Course Syllabus
Summer 2019

LIS S523 Science & Technology Information
Department of Library and Information Science
Indiana University School of Informatics and Computing - Indianapolis

Credit Hours: 3
Instructor: Annette Lamb
Email: anlamb@iupui.edu (use Canvas Inbox for course communications)
Prerequisites: S500 (or S401), S501
Instruction mode: This course is offered online only.

Extended Course Description
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. While the courses share some common content, each course contains 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.

Catalog 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.

Students should already have mastered technology skills. For students lacking entry skills, existing online resources can be valuable. IUPUI provides access to excellent online tutorials. Go to UITS IT Training (https://ittraining.iu.edu/explore-topics/show-all/index.html) for lots of resources including Canvas tutorials.

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.

Required Readings/Resources

The course content will be accessed through a series of lesson documents accessed through Canvas.

No textbook is required.

Teaching and Learning Methods

The course uses active learning and project-based learning approaches.

A Course Guide provides the details of readings and assignments.

Learning Outcomes

Upon completion of the course, students will be able to:

- Devise and apply strategies for addressing reference transactions that consider the nature, scope, characteristics, vocabulary, and knowledge construction and dissemination of the discipline.
- Select and apply the various categories and formats of information sources across a particular discipline to address information questions.
- Apply the selection, evaluation, storage, retrieval, dissemination, and utilization of information sources within a sub-discipline to address a user need.
• Critically read and review scholarly papers within a discipline including analysis of research and arguments.
• Analyze information needs of clients, information behavior patterns typical of a discipline, and strategies for providing research consultation with users.
• Develop, document, and apply search strategies to meet discipline-specific information needs using a variety of information sources such as databases.
• Identify services, consultation, collaborations, partnership, sources, and trends in subject librarianship.
• Create research guides, services, and programs to support a specific discipline.
• Apply emerging specialized information technologies to address user information needs.

The ability to communicate well is emphasized both in librarianship competencies and in departmental outcomes. As such, while this is not an English or composition course, you are expected to have gained a proficiency in those skills appropriate for a masters level program. The University Writing Center has many resources and links for any student seeking additional information or assistance. University Writing Center (https://liberalarts.iupui.edu/uwc/)

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Course Assignments and Assessments

Revised Bloom's Taxonomy (RBT)

1. **Knowledge/Remembering:** The ability to recall or recognize specific information or data.
2. **Understanding:** Understanding the meaning of informational materials, translation, interpolation and interpretation of instructions and problems.
3. **Application:** The use of previously learned information in new and concrete situations to solve problems that have single or best answers.
4. **Analysis:** Breaks down information/concepts into smaller components. Each component is identified and understood as is the relationship of these components to the whole.
5. **Evaluation:** The ability to apply a criterion or set of standards to conclude a value judgment.
6. **Creation, Synthesis:** The ability to merge knowledge into creating a new meaning or structure including demonstrating how and why various diverse elements work together.

Principles of Graduate and Professional Learning (PGPL)

Learning outcomes are assessed in the following areas:

• Demonstrate the knowledge and skills needed to meet disciplinary standards of performance, as stated for each individual degree – **Major emphasis**
• Communicate effectively with their peers, their clientele, and the public – **Moderate emphasis**
• Think critically and creatively to improve practice in their field – **Major emphasis**
• Meet all ethical standards established for the discipline – Moderate emphasis

Assessment Details
Prior to assessment, each student should complete the required reading, viewing, and active learning assignments. The learning objectives will be assessed through a series of projects, activities and discussions. A total of 100 points is possible.

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.

Use the following links for details on each assignment.

• Theory-to-Practice Projects & Discussions (46 Points)
• Whiz Quizzes (20 Points)
• Science & Technology Experiences (26 Points)
• Social Media Assignments (8 Points)

Grading Scale
High expectations have been set for this course. Please notice that outstanding achievement will require careful attention to course criteria and exceptional quality work. Final grades are based on the following range within the total 100 points possible. The meaning of the letter grades follows the SLIS Grading Policy:

• A (98-100%): 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- (95-97%): Excellent achievement. Student performance demonstrates thorough knowledge of the course materials and exceeds course expectations by completing all requirements in a superior manner.
• B+ (92-94%): 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 (89-91%): Good work. Student performance meets designated course expectations, demonstrates understanding of the course materials, and has performed at an acceptable level.
• B- (86-88%): Marginal work. Student performance demonstrates incomplete understanding of course materials.
• C (80-85%): Unsatisfactory work and inadequate understanding of course materials.
• D (75-79%): Unacceptable work; course work completed at this level will not count toward the MLS degree.
• **F (74% and below):** Failing. May result in an overall grade point average below 3.0 and possible removal from the program.

Note that to satisfy a core requirements, grade must be B- or above. For electives, grade must be C or above (and overall GPA 3.0 or above).

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**Expectations, Guidelines, and Policies**

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

This course assumes that students can 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 an online chat with the instructor at any time.

A basic requirement of this course is that you will participate in all class activities and conscientiously complete all required course assignments. Students are expected to complete the assignments on time, which is your attendance.

**Incompletes**
Please let your instructor know if you’re having difficulty completing the requirements of this course. A grade of “incomplete” is only available when unexpected events prevent completion of the course requirements in the usual time frame. No student with multiple incompletes may register for additional courses. Left unchanged, an incomplete grade automatically becomes an F after one year. See: [IUPUI Registrar: Grade of Incomplete](registrar.iupui.edu/incomp.html)

**Deliverables**
You are responsible for completing each deliverable (e.g., projects, activities, discussions) by its deadline and submitting it by the specified method. Deadlines and submission instructions are outlined in the syllabus or in supplementary documents accessible through Canvas. In fairness to the instructor and students who completed their work on time, a grade on a deliverable shall be reduced if submitted late without making prior arrangements.

All assignments are due by midnight on the date listed in the course calendar. A couple extra hours beyond midnight is okay if you’re working late or have computer problems. One advantage of this type of course is flexibility. However, specific due dates have been established to ensure that all students are successful in this course. Please let your instructor know if you need to change these dates because of personal or professional responsibilities. If you email your instructor before an assignment is due, you’ll be given a couple additional days to complete an assignment because of personal or professional reasons. Otherwise, deductions will be made for late work.
Your Questions, Concerns, and Comments
Please do not hesitate to contact the instructor directly via Canvas mail with any questions. If needed, the instructor will also use Canvas Announcements to notify the entire group (e.g., syllabus change, instructor availability, etc.).

If you have problems accessing Canvas, please contact the University Information Technology Services (UITS) Support Center at 317-274-HELP. All course Announcements will be found in Canvas along with the course schedule, assignments, and other course documents.

MLS PROGRAM OUTCOMES
The Master of Library Science (M.L.S.) program prepares students to become reflective practitioners who connect people and communities with information. Upon completion of the M.L.S. program, graduates are prepared to:

- **Approach professional issues with understanding**
  Understand the social, political, ethical, and legal aspects of information creation, access, ownership, service, and communication
  Anticipate emerging trends and respond proactively

- **Assist and educate users**
  Analyze and identify the information needs of diverse communities of users
  Educate users and potential users to locate, use, and evaluate information resources and tools
  Analyze and evaluate information systems and services in a variety of settings

- **Develop and manage collections of information resources**
  Design and apply policies and procedures that support the selection and acquisition of information resources for particular communities of users
  Manage, evaluate, and preserve physical and virtual collections of information resources
  Uphold ethical and legal standards in acquiring, leasing, preserving, and providing access to information resources

- **Manage and lead libraries and other information organizations**
  Perform basic managerial functions, including planning, budgeting, and performance evaluation
  Communicate effectively to a variety of audiences
  Apply theories of organizational behavior and structure

- **Represent and organize information resources**
  Understand and apply principles of representation and organization

- **Use research effectively**
  Design, conduct, interpret, and take action based upon research and evaluation

- **Deploy information technologies in effective and innovative ways**
  Implement and evaluate information and communication technologies for efficiency, usability, and value to users

ALA MLS Competencies
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**

1A. The ethics, values, and foundational principles of the library and information profession.
1B. The role of library and information professionals in the promotion of democratic principles and intellectual freedom (including freedom of expression, thought, and conscience).
1C. The history of libraries and librarianship.
1D. The history of human communication and its impact on libraries.
1E. Current types of library (school, public, academic, special, etc.) and closely related information agencies.
1F. National and international social, public, information, economic, and cultural policies and trends of significance to the library and information profession.
1G. The legal framework within which libraries and information agencies operate. That framework includes laws relating to copyright, privacy, freedom of expression, equal rights (e.g., the Americans with Disabilities Act), and intellectual property.
1H. The importance of effective advocacy for libraries, librarians, other library workers, and library services.
1I. The techniques used to analyze complex problems and create appropriate solutions.
1J. Effective communication techniques (verbal and written).
1K. Certification and/or licensure requirements of specialized areas of the profession.

**Information Resources**

2A. Concepts and issues related to the lifecycle of recorded knowledge and information, from creation through various stages of use to disposition.
2B. Concepts, issues, and methods related to the acquisition and disposition of resources, including evaluation, selection, purchasing, processing, storing, and deselection.
2C. Concepts, issues, and methods related to the management of various collections.
2D. Concepts, issues, and methods related to the maintenance of collections, including preservation and conservation.

**Organization of Recorded Knowledge and Information**

3A. The principles involved in the organization and representation of recorded knowledge and information.
3B. The developmental, descriptive, and evaluative skills needed to organize recorded knowledge and information resources.
3C. The systems of cataloging, metadata, indexing, and classification standards and methods used to organize recorded knowledge and information.

**Technological Knowledge and Skills**

4A. Information, communication, assistive, and related technologies as they affect the resources, service delivery, and uses of libraries and other information agencies.
4B. The application of information, communication, assistive, and related technology and tools consistent with professional ethics and prevailing service norms and applications.
4C. The methods of assessing and evaluating the specifications, efficacy, and cost efficiency of technology-based products and services.
4D. The principles and techniques necessary to identify and analyze emerging technologies and innovations in order to recognize and implement relevant technological improvements.

- **Reference and User Services**

  5A. The concepts, principles, and techniques of reference and user services that provide access to relevant and accurate recorded knowledge and information to individuals of all ages and groups.

  5B. Techniques used to retrieve, evaluate, and synthesize information from diverse sources for use by individuals of all ages and groups.

  5C. The methods used to interact successfully with individuals of all ages and groups to provide consultation, mediation, and guidance in their use of recorded knowledge and information.

  5D. Information literacy/information competence techniques and methods, numerical literacy, and statistical literacy.

  5E. The principles and methods of advocacy used to reach specific audiences to promote and explain concepts and services.

  5F. The principles of assessment and response to diversity in user needs, user communities, and user preferences.

  5G. The principles and methods used to assess the impact of current and emerging situations or circumstances on the design and implementation of appropriate services or resource development.

- **Research**

  6A. The fundamentals of quantitative and qualitative research methods.

  6B. The central research findings and research literature of the field.

  6C. The principles and methods used to assess the actual and potential value of new research.

- **Continuing Education and Lifelong Learning**

  7A. The necessity of continuing professional development of practitioners in libraries and other information agencies.

  7B. The role of the library in the lifelong learning of patrons, including an understanding of lifelong learning in the provision of quality service and the use of lifelong learning in the promotion of library services.

  7C. Learning theories, instructional methods, and achievement measures; and their application in libraries and other information agencies.

  7D. The principles related to the teaching and learning of concepts, processes and skills used in seeking, evaluating, and using recorded knowledge and information.

- **Administration and Management**

  8A. The principles of planning and budgeting in libraries and other information agencies.

  8B. The principles of effective personnel practices and human resource development.

  8C. The concepts behind, and methods for, assessment and evaluation of library services and their outcomes.

  8D. The concepts behind, and methods for, developing partnerships, collaborations, networks, and other structures with all stakeholders and within communities served.
The concepts behind, issues relating to, and methods for, principled, transformational leadership.

Code of Conduct
All students should aspire to the highest standards of academic integrity. Using another student’s work on an assignment, cheating on a test, not quoting or citing references correctly, or any other form of dishonesty or plagiarism shall result in a grade of zero on the item and possibly an F in the course. Incidences of academic misconduct shall be referred to the Department Chair and repeated violations shall result in dismissal from the program. All students are responsible for reading, understanding, and applying the Code of Student Rights, Responsibilities and Conduct and in particular the section on academic misconduct. Refer to The Code of Student Rights (studentcode.iu.edu/)

All students must also successfully complete the Indiana University Department of Education “How to Recognize Plagiarism” Tutorials and Tests (www.indiana.edu/~academy/firstPrinciples/)

You must document the difference between your writing and that of others. Use quotation marks in addition to a citation, page number, and reference whenever writing someone else’s words (e.g., following the Publication Manual of the American Psychological Association). To detect plagiarism instructors apply a range of methods.

Academic Misconduct
1. Cheating: Cheating is considered to be an attempt to use or provide unauthorized assistance, materials, information, or study aids in any form and in any academic exercise or environment.
   a. A student must not use external assistance on any “in-class” or “take-home” examination, unless the instructor specifically has authorized external assistance. This prohibition includes, but is not limited to, the use of tutors, books, notes, calculators, computers, and wireless communication devices.
   b. A student must not use another person as a substitute in the taking of an examination or quiz, nor allow other persons to conduct research or to prepare work, without advanced authorization from the instructor to whom the work is being submitted.
   c. A student must not use materials from a commercial term paper company, files of papers prepared by other persons, or submit documents found on the Internet.
   d. A student must not collaborate with other persons on a particular project and submit a copy of a written report that is represented explicitly or implicitly as the student’s individual work.
   e. A student must not use any unauthorized assistance in a laboratory, at a computer terminal, or on fieldwork.
   f. A student must not steal examinations or other course materials, including but not limited to, physical copies and photographic or electronic images.
   g. A student must not submit substantial portions of the same academic work for credit or honors more than once without permission of the instructor or program to whom the work is being submitted.
   h. A student must not, without authorization, alter a grade or score in any way, nor alter answers on a returned exam or assignment for credit.
2. **Fabrication**: A student must not falsify or invent any information or data in an academic exercise including, but not limited to, records or reports, laboratory results, and citation to the sources of information.

3. **Plagiarism**: Plagiarism is defined as presenting someone else’s work, including the work of other students, as one’s own. Any ideas or materials taken from another source for either written or oral use must be fully acknowledged, unless the information is common knowledge. What is considered “common knowledge” may differ from course to course.
   a. A student must not adopt or reproduce ideas, opinions, theories, formulas, graphics, or pictures of another person without acknowledgment.
   b. A student must give credit to the originality of others and acknowledge indebtedness whenever:
      1. directly quoting another person’s actual words, whether oral or written;
      2. using another person’s ideas, opinions, or theories;
      3. paraphrasing the words, ideas, opinions, or theories of others, whether oral or written;
      4. borrowing facts, statistics, or illustrative material; or
      5. offering materials assembled or collected by others in the form of projects or collections without acknowledgment.

4. **Interference**: A student must not steal, change, destroy, or impede another student’s work, nor should the student unjustly attempt, through a bribe, a promise of favors or threats, to affect any student’s grade or the evaluation of academic performance. Impeding another student’s work includes, but is not limited to, the theft, defacement, or mutilation of resources so as to deprive others of the information they contain.

5. **Violation of Course Rules**: A student must not violate course rules established by a department, the course syllabus, verbal or written instructions, or the course materials that are rationally related to the content of the course or to the enhancement of the learning process in the course.

6. **Facilitating Academic Dishonesty**: A student must not intentionally or knowingly help or attempt to help another student to commit an act of academic misconduct, nor allow another student to use his or her work or resources to commit an act of misconduct.

**Other Policies**

1. **Administrative withdrawal**: A basic requirement of this course is that students complete all required course activities. If a student is unable to attend, participate in, or complete an assignment on time, it is the student’s responsibility to inform the instructor. If a student misses more than half of the required activities within the first 25% of the course without contacting the instructor, the student may be administratively withdrawn from this course. Administrative withdrawal may have academic, financial, and financial aid implications. Administrative withdrawal will take place after the full refund period, and a student who has been administratively withdrawn from a course is ineligible for a tuition refund. Contact the instructor with questions concerning administrative withdrawal. Learn more at IUPUI Administrative Withdrawal Policy (registrar.iupui.edu/withdrawal-policy.html)
2. **Civility**: To maintain an effective and inclusive learning environment, it is important to be an attentive and respectful participant in all course exercises. IUPUI nurtures and promotes “a campus climate that seeks, values, and cultivates diversity in all of its forms and that provides conditions necessary for all campus community members to feel welcomed, supported, included, and valued” (IUPUI Strategic Initiative 9). IUPUI prohibits “discrimination against anyone for reasons of race, color, religion, national origin, sex, sexual orientation, marital status, age, disability, or veteran status” (Office of Equal Opportunity). Profanity or derogatory comments about the instructor, fellow students, invited speakers, or any members of the campus community shall not be tolerated. A violation of this rule shall result in a warning and, if the offense continues, possible disciplinary action.

3. **Communication**: For online courses, the instructor or teaching assistant should respond to emails within two Indiana University working days, which excludes weekends and holidays. The instructor should accept appointments for face-to-face, telephone, or teleconferenced meetings, and announce periods of extended absence in advance.

4. **Counseling and Psychological Services (CAPS)**: Students seeking counseling or other psychological services should contact the CAPS office at 274-2548 or capsindy@iupui.edu. For more information visit the [CAPS website](https://studentaffairs.iupui.edu/health-wellness/counseling-psychology/)

5. **Course evaluations**: Course evaluations provide vital information for improving the quality of courses and programs. Students are not required to complete a course or instructor evaluation for any section in which they are enrolled at the School of Informatics and Computing. Course evaluations are completed in Canvas (Course Questionnaire). Course evaluations are open from the eleventh week. Course evaluations are anonymous, which means that no one can view the name of the student completing the evaluation. In addition, no one can view the evaluation itself until after the instructor has submitted the final grades for the course. In small sections, demographic information should be left blank, if it could be used to identify the student.

6. **Disabilities policy**: In compliance with the Americans with Disabilities Act (ADA), all qualified students enrolled in this course are entitled to reasonable accommodations. Please notify the instructor during the first week of class of accommodations needed for the course. Students requiring accommodations because of a disability must register with Adaptive Educational Services (AES) and complete the appropriate AES-issued before receiving accommodations. Students with learning disabilities for which accommodations are desired should contact the Adaptive Educational Services office on campus, and inform the instructor as soon as possible: [Adaptive Educational Services (AES)](http://aes.iupui.edu/) 317-274-3241.

7. **Email**: Indiana University uses your IU email account as an official means of communication, and students should check it daily. Although you may have your IU email forwarded to an outside email account, please email faculty and staff from your IU email account.

8. **Emergency preparedness**: Know what to do in an emergency so that you can protect yourself and others. For more information, visit the emergency management website at [Protect IU](http://protect.iu.edu/emergency)
9. **IUPUI course policies**: Several campus policies governing IUPUI courses may be found at [IUPUI Course Policies](registrar.iupui.edu/course_policies.html)

10. No class attendance without enrollment. Only those who are officially enrolled in this course may attend class unless enrolled as an auditor or making up an Incomplete by prior arrangement with the instructor. This policy does not apply to those assisting a student with a documented disability, serving in an instructional role, or administrative personnel. See [Administrative Policy: No Class Attendance without Official Enrollment](registrar.iupui.edu/official-enrollment-class-attendance.html)

11. **Religious holidays**: Students seeking accommodation for religious observances must submit a request form to the course instructor by the end of the second week of the semester. For information visit [IUPUI Policy on Religious Holidays](registrar.iupui.edu/religious.html).

12. **Right to revise**: The instructor reserves the right to make changes to this syllabus as necessary and, in such an event, will notify students of the changes immediately.

13. **Sexual misconduct**: IU does not tolerate sexual harassment or violence. For more information and resources, visit [Stop Sexual Violence](stopsexualviolence.iu.edu/)

14. **Student advocate**: The Student Advocate assists students with personal, financial, and academic issues. The Student Advocate is in the Campus Center, Suite 350, and may also be contacted at 317 274-4431 or studvoc@iupui.edu. For more information visit [Division of Student Affairs](studentaffairs.iupui.edu/advocate)

**IUPUI Course Policies**

A number of campus policies governing IUPUI courses may be found at the following link: [Course Policies](registrar.iupui.edu/course_policies.html)

See the [Important Supplement for IUPUI Syllabi](https://www.registrar.iupui.edu/policies/syllabus-supplement.pdf) This link is also automatically inserted at the top of the Canvas Syllabus page. This supplement covers:

- IUPUI Policy on Disability Accommodations
- IUPUI Policy on Religious Holidays
- IUPUI Policy on Academic Integrity
- IUPUI Policy on Sexual Misconduct
- Education and Title VI
- Military Related Personnel Statement
- Two-Step Login (Duo)

**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.

Statement of Values
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.
The Modules and Lessons

The course is organized into four modules each containing a series of lessons.

**Module 1: Starting Points**
- Lesson 1a: Starting Points
- Lesson 1b: Science & Technology: Starting Points

**Module 2: Information Inquiry and Information Seekers**
- Lesson 2a: Information Inquiry
- Lesson 2b: Science & Technology: Information Inquiry
- Lesson 2c: Information Seekers
- Lesson 2d: Science & Technology: Information Seekers

**Module 3: Research Guides**
- Lesson 3a: Research Guides
- Lesson 3b: Science & Technology: Research Guides

**Module 4: Reference Sources**
- Lesson 4a: Reference Sources
- Lesson 4b: Science & Technology: Reference Sources

**Module 5: Print Books and Electronic Books**
- Lesson 5a: Print Books and Electronic Books
- Lesson 5b: Science & Technology: Print Books and Electronic Books

**Module 6: Government Information**
- Lesson 6a: Government Information
- Lesson 6b: Science & Technology: Government Information

**Module 7: Periodicals, Databases, and Indexes**
- Lesson 7a: Periodicals, Databases, and Indexes
- Lesson 7b: Science & Technology: Periodicals, Databases, and Indexes

**Module 8: Bibliographies and Bibliometrics**
- Lesson 8a: Bibliographies and Bibliometrics
- Lesson 8b: Science & Technology: Bibliographies and Bibliometrics

**Module 9: Grey Literature**
- Lesson 9a: Grey Literature
- Lesson 9b: Science & Technology: Grey Literature

**Module 10: Archives, Libraries, and Museums**
- Lesson 10a: Archives, Libraries, and Museums

**Module 11: Technology**
- Lesson 11a: Apps, Websites, and Social Media
- Lesson 11b: Science & Technology: Apps, Websites, and Social Media
- Lesson 11c: Multimodal Sources
- Lesson 11d: Science & Technology: Multimodal Sources
- Lesson 11e: Science & Technology: Digital Projects
Course Calendar

Check the Course Calendar for due dates.