Syllabus

LIS 768 Digital Information Representation
-- An Online Course --

Fall 2013

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Online Office Hours: TBD
and
By Appointment

COURSE DESCRIPTION

The course covers principles and concepts of information representation methods for the purpose of information retrieval in the digital environment. It includes preparation of abstracts, automatic summarization, subject analysis and vocabulary control, thesaurus/folksonomy/ontology construction, index creation, tagging, and evaluation of information representation and retrieval (IRR) systems.

Prerequisites: LIS 510 & LIS 512 or with instructor’s permission

PALMER SCHOOL STUDENT LEARNING OBJECTIVES

2b. Students will explain and apply systems for organizing and structuring information and knowledge, such as cataloging, classification and other metadata formation standards.
2c. Students will search, retrieve and synthesize information from a variety of systems and sources.

COURSE OBJECTIVES

• To recognize the role of information representation, particularly abstracting and indexing (A&I), in information access and retrieval by surveying major theories and methods.
• To develop information representation skills in both manual and automated environments.
• To examine different types of indexing languages and become familiar with the basic practice of thesaurus construction.
• To understand tagging, RSS and other emerging techniques for representing digital information.
• To evaluate information representation and retrieval systems.

FORMALITY OF ONLINE COURSE

This course is fully online which means that there is no face-to-face class meeting date/time. Office hours will be held online via Adobe Connect while their specific times shall be determined after we meet and discuss that online. Voice-over-PowerPoint (VoP) lectures for
each week are posted no later than Wednesday throughout the semester.

Blackboard (https://blackboard.liu.edu), an online learning system, is the main platform for this course, from which VoP lectures, readings, and other course materials can be accessed and downloaded. Your assignments should be submitted via Blackboard as well. Explore the Help link on the left-hand side panel of the course page after you log into your account if Blackboard is new to you.

In addition to the telephone and email, discussion forum at Blackboard is used for asynchronous discussion, comments and Q&A while the course is in session.

**COURSE SCHEDULE**

<table>
<thead>
<tr>
<th>Week</th>
<th>Dates</th>
<th>Topics/Assignments</th>
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<tbody>
<tr>
<td>1</td>
<td>9/4-10</td>
<td>Introduction &amp; overview&lt;br&gt;<strong>READ:</strong> Cleveland &amp; Cleveland, Chapter 1-2&lt;br&gt;<strong>Recommended readings:</strong> Lancaster; Tenopir</td>
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<tr>
<td>2</td>
<td>9/11-17</td>
<td>Abstracting basics &amp; principles&lt;br&gt;<strong>READ:</strong> Cleveland &amp; Cleveland, Chapter 3&lt;br&gt;<strong>Recommended readings:</strong> Heron &amp; Schwartz</td>
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<tr>
<td>3</td>
<td>9/18-24</td>
<td>Abstracting techniques&lt;br&gt;<strong>READ:</strong> Cleveland &amp; Cleveland, Chapter 9 &amp; 18&lt;br&gt;<strong>Recommended readings:</strong> Fidel 1986; Hartley &amp; Betts; Pinto; Tenopir &amp; Jacso</td>
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<td>4</td>
<td>9/25-10/1</td>
<td>Indexing basics&lt;br&gt;<strong>READ:</strong> Cleveland &amp; Cleveland, Chapter 6 &amp; 8; Wellisch, “Cross-references”; “Depth of indexing”; “Index: the word …”; “Indexable matter”; “Locators”&lt;br&gt;<strong>Recommended readings:</strong> Fidel 1994&lt;br&gt;<strong>&gt;&gt; Exercise I Abstracts and Indexing Terms due on October 1</strong></td>
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<td>5</td>
<td>10/2-8</td>
<td>Information representation languages&lt;br&gt;<strong>READ:</strong> Cleveland &amp; Cleveland, Chapter 4; Wellisch, “Exhaustivity”; “Indexing languages: Natural and controlled”; “Specificity”&lt;br&gt;<strong>Recommended readings:</strong> Chu</td>
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<td>6</td>
<td>10/9-15</td>
<td>Thesaurus construction, taxonomies and ontologies&lt;br&gt;<strong>READ:</strong> Cleveland &amp; Cleveland, Chapter 5; Wellisch, “Thesauri”&lt;br&gt;<strong>Recommended readings:</strong> Batty; Craven; Ezzo; Reamy; Furner; Zeng</td>
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<td>7</td>
<td>10/16-22</td>
<td>Indexing techniques&lt;br&gt;<strong>READ:</strong> Cleveland &amp; Cleveland, Chapter 10-12; Wellisch, “Editing, the 21 steps”; “The indexing process”; “Indexing techniques”; “Periodicals”&lt;br&gt;<strong>&gt;&gt; Exercise II Thesaurus Construction due on October 22</strong></td>
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<tr>
<td>8</td>
<td>10/23-29</td>
<td>Indexing materials of various types&lt;br&gt;<strong>READ:</strong> Cleveland &amp; Cleveland, Chapter 13 &amp; 15&lt;br&gt;<strong>Recommended readings:</strong> Meyers&lt;br&gt;<strong>&gt;&gt; Choice of Two Systems for Term Project due on October 29</strong></td>
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<tr>
<td>Week</td>
<td>Dates</td>
<td>Topics/Assignments</td>
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| 9    | 10/30-11/5  | Indexing software  
**READ:** Cleveland & Cleveland, Chapter 14  
**Recommended readings:** American Society of Indexers |
| 10   | 11/6-12     | Indexing devices & systems  
**READ:** Wellisch, “String indexes” |
| 11   | 11/13-19    | Internet indexing, social tagging & multimedia indexing  
**READ:** Cleveland & Cleveland, Chapter 16-17; Wellisch, “Non-print materials”  
**Recommended readings:** Maislin; Rusmussen; Speller; Turner |
| 12   | 11/20-26    | Evaluation of information representation & retrieval systems  
**READ:** Cleveland & Cleveland, Chapter 7 & 20; Wellisch, “Bad indexes …”  
**Recommended readings:** Johnson, Osmond & Holz; Nicholson |
| 11/27-12/3 | **Thanksgiving Recess – NO CLASS** |
| 13   | 12/4-10     | Information representation: Automatic efforts  
**READ:** Cleveland & Cleveland, Chapter 19; Wellisch, “Automatic indexing”; “Keywords” |
| 14   | 12/11-17    | Digital information representation: Other related topics  
Wrap-up  
**READ:** Cleveland & Cleveland, Chapter 21-23; Wellisch, “Standards”  
>> *Term Project due on December 17*

**ASSIGNMENTS**

**A. Practices**

They will be distributed throughout the semester. Although they will not be graded, active participation is strongly encouraged.

**B. Exercises**

I. **Abstracts & Index Terms**

Write one indicative abstract and one informative abstract for an assigned article. Also prepare a bibliographic description of the article and submit it along with your abstracts. In addition, assign five (5) index terms to the same article you used for writing the abstracts. The terms may be taken from the article, composed by yourself, and in whatever format you consider appropriate (e.g., single words, multiple words, in singular or plural form). Finally, reflect on your experience in completing this exercise.

II. **Thesaurus Construction**

Construct a mini thesaurus with the following terms only. Don’t add any terms of your own to this mini thesaurus.

- Bibliography
- Cataloging
- Library Science
- Subject Cataloging
Classification Indexing
Abstracting Indicative Abstracts
Descriptive Abstracts Informative Abstracts
Critical Abstracts Evaluative Abstracts
Descriptive Cataloging Information Science

The completed mini thesaurus should include an alphabetical display of all the terms and a hierarchical display of all the preferred terms. Standard notations should be applied in preparation of the alphabetical display of the mini thesaurus (i.e., Scope Note - SN, Use - U, Used For - UF, Broader Term - BT, Narrower Term - NT, Related Term - RT). In addition, reflect on your experience in completing this assignment.

C. Term Project

Select one information representation and retrieval system (e.g., Library Information Science & Technology Abstracts) and one tagging system (e.g., delicious.com). Submit your choice of both systems as soon as you can but no later than Week 8 (October 29, 2013) for approval. Feel free to contact the instructor if you have any question about system selection or other parts of the project.

Try both systems (e.g., read system descriptions, conduct test searches) and do relevant readings before writing a paper to evaluate each according to the criteria you have chosen. The evaluation should also include a justification of your selected criteria and a comparison of these two systems where appropriate.

In addition, prepare the following for your paper after it is written:
• An indicative abstract (up to 60 words)
• An informative abstract (up to 150 words)
• Up to five index terms, as in periodical indexing
• A back-of-the-book index, as in book indexing

The back-of-the-book index for your paper should be created using the indexing facility Word provides. Submit the entire project as one packet by Tuesday, December 17, 2013.

D. Class Discussion & Participation

All students are expected to participate at the discussion forum by contributing postings on various topics the instructor and classmates may create.

PERFORMANCE EVALUATION

<table>
<thead>
<tr>
<th>Activity</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>Exercises (2x15)</td>
<td>30%</td>
</tr>
<tr>
<td>Term project</td>
<td>55%</td>
</tr>
<tr>
<td>Class participation</td>
<td>15%</td>
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TEXTS

SELECTED READINGS (All the readings below are available in pdf at Blackboard if without live links.)


Science and Technology, 37, 91-124.


Tenopir, Carol, and Jacsó, Péter. (May 1993). Quality of abstracts. Online, 44-55.


FURTHER READINGS


**STATE EDUCATION DEPARTMENT REQUIREMENT:** 150 hours

- Class/Online Lectures 30 hours
- Readings 60 hours
- Practices 10 hours
- Exercises 15 hours
- Term project 35 hours