

**PALMER SCHOOL OF LIBRARY AND INFORMATION SCIENCE
LONG ISLAND UNIVERSITY**

Syllabus

LIS 768 Digital Information Representation

-- An Online Course --

Fall 2013

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Instructor: Heting Chu

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Online Office Hours: TBD

and

By Appointment
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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

Week	Dates	Topics/Assignments
1	9/4-10	Introduction & overview READ: Cleveland & Cleveland, Chapter 1-2 <i>Recommended readings:</i> Lancaster; Tenopir
2	9/11-17	Abstracting basics & principles READ: Cleveland & Cleveland, Chapter 3 <i>Recommended readings:</i> Hernon & Schwartz
3	9/18-24	Abstracting techniques READ: Cleveland & Cleveland, Chapter 9 & 18 <i>Recommended readings:</i> Fidel 1986; Hartley & Betts; Pinto; Tenopir & Jacsó
4	9/25-10/1	Indexing basics READ: Cleveland & Cleveland, Chapter 6 & 8; Wellisch, “Cross-references”; “Depth of indexing”; “Index: the word ...”; “Indexable matter”; “Locators” <i>Recommended readings:</i> Fidel 1994 >> Exercise I Abstracts and Indexing Terms due on October 1
5	10/2-8	Information representation languages READ: Cleveland & Cleveland, Chapter 4; Wellisch, “Exhaustivity”; “Indexing languages: Natural and controlled”; “Specificity” <i>Recommended readings:</i> Chu
6	10/9-15	Thesaurus construction, taxonomies and ontologies READ: Cleveland & Cleveland, Chapter 5; Wellisch, “Thesauri” <i>Recommended readings:</i> Batty; Craven; Ezzo; Reamy; Furner; Zeng
7	10/16-22	Indexing techniques READ: Cleveland & Cleveland, Chapter 10-12; Wellisch, “Editing, the 21 steps”; “The indexing process”; “Indexing techniques”; “Periodicals” >> Exercise II Thesaurus Construction due on October 22
8	10/23-29	Indexing materials of various types READ: Cleveland & Cleveland, Chapter 13 & 15 <i>Recommended readings:</i> Meyers >> Choice of Two Systems for Term Project due on October 29

Week	Dates	Topics/Assignments
9	10/30-11/5	Indexing software READ: Cleveland & Cleveland, Chapter 14 <i>Recommended readings:</i> 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” <i>Recommended readings:</i> Maislin; Rasmussen; Speller; Turner
12	11/20-26	Evaluation of information representation & retrieval systems READ: Cleveland & Cleveland, Chapter 7 & 20; Wellisch, “Bad indexes ...” <i>Recommended readings:</i> Johnson, Osmond & Holz; Nicholson
11/27-12/3		<i>Thanksgiving Recess – NO CLASS</i>
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” >> <i>Term Project due on December 17</i>

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

Exercises (2x15)	30%
Term project	55%
Class participation	15%

TEXTS

Cleveland, Donald B., and Cleveland, Ana D. (2013). Introduction to indexing and abstracting. 4th ed. Denver, CO: Libraries Unlimited.

Wellisch, Hans H. (1995). Indexing from A to Z. 2nd ed. New York: H.W. Wilson.

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

- American Society of Indexers. (Ongoing updates). Reference Shelf - Software.
<http://www.asindexing.org/i4a/pages/index.cfm?pageid=3319>.
- Batty, David. (February 1989). Thesaurus construction and maintenance: A survival kit. *Database*, 12, 13-20.
- Chu, Heting. (2010). Chapter 4 - Language in information representation and retrieval. In: Information representation and retrieval in the digital age. 2nd ed. Medford, NJ: Information Today. (ASIS&T Monograph Series).
- Craven, Tim. (2008). Introductory tutorial on thesaurus construction.
<http://publish.uwo.ca/~craven/677/thesaur/main00.htm>.
- Ezzo, Jeanette. (2005). Bella and Yakov and Tillie's parties: What I learned in "Construction and Maintenance of Indexing Languages & Thesauri". *Bulletin of the American Society for Information Science & Technology*, 31(4), 23-26.
- Fidel, Raya. (1986). Writing abstracts for free-text searching. *Journal of Documentation*, 42(1), 11-21.
- Fidel, Raya. (1994). User-centered indexing. *Journal of the American Society for Information Science*, 45(8), 572-576.s
- Furner, Jonathan. (2010). Folksonomies. In Marcia J. Bates, and Mary Niles Maack. (Eds.), Encyclopedia of Library and Information Sciences (pp. 1858-1866). 3rd ed. New York: Taylor & Francis.
- Hartley, James, and Betts, Lucy. (2009). Common weaknesses in traditional abstracts in the social sciences. *Journal of the American Society for Information Science and Technology*, 60(10), 2010–2018.
- Hernon, Peter, and Schwartz, Candy. (2010). Writing an abstract. *Library & Information Science Research*, 32(3), 173.
- Johnson, Stephen M., Osmond, Andrew, and Holz, Rebecca J. (2009). Developing a current awareness service using Really Simple Syndication (RSS). *Journal of the Medical Library Association*, 97(1), 51-53.
- Lancaster, F.W. (2003). Do indexing and abstractive have a future? *Anales de Documentación*, (6), 137-144.
- Maislin, Seth. (1999). Ripping out the pages. In: Diane Brenner and Marilyn Rowland. (Eds.). (2000). Beyond book indexing. Medford, NJ: Information Today.
- Meyers, William P. (2005). Indexing books: Lessons in language computations, Part I. *Key Words*, 13(2), 47-50; Part II. *Key Words*, 13(3), 85-87, 106.
- Nicholson, Scott. (1997). Indexing and abstracting on the World Wide Web: An examination of six Web databases. *Information Technology & Libraries*, 16(2), 73-81. OR,
<http://bibliomining.com/nicholson/iapaper.html>.
- Pinto, Maria. (2003). Abstracting/abstract adaptation to digital environments: Research trends. *Journal of Documentation*, 59(5), 581-608.
- Reamy, Tom. (2009). Folksonomy folktales. *KM World*, 18(9). <http://www.kmworld.com/Articles/Editorial/Feature/Folksonomy-folktales-56210.aspx>. (This article is also available in Word at <http://www.kapsgroup.com/presentations.shtml>.)
- Rusmussen, Edie M. (2003). Indexing and retrieval for the Web. *Annual Review of Information*

- Science and Technology*, 37, 91-124.
- Speller, Edith. (February 2007). Collaborative tagging, folksonomies, distributed classifications or ethnoclassification: A literature review. *Library Student Journal*.
<http://librarystudentjournal.org/index.php/ljsj/article/view/45/59>.
- Tenopir, Carol. (June 1992). A day in the life of a database producer. *Database*, 15, 15-20.
- Tenopir, Carol, and Jacsó, Péter . (May 1993). Quality of abstracts. *Online*, 44-55.
- Turner, James M. (2009). From ABC to http: The effervescent evolution of indexing for audiovisual materials. *Cataloging & Classification Quarterly*, 48(1), 83-93.
- Zeng, Marcia Lei. (2005). Construction of controlled vocabularies, A Primer (based on Z39.19).
<http://marciazeng.slis.kent.edu/Z3919/index.htm>.

FURTHER READINGS

- American Society of Indexers (ASI). <http://www.asindexing.org>.
- Aitchison, Jean, Gilchrist, Alan, and Bawden, David. (2004, 2000c). Thesaurus construction and use: A practical manual. 4th ed. London: Europa Publications. (Z695 .A58 2004bx OVSZ)
- Austin, Derek. (1984). PRECIS: A manual of concept analysis and subject indexing. London: The British Library. (Z695.9 A86)
- Batson, Trent. (2008). Cataloging the fire hose: Tagging. *Campus Technology*,
<http://campustechnology.com/articles/2008/02/cataloging-the-fire-hose-tagging.aspx>.
- Broughton, Vanda. (2006). Essential thesaurus construction. London: Facet Publishing. (Z695 .B76 2006bx)
- Cooper, Linda. (1987). So how much will it cost me? Estimating costs and preparing bids for fee-based information services. Washington, DC: American Society of Indexers. (Z674.4 C66)
- Craven, Timothy C. (1986). String indexing. New York: Academic Press. (Z695.915 N48 C7)
- Cremmins, Edward T. (1996). The art of abstracting. 2nd ed. Arlington, VA: Information Resources Press. (PE1477 C7 1996)
- De Keyser, Pierre. (2012). Indexing: From thesauri to the Semantic Web. Oxford: Chandos. (Z695.9 .K49).
- Dykstra, Mary. (1987). PRECIS: A primer. Revised reprint. Netuchen, NJ: Scarecrow. (Z695.915 P73 D9)
- Fay, Catherine H. (1984). Off-site indexing: A cottage industry. *Information Services & Use*, 4, 299-304.
- Feinberg, Hilda. (Ed.). (1983). Indexing specialized formats and subjects. Metuchen, NJ: Scarecrow Press. (Z695.9 I524)
- Fidel, Raya, et al. (Eds.). (1994). Challenges in indexing electronic text and images Medford, NJ: Learned Information. (ASIS Monograph Series). (Z695.9 C43)
- Fugmann, Robert. (1997). Bridging the gap between database indexing and book indexing. *Knowledge Organization*, 24(4), 205-212.
- Garfield, Eugene. (1979). Citation indexing: Its theory and applications in science, technology and humanities. New York: John Wiley. (Z697 S5 G37)
- Gilchrist, Alan. (2003). Thesauri, taxonomies and ontologies – An etymological note. *Journal of Documentation*, 59(1), 7-18.

- Hamilton, Geoffrey. (1976). How to recognize a good index. *The Indexer*, 10(2), 49-53.
- Hood, William, and Wilson, Concepcion S. (1994). Indexing terms in the LISA database on CD-ROM. *Information Processing & Management*, 30(3), 327-342.
- Jacobs, Christine, and Arsenault, Clement. (1994). Words can't describe it: Streamlining PRECIS just for laughs! *The Indexer*, 19(2), 88-92.
- LaBorie, T., Halperin, M., and White, H.D. (1985). Library and information science abstracting and indexing services: Coverage, overlap, and context. *Library & Information Science Research*, 7, 183-195.
- Lancaster, F.W. (1986). Vocabulary control for information retrieval. 2nd ed. Arlington, VA: Information Resources Press. (Z695 L25)
- Layne, Sara Shatford. (1994). Some issues in the indexing of images. *Journal of the American Society for Information Science*, 45(8), 583-588.
- Leininger, Kurt. (2000). Interindexer consistency in PsycINFO. *Journal of Librarianship and Information Science*, 32(1), 4-8.
- Mallory, Michael, and Moran, Gordon. (1994). Scholarly search for the truth, and problems associated with indexing/abstracting. *The Indexer*, 19(2), 99-101.
- Moens, Marie-Francine. (2000). Automatic indexing and abstracting of document texts. Boston: Kluwer Academic Publishers.
<http://cwplib.proxy.liu.edu/login?url=http://site.ebrary.com/lib/liu/Doc?id=10046957>.
- Molina Pinto, Maria. (1995). Documentary abstracting: Toward a methodological model. *Journal of the American Society for Information Science*, 46(3), 225-234.
- Mulvany, Nancy C. (2005). Indexing books. 2nd ed. Chicago: the University of Chicago Press.
- National Federation of Abstracting & Information Services. <http://www.nfais.org>.
- National Information Standards Organization. (2005). Guidelines for the construction, format and management of monolingual controlled vocabularies. (ANSI/NISO Z39.19). Bethesda, MD: NISO Press. OR, <http://www.niso.org/kst/reports/standards/→Z39.19>.
- National Information Standards Organization. (1997). Guidelines for indexes and related information retrieval devices. (ANSI/NISO Z39.4-199X). Bethesda, MD: NISO Press. (Z695.9 G77)
- National Information Standards Organization. (2002). Guidelines for abstracts. (ANSI/NISO Z39.14 – 1997 (R2010)). Bethesda, MD: NISO Press. OR, <http://www.niso.org/kst/reports/standards/→Z39.14>.
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- Oppenheim, C., et al. (2000). The evaluation of WWW search engines. *Journal of Documentation*, 56(2), 190-211.
- Pinto, Maria, and Lancaster, F.W. (1999). Abstracts and abstracting in knowledge discovery. *Library Trends* 48:234-248.
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<http://site.ebrary.com.cwplib.proxy.liu.edu/lib/liu/docDetail.action?docID=10634523>.
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- Weinberg, Bella Haas. (1988). Why indexing fails the researcher. *The Indexer*, 16(1), 3-6.
- Wellisch, Hans H. (2000). Glossary of terminology in abstracting, classification, indexing and thesaurus construction. 2nd ed. Medford, NJ: Information Today.
- Zafrin, Enid L. (Ed.). (2005). Index it right! Advice from the experts. Vol. 1. Medford, NJ: Information Today. (Z695.94 U5 I53)

STATE EDUCATION DEPARTMENT REQUIREMENT: 150 hours

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