groups 3, except 12.3b	Mar. 23	Do by Mar. 29-31, hand in Apr. 6
13	Subject cataloging and searching practice (Lect. 10.2)	see each	see each
	13.1 Dewey Decimal Classification (DDC) (6 hours) Complete for discussion in class on Nov. 16	Apr. 6	Apr. 13
	13.2 ERIC Thesaurus (3 hours)	Apr. 13	Apr. 20
	13.3 Libr.of Congress/Sears Subject Headings (LCSH) (5 h)	Apr. 13	Apr. 20
	13.4 Yahoo: Yahoo (or DMOZ) classification (6 hours) OR LCC: Library of Congress Classification (6 hours) OR Media: Media Streams iconic classification (6 h) OR Choice in consultation with instructor (Yahoo and LCC overview in class on Nov. 23)	Apr. 20	May 4

	Term paper	Jan. 19	May 16
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Outline and Calendar

Week 1. January 19

Lecture **Part 1. Foundations. Knowledge and knowledge representation.**

Both class periods will be in small groups. Time slots and sign-up to be announced

1.1	Introduction: Information Professionals in the 21st century (30 min) Overview of the course (35 min)
1.2	Information systems and information structure (70 min) Lecture

over

Week 1. January 19, continued**To prepare****Read beforehand****General introductory readings** (electronic copy sent by email or on the Web)

Soergel, Dagobert.

Information retrieval

Information organization

Berkshire Encyclopedia on Human-Computer Interaction. 2004

Berners-Lee, Tim; Hendler, James; Lassila, Ora

The Semantic Web. A new form of Web content that is meaningful to computers will unleash a revolution of new possibilities

Scientific American. 2001 May (UBlearns)

Lecture 1.1

Special Libraries Association

Competencies for Information Professionals of the 21st Century

www.sla.org/content/learn/comp2003/index.cfm (electronic copy of excerpts sent)

U.S. Department of Labor. Bureau of Labor Statistics

Occupational Outlook Handbook. Librarians

<http://stats.bls.gov/oco/ocos068.htm>

Lecture 1.2 no readings**Assignments assigned****Expanding on Lecture 1.2**

- ▶ Assignment 1, Hypermedia exploration: Perseus and Freebase (due Feb 2) (2.5 hours)
- ▶ Assignment 2, Bibliographic retrieval system exploration: MEDLINE (due Feb 2) (3 hours)
- ▶ Assignment 3, Online catalog search exercise (due Feb 2) (1.5 hours)

Week 2. January 26**Part 1. Foundations. Knowledge and knowledge representation, continued**

2.1 and 2.2	The nature of knowledge and knowledge representation Lecture
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To prepare, read beforehand:**Lectures 2.1 and 2.2**

Lecture objectives etc. (pink sheet)

Text Chapter 1. *Introduction: information systems for problem solving*

Text Chapter 2. *The nature of information*

Text Section 9.3 *Criteria for the design and evaluation of data schemas* (p. 150-152)

- 1 Skemp, Richard R. *The psychology of learning mathematics*. Exp. Amer. Ed. (Also: 2. ed. 1986, 1.ed. 1971, page numbers vary), multiple copies in Baldy 14A
Chapter 2 *The formation of mathematical concepts*, p. 9 -21
Chapter 3 *The idea of a schema*, only p. 22-29
Chapter 5 *Symbols*, p. 46-55

A general introduction to the structure of knowledge and its representation, applicable to any subject, not just mathematics.

- 2 Lindsay and Norman. *Human information processing. Intro to psychology*.
Chapter 10. The structure of memory (semantic networks, DS), p. 374-401
Chapter 11. Memory processes (restructuring sem. networks, DS), p. 402-434
- 3 Cohen and Kjeldsen, *Information retrieval by constrained spreading activation in semantic networks* (semantic networks to represent concept relationships for info. retrieval), p. 255-260
- 4 *Frames and slots*. Jonassen 1993, Structural knowledge, p. 125-133.
- 5 *Frames: Packaged structures*. Parsaye 1988, Expert systems, p. 48-56.

No Assignments Due

No assignments assigned

Week 3. February 2**Part 2. Information retrieval: General principles and methods**

3.1	The structure of information systems In-class exercise: Analytical description of an information system
3.2	Objectives and performance measures for information systems (60 min) Lecture

To prepare, read beforehand**For Lecture 3.1**

Lecture objectives etc. (pink sheet)

Text Chapter 5. *The structure of information systems* (for discussion)**For Lecture 3.2**

Lecture objectives etc. (pink sheet)

Text Chapter 6. *Systems analysis*Text Chapter 7. *Assessment of users' problems and needs*Text Chapter 8. *Objectives and performance measures for ISAR systems* (for discussion)**Assignments due**

Assignment 1, Hypermedia exploration: Perseus and Freebase (2.5 hours)

Assignment 2, Bibliographic retrieval system exploration: MEDLINE (3 hours)

Assignment 3, Online catalog search exercise (1.5 hours)

Assignments assigned, read description beforehand**Based on Lecture 3.1**

► Assignment 4, Analytical description of an information system (due Feb 9) (3 hours)

Week 4. February 9**Part 2. Information retrieval: General principles and methods, continued**

4.1	An integrated information structure model Lecture explaining p. 14 - 47 of the reading; these pages serve as lecture notes Ideas from this lecture/reading will be used and clarified throughout the course
4.2	Data schemas and formats In-class exercise: Developing a conceptual schema (45 minutes) Questions and answers / discussion of Chapter 9

To prepare, read beforehand**Lecture 4.1**

Lecture objectives etc. (pink sheet)

- 1 Soergel, *Design of an integrated information structure interface*, Prologue and p. 1 - 13
(The rest of this reading serves as the notes for the lecture.)

Optional

- 2 Soergel, *A language for the description of foods* (included)
More examples for the Entity-Relationship approach and hierarchical inheritance

Lecture 4.2

Lecture objectives etc. (pink sheet)

Text Chapter 3. *The structure of information*

Text Chapter 9. *Data schemas and formats* (including Appendix) (for discussion)

Model Catalog (useful to look at)

Assignments due

Assignment 4, Analytical description of an information system (3 hours)

Assignment assigned (read description beforehand)

► Assignment 5, Developing a conceptual data schema (due Feb 16) (1.5 hours)

Week 5. February 16**Part 2. Information retrieval: General principles and methods, continued**

5.1	<p>Access to information: data structure and search modes (85 min.)</p> <p>Retrieval as prediction (probabilistic retrieval)</p> <p>Review of Boolean retrieval (Text Chapter 10)</p> <p>In-class exercise: Ranking of retrieved objects</p> <p>Review of search modes and data structures (Text Chapter 11)</p> <p>In-class exercise: Restructuring a semantic network</p>
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Part 3. Nature, design, and management of documents and records**Lect. 5.2, 6.1, 6.2. Document function, structure, analysis, and design**

5.2A	<p>Knowledge (re)presentation in text and images. Text linguistics (35 min)</p>
5.2B	<p>Text analysis overview and examples (30 min)</p> <p>In-class exercise: Extracting data from text, especially resolving anaphoric references</p>

Week 5. February 16, continued**To prepare, read beforehand****Lecture 5.1**

Lecture objectives etc. (pink sheet)

Text Chapter 10. *Elementary query formulation*

Text Chapter 11. *Data structures and access*

Model Catalog (useful to look at)**Lecture 5.2A**

Lecture objectives etc. (pink sheet) for Lectures 5.2 - 6.2 and for Lecture 5.2A

Optional

- 1 Soergel, D., compiler. *The nature of texts*. Supplemental pages. 1999. 12 p. (included)
- 2 Crombie, W., orig. author; Soergel, D., adapter. *Semantic relations between propositions*. 1985 and 1998. 7 p. (included)

Lecture 5.2B

Lecture objectives etc. (pink sheet)

Optional

- 1 *Xerox linguistic software* (Web announcement) and **Temis / Luxid** www.luxid.com
(Included. Illustrates practical importance of text analysis and NLP)
Shuldberg, Kelly H.; MacPherson, Melissa; Humphrey, Pete; Corley, Jamii.
Distilling information from text: The EDS TemplateFiller system.
Journal of the American Society of Information Science. 1993.10; 44(9): 493-507.
(Baldy 14A, read afterwards)

Assignments due

Assignment 5, Developing a conceptual data schema (1.5 hours)

Assignment assigned (read description beforehand)

- ▶ Assignment 6, Restructuring a semantic network (due Feb23) (1 hour)
- ▶ **Prepare description of term paper** using the form found after Assignment 6 (due Mar 2)

Optional: Exercise on database definition and querying using MS Access

www.dsoergel.com/571/670SoergelMSAccessAssignment.pdf

Week 6. February 23**Part 3. Nature, design, and management of documents and records, cont.****Lect. 5.2, 6.1, 6.2. Document function, structure, analysis, and design, continued**

6.1A	Natural language processing. Syntactic and semantic parsing (45 min) Lecture
6.1B	Document macrostructure and inter-document relationships (40 min) Lecture
6.2A	Document design. Formatting documents for understanding by people (50 min) Lecture
6.2B	Formatting documents for interpretation by computers. Markup languages. (15 min) Very brief introduction; covered in 506. Some materials in the appendix (on the Web)

To prepare, read beforehand**Lecture 6.1A**

Lecture objectives etc. (pink sheet)

- 1 Allen, James. *Natural language understanding*. 2nd ed. Redwood City, Calif.: Benjamin/Cummings, 1995.
Table of contents
Chapter 1. Introduction to natural language understanding, p. 1-17.

Optional

- 1 *NLP Meets the Jabberwocky: Natural Language Processing in Information Retrieval* by Susan Feldman
ONLINE, May 1999
Copyright © Information Today, Inc. (UB Library e-journals)

Lecture 6.1B Lecture objectives etc. (pink sheet)

Lecture 6.2A

Lecture objectives etc. (pink sheet)

- 1 Mayer, Richard E. *The Balloons Passage: Understanding requires a schema* (from Mayer 1983, p. 207- 208.)
- 2 Novak, J. D. & A. J. Cañas, *The Theory Underlying Concept Maps and How to Construct Them*. Technical Report

IHMC CmapTools 2006-01, Florida Institute for Human and Machine Cognition, 2006 Dec., 33 p.
Retr. Jan. 20, 2007 from <http://cmap.ihmc.us/Publications/ResearchPapers/TheoryUnderlyingConceptMaps.pdf>.

3 Keyes, Elizabeth.

Information design: Maximizing the power and potential of electronic publishing equipment. IEEE Transactions on Professional Communication 30(1) (1987): 32-37.

4 Soergel, D., compiler. *Some useful document design guidelines.*

over

Week 6. February 23, continued

Optional

Lynch, Patrick J.; Horton, Sarah. *Web style guide. Basic design principles for creating Web sites*. 2. ed. New Haven, CN: Yale University Press; 2002. 176 p. \$14 at Amazon **Full text at www.webstyleguide.com**
Chapter 3. Site design. p. 23 - 31. Chapter 4. Page design. p. 53 - 56. Ch. 5. Typography. p. 79 - 92.

Recommended for school library media specialists

Meyer, Bonnie J. F. *Following the author's top-level organization: an important skill for reading comprehension*. In: *Understanding Readers' Understanding: Theory and Practice*, Tierney, R.J.; Anders, P.L.; Mitchell, J.M., eds., p. 59 - 76. Hillsdale, N.J.: Erlbaum, 1986.

Rumelhart, David E. and Norman, Donald H. *Accretion, tuning, and restructuring*. In: *Semantic Factors in Cognition*, John W. Cotton and Roberta L. Klatzky, eds., p. 37 - 53. Hillsdale, N.J.: Erlbaum, 1978.

Optional (read before or after)

Content management suite from Interwoven (included)

Data sheets from Web site www.interwoven.com/products

Included for the ideas, no endorsement of product or company.

If you download the .pdf Data sheets, you can use the zooming function of Adobe Acrobat to actually see the small pictures.

Lecture 6.2B

Lecture objectives etc. (pink sheet)

Lectures 5.2 - 6.2 (read after)

- 1 Kamps, Thomas; Hüser, Christoph; Möhr, Wiebke; Schmidt, Ingrid. *Knowledge-based information access for hypermedia reference works: Exploring the spread of the Bauhaus movement*. In Agosti, M.; Smeaton, A. *Information retrieval and hypertext*. Boston: Kluwer; 1996. Chapter 10, p. 225-256.

Optional

- 1 Noemie Elhadad, Min-Yen Kan, Judith Klavans, and Kathleen McKeown. Customization in a unified framework for summarizing medical literature. *Journal of Artificial Intelligence in Medicine*, 33(2):179-198, 2005

www.cs.columbia.edu/nlp/papers/2005/elhadad_al_05a.pdf

Assignments due

Assignment 6, Restructuring a semantic network (1 hour)

Assignment assigned (read description beforehand)

- Assignment 7, Applying linguistic techniques to retrieval problems (due Mar 2) (2 hrs.)

Week 7. March 2

Part 3. Nature, design, and management of documents and records, cont.

Lectures 7.1A - 7.2B. Metadata. Bibliographic and record control

7.1A	General introduction to metadata (10 min.) Lecture
7.1B	Bibliographic and record control. General issues (40 min) Lecture
7.1C	Bibliographic and record control. Description. (25 min) Describing texts and documents in a more general context Lecture
7.2A	Bibliographic and record control: Entries and access (40 min) In-class exercise: Problems of determining author entry
7.2B	Metadata, Resource Description Framework (RDF), Dublin Core (DC) (35 min) Lecture
	Cataloging clinic for Assignment 9 - schedule with GA (Times will be announced)

To prepare, read beforehand

Lectures 7.1A - 7.2B

Lecture objectives etc. (pink sheet)

- 1 What is FRBR?: A Conceptual Model for the Bibliographic Universe.** Barbara Tillett.
Available at the following website: <http://www.loc.gov/catdir/cpsd/whatfrbr.html>

Optional

- 1 Functional Requirements for Bibliographic Records: Final Report**
Available at www.ifla.org/VII/s13/frbr/frbr.pdf
- Oliver, Chris. **Introducing RDA: A Guide to the Basics.** Chicago, IL: ALA Editions; 2010. 128 p.
ISBN-13: 978-0-8389-3594-1
Intro at http://books.google.com/books?id=WIBFVbU_ozYC in Baldy 14A

Lecture 7.1C

- 1 Descriptive Cataloging. Sample codes**

Includes *Excerpts from AACR2, Part 1; Brief introduction to APA rules; and Sample list of citation styles supported by Library Master*
Get a general idea. Do not read the whole document in detail; know where things are so you can refer to the document in later cataloging exercises.
- 2 Statement of international cataloguing principles.** IFLA 2009
Retrieved on Sept. 18, 2010 from www.ifla.org/files/cataloguing/icp/icp_2009-en.pdf

The **Model Catalog** is helpful as a source of examples.

Over

Readings, continued

Lecture 7.2A

Read afterwards:

- 1 *Excerpts from AACR2, Part 2* (Familiarize yourself with the general layout and some major rules) (The reading package contains merely a list of sections to look at; use the AACR2 book in Baldy 14A.)
- 2 *Lubetzky's conditions for author entry* (from Needham, *Organizing knowledge in libraries*, 1971), rearranged by D. Soergel

Assignments due

Assignment 7, Applying linguistic techniques to retrieval problems (2 hrs.)

Note: Assignment 3, Online catalog search (assigned Jan 19, due Feb 2) prepares for these lectures

Description of term paper using the form found after Assignment 6

Assignment assigned (read description beforehand)

- ▶ Assignment 8, Problems of entry (due Mar 23) (1.5 hours)
- ▶ Assignment 9, Descriptive cataloging practice (due Mar 23 or later) (4 hours)
- ▶ Assignment 10, Index three documents, prepare for Lecture 8.1 (Mar 8 - 10) (2 hours)
(This assignment is preparation for Small Groups 1, Lecture 8.1)

Week 8. March 8 - 10 (Small Groups 1, 4 hours)

Several time slots (including class time), final scheduling based on sign-up.

Replaces class on Mar 9; if your time slot is not the class time, do not come to class on Mar 9

Part 4. Classification and subject access

8.1	Explorations in subject access Continuing Assignment 10. 2 hrs.
8.2A	Vocabulary control. A special case of authority control (20 min.) Text Chapter 12 review Lexical relationships: Paradigmatic relationships (synonymy, antonymy, hyponymy) and homonymy/polysemy (10 min.) Lecture
8.2B	Index language functions (60 min.) Lecture In-class exercise: Request-oriented indexing

Week 8. October 19 - 22, continued**To prepare, read beforehand****Part 4**

Objectives etc. (pink sheet)

Lecture 8.1

Small Groups 1 objectives etc. (pink sheet). Look over all pages for Small Groups 1 in the Lecture notes

Lecture 8.2A

Lecture objectives etc. (pink sheet)

Text Chapter 12. *Terminological control* (for brief discussion)

Lecture 8.2B

Lecture objectives etc. (pink sheet)

Text Chapter 13. *Index language functions* (for discussion)

1 Mooers, *A case history of a Zatacoding IR system*, p. 346-352

2 Soergel, *Functions of a thesaurus / classification / ontological KB* (optional, included)

Assignments due

Assignment 10, Indexing of three documents (2 hours)

This assignment is preparation for Small Groups 1, Lecture 8.1.

Assignment assigned (read description beforehand)

► Assignment 11, Request-oriented indexing (due Mar 23) (2 hours) (based on Lect. 8.2B)

MIDTERM

Take-home, closed-book midterm exam handed out (due Mar 23) (1.5 hours)

May type or handwrite

Week 9. March 22 - 24 (Small Groups 2)

Several time slots (including class time(s)), final scheduling based on sign-up.

Replaces class on Mar 23; if your time slot is not the class time, do not come to class on Mar 23.

Part 4. Classification and subject access, continued

9.1	Index language structure 1: conceptual In-class exercise Conceptual analysis and synthesis: Semantic factoring and hierarchy building
9.2	Application of index language structure to searching In-class exercise: Retrieval of documents in a sample collection In-class exercise: Retrieval access to the documents from Assignment 11

To prepare, read beforehand**Lecture 9.1**

Lecture objectives, etc. (pink sheet)

Text Chapter 14. *Index language structure 1: conceptual* (for discussion)

Lecture 9.2. Lecture objectives, etc. (pink sheet)

Assignments due

Assignment 8, Problems of entry (1.5 hours) (can be handed in later)

Assignment 9, Descriptive cataloging practice (4 hours) (can be handed in later)

Assignment 11, Request-oriented indexing (2 hours)

Midterm Examination

Assignment assigned (read description beforehand)

► Ass. 12, Conceptual analysis and synthesis

(do 12.1 and 12.2 and at least start-12.3a before Small Gr. 3, Mar 29 - 31, hand all in Apr 6)

► Assignment 12.1, Semantic factoring (1.5 hours)

► Assignment 12.2, Building a hierarchy of elemental concepts (1.5 hours)

► Assignment 12.3, Hierarchy from facet combination (2 hours)

Week 10. Mar 29 - 31, Small Groups 3

Several time slots (including class time), final scheduling based on sign-up.

Replaces class on Mar 30; if your time slot is not the class time, do not come to class on Mar 30

Part 4. Classification and subject access, continued

10.1	Constructing a hierarchy from facet combination (1 hour 40 min)
10.2	Brief discussion of Assignment 13 Subject cataloging and searching practice (20 min)

To prepare,**Lecture 10.1, Small Groups 3**

Complete Assignment 12.1 and 12.2 and at least start 12.3a beforehand

Lecture 10.2

Lecture objectives, etc. (pink sheet)

General introduction to Assignment 13, p. 141 in the Assignments (yellow)

Look over Assignment 13 materials

Assignments due

Ass. 12, Conceptual analysis and synthesis

(do 12.1 and 12.2 and at least start 12.3a before Small Groups 3, hand all in Apr 6)

Assignment 12.1, Semantic factoring (1.5 hours)

Assignment 12.2, Building a hierarchy of elemental concepts (1.5 hours)

Assignment 12.3, Hierarchy from facet combination (2 hours)

over

Week 10. Mar 29 - 31, continued

Assignments assigned (read description beforehand)

Assignment 13. Subject cataloging and searching practice

- ▶ Assignment 13.1, Dewey Decimal Classification (DDC) (6 hours)
Start Apr. 6, complete by Apr. 13, be ready with questions for class discussion
- ▶ Assignment 13.2, ERIC Thesaurus (3 hours)
Start Apr. 13, complete by Apr. 20, not covered in class
- ▶ Assignment 13.3, Library of Congress/Sears Subject Headings (LCSH) (5 hours)
Start Apr. 13, complete by Apr. 20, not covered in class
- ▶ Assignment 13.4 Yahoo: Yahoo (or DMOZ) classification (a semi-faceted classification) (6 hours)
OR LCC: Library of Congress Classification (LCC) (6 hours)
OR MediaStreams (for indexing of movie scenes)
OR Your choice in consultation with instructor

For Yahoo and LCC, we will start going through the worksheet, index a document, and formulate a query on Apr. 20 so that everyone has at least some idea of these schemes.

For the option you choose, complete the rest of the assignment by May 4.

Optional: In preparation for Yahoo, look at <http://dir.yahoo.com/>

Absolute deadline for Assignment 13 to receive a grade in the course is May 16.

Assignment 13.4 LCC requires the use of printed volumes of which there are only a few copies and of online-access from computers in the Baldy 14A lab.

You are encouraged to meet with the instructor in study groups to ask questions on these assignments.

Week 11. April 6**Part 4. Classification and subject access, continued**

11.1	Index language structure 2: database organization Text Chapter 15 review Concluding in-class exercise: vocabulary control and hierarchical structure Concluding in-class exercise: conceptual analysis and synthesis
11.2	Indexing and system performance (50 min.) Text Chapter 16 review

Lecture 11.1 read beforehand

Lecture objectives, etc. (pink sheet)

Text Chapter 15. *Index language structure 2: database organization* (for discussion)

Lecture 11.2 read beforehand

Lecture objectives, etc. (pink sheet)

Text Chapter 16. *Indexing and system performance* (for discussion)

1 Soergel, *Indexing and retrieval performance: The logical evidence.*

Note: Some students found it easier to read this article before Chapter 16.

Model Catalog (useful to look at)

Assignments due

Ass. 12, Conceptual analysis and synthesis. Hand in all parts

Week 12. April 13**Part 4. Classification and subject access, continued**

12.1	<p>Discussion and in-class exercise: DDC</p> <p>Discussion of Assignment 13.1, Dewey Decimal Classification</p> <p>In-class exercise: Advanced topics in DDC (as marked in the DDC worksheet)</p>
12.2	<p>Short Media Streams demo</p>

To prepare, read beforehand**Lecture 12.1**

Lecture objectives, etc. (pink sheet)

- 1 Needham, *Organizing knowledge in libraries*, Chapter 7, p. 109-131 (review of classification principles) and Chapter 8, p. 133, p.140-152 (DDC)

Have questions on DDC ready, or email to the instructor beforehand, dsoergel@buffalo.edu

Lecture 12.2**Optional readings** (required if you do Assignment 13.4 Media)

- 1 Davis, Marc. *Media Streams: An Iconic Visual Language for Video Representation*. In: *Readings in Human-Computer Interaction: Toward the Year 2000*, eds. Ronald M. Baecker, Jonathan Grudin, William A. S. Buxton, and Saul Greenberg. 854-866. 2nd ed., San Francisco: Morgan Kaufmann Publishers, Inc., 1995.
<http://www.dsoergel.com/571/MediaStreamsPaper.pdf>
- 2 Davis, Marc. *Media Streams: An Iconic Visual Language for Video Annotation*. *Teletronikk* 4.93 (1993): 59-71
www.dsoergel.com/571/MediaStreamsAnnotationPaper.pdf

Week 12. , continued

Assignments due

Assignment 13.1, Dewey Decimal Classification (DDC) (6 hours)

Assignment assigned (read description beforehand)

► Assignment 13.3, Library of Congress/Sears Subject Headings (LCSH) (5 hours) (due Apr 20)

Prepare requests for topics to be included in the final review.

(Can be submitted by e-mail to dsoergel@buffalo.edu until May 3, 10 am.)

Week 13. April 20**Part 4. Classification and subject access, continued**

13.1A	Questions on Assignment 13.2, ERIC and 13.3, LCSH
13.1B	Introductory discussion and in-class exercise on Assignment 13.4 Yahoo We will start going through the worksheet, index a document, and formulate a query.
13.2	Introductory discussion and in-class exercise on Assignment 13.4: LCC We will start going through the worksheet, index a document, and formulate a query

To prepare, read beforehand**Lecture 13.1A** (the readings for Assignment 13.3 LCSH)

Chan, *Cataloging and classification*, Chapter 8 on LCSH (UBlearns and Lockwood)

Needham, Ch. 10, *The alphabetic subject catalog*, p. 199-223 (optional, included)

For further study

Chan, Lois Mai 1995

Library of Congress Subject Headings. principles of structure and application. 3. ed. Englewood, CO: Libraries Unlimited; 1995.

Lockwood Z695.Z8L5226 1995 (on reserve)

Perreault, Jean M. 1979

Library of Congress Subject Headings: A New Manual. International Classification 1979 Nov.; 6(3):158-169. Extensive review of an earlier version of Chan's book. Gives a good feel for some of the problems in LCSH.

Lecture 13.1B

Lecture objectives, etc. (pink sheet)

1 Needham, *Organizing knowledge in libraries*, Chapter 8, p. 163-168 (LCC)

2 Chan, excerpts from *Immroth's guide to the Library of Congress Classification*, p.13-22.
(Optional, but required if you do Assignment 13.4 LCC)

Week 13. November 23, continued**Assignments due**

Assignment 13.2, ERIC Thesaurus (3 hours)

Assignment 13.3, Library of Congress/Sears Subject Headings (LCSH) (5 hours)

(Nothing to be handed in now, but you should have indexing and query formulation done)

Assignment assigned

► Assignment 13.4 Yahoo, Yahoo classification (a semi-faceted classification) (6 hours)

OR LCC, Library of Congress Classification (6 hours)

OR MediaStreams iconic classification

OR Own choice

(Due May 4)

Prepare requests for topics to be included in the final review.

(Can be submitted by e-mail to dsoergel@buffalo.edu until **May 3** 10 am.)

Week 14. April 27**Part 4. Classification and subject access, continued**

14.1	Exploration of classification schemes and thesauri (now often called ontologies) Discussion of schemes covered in the reading
14.2	Concluding discussion and comparison of classification schemes and thesauri

To prepare, read beforehand**Lecture 14.1**

Lecture objectives, etc. (pink sheet)

- 1 Soergel, D., compiler *Exploration of classification schemes and thesauri*
Meant for exploration, not for word-to-word to reading. Get an overview and pick out some examples to understand the structure of a scheme. Explore all schemes, pick three schemes of particular interest to you and explore them in depth.

Lecture 14.2

Lecture objectives, etc. (pink sheet)

Review Assignment 13

Assignments due

Assignment 13.4 Yahoo, Yahoo classification (a semi-faceted classification) (6 hours)
OR LCC, Library of Congress Classification (6 hours)
OR MediaStreams iconic classification
OR Own choice

Hand in completed document indexing forms and query formulation forms for Assignment 13

Assignment assigned

Prepare requests for topics to be included in the final review.
(Can be submitted by e-mail to dsoergel@buffalo.edu until **May 3, 10 am.**)

Week 15. May 4**Review**

15.1 and 15.2	Final review
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To prepare

Read through lecture notes for Lectures 15.1 and 15.2:

Sample final questions to be discussed

Final review: Natural language processing

Final review: Precombination vs. postcombination

Think of questions, preferably email them to the instructor ahead of time, by May 3, 10 am
(dsoergel@buffalo.edu)

No assignments due**No assignments assigned**

Week 16. May 11**Final exam and paper**

16.1 and 16.2 May 11	Final exam (unless arranged otherwise; contact the instructor if this date is a problem) The final exam is 3 hours. Before the clock starts, you can read through the questions and request clarification. After that, students who prefer to take the exam on a computer will go to a location to be announced. Email exam to dsoergel@buffalo.edu .
May 16	Term paper due. Last day for handing in Assignments 9 and 13

Syllabus

Calendar Overview by part of course

Read only if you need another look at the overall structure of the course

Calendar Overview by part of course

Note: This part (p. 8 - 11) is **repetitive with the calendar**; it gives a different arrangement which some students might find helpful.

Part 1. Foundations. Knowledge and knowledge representation (Lectures 1.1 - 2.2)

The course starts out with the **fundamentals**: Combining ideas from database management, artificial intelligence, and cognitive psychology, we explore the nature of knowledge and its structure and representation in information systems and in the mind. Out of this exploration evolve general principles that apply to any kind of information/knowledge.

These ideas are **applied** and made more concrete

- in three assignments that illustrate the application of information structure to searching;
- throughout the course.

Lectures		
1.1	Jan. 19	Introduction and overview. Information professionals in the 21 st century
1.2		Information systems and information structure
2.1	Jan. 26	The nature of knowledge
2.2		Knowledge representation

Assignment	Assigned	Due
These assignments guide you in the exploration of three information systems, illustrating how information structure is used for navigation and query-based search.		
1	Hypermedia exploration: Perseus and Freebase (2.5 hours)	Jan. 19 Feb. 2
2	Bibliographic retrieval system exploration: MEDLINE (3 hours)	Jan. 19 Feb. 2
3	Online catalog search exercise (1.5 hours)	Jan. 19 Feb. 2

Part 2. Information retrieval: General principles and methods (Lectures 3.1 - 5.1, also 11.2)

This part begins with an **overview of the structure of information systems**, systems that bring information or knowledge to the people or organizations or computer systems who need it to solve problems. This is followed by a discussion of information system objectives. The result is an overall framework for the discussion of individual information system functions and components not just in this course but in other courses as well.

Building on the conceptual foundation of Part 1, Part 2 then introduces a **general information structure model** that provides an integrated view of different approaches to information retrieval (IR). It then discusses **data schemas and formats** and the data structure and search component of IR systems, all on a general level, laying out principles to be applied to specific types of systems later in the course. The later lecture 11.2, Indexing and system performance, rounds out this part.

Lectures		
3.1	Feb. 2	The structure of information systems.
3.2		Objectives and performance measures for information systems
4.1	Feb. 9	An integrated information structure model
4.2		Data schemas and formats
5.1	Feb. 16	Access to information: data structure & search modes. Retrieval as prediction. Ranking
11.2	Apr. 6	Indexing and system performance

Assignment	Assigned	Due
4 Analytical description of an information system	Feb. 2	Feb. 9
5 Developing a conceptual data schema	Feb. 9	Feb. 16
6 Restructuring a semantic network	Feb. 16	Mar. 2
Short description of term paper	Feb. 16	Mar. 2

Part 3. The nature, design, and management of documents and records (Lect. 5.2 - 7.2)

Part 3 applies the general principles to the specific case of documents and records, from plain text on paper to multimedia Web sites. It explores **how knowledge**, a complex web of interrelationships among entities, **is (re)presented in text and images**; put differently, it explores the structure of documents and principles of document design for improved communication. It examines how text/document structure affects assimilation and understanding. It covers text types; text analysis, including **natural language processing** (specifically syntactic and semantic parsing) and data extraction; application of frames to the analysis of document macro structure; **document design for people**, expressing the internal conceptual structure through external form; and briefly mentions markup languages to make documents understandable for computers.

Part 3 then uses general information structure principles and insights into the nature of documents to elucidate the problems of **describing/cataloging documents** and designing library and Web catalogs – the problem of metadata, with a look to supporting users most effectively.

Lectures	
5.2 Feb. 16	Document function, structure, analysis, and design. 5.2A Knowledge (re)presentation in text and images. Text linguistics.
6.1 - 6.2 Feb. 23	Micro 5.2B Text analysis. 6.1A Natural language processing, syntactic and semantic parsing Macro 6.1B Document macrostructure. 6.2A Document design. 6.2B Markup languages
7.1 - 7.2 Mar. 2	Bibliographic and record control. General issues, description, entries and access

Assignment	Assigned	Due
7 Applying linguistic techniques to retrieval problems	Feb. 23	Mar. 2
8 Problems of entry	Mar. 2	Mar. 23
9 Descriptive cataloging of four documents	Mar. 2	Mar. 23+
10 Indexing of three documents and prep for Lecture 8.1 (Belongs to Part 4)	Mar. 2	Mar. 8-10

Part 4. Classification and subject access (Lectures 8.1 - 14.2)

While Parts 1 - 2 deal with the access to information and documents from all kinds of access points and Part 3 focuses on formal or “descriptive” access points, Part 4 focuses on subject access. It applies the principles of information structure and user orientation to an **analysis of knowledge organization systems (KOS)** – classification schemes and thesauri, taxonomies, ontologies. Part 4 relies mainly on assignments designed to help you explore such schemes to (1) reinforce understanding of the general principles and teach the skill of analyzing such schemes and (2) help you get familiar with a few widely used schemes.

Lectures.		
8.1	Mar. 8 - 10	Small Groups 1. Explorations in subject access. (to be scheduled)
8.2		Vocabulary control. Lexical relationships. Index language functions
9.1	Mar. 22 - 24	Small Groups 2. Index language structure 1: conceptual (to be scheduled)
9.2		Application of index language structure to searching
10.1	Mar. 29 - 31	Small Groups 3. On constructing a hierarchy from facet combination (to be scheduled) Index language structure 2: database organization
10.2		Brief discussion of Assignment 13: Subject cataloging and searching practice
11.1	Apr. 6	Index language structure 2. Database organization
11.2		Indexing and system performance
12.1-12.2	Apr. 13	Introductory discussion and in-class exercise: DDC. Short Media Streams Demo
13.1-13.2	Apr. 20	Introductory discussion and in-class exercise: Yahoo, LCC, and LCSH
14.1	Apr. 27	Exploration of classification schemes and thesauri
14.2		Concluding discussion and comparison of classification schemes and thesauri

Assignment		Assigned	Due
10	Indexing of three documents and preparation for Lecture 8.1	Mar. 2	Mar. 8 - 10
11	Request-oriented indexing	Mar. 9	Mar. 23
***	Take-home midterm exam	Mar. 9	Mar. 23
12	Conceptual analysis and synthesis	Mar. 23	Mar. 29 - 31
13.1	Dewey Decimal Classification (DDC)	Apr. 6	Apr. 13
13.2	ERIC Thesaurus	Apr. 13	Apr. 20
13.3	Library of Congress/Sears Subject Headings (LCSH)	Apr. 13	Apr. 20
13.4	Yahoo: Yahoo (or DMOZ) classification OR LCC: Library of Congress Classification OR MediaStreams iconic classification OR Own choice	Apr. 20	May 4

Model catalog

Required. Refer to this throughout the course.

- 1 Soergel, Dagobert. **Model Catalog for LIS 571**. Including a summary of the MARC Format. College Park, MD: University of Maryland / College of Information Studies, August 2005. 46 p.

The model catalog gives many examples of cataloging documents, including a Web site, using AACR2R (Anglo-American Cataloguing Rules. 2. edition, revised) and the MARC (MACHINE Readable Cataloging) format.

It includes an **outline of the MARC format** for study and provides **examples** for

Lecture 4.2. Data schemas and formats,

Lecture 5.1. Access to information: data structure & search modes. Retrieval as prediction. Ranking (through the searching capabilities with Library Master).

Lectures 7.1-7.2. Bibliographic and record control. General issues, description, entries and access

and

Assignment 9. Descriptive cataloging of four documents

Lectures 12.1-13.2 Subject cataloging and searching practice

and

Assignment 13. Subject cataloging and searching practice.

Electronic version emailed. Needs to be installed following the instructions in the paper version

Lectures 1.1 and 1.2
Introduction and overview.
Information systems and information structure

General introductory readings (these were emailed beforehand)

Soergel, Dagobert.

Information retrieval

Information organization

Berkshire Encyclopedia on Human-Computer Interaction. 2004 (electronic copy sent)

Berners-Lee, Tim; Hendler, James; Lassila, Ora

The Semantic Web. A new form of Web content that is meaningful to computers will unleash a revolution of new possibilities

Scientific American. 2001 May (UBlearns)

For Lecture 1

Special Libraries Association

Competencies for Information Professionals of the 21st Century

www.sla.org/content/learn/comp2003/index.cfm (electronic copy of excerpts sent)

U.S. Department of Labor. Bureau of Labor Statistics

Occupational Outlook Handbook. Librarians

<http://stats.bls.gov/oco/ocos068.htm>

Lectures 2.1 and 2.2**The nature of knowledge and knowledge representation****Required. Read beforehand.**

Lecture objectives etc. (pink sheet)

Text Chapter 1. *Introduction: information systems for problem solving*

Text Chapter 2. *The nature of information*

Text Section 9.3. *Criteria for the design and evaluation of data schemas* (p.150-152)

- 1 Skemp, Richard R. **The psychology of learning mathematics.**
Expanded American edition. Hillsdale, NJ: Lawrence Erlbaum; 1987.
(Also: *2nd ed. New York: Penguin Books; 1986*, 1.ed. 1971, Chapter and page numbers vary)
Book in Silverman Library.
Ch. 2 **The formation of mathematical concepts**, p. 9 -21
Ch. 3 **The idea of a schema**, only p. 22-29
Ch. 5 **Symbols**, only p. 46-55
- 2 Lindsay, Peter H. and Norman, Donald H. **Human Information Processing: An Introduction to Psychology.** New York: Academic Press, 1972.
Ch. 10 **The structure of memory**, p. 374-401
Ch. 11 **Memory processes**, p. 402-434
- 3 Cohen, Paul R.; Kjeldsen, Rick. **Information retrieval by constrained spreading activation in semantic networks.** *Information Processing and Management.* 1987; 23 (4): 255-260.
- 4 Jonassen, David H.; Beissner, Katherine; Yacci, Michael. **Structural knowledge: Techniques for representing, conveying and acquiring structural knowledge.** Hillsdale, NJ: Lawrence Erlbaum, 1993.
Ch. 12 **Implicit methods for conveying structural knowledge through frames and slots**, p. 125-133
- 5 Parsaye, Kamran; Chignall, Mark.. **Expert systems for experts.** New York: John Wiley and Sons, 1988.
Section 2.2.3. **Frames: Packaged Structures**, p. 48-57

Lectures 3.1 and 3.2
The structure of information systems
Objectives and performance measures for information systems

Required. Read beforehand.

Lecture objectives etc. (pink sheet)

Text Chapter 5. *The structure of information systems* (for discussion)

Text Chapter 6. *Systems analysis*

Text Chapter 7. *Assessment of users' problems and needs*

Text Chapter 8. *Objectives and performance measures for ISAR systems*
(for discussion)

Lectures 4.1 and 4.2
An integrated information structure model
Data schemas and formats

Required. Read beforehand

For Lecture 4.1

Lecture objectives etc (pink sheet)

- 1 Soergel, Dagobert. **Design of an integrated information structure interface.** College Park, MD: University of Maryland / College of Information Studies, January 1999. 78 p.
Prologue and Part 1 (p. 1-48) included, whole paper on the Web site

For Lecture 4.2

Lecture objectives etc (pink sheet)

Text Chapter 3. *The structure of information*

Text Chapter 9. *Data schemas and formats* (Including Appendix) (for discussion)

Optional, included. Read before or after.

Soergel, Dagobert. **A language for the description of foods.** Manuscript. 1992
More examples for the Entity-Relationship approach and hierarchical inheritance

Lecture 5.1**Access to Information: Data structure and search modes.****Required. Read beforehand.**

Lecture objectives etc (pink sheet)

Text Chapter 10. *Elementary query formulation*

Text Chapter 11. *Data structures and access*

Lecture 5.2A**Knowledge (re)presentation in text and images. Text linguistics.****Required. Read beforehand.**

Lecture objectives etc (pink sheet)

Optional, included.

- 1 Soergel, Dagobert. **The nature of texts.** Supplemental pages. College Park, MD: University of Maryland / College of Information Studies, January 1999. 12 p.
- 2 Crombie, Winifred ; Soergel, Dagobert, adapter. **Semantic relations between propositions.** 1985 and 1998. 7 p.

Lecture 5.2b. Text analysis overview and examples

Required. Read beforehand: Lecture objectives etc (pink sheet)

Required, read before or after (you can skip details):

- 1 **Practical applications of linguistic technology**
Compiled from **Inxight** www.inxight.com (recently acquired by Business Objects www.businessobjects.com/products/) and **Temis**, with a product line called **Luxid** www.luxid.com

Optional (UB Library e-journals). **Read afterwards.**

Schuldberg, Kelly H.; MacPherson, Melissa; Humphrey, Pete; Corley, Jamii. **Distilling information from text: The EDS template filler system.** *Journal of the American Society of Information Science.* 1993.10; 44(9): 493-507.

Lecture 6.1a**Natural language processing. Syntactic and semantic parsing.****Required. Read beforehand.**

Lecture objectives etc. (pink sheet)

- 1 Allen, James. **Natural Language Understanding**. 2nd. ed. Redwood City, CA: Benjamin/Cummings, 1995.
Table of contents
Ch. 1 **Introduction to natural language understanding**, p. 1-17.

Optional.

- 1 Feldman, Susan. **NLP Meets the Jabberwocky: Natural Language Processing in Information Retrieval**. ONLINE, 1999 May; 23(3): 62-64,66-68,70-72 (UB Library e-journals)

Lecture 6.1b.**Document macrostructure and inter-document relationships**

Required. Read beforehand. Lecture objectives etc. (pink sheet)

Lecture 6.2a**Document design (information design)****Formatting documents for understanding by people**

Required. Read beforehand. Lecture objectives etc. (pink sheet)

- 1 Mayer, Richard E. **The balloons passage: Understanding requires a schema** (from Mayer, R. E. *Thinking, Problem-Solving, Cognition*. NY: Freeman, 1983). p. 207-208.
- 2** Novak, J. D. & A. J. Cañas, **The Theory Underlying Concept Maps and How to Construct Them**. Technical Report IHMC CmapTools 2006-01, Florida Institute for Human and Machine Cognition, 2006 Dec., 33 p. Read at least p. 1-12 and later examples
Retr. Jan. 20, 2007
<http://cmap.ihmc.us/Publications/ResearchPapers/TheoryUnderlyingConceptMaps.pdf>.
- 3 Keyes, Elizabeth. **Information design: Maximizing the power and potential of electronic publishing equipment**. *IEEE Transactions on Professional Communication*, 1987; 30 (1): 32-37.
- 4 Soergel, Dagobert, compiler. **Some useful document design guidelines**. College Park, MD: Univ. of Maryland / Coll. of Information Studies, Jan. 1998-2004 4 p.

Over

Lecture 6.2a continued. Optional. Read before or after.

Lynch, Patrick J.; Horton, Sarah. **Web style guide. Basic design principles for creating Web sites.** 2. ed. New Haven, CN: Yale University Press; 2002. 176 p. \$14.25 at Amazon. Full text at www.webstyleguide.com (Accessed 1/17/06)
Chapter 3. *Site design.* p. 23 - 31. Chapter 4. *Page design.* p. 53 - 56
Chapter 5. *Typography.* p. 79 - 92.

Recommended for school library media specialists

Meyer, Bonnie J. F. **Following the author's top-level organization: An important skill for reading comprehension.** In: Understanding Readers' Understanding: Theory and Practice, Tierney, Robert J.; Anders, Patricia L.; Mitchell, Judy Nichols, eds., Hillsdale NJ: Lawrence Erlbaum, 1986. P. 59-76.

Rumelhart, David E.; Norman, Donald H. **Accretion, tuning and restructuring.** In: Semantic Factors in Cognition, John W. Cotton and Roberta Klatzky, eds., Hillsdale, NJ: Lawrence Erlbaum, 1978. p. 37-53.

Lecture 6.2B

Formatting documents for interpretation by computer programs Document markup languages

Required. Read beforehand. Lecture objectives etc. (pink sheet)

Optional. Read before or after.

- 1 **Content management suite from Interwoven** (optional, but included in packet)
Data sheets from Web site www.interwoven.com/products
Included for the ideas, no endorsement of product or company.
If you download the .pdf data sheets, you can use the zooming function of Adobe Acrobat to actually see the small pictures.

Required. Read after Lectures 5.2-6.2.

- 1 Kamps, Thomas; Hüser, Christoph; Möhr, Wiebke; Schmidt, Ingrid. **Knowledge-based information access for hypermedia reference works: Exploring the spread of the Bauhaus movement.** In: Information Retrieval and Hypertext, M. Agosti and A. Smeaton, eds., Boston: Kluwer, 1996. Ch. 10, p. 225-256.

Optional. Read after Lectures 5.2-6.2.

- 1 Noemie Elhadad, Min-Yen Kan, Judith Klavans, and Kathleen McKeown.
Customization in a unified framework for summarizing medical literature. *Journal of Artificial Intelligence in Medicine*, 33(2):179-198, 2005
www.cs.columbia.edu/nlp/papers/2005/elhadad_al_05a.pdf

Lectures 7.1 - 7.2
Cataloging and metadata.

Bibliographic and record control: description, entries and access

Required. Read beforehand.

Lectures 7.1A-7.2B. Lecture objectives. (Pink sheet)

- 1 *What is FRBR?: A Conceptual Model for the Bibliographic Universe.* Barbara Tillett.
Available at the following website: <http://www.loc.gov/catdir/cpsd/whatfrbr.html>

Optional.

- 1 *Functional Requirements for Bibliographic Records: Final Report*
Available at the following website: www.ifla.org/files/cataloguing/frbr/frbr_2008.pdf
- 2 Oliver, Chris. **Introducing RDA: A Guide to the Basics.** Chicago, IL: ALA Editions; 2010. 128 p. ISBN-13: 978-0-8389-3594-1
Intro at http://books.google.com/books?id=WIBFVbU_ozYC, in Baldy 14A

Lecture 7.1C

- 1 **Descriptive cataloging. Sample codes.**
Includes excerpts from AACR2-2002, Part 1; brief introduction to APA Rules; and sample list of citation styles supported by Library Master.
See Readings (Syllabus, p. 13) for publication details for AACR2
Get a general idea; do not read the whole document in detail. Know where things are so you can refer to the document in later cataloging exercises.
- 2 **Statement of international cataloging principles.** IFLA 2009
Retrieved on Sept. 18, 2010 from www.ifla.org/files/cataloguing/icp/icp_2009-en.pdf

The Model catalog is helpful as a source of examples

Lecture 7.2A. Read afterwards:

- 1 *Excerpts from AACR2, Part 2.* Familiarize yourself with the general layout and some major rules. The reading package contains merely a list of sections to look at; use the AACR 2 book.. ()
- 2 *Lubetzky's conditions for author entry.* (from Needham, Christopher D. *Organizing Knowledge in Libraries: An Introduction to Information Retrieval.* 2nd ed. . New York: Seminar Press, 1971). Rearranged by D. Soergel.

Lectures 7.1 - 7.2
Cataloging and metadata.

Bibliographic and record control: description, entries and access

Readings on RDA (Resource Description and Access), which will replace AACR2

Required (in packet)

Joint Steering Committee for Revision of Anglo-American Cataloguing Rules

RDA: Resource Description and Access. Brochure

www.rda-jsc.org/docs/rdabrochure-eng.pdf Accessed 2009-9-19

Optional

Joint Steering Committee for Revision of Anglo-American Cataloguing Rules

RDA: Resource Description and Access. Prospectus

Revised: 19 June 2006

www.rda-jsc.org/docs/5rda-prospectusrev7.pdf Accessed 2009-9-19

Coyle, Karen; Hillmann, Diane

Resource Description and Access (RDA). Cataloging Rules for the 20th Century

D-Lib Magazine. 13 (1/2); January/February 2007

www.dlib.org/dlib/january07/coyle/01coyle.html accessed Feb. 10. 2007

Weiss, Paul J., presenter; Larkin, Molly R. T., recorder

AACR3 Is Coming—What Is It?

The Serials Librarian. 2006; 50 (3/4): 285-294

Also in; and: Roaring into Our 20's: NASIG 2005 (ed: Margaret Mering, and Elna Saxton) The Haworth Information Press, 2006, pp. 285-294.

(UB library e-journals)

Lectures 8.1 and 8.2

Vocabulary control. Lexical relationships. Index language functions

To prepare, read beforehand.

Part 4

Objectives etc. (pink sheet)

Lecture 8.1

Small group objectives etc. (pink sheet) and all pages for Small Groups 1 in Lecture Notes.

Lecture 8.2A

Lecture objectives etc. (pink sheet)

Text Chapter 12. *Terminological control* (for brief discussion)

Lecture 8.2B

Required. Read beforehand.

Lecture objectives etc. (pink sheet)

Text Chapter 13. *Index language functions* (for brief discussion)

- Mooers, Calvin; Brenner, Claude W. **A case history of a Zatacoding information retrieval system.** In: Punched Cards: Their Applications to Science and History, 2nd ed., Robert S. Casey; James W. Perry; Madeline M. Berry; and Allen Kent, eds., New York: Reinhold, 1958. p. 346-352.

Optional, included (required reading for LBSC 775)

- 2 Soergel, Dagobert. **Functions of a thesaurus/ classification/ ontological knowledge base.** College Park, MD: University of Maryland / College of Information Studies, January 2001. 15 p.

Lectures 9.1 and 9.2
Index language structure 1: conceptual
Application of index language structure to searching

To prepare, read beforehand.

Lecture 9.1 (Small Groups 2)

Lecture objectives, etc. (pink sheet)

Text Chapter 14. *Index language structure 1: conceptual* (for discussion)

Lecture 9.2 (Small Groups 2)

Lecture objectives, etc. (pink sheet)

Small Groups 3. Lectures 10.1 and 10.2

Subject cataloging and searching practice

Constructing a hierarchy from facet combination (1.5 hours)

Brief discussion of Assignment 13

Lecture 9A.1`

Lecture objectives etc. (pink sheet)

General introduction to Assignment 13 (in the assignments)

Lecture 9A.2

Lecture objectives etc. (pink sheet)

Complete or at least start Assignment 12.1 - 12.3a beforehand

Lectures 11.1 and 11.2

**Index language structure 2: database organization
Indexing and system performance**

To prepare, read beforehand.

Lecture 10.1

Lecture objectives, etc. (pink sheet)

Text Chapter 15. *Index lang. structure 2: database org.* (for discussion)

Lecture 10.2

Lecture objectives, etc. (pink sheet)

Text Chapter 16. *Indexing and system performance* (for discussion)

- 1 Soergel, Dagobert. **Indexing and retrieval performance: The logical evidence.** *Journal of the American Society for Information Science*, 1994.9; 4(8): 589-599.
Note: Some students found it easier to read this article before Ch. 16.

Lectures 12.1 and 12.2

Discussion and in-class exercise: DDC. Short Media Streams Demo

To prepare, read beforehand.

Lecture 11.1

Lecture objectives etc. (pink sheet)

- 1 Needham, Christopher D. **Organizing knowledge in libraries: An introduction to information retrieval.** 2nd ed. New York: Seminar Press, 1971.
Ch. 7 **Review of classification principles**, p. 109-131
Ch. 8 **DDC**, p. 133, 140-152

Have questions on DDC ready or email to the instructor beforehand. <dsoergel@buffalo.edu>

Lecture 11.2

Optional readings (at least one required if you choose Assignment 13.4 Media)

- 1 Davis, Marc. *Media Streams: An Iconic Visual Language for Video Representation.*
In: *Readings in Human-Computer Interaction: Toward the Year 2000*, eds. Ronald M. Baecker, Jonathan Grudin, William A. S. Buxton, and Saul Greenberg. 854-866. 2nd ed., San Francisco: Morgan Kaufmann Publishers, Inc., 1995.
<http://www.dsoergel.com/571/MediaStreamsPaper.pdf>
Short version
- 2 Davis, Marc. *Media Streams: An Iconic Visual Language for Video Annotation.*
Teletronikk 4.93 (1993): 59-71
www.dsoergel.com/571/MediaStreamsAnnotationPaper.pdf
(Optional, but required if you do Assignment 13.4 Media)

Lectures 13.1 and 13.2
Introductory discussion and in-class exercise: Yahoo, LCC,
Media Streams

To prepare, read beforehand

Lecture 13.1A (the readings for Assignment 13.3 LCSH)

Chan, *Cataloging and classification*. 3. ed. 2007, Chapter 8 on LCSH, p. 213-257 (in UBlerns)

Needham, Ch. 10, *The alphabetic subject catalog*, p. 199-223 (optional, included)

For further study

Chan , Lois Mai 1995

Library of Congress Subject Headings. principles of structure and application. 3. ed.

Englewood, CO: Libraries Unlimited; 1995.

Lockwood Z695.Z8L5226 1995 (on reserve)

Perreault, Jean M. 1979

Library of Congress Subject Headings: A New Manual. International Classification 1979 Nov.; 6(3):158-169. Extensive review of an earlier version of Chan's book. Gives a good feel for some of the problems in LCSH.

Lecture 13.1B

Lecture objectives, etc. (pink sheet)

1 Needham, *Organizing knowledge in libraries*, Chapter 8, p. 163-168 (LCC) (in UBlerns)

2 XXXChan, excerpts from *Immroth's guide to the Library of Congress Classification*, p.13-22.

(Optional, but required if you do Assignment 13.4 LCC)

Also Chan, *Cataloging and classification*. 3. ed. 2007, Chapter 14 on LCC, p. 375-409 (in UBlerns)

Lecture 13.2

Unless you have some experience with the Yahoo classification, go online and have a look or look over Figures 1-4 in Assignment 13.4 Yahoo.

Lecture 14.1 and 14.2
Exploration of classification schemes and thesauri

To prepare, read beforehand.

Lecture 14.1

Lecture objectives etc. (pink sheet)

- 1 Soergel, Dagobert, compiler. **Exploration of Classification schemes and thesauri.** College Park, MD: College of Information Studies, January 1998, updated periodically.
This is a compilation of sample pages from a variety of classification schemes and thesauri designed for a variety of purposes. You can obviously not read all the pages from beginning to end. Just explore some examples in each scheme (particularly the underlined ones) to get a feel for each scheme.

Lecture 14.2

Lecture objectives etc. (pink sheet)

Review Assignment 13

