

**IS535 Advanced Information Retrieval  
Spring 2003  
Wednesdays, 6:30-9:10 p.m. ET, Communications 321B  
Methods: Centra and Blackboard**

**Instructor**

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Communications 443

Spring office hours (tentative): Mondays, Tuesdays, and Wednesdays 11-noon, 2-4, or by appointment

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**Course (Catalog) Description**

Bibliographic, non-bibliographic, full-text databases, eg. non-bibliographic formula and structure databases, contents page/full-text databases, patents; document delivery alternatives, evaluation and testing.

**Prerequisite**

IS530 or equivalent

**Course Goals/Objectives**

1. To explore trends and major issues in databases and information retrieval.
2. To develop an awareness of research methodologies that help us better understand and use online systems and databases.
3. To learn various ways to evaluate online systems and databases.
4. To learn query languages of several commercially available online systems.
5. To develop advanced skills in search strategy formulation.

**Methodology**

A combination of lecture using Centra, class discussion (using Centra and Blackboard Discussion Board), and database searching. Students will learn to search several online systems through a series of exercises and will be expected to spend additional time searching and comparing online systems. Research papers, an oral presentation, online searching, and class participation are required.

## Course Assignments

Send all assignments to the 535 Blackboard site Digital Drop Box as a Word attachment (check for viruses before attaching!).

### 1. Research Proposals (15% each)

Two research proposals are required—one of which is to be selected to complete for a final research paper. Students may work individually or in teams of two or three as co-authors. If working as a team, each student must be equally responsible for the research, writing, and presentation. Each proposal must include: 1) an introduction (why this topic is important and contextual background); 2) a literature review that relates relevant literature to the topic and to the methodology; 3) a detailed description of the proposed methodology; and 4) a bibliography of items cited in parts 1-3. Proposal lengths will vary, but should be approximately 2000 words (10 pages, double-spaced.)

#### a) Proposal #1: Database Comparison, DUE: February 26 (15%)

Select a criterion to compare databases and an appropriate methodology from those in the readings and discussed in class. Plan how you might apply that methodology to compare two or more databases available on the same system. Turn in a written research proposal following standard research writing techniques outlined above.

#### b) Proposal #2: System Comparison, DUE: March 26 (15%)

Select a criterion to compare online systems or search engines and an appropriate methodology from the readings and those discussed in class. Plan how you might apply that methodology to compare two or three online systems. Turn in a written research proposal following standard research writing techniques outlined above.

### 2. Research Paper, DUE: April 30 (30%)

Select one of the two proposals to complete. Using your described methodology, complete the research evaluation and turn in a formal written research report. Your research report will include: 1) Introduction; 2) Literature review; 3) Methodology (sections 1-3 will just be updated from your proposal); 4) Analysis/findings; 5) Conclusions and suggestions for future research; 6) A bibliography of items cited in parts 1-5. Appropriate tables, charts, and graphs should be included in your analysis. Length will vary, but should be approximately 4,000-5,000 words (20-25 pages double-spaced).

### 3. Oral Presentation, DUE: April 30 or May 7 (10%)

Every class member or team will present their research project in a conference-style presentation. Presentations will be strictly limited to 15 minutes with an additional 5 minutes for questions from the audience. Audiovisual aids or handouts should be used as

appropriate. Powerpoint slides should be submitted one week in advance. Note that Centra strips out all animation, so make your Powerpoint without animation. If the class is large, some presentations must be made April 30<sup>th</sup>.

#### 4. Online Exercises, DUE: as indicated in course calendar (30%)

Online search exercises will be due each week indicated in the course calendar. Students are encouraged to work with a partner. Each team will turn in answers to questions as described in the exercise. Exercises will not cover every feature of a system, but will reinforce many basics for each system and will illustrate some special features that relate to the class topic of the week. Many exercises will require students to search on more than one commercial online system or to locate comparable Web resources. Unlike the IS530 Lab Workbook, the exercises will not substitute for reading system documentation and other materials supplied by the online vendor on their web sites. Studying system documentation and Web sites, plus additional online practice on your own, is assumed. Passwords for each system will be distributed when that system is introduced. Most will remain active for the semester.

#### **Required Textbook**

Jacso, Peter, *Content Evaluation of CD-ROM and Web Databases*. Littleton, Colorado: Libraries Unlimited, 2001. You may purchase a copy directly from the publisher at [www.lu.com](http://www.lu.com) or from the UT bookstore.

#### **Optional Textbook**

Basch, Reva and Mary Ellen Bates. *Research Online for Dummies*. 2<sup>nd</sup> edition. IDG Books, 2000. You may purchase it directly from [www.dummies.com](http://www.dummies.com) or from UT bookstore. Use this text as a refresher for key concepts such as Boolean logic.

#### **Readings**

The remaining course readings are available via electronic reserve from Hodges Library. To access the reserve files, follow the instructions below.

1. Click on Hodges Library under course reserves at the bottom of the page.
2. Choose Information Sciences in the department list and click go.
3. Choose IS 535 Tenopir in the course list and click go.
4. Choose the article you want to open.

#### **Summary and Evaluation:**

Proposal #1	15%, Due: February 26
Proposal #2	15%, Due: March 26
Research Paper	30%, Due: April 30
Labs	30%, Due as indicated in course calendar
Oral Presentation	10%, Due: May 7

The grading scale for this course will be as follows:

A (93-100%) Excellent

B+ (86-92) Very Good

B (80-85) Good

C+ (75-79) Marginal

C (70-74) Below graduate level

### **Technology Requirements:**

As this is an online class, each student must have access to the hardware and software designated by SIS for online classes (<http://www.anywhere.tennessee.edu/cyberclass/hardware.htm> and <http://www.anywhere.tennessee.edu/cyberclass/software.htm>). Considerable time will be spent searching online systems, all of which are accessible through a standard web browser and connection. Passwords and instructions will be given in class. Students must also access the UTK library system, the Outreach Blackboard server (<http://blackboard.utanywhere.com>), and the Centra system for synchronous classes. On campus students are encouraged to attend synchronous classes in the web-enabled classroom, COMM321B. Final projects must use Powerpoint for visuals.

### **Academic Integrity:**

Academic honesty requires that all work presented be your own unless it has been clearly specified that work is to be a team effort.

The University of Tennessee *Graduate Catalog* states:

Plagiarism is using the intellectual property or product of someone else without giving proper credit. The undocumented use of someone else's words or ideas in any medium of communication (unless such information is recognized as common knowledge) is a serious offense, subject to disciplinary action that may include failure in a course and/or dismissal from the University. Some examples of plagiarism are:

- Using without proper documentation (quotation marks and a citation) written or spoken words, phrases, or sentences from any source,
- Summarizing without proper documentation (usually a citation) ideas from another source (unless such information is recognized as common knowledge),
- Borrowing facts, statistics, graphs, pictorial representations, or phrases without acknowledging the source (unless such information is recognized as common knowledge),
- Submitting work, either in whole or in part, created by a professional service and used without attribution (e.g., paper, speech, bibliography, or photograph).

For more examples of plagiarism (and how to avoid it) see the following:

<http://www.indiana.edu/~wts/plagiarism.html>

<http://webware.princeton.edu/Writing/wc4g.htm>

## **Models for Research Projects**

### **1. FORMAT:**

Your papers must be presented in the formal style appropriate for the presentation of research in a journal. Your oral report should be appropriate for presentation at a professional conference. Follow as your guide: *American National Standard for the Preparation of Scientific Papers for Written or Oral Presentation*. NY: ANSI, 1979, rev. 1985. ANSI Z39.16-1979 or -1985. This standard has been withdrawn by ANSI, but a copy is on reserve. In addition, we will discuss appropriate organization and presentation in class and I will work with each student individually.

### **2. TOPICS AND METHODOLOGY:**

The following articles were based on projects started in this course at either the University of Tennessee or University of Hawaii or inspired by findings made by students in this course. Although they go beyond what you can expect to finish in a semester, they may provide some inspiration to get you started on your projects. Some students elected to finish the projects themselves; others asked me to finish what they had begun. In either case I will gladly give you feedback, editorial assistance, and help you get something published after the class if you desire. Most of these articles are on electronic reserve.

Grogg, Jill; Andreadis, Debra K.; and Kirk, Rachel A. "Full-Text Linking: Affiliated versus Nonaffiliated Access in a Free Database." *College & Research Libraries* 63, n3 (May 2002): 228-238.

Grogg, Jill and Tenopir, Carol, "Linking to Fulltext," *Searcher* 8, no. 10 (November/December 2000): 36-45.

<http://www.infotoday.com/searcher/nov00/grogg&tenopir.htm>

Read, Eleanor and Smith, R. Craig, "Searching for Library and Information Science Literature: A Comparison of Coverage of Three Databases," *Library Computing* 19 (Fall 1999): 118-126.

Jones, Kendra, "Linguistic Searching Versus Relevance Ranking: DR-LINK and Target," *Online & CD-ROM Review* 23 (no. 2, 1999): 67-80.

Hallett, Karin, "Separate But Equal? A System Comparison Study of Medline's Controlled Vocabulary MeSH." Master's Thesis, University of Tennessee Knoxville, 1997 and *Bulletin of the Medical Library Association* 82 (October 1998): 491-495.

Koehler, Wallace and Mincey, Danielle, "FirstSearch and NetFirst: Web and Dial-up Access", *Searcher* 4 (June 1996): 24-28.

Cahn, Pamela. "Testing Database Quality," *Database* 17 (February 1994): 23-30.

Okuma, Ellen. "Selecting CD-ROM Databases for Nursing Students: A Comparison of MEDLINE and the Cumulative Index to Nursing and Allied Health Literature (CINHL), *Bulletin of the Medical Library Association* 82 (January 1994): 25-29.

Kennedy, Bev. "Comparing Menu Systems for End-Users: AfterDark, Knowledge Index, and FirstSearch," *Online* 17 (July 1993): 52-58.

Jacso, Peter. "Searching for Skeletons in the Database Cupboard, Part 2: Errors of Commission." *Database* 16 (April 1993): 30-36.

Jacso, Peter. "Searching for Skeletons in the Database Cupboard, Part 1: Errors of Omission." *Database* 16 (February 1993): 38-50.

Nahl-Jakobovits, Diane and Tenopir, Carol, "Databases Online and on CD-ROM: How Do They Differ, Let Us Count the Ways." *Database* 15 (February 1992): 42-50.

Tenopir, Carol. "The Same Database on Different Systems." *Library Journal* 116 (May 1, 1991): 59-60. (People in class made these discoveries, but decided not to follow-up on them.)

Tenopir, Carol and Shu, Man Evena. "Magazines in Full Text: Users and Search Strategies." *Online Review* 13 (April 1989): 107-118.

Ikushima, Keiko and Tenopir, Carol. "Availability of Japanese Scientific and Technical Periodicals in Major English Language Databases," *Proceedings of the Ninth National Online Meeting, New York, May 1988*. Medford, NJ: Learned Information, 1988, pp. 115-122.

## **Course Calendar**

### **Lesson 1 (January 15)**

#### **Topics and System**

1. Introduction to the course
2. Review basic concepts of online searching
3. Begin information retrieval overview
4. Review DIALOGClassic

#### **Activities**

#### **1) Readings:**

Jacso, Peter, *Content Evaluation...*, "Chapter 1: Database Products, Producers, and Publishers."

Williams, Martha E. "The State of Databases Today: 2003," in *Gale Directory of Databases: 2003, Part 1*. Alan Hedblad, ed. Vol. 1: Online Databases. Detroit, MI: Gale, 2003, xvii-xxix.

Tenopir, Carol. "Are You a Super Searcher?" *Library Journal* 125 (March 1, 2000): 36, 38.

**2) Take online searching quiz**

**3) Get new DIALOG password and begin DIALOG lab exercise #1 after class (due week 3)**

**4) Check out external links**

## **Lesson 2 (January 22)**

### **Topics and System**

1. Database and System Research Overview
2. Begin Database Content Evaluation and Methods
3. DIALOG Classic

### **Activities**

#### **1) Readings:**

Jacso, "Chapter 2: Database Content Evaluation Criteria."

Su, Louise, "Evaluation Measures," *Information Processing and Management* 28 (July/August 1992): 503-516.

**2) Work on DIALOG lab exercise #1**

**3) Check out external links**

## **Lesson 3 (January 29)**

### **Topics and System**

1. Dialog training session
2. Advanced Dialog Classic

### **Activities**

**1) Due: Lab #1**

## **2) Complete Lab #2 after class**

### **Lesson 4 (February 5)**

#### **Topics and System**

1. Finish Database Content Evaluation
2. Subject Scope
3. Relevance
4. DIALOG

#### **Activities**

##### **1) Readings:**

Jacso, "Chapter 3: Database Subject Scope"

Schamber, Linda, "Relevance and Information Behavior," *Annual Review of Information Science and Technology* 29 (1994): 3 –48.

##### **2) Due: Lab #2**

##### **3) Check out external links**

### **Lesson 5 (February 12)**

#### **Topics and System**

1. Factiva Training Session
2. Factiva

#### **Activities**

##### **1) Complete Factiva Lab #3 after class**

##### **2) Check out external links**

### **Lesson 6 (February 19)**

#### **Topics and System**

1. System Comparison Overview
2. More on Methods
3. Factiva

#### **Activities**

##### **1) Readings:**

Harter, Stephen P. and Hert, Carol A. "Evaluation of Information Retrieval Systems: Approaches, Issues, and Methods," *Annual Review of Information Science and Technology* 32 (1997). Read pages 3-33.

Piternick, Anne B. "Functions and Capabilities of Online Searching Systems: A Checklist," *Online Review* 13 (6, 1989): 457-476.

Tenopir, Carol and Katie Hover, "When is the Same Database Not the Same? Database Differences Among Systems," *Online* 17 (July 1993): 20-27.

**2) Complete Factiva Lab #4 after class**

**3) Due: Factiva Lab #3**

**4) Check out external links**

### **Lesson 7 (February 26)**

#### **Topics and System**

1. LexisNexis Training Session
2. Lexis Nexis

#### **Activities**

**1) Complete LexisNexis Lab #5 after class**

**2) Due: Research Proposal #1: Database Comparison**

**3) Due: Factiva Lab #4**

**4) Check out external links**

### **Lesson 8 (March 5)**

#### **Topics and System**

1. Full Text, Document Delivery, and E-Journals
2. Statistical Retrieval
3. LexisNexis

#### **Activities**

##### **1) Readings:**

Grogg, Jill and Tenopir, Carol, "Linking to Fulltext," *Searcher* 8, no. 10 (Nov/Dec 2000): 36-45. <http://www.infotoday.com/searcher/nov00/grogg&tenopir.htm>

Notess, Greg. Check out his search engine comparison links from <http://www.notess.com/search/>.

Tenopir, Carol, "Should We Cancel Print?" *Library Journal* 124 (September 1, 1999): 138-142.

Tenopir, Carol and Pamela Cahn. "TARGET and Freestyle: DIALOG and Mead Join the Relevance Ranks," *Online* 18 (May 1994): 31-47. Reprinted in: Karen Sparck Jones and Peter Willett, ed. *Readings in Information Retrieval*, SF: Morgan Kaufmann Publishers, 1997.

**2) Complete LexisNexis Lab #6 after class**

**3) Due: LexisNexis Lab #5**

**4) Check out external links**

### **Lesson 9 (March 12)**

#### **Topics and System**

1. WestLaw Training Session
2. WestLaw

#### **Activities**

**1) Work on WestLaw Lab #7 after class**

**2) Due: LexisNexis Lab #6**

**3) Check out external links**

### **March 19 is Spring Break**

### **Lesson 10 (March 26)**

#### **Topics and System**

1. Record Structure and Record Content
2. Database Dimensions
3. Types of Databases/Sources
4. WestLaw

#### **Activities**

##### **1) Readings:**

Jacso, "Chapter 4: Database Dimensions" and "Chapter 5: Database Source Coverage" and "Chapter 6: Record Content"

- 2) **Work on WestLaw Lab #8 after class**
- 3) **Complete WestLaw Lab #7 for next week**
- 4) **Due: Research Proposal #2**
- 5) **Check out external links**

#### **Lesson 11 (April 2)**

##### **Topics and System**

1. Quality Factors: Accuracy, Consistency, and Completeness
2. Quality of Indexing and Abstracting
3. WestLaw

##### **Activities**

###### **1) Readings:**

Jacso, “Chapter 7: Accuracy” and “Chapter 8: Consistency” and “Chapter 9: Completeness” and “Chapter 10: Quality of Subject Indexing” and “Chapter 11: Quality of Abstracts”

- 2) **Due: WestLaw Lab #7**
- 3) **Complete WestLaw Lab #8 for next week**
- 4) **Check out external links**

#### **Lesson 12 (April 9)**

##### **Topics and System**

1. STN Training Session
2. Structure and Chemical Searching
3. STN International

##### **Activities**

- 1) **Complete STN Lab #9 after class**
- 2) **Due: WestLaw Lab #8**
- 3) **Check out external links**

#### **Lesson 13 (April 13)**

##### **Topics and System**

1. Virtual Reference Services
2. Intermediaries

### 3. End User Systems

#### Activities

##### 1) Readings:

Janes, Joseph. "Digital Reference: Reference Librarians' Experiences and Attitudes." *Journal of the American Society for Information Science and Technology* 53(7, 2002): 549-566.

Tenopir, Carol and Ennis, Lisa. "A Decade of Digital Reference: 1991-2001." *Reference and Users' Services Quarterly* 41(Spring 2002):264-273.

##### 2) Begin End User Systems Lab #10

##### 3) Due: STN Lab #9

##### 4) Check out external links

### Lesson 14 (April 23)

#### Topics and System

1. Cost Factors
2. Licensing

#### Activities

##### 1) Readings:

Jacso, "Chapter 12: Cost Considerations"

Tenopir, Carol. "Getting What You Pay For." *Library Journal* 125 (February 1, 2000): 34-35.

View sample licenses at [www.library.yale.edu/~llicense/](http://www.library.yale.edu/~llicense/)  
"LibLicense: Licensing Digital Information"

##### 2) Due: End User Lab #10

##### 3) Check out external links

### Lesson 15 (April 30)

#### Topics and System

1. Search Strategies
2. Begin Oral Presentations if necessary

#### Activities

**1) Readings:**

Hawkins, Donald T. "Hunting, Grazing, Browsing: A Model for Online Information Retrieval." *Online* 20 (January/February 1996):71-73.

**In addition to Hawkins**, read selectively from the following "classics":

Bates, Marcia. "Information Search Tactics," *JASIS* 30 (July 1979): 205-214 and "Idea Tactics," *JASIS* 30 (September 1979): 280-289. Called "a landmark study" by Hawkins.

Fidel, Raya. "Moves in Online Searching," *Online Review* 9 (1985): 61-74.

Bates, Marcia. "How to Use Information Search Tactics Online." *Online* 11 (May 1987): 47-54.

Fidel, Raya. "Searcher's Selection of Search Keys. 3. Search Styles," *JASIS* 42 (1991): 515-527. Also Part 1 "The Selection Routine," 490-500 and Part 2 "Controlled Vocabulary," 501-514.

Taylor, Robert S. "Question Negotiation and Information Seeking in Libraries," *College & Research Libraries* 29 (May 1968). From 530 and 580.

**2) Bonus Activity : On Web of Science or DIALOG File 7 (Social Sci Search) locate articles that have cited one or more of these classics.**

**3) Due: Final Research Paper**

**4) Due: Oral Reports as needed**

**5) Check out external links**

**Final Examination Period (May 7)**

**Oral Presentation of Research Projects**