

**IS 580: Information Science Theory**  
**Fall 2005**  
**Section # 002**  
**Meets Wednesdays, 9:05-12:05**  
**Communications 264**

**Instructor: Dr. Kendra Albright**  
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**Office Hours: By appointment or by chance**

### **Course Goals and Objectives**

The purpose of this course is to introduce students to the theoretical foundations of information science. The course will focus on the nature of information and problems associated with its behavior, representation, retrieval and use. The objectives of this course are to:

1. Explore the nature of competing metaphors in the study of information science
2. Explore classic problems of information science
3. Explore the nature of information needs and information seeking behavior
4. Explore controversies associated with the study of information science

### **Course Requirements**

The following grading scale will apply to the essay assignments, and to the final course grade:

A	93-100%
B+	86-92%
B	80-85%
C+	75-79%
C	70-74%

The assignments are designed to reveal your understanding of the concepts and issues covered in class, as well as your mastery of the assigned readings. Your assignments need to be clear, well organized, and supported by citations to assigned readings. Avoid long quotations. Summarize essential ideas from the readings or material presented in

class in your own words. When called for, offer a critical argument and support it with references to readings, lectures and discussions.

There will be three assignments in this class: 1) team presentation (50%); 2) a final paper (30%); and 3) class participation (20%).

### ***Team Presentation (50%)***

The class will be divided into teams of 2 to 3 students. Each team will be responsible for leading a given class session. This assignment has two parts.

1. Prepare a presentation for the class on the topic you will be presenting. You should prepare a Powerpoint presentation outlining the content you will present and each student must participate in the presentation. (15%)
2. Design and present a class activity that illustrates and expands on your presentation. This can be a discussion, a demonstration, an exercise, a game, the taking of questions or whatever your group determines to be the best means of illustrating and expanding on the material presented. Creativity is encouraged. (15%)
3. Prepare an outline of your topic as a handout for the class. Handouts should include the main points of your presentation and a summary of your theoretical perspective. (20%)

Each group should plan to use the entire class period. Each student should present for a suggested period of about 15-20 minutes, with a break immediately following the last presenter. The class activity should take about 30 minutes, although these proportions are suggestions, not requirements. Team presentations will be graded on organization, depth of coverage, presentation quality, and creativity. The team presentation counts for 50% of the final grade.

### ***Final Paper, (30 %)***

Due Date: November 30

Suggested page length: 5 pages

There will be a final paper in this class. It will be related to the readings and lectures during the entire course. Discuss the ambiguity of 'information' as a theoretical object. Why is it difficult to define and study? Identify and explain how the physical and cognitive metaphors cope with 'information' as theoretical object, and how they each conceive of the nature of information. Identify and explain the primary theoretical weakness of each approach. Provide specific examples to illustrate your answer. In your conclusion, address the issue of how the two metaphors represent a necessary unity of opposites and why both are necessary to an understanding of the nature of information.

### ***Class Participation, (20%)***

Participation in the discussion of issues raised in class is expected. Questions are encouraged, and other opportunities for discussion will be presented in class. In

addition, a discussion board will be available on the IS 580 Blackboard site (online.utk.edu). Students are encouraged to submit questions regarding the assigned readings or assignments to their peers on this site. Some students may feel comfortable contributing in one way rather than the other. The class participation grade will be based on the quality rather than quantity of contribution, regardless of the medium of communication chosen.

### **Late Papers**

Grades on papers submitted after the deadline will be reduced one-half letter grade. (e.g, a B+ will become a B). Special circumstances will be considered, but you must contact the instructor in advance.

### **Class Attendance Policy**

Class attendance is highly recommended, but attendance per se does not directly effect a student's grade.

### **Class Cancellations**

Should it be necessary to cancel a class meeting, every effort will be taken to do so in advance. Announcements regarding class cancellations will be posted on Blackboard (online.utk.edu) or an email sent to each student.

### **Course and Instructor Evaluation**

Each semester, SIS students are given an opportunity to evaluate the course and instructor using two forms: a university-wide evaluation form and a SIS-unique form. These evaluations are conducted while the instructor is absent from the room, gathered by a student from the class and put in a sealed envelope which is delivered to the SIS main office. There, they are tabulated, comments extracted and typed, and reviewed by the Director. These comments are not given to the instructor until approximately three weeks later and after final grades have been submitted. All comments and suggestions for improvement are greatly appreciated and useful for future course improvements.

### **Academic Integrity**

All students are expected to work on their own unless otherwise assigned. Any incidence of academic dishonesty (e.g., cheating, plagiarism, providing or accepting unauthorized help) will not be tolerated and will be addressed according to procedures outlined in *Hilltopics*. The policy strictly states, "The responsibility for learning is an individual matter. Study, preparation and presentation should involve at all times the student's own work, unless it has been clearly specified that work is to be a team effort. Academic honesty requires that all work presented be the student's own work, not only on tests, but in themes, papers, homework, and class presentation..." (*Hilltopics* 2000-2001 Student Handbook, The University of Tennessee, Knoxville, p.29).

### **Special Needs**

If you need course adaptations or accommodations because of a documented disability or if you have emergency information to share, please contact the Office of Disability

Service at 191 Hoskins Library or at 865-974-6087. This will ensure that you are properly registered for services.

### **Language Usage**

It is recommended that both instructor and students should strive for gender-neutral and culturally-sensitive language in both written and oral speech. For example, "humanity" or "people" is preferred over "man" or "mankind." This reflects the concern for the inclusion of all peoples within this class and our community. In addition, any derogatory comments based on racial, ethnic, religious, sexual or other categories should be avoided with the exception of being used within the context of analysis. Please strive for awareness and sensitivity in your course assignments in this regard. There are several resources that are available to help you in avoiding these problems. These include:

<http://www.asterisks.com/free.html> (an online editing and translation service)

Schwartz, Marilyn. *Guidelines for Bias-Free Writing*. Bloomington, IN: Indiana University Press, 1995.

[http://owl.english.purdue.edu/handouts/print/general/gl\\_nonsex.html](http://owl.english.purdue.edu/handouts/print/general/gl_nonsex.html) (Online Writing Lab at Purdue University)

### **Texts and Readings**

#### **Required Texts:**

Raber, Douglas, *The Problem of Information*. Lanham, MD: The Scarecrow Press, Inc., 2003.

Other readings as assigned. Please see the calendar for the list of assigned readings and their due dates. These readings will be put on electronic reserve through Hodges Library.

## Calendar\*

### Week 1: August 24

**NO CLASS – Please complete the readings for next week by August 31.**

### Week 2: August 31

Introductions

Overview of the Course

Topic: The Problem of Information

Readings:

Raber, Chapter 1

Peter Ingwersen, *Information Retrieval Interaction*. (London: Taylor Graham, 1992): 1-14, 49-60.

S.D. Neill, "The Dilemma of Method for Information Science: Is Information Science a Science, Social Science or Humanity," in Neill, *Dilemmas in the Study of Information: Exploring the Boundaries of Information Science*. (New York: Greenwood Press, 1992), 140-158.

### Week 3: September 7

Paradigms and Realities

Readings:

David Ellis, The Physical and Cognitive Paradigms in Information Retrieval Research, *Journal of Documentation* 48 (March 1992): 45-64.

Raber, Chapter 2

### Week 4: September 14

The Physical Metaphor of Information

Readings:

Raber, Chapter 3

Michael K. Buckland, "Information as Thing," *Journal of the American Society for*

*Information Science* 42 (June 1991): 351-360.

J. Farradane, The Nature of Information, *Journal of Information Science* 1 (1979): 13-17.

**Week 5: September 21**

Topic: The Physical Metaphor Illustrated

Readings:

Raber, Chapter 4

W. Bruce Croft, "Automatic Indexing," in *Indexing; The State of Our Knowledge and the State of Our Ignorance*. Bella Hass Weinberg, ed. (Medford, NJ: Learned Information, Inc., 1989): 86-100

David Ellis, "Statistical and Probabilistic Retrieval" in *New Horizons in Information Retrieval*, (London: The Library Association, 1990): 27-45.

Gerald Salton, "The SMART Environment for Retrieval Evaluation--Advantages and Problem Areas," in Sparck Jones, ed. (1981): 316-329.

**Week 6: September 28**

Topic: The Cognitive Metaphor

Readings:

Raber, Chapter 5

B. C. Brookes, "The Foundations of Information Science: Part I. Philosophical Aspects," *Journal of Information Science* 2 (1980): 125-133.

Nicholas J. Belkin and Stephen E. Robertson, "Information Science and the Phenomenon of Information," *Journal of the American Society for Information Science* (July-August 1976): 197-204.

S.D. Neill, "The Dilemma of the Subjective in Information Organization and Retrieval," *Journal of Documentation* 43 (September 1993): 193-211.

**Week 7: October 5**

The Cognitive Metaphor Illustrated

Readings:

Raber, Chapter 6

T. D. Wilson, "On User Studies and Information Needs," *Journal of Documentation* 37 (March 1981): 3-15.

Carol C. Kuhlthau, "A Principle of Uncertainty for Information Seeking," *Journal of Documentation* 49 (December 1993): 339-355.

**Week 8: October 12**

Topic: Representation , Aboutness, and Information Retrieval

Readings:

Raber, Chapters 7 and 8

Brian C. O'Connor, "Background Concepts" and "Considerations of Representation", (Chapters 1 and 2) in *Explorations in Indexing and Abstracting: Pointing, Virtue, and Power*. (Englewood, CO: Libraries Unlimited, 1996): 1-34.

Birger Hjørland, "The Concept of Subject in Information Science," *Journal of Documentation* 48 (June 1992): 172-200.

N.J. Belkin, R.N. Oddy and H.M. Brooks, "ASK for Information Retrieval: Part II. Results of a Design Study," *Journal of Documentation* 38 (September 1982): 145-164.

**DUE: Team 1 Present**

**Week 9: October 19**

Topic: Relevance

Readings:

Raber, Chapter 9

Tefko Saracevic, "Relevance: A Review of and a Framework for the Thinking on the Notion in Information Science," *Journal of the American Society for Information Science* 26 (November-December 1975): 321-343.

**DUE: Team 2 Present**

**Week 10: October 26**

Topic: Information and Communication: Use and Users of Information

**NOTE: We will meet in Hodges Library Auditorium from 11:30-? To hear Dr. Marcia Bates (UCLA) speak**

Readings:

T. D. Wilson, "On User Studies and Information Needs," *Journal of Documentation* 37 (March 1981): 3-15.

Carol C. Kuhlthau, "A Principle of Uncertainty for Information Seeking," *Journal of Documentation* 49 (December 1993): 339-355.

Brenda Dervin, "Useful Theory for Librarianship: Communication not Information," *Drexel Library Quarterly* 13 (1977): 16-32.

Reijo Savolainen, "The Sense-Making Theory: Reviewing the Interests of a User-Centered Approach to Information Seeking and Use," *Information Processing & Management* 29 (1993): 13-28.

Brent D. Ruben, "The Communication-Information Relationship in System-Theoretic Perspective," *Journal of the American Society for Information Science* 43 (January 1992): 15-27.

**Week 11: November 2  
NO CLASS**

**Week 12: November 9**  
Information Behavior

Readings:

Karen E. Fisher, Sanda Erdelez, and Lynne (E.F. McKechnie), *Theories of Information Behavior*, Chapters 1-3

**DUE: Team 3 present**

**Week 13: November 16**

Information as a Social Phenomena  
Social Dimensions of Information Science: A Critique

Readings:

Raber, Chapter 10

Bernd Frohmann, "The Power of Images: A Discourse Analysis of the Cognitive Viewpoint," *Journal of Documentation* 48 (December 1992): 365-386.

Bernd Frohmann, "Communication Technologies and the Politics of Postmodern Information Science," *Canadian Journal of Information and Library Science* 19 (2): 1-22.

**Week 14: November 23**

Information Society

Readings:

Frank Webster, *Theories of the Information Society*, Chapters 1 and 2

**Week 15: November 30 (LAST CLASS)**

Semiotics for Information Science

Course Wrap-Up

Readings:

Raber, Chapter 11

Julian Warner, "Semiotics, Information Science, Documents and Computers," *Journal of Documentation* 46 (March 1990): 16-32.

**DUE: Final Paper**

\*Please Note: The Instructor reserves the right to modify this calendar during the semester.