

Course Syllabus  
Summer 2017

**S523 Science and Technology Information**

Indiana University-Purdue University at Indianapolis (IUPUI)  
School of Informatics and Computing - Dept. of Library and Information Science

This course provides an in-depth examination of information sources and services related to science and technology including science, technology, engineering, and mathematics including applied areas such as medicine. The course addresses information needs and behavior patterns of users seeking science and technology information. Students will analyze and evaluate research dealing with information channels, research methods, and library service in their areas of professional interest (i.e., academic, public, school, or special library settings).

Increasingly, library users expect instant, virtual access to materials. While this course includes both print sources such as reference and trade books and electronic sources including bibliographic databases, government and organization websites, audio and video materials, and ebooks; emphasis is placed on how technology and specifically social media can be used to connect with users with information and provide high-quality service.

This course is offered as part of the ADVANCED INFORMATION SOURCES cluster that includes **four** courses focusing on different disciplines. Student may register for up to **TWO** of these courses at a time. A shared website and Canvas course will be used to encourage multi-disciplinary exploration. However within each course, documents and formats distinct to the particular discipline will be emphasized such as sheet music in the Humanities, digital photo collections in History, and technical reports in the Sciences. Finally, some discussions will cross disciplines such as the use of patents to address questions in both science and business.

**Instructor Contact Information**

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**Course Description**

This course provides an introduction to information sources and services in science and technology with emphasis on the disciplines of science, technology, engineering, and mathematics. In addition, the course addresses information needs and behavior patterns of users seeking these types of information. Key resources, research, and technologies will be

examined.

The course will be taught entirely online including web-based readings and resources, threaded discussions, plus online presentations and activities.

The following technology entry skills are required for this course:

- Demonstrate technology skills including use of productivity tools (i.e., word processing, spreadsheet, presentation), web development tools, social media, and utilities (i.e., downloading drivers and plugins).
- Identify, select, access, and evaluate information found on the Internet and in the library.
- Use Canvas for discussions and information sharing.

This is an advanced course in information sources. It's assumed that students entering the course have taken the s501 Information Sources and Services course. Entering students should be able to :

- Describe and model the reference process including the reference interview.
- Conduct simple searches to address reference needs.
- Identify and apply reference sources to answer questions.
- Evaluate and choose information sources.

This course makes the assumption that students are able to work independently. There are no required face-to-face meetings. There are no required synchronous online meetings. However, students are encouraged to e-mail or arrange a chat with the instructor at any time.

## **Learning Objectives**

After completing this course, students will be able to:

- Explore the nature, scope, and characteristics of the discipline.
- Identify and apply discipline-specific vocabulary used in reference transactions and the literature.
- Discuss the development, organization, and communication of knowledge with a specific discipline.
- Discuss discipline-specific scholarship within the larger scope of scholarship.
- Identify the various roles library and information professionals play in discipline-specific situations or centers.
- Describe the wide range of information sources across a particular discipline.
- Identify key information sources in a particular discipline.
- Discuss the selection, evaluation, storage, retrieval, dissemination, and utilization of information sources within the discipline.
- Describe the nature of information seeking and organization within the discipline and how it differs from other disciplines.
- Critically read and review scholarly papers within a discipline including analysis of research and arguments.

- Identify and analyze information needs of clients within the discipline and how they may best be met by libraries/librarians.
- Describe information behavior patterns typical of a discipline.
- Describe strategies for providing individual research consultation for students, scholars, and professionals.
- Develop, document, and apply search strategies to meet information needs within a discipline.
- Identify and locate relevant information sources in a variety of formats to address an information need.
- Identify issues related to information sources and access within the discipline.
- Describe, evaluate, select, and effectively use reference resources in specific disciplines.
- Assess information sources for audience, scope, quality of content, authority, accuracy, currency, ease-of-use, arrangement, structure, and format.
- Write a scholarly review of a scholarly resource for a journal article.
- Conduct strategic database searches in specific disciplines.
- Identify services, consultation, and sources related to subject librarianship.
- Identify trends and emerging technology such as social media to support specific discipline scholarship.
- Create pathfinders and research guides for information seeking in a specific discipline.
- Identify and develop services and programs related to a specific discipline.
- Discuss the need for cooperation and collaborate within organizations and with information users.
- Apply emerging specialized information technologies to address user information needs.

### **MLS Program, Graduate Program and ALA Competency Connections**

This course addresses competencies related to the MLS program in the following areas:

- Assist and Educate Users
- Apply Management and Leadership Skills
- Work Effectively Within and Across a Variety of Organizational Structures
- Conduct and Analyze Research
- Demonstrate Basic Technical Expertise
- Approach Professional Issues with Understanding

This course is connected to the Principles of Graduate and Professional Learning in the following areas:

- Demonstrating mastery of the knowledge and skills expected for the degree and for professionalism and success in the field
- Thinking critically, applying good judgment in professional and personal situations
- Communicating effectively to others in the field and to the general public

- Behaving in an ethical way both professionally and personally

This course addresses a number of ALA competencies. According to ALA (2009), a person graduating from an ALA-accredited master's program in library and information studies should know and, where appropriate, be able to employ:

- Foundations of the Profession
- Information Resources
- Technological Knowledge and Skills
- Reference and User Services
- Administration and Management

### **Course Materials**

The course content will be accessed through a series of web pages. In addition to readings and presentation materials, the pages also contain reflective questions and individual exercises to reinforce key concepts.

**NO** textbook is required.

The course materials can be found at <http://eduscapes.com/cluster>.

### **Course Assignments and Assessments**

The learning objectives will be assessed through a series of activities and discussions. Course assignments are intended to help you apply the course materials. Students will complete activities worth a total of 100 possible points.

- Tweets or Stumps (8 Points)
- Skills Log (24 Points)
- WhizQuizes (20 Points)
- Projects (48 Points)

For details, go to <http://eduscapes.com/cluster/course/courseguide523.htm>.

### **Course Grades**

The points awarded for each activity are indicated on the Course Requirements. High expectations have been set for this course. Please notice that outstanding achievement will require careful attention to course criteria and exceptional quality in course assignments. Final grades are based on the following range within the total 100 points possible:

A 98-100  
A- 95-97  
B+ 92-94  
B 89-91  
B- 86-88

C 80-85  
D 75-79  
F below 74

The meaning of the letter grades follows the SLIS Grading Policy:

**A: Outstanding achievement.** Student performance demonstrates full command of the course materials and evinces a high level of originality and/or creativity that far surpasses course expectations. The grade of A+ is not granted in SLIS, except in very exceptional cases.

**A-: Excellent achievement.** Student performance demonstrates thorough knowledge of the course materials and exceeds course expectations by completing all requirements in a superior manner.

**B+: Very good work.** Student performance demonstrates above-average comprehension of the course materials and exceeds course expectations on all tasks defined in the course syllabus.

**B: Good work.** Student performance meets designated course expectations, demonstrates understanding of the course materials, and has performed at an acceptable level.

**B-: Marginal work.** Student performance demonstrates incomplete understanding of course materials.

**C+, C, C-:** Unsatisfactory work and inadequate understanding of course materials.

**D+, D, D-:** Unacceptable work; course work completed at this level will not count toward the MLS degree.

**F: Failing.** May result in an overall grade point average below 3.0 and possible removal from the program.

### **Late and Incomplete Work**

Students may request an assignment extension due to personal or professional emergencies. These requests must be made prior to the due date. Extensions beyond a couple days will result in lose of points.

A final grade of "I" or "Incomplete" will NOT be given except in extreme situations. Please let me know if you're having difficulty completing the requirements of this course.

### **IUPUI Mission Statement**

The Mission of IUPUI is to provide for its constituents excellence in Teaching and Learning; Research, Scholarship, and Creative Activity; and Civic Engagement.

With each of these core activities characterized by  
Collaboration within and across disciplines and with the community;  
A commitment to ensuring diversity; and

Pursuit of best practices.

IUPUI's mission is derived from and aligned with the principal components—Communities of Learning, Responsibilities of Excellence, Accountability and Best Practices—of Indiana University's Strategic Directions Charter.

### **IUPUI Values Statement**

IUPUI values the commitment of students to learning; of faculty to the highest standards of teaching, scholarship, and service; and of staff to the highest standards of service. IUPUI recognizes students as partners in learning. IUPUI values the opportunities afforded by its location in Indiana's capital city and is committed to serving the needs of its community. Thus, IUPUI students, faculty, and staff are involved in the community, both to provide educational programs and patient care and to apply learning to community needs through service. As a leader in fostering collaborative relationships, IUPUI values collegiality, cooperation, creativity, innovation, and entrepreneurship as well as honesty, integrity, and support for open inquiry and dissemination of findings. IUPUI is committed to the personal and professional development of its students, faculty, and staff and to continuous improvement of its programs and services.

### **Student Academic Conduct**

There is extensive documentation and discussion of the issue of academic honesty in the IUPUI Student Code of Conduct.

Students should be sure to read the Student Code of Conduct. The Academic Handbook states that faculty members have the responsibility of fostering the "intellectual honesty as well as the intellectual development of students.... The faculty member should explain clearly the meaning of cheating and plagiarism as they apply to the course... Should the faculty member detect signs of plagiarism or cheating, it is his or her most serious obligation to investigate these thoroughly, to take appropriate action with respect to the grades of students, and in any event to report the matter to the Dean of Students. The necessity to report every case of cheating, whether or not further action is desirable, arises particularly because of the possibility that this is not the student's first offense, or that other offenses may follow it. Equity also demands that a uniform reporting practice be enforced; otherwise, some students will be penalized while others guilty of the same actions will go free." (p. 172). For more information, go to <http://www.iupui.edu/code>

### **Student Accommodations for Disability**

The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities.

Students needing accommodations because of disability must register with Adaptive Educational Services and complete the appropriate form before accommodations will be given. The AES office is located in Taylor Hall Room 127, 815 W Michigan St Indianapolis, IN

46202 and may be reached by phone 317/274-3241 or 317/278-2052 TTD/TTY; by fax 317/274-2051; or by email [aes@iupui.edu](mailto:aes@iupui.edu)

For more information, go to <http://diversity.iupui.edu/aes/>

### **Administrative Withdrawal**

A basic requirement of this course is that you will participate in class and conscientiously complete writing and reading assignments. Keep in touch with me if you are unable to attend class or complete an assignment on time. If you miss more than half our class assignments within the first four weeks of the semester without contacting me, you will be administratively withdrawn from this section. Our class has assignments each week; thus if you miss more than three assignment in the first four weeks, you may be withdrawn. Administrative withdrawal may have academic, financial, and financial aid implications. Administrative withdrawal will take place after the full refund period, and if you are administratively withdrawn from the course you will not be eligible for a tuition refund. If you have questions about the administrative withdrawal policy at any point during the semester, please contact me.”

Learn more at <http://registrar.iupui.edu/withdrawal-policy.html>

## Course Topics and Calendar

### **Week 1: Starting Points: The Discipline, Librarianship, and Professional Sources**

Library organizations and materials  
Professional associations and websites  
Key professional resources

### **Week 2: Information Seekers and User Behavior**

Information seekers  
Information needs  
Seeker behaviors  
The research process

### **Week 3: Reference Guides**

Reference guides  
Scholarly communication  
Ownership and access issues

### **Week 4: Reference and Specialized Sources**

Reference sources  
Specialized sources

### **Week 5: Books and Ebooks**

Professional books  
Textbooks  
Library catalogs  
Discipline classification

### **Week 6: Government Documents**

Government publications  
Government websites  
Government documents  
Government statistical sources  
Census data  
Patents

### **Week 7: Bibliographies**

Indexing, abstracting, and digital database resources  
Citation analysis research  
Citation analysis and bibliometrics  
Information retrieval and expert searching  
Subject headings  
Federated searching

**Week 8: Periodicals**

Academic journals

Magazines

Newspapers

Blogs

**Week 9: Grey Literature**

Dissertations and theses

Monographs

Technical reports

Proceedings

Records

Full-Text Primary Resources

Critical Texts

Statistics

Data collections

**Week 10: Websites, Digital Libraries, and Institutional Repositories**

Websites

Digital libraries

Institutional repositories

**Week 11: Multimedia and Technology Resources**

Image collections

Audio and video resources

Apps

Interactives

Tools