LSC638: Science and Technology Information
3 Credits

This course is a survey of information resources for the natural and physical sciences, medicine, computer science, and engineering. This course emphasizes research techniques utilizing resources in all formats. This course covers the scientific research and publication process, trends and challenges in science and technology and in science and technology information services.

Prerequisite: 553 or 9 credits of graduate credit in a science or technology discipline.

Classroom: Arlington, VA
Days and hours of class meetings and labs or discussion sections
CLSC638 01 Science and Technology Information
Instructor: Kimberly M. Hoffman
W 5:30 PM - 8:00 PM TBA

Instructor contact information:
   Kimberly M. Hoffman
   200 Pangborn, CUA
   202-319-6178
   hoffman@cua.edu
   9AM-4PM - appointment by request

Instructional Methods
The course will incorporate lecture/discussion; hands-on exercises and homework assignments. Class meetings will be supplemented by announcements, discussion, speakers and other materials posted in the class Blackboard site (http://bb9.cua.edu) Homework assignments will include field observation, practice exercises, and analytical assignments.

Course related materials such as news and discussions about science and libraries, assignments, handouts, presentations, discussions notes, and exercises will be facilitated in Blackboard. Students are expected to access the course through Blackboard several times a week. There will be one
scheduled personal conference with the instructor (in person, live text or Skype) to determine final project scope.

Lectures will be provided with presentation software and an outline of notes for reading online. The course software also has a copy of this syllabus in its most recent version (it will change and evolve!)

Students are required to contribute to Science News discussions online; post their Science Book review as scheduled and facilitate a discussion about their selection. There will be other online discussion participation required based on course readings and issues and challenges in organizing and retrieving science and technology information.

Required Text


Recommended Text


Course Goals
The course is designed to:

- Introduce the student to scientific research, communication and publications and the implications of scientific research for society
- Have students develop an understanding of how scientists communicate and seek information
• Develop research skills using science and technology reference sources
• Prepare students for work in science and technology libraries or other organizations that need research in science and technology
• Explore issues associated with electronic communication, open access, serials licensing, e-science and changes in scientists’ information seeking behaviors

Goals for Student Learning
At the end of the course students will be able to evaluate and apply an understanding of:
• Literature, research and relationships between disciplines in the sciences
• Major reference tools, electronic and print format resources for science and technology literature and research
• Search strategies for scientific research enquiries, basic and applied (from research and experiments)
• Formal and informal channels of scientific communication and their effect on scientific research and information use
• Changes in the way scientific literature is managed by libraries and used by scientists

Professional Standards Addressed
ALA’s Core Competences of Librarianship
http://www.ala.org/ala/educationcareers/careers/corecomp/corecompetences/finalcorecompstat09.pdf

CUA SLIS Competencies
http://slis.cua.edu/res/docs/about/accreditation/documents/sliscompetenciesadopted20080326.pdf

Course coverage and teaching methods are designed to foster the development of competencies recommended by the Information Literacy Standards for Science and Engineering/Technology by The ALA/ACRL/STS Task Force on Information Literacy for Science and Technology http://www.ala.org/ala/mgrps/divs/acrl/standards/infolitscitech.cfm

Course Requirements - Assignments

Students will be responsible for the following every week:
• Course readings as scheduled and supplemental course materials (i.e. presentations)
• Look at the sources in texts and on the web sites listed in the lectures for the disciplines that we are discussing.
• Contributing to the science news discussion

During the course students will be responsible for:

• Four assignments that may include source annotations/analysis that will be due as specified on the course calendar (separate instructions on Blackboard)
• Book Review and subsequent online discussion
• Short reflection paper on CiL2012 or/Science Library visit
• Short policy paper due in April
• Final paper (written paper and final presentation)

Required Technologies
The following capabilities are required for course delivery:
• This will be discussed with the students during the first class as venue is defined.
The following technologies are taught as an essential part of this course:
• N/A

Expectations and policies

Academic honesty: Academic honesty is expected of all CUA students. Faculty are required to initiate the imposition of sanctions when they find violations of academic honesty, such as plagiarism, improper use of a student’s own work, cheating, and fabrication.

The following sanctions are presented in the University procedures related to Student Academic Dishonesty (from http://policies.cua.edu/academicundergrad/integrityprocedures.cfm): “The presumed sanction for undergraduate students for academic dishonesty will be failure for the course. There may be circumstances, however, where, perhaps because of an undergraduate student’s past record, a more serious sanction, such as suspension or expulsion, would be appropriate. In the context of graduate studies, the expectations for academic honesty are greater, and therefore the presumed sanction for dishonesty is likely to be more severe, e.g., expulsion. ...In the more unusual case, mitigating circumstances may exist that would warrant a lesser sanction than the presumed sanction.”

Please review the complete texts of the University policy and procedures regarding Student Academic Dishonesty, including requirements for appeals, at http://policies.cua.edu/academicundergrad/integrity.cfm and http://policies.cua.edu/academicundergrad/integrity.cfm.

Campus Resources for student support:

Libraries: The CUA Libraries' wide range of resources and services, including databases, online journals, and FAQs are on the main web site (http://libraries.cua.edu). For assistance on papers and assignments, consult the research guides (http://guides.lib.cua.edu/) or schedule an appointment with a subject librarian http://libraries.cua.edu/about/subjLibs.cfm.

Academic Tutoring and Learning Assistance (ATLAS)
101 O’Boyle Hall
Phone: (202) 319-5018
CUA Counseling Center
127 O’Boyle Hall
Phone: (202) 319-5765

**Accommodations for students with disabilities:** Any student who feels s/he may need an accommodation based on the impact of a disability should contact the instructor privately to discuss specific needs. Please contact Disability Support Services (at 202 319-5211, room 207 Pryzbyla Center) to coordinate reasonable accommodations for students with documented disabilities. To read about the services and policies, please visit the website: [http://disabilitysupport.cua.edu](http://disabilitysupport.cua.edu).

**Assessment based on assignments**
- (20 points) In Class participation/BB discussion/Science News contributor, reflections
- (20 points) Exercises: 4 reference question and/or analysis
- (10 points) Book Review/Online discussion
- (10 points) Science Library Visit OR CiL2012 participation - 1 day
- (10 points) Policy paper: Science Library as a branch library;
  OR downsizing corporate science libraries
- (30 points) Paper/Presentation: Issues in Science & Technology Librarianship

**University grades:**
The University grading system is available at [http://policies.cua.edu/academicundergrad//gradesfull.cfm#II](http://policies.cua.edu/academicundergrad//gradesfull.cfm#II) for undergraduates and [http://policies.cua.edu/academicgrad//gradesfull.cfm#iii](http://policies.cua.edu/academicgrad//gradesfull.cfm#iii) for graduate students.
Reports of grades in courses are available at the end of each term on [http://cardinalstation.cua.edu](http://cardinalstation.cua.edu).
### CLSC638 Science & Technology Information: Spring 2011 Calendar

[Activity * is part of the participation grade (20 pt.)]

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<tr>
<th>Week</th>
<th>Activity</th>
<th>Assignment</th>
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| 1    | **Class Meeting 1:** Science Librarianship  
Job Competencies (in class) | **Class Readings** Week 1 & 2 |
| 2    | NO CLASS MEETING  
Activity: *  
1. Post Science Article annotated - **DUE JAN 19**  
2. Respond to one other article - **DUE Jan 22** | Assignment GRADED: PHYS Research questions annotated (5 pts.)  
**DUE Jan 22** |
| 3    | **Class Meeting 2:** Scientific Publishing cycle, Scientific Publishers, OA, JIF, h-factor  
How to read a research paper (in class) | **Class Readings** Week 3 & 4 |
| 4    | NO CLASS MEETING  
Activity: *  
1. Post Science Article annotated  
**DUE FEB 2**  
2. Respond to one other article **DUE FEB 5** | Choose Book Review assignment title  
**DUE MAR 16 (10 pts.)** |
| 5    | NO CLASS MEETING  
CONSULTATION W/INSTRUCTOR  
Choose your topic for final assignment  
Choose your MAR 21 assignment (CiL2012 attendance or Science Library Visit) | Assignment GRADED: Reaction to Scholarly Publishing – Analysis **DUE FEB 11 (5pts.)**  
Class Readings: Week 5 & 6 |
<p>| 6    | <strong>Class Meeting 3:</strong> Cross Disciplinary Research - Engineering, Sustainable Design, Standards | <strong>Class Readings</strong> Week 7 &amp; 8 |</p>
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<th>Week of</th>
<th>Activity:</th>
<th>Assignment GRADED:</th>
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| Feb 20  | NO CLASS MEETING | *  
|         | 1. Post Science Article annotated **DUE FEB 23**  
|         | 2. Respond to one other article **DUE FEB 26** | Engineering Research Question set (5 pts.) **DUE FEB 25** |
| Feb 27  | **Class Meeting 4:** Health Sciences/ Medicine/ Biology |  
|         | Activity:  
|         | PubMed MeSH terms (in class) |  
| Mar 5   | NO CLASS MEETING |  
| Mar 12  | **Class Meeting 5:** Informatics/Bibliometrics and Visualizations Computer Science |  
|         | Activity:  
|         | Tufte, ACRL visualizations (in class) | Health Sciences/Computer Science Research Question set (5 pts.) **DUE MAR 18** |
| Mar 19  | NO CLASS MEETING | Cil2012 Mar 21-24  
|         | Assignment GRADED:  
|         | Science Library Visit OR Cil2012 Reaction paper (10 pts.) **DUE MAR 26** |  
| Mar 26  | **Class Meeting 6:** Data Curation, Management and Science Libraries |  
|         | Activity:  
|         | Perdue University Data Curation Toolbox (in class) |  
|         | Assignment:  
|         | Class Readings Week 12, 13, 14 |  
| Apr 2   | NO CLASS MEETING  
|         | EASTER April 8 |  
|         | Activity: *  
|         | 1. Post Science Article annotated **DUE APR 10**  
|         | 2. Respond to one other article **DUE APR 13** | Science Libraries policy paper **DUE APR 13** (10 pts.) |
| Apr 9   | NO CLASS MEETING |  
| Apr 16  | **Class Meeting 7:** Topics in Science Librarianship presentations |  
|         | Assignment GRADED:  
|         | Science Librarianship paper 8-10 pages; Presentation (30 pts.) **DUE in class** |  

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<th>Week of Apr 23</th>
<th>Class Meeting 8: If needed Topics in Science Librarianship presentations</th>
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These readings are subject to change. Check BB for up-to-date readings each week.

Class Readings Weeks 1 & 2: Science Librarianship

Hazen and Trefil, Chapters 1-3
Ackerson, Chapters 1-3
Spellman, Chapter 1, Chapter 10 (will be provided)


**Class Readings Weeks 3 & 4: Scientific Publishing**


Class Readings Weeks 5 & 6: Cross Disciplinary Research – Engineering

Ackerson, Chapters 4-6
Hazen and Trefil, Chapters 10-14
_spellman, Chapters 7-9


**Class Readings Weeks 7 & 8:** Health Sciences/ Medicine/ Biology

Ackerson, Chapters 7, 8
Hazen and Trefil, Chapters 15-19


**Class Readings Weeks 10 & 11:** Computer Science, Informatics/Bibliometrics and Visualizations


Class Readings Weeks 12, 13 & 14: Data Curation, Management and Science Libraries


