THE UNIVERSITY OF BRITISH COLUMBIA
iSchool (Library, Archival & Information Studies)
Faculty of Arts

We acknowledge that we are on the traditional, ancestral and unceded territory of the hən̓q̓əmin̓əm̓ speaking Musqueam people.

iSchool Mission: Through innovative research, education and design, our mission is to enhance humanity's capacity to engage information in effective, creative and diverse ways.

LIBR 557 Information Retrieval Systems: Concepts and Practice – Course Syllabus (3)

Program:	MLIS/Dual
Year:	2019-2020
Course Schedule:	Mondays, 9:00 - 11:50 am
Location:	Terrace Lab
Instructor:	Dr. Heather O'Brien
Office location:	IKBLC 486
Office phone:	604-827-5842
Office hours:	Mondays, 1:00 – 3:00 pm or by appointment
E-mail address:	h.obrien[at]ubc.ca
Learning Management Site:	http://lthub.ubc.ca/guides/canvas/

Course Goal: The focus of this course is on the techniques and strategies required to effectively and efficiently use (and teach others to use) information retrieval systems; it builds on the skills and knowledge you learned in LIBR 506, 507, 508 and 509. Current research in online searching is also covered. The ability to conduct searches in one or more systems, such as Factiva or search engines such as Google, is an expected outcome of the course. However, the primary emphasis is on more conceptual issues, such as database structure, language issues, database selection, search strategies, and results evaluation; these skills will enable you to adapt to emerging tools in your specific future workplaces and over time.

Course Objectives:

Upon completion of this course students will be able to:

- Understand the basis for selected information retrieval concepts, theories and models [1.1, 1.2, 1.3, 1.4, 2.1, 2.2, 4.1]*
- Analyze and discuss current issues and research in information retrieval [1.3, 4.1]*
- Understand and appreciate the capabilities and limitations of information retrieval systems and models [1.3, 2.1]*
- Demonstrate appropriate search strategies and vocabularies for information retrieval [1.1, 1.3, 1.4]*
- Demonstrate problem solving skills to handle a complex search problems [1.1, 1.3, 1.4]*
- Identify and discuss problems, issues, and future developments in information retrieval 1.3, 1.4, 2.1, 2,2, 3.1, 4.1, 5.1]*

* Course objectives are stated in terms of student learning outcomes and reference the iSchool Statement on Graduate Competencies.

Course Topics:

- Use of search vocabularies and their application in specialized search environments
- Advanced search strategy formulation
- Current information retrieval issues and trends
- The content and structure of information resources in databases and on the WWW, with emphasis on relevance to retrieval
- Principles for effective searching and variations in search strategies and tactics

- Alternatives in presentation of results to users and evaluation of retrieval results
- Identification and discussion of problems, issues, and future developments in information retrieval

Prerequisites: MLIS and Dual MAS/MLIS: completion of the MLIS core; MAS: completion of MAS core and permission of the SLAIS Graduate Adviser.

Format of the course: Multiple formats will be used including lectures, student presentations, demonstrations, and in-class activities such as discussions and small group work.

Required and Recommended Reading: Required and recommended readings will be assigned throughout the term. These will be available in electronic format from the UBC Library or other online sources.

Course Assignments:

Assignment Name	Due Date	Weight	Graduate Competencies
1. Participation	Throughout term	10%	1.1, 1.3, 2.1, 2.2, 4.1, 5.1
2. Instructional presentation*	February 10 - March 9	40%	1.1, 1.3, 2.1, 2.2, 3.1, 4.1, 5.1
Presentation			
Handout & bibliography			
3. Peer review of instructional presentation	February 17- March 16	10%	2.1, 2.2, 5.1
4. Independent Research Paper	April 14	40%	1.1, 1.3, 1.4, 2.1, 2.2, 4.1, 4.2, 5.1

*Conducted in pairs or groups depending on class size.

1. Participation

It is the responsibility of all of us to create a stimulating and respectful learning environment where we can think critically and engage with course content and with each other. There will be in-class activities and discussions, and it is expected that you will support your classmates during the instructional presentations. See "Additional information" below regarding Attendance.

2. Instructional presentation

Presentation

Students will develop and carry out an instructional presentation of a specific information retrieval system, such as a database, digital library or commercial search engine. You should craft a scenario for the presentation with a defined audience in mind. For example, the class can be an upper level graduate class preparing to write a thesis, a local history society, or staff in a community organization seeking information to prepare a funding proposal. The presentation should be geared toward the audience and contain hands-on activities as appropriate.

Suggestions for resources:

ABI/Inform (ProQuest)
Agricola
Artemis Primary Sources
ARTStor
Compendex Engineering Village
Datastream
Factiva (Dow Jones)
Ancestry Library Edition (VPL)
JSTOR
LexisNexis Academic
MedLine - OvidSP
Naxos Spoken Word Library
PAIS Index (CSA)
PsycInfo (EBSCO)

Reader's Guide Retrospective	Web of Science
Twentieth Century North American Drama	WorldCat
United Nations Official Documents (ODS)	*And many more…*

Handout and Bibliography
You should develop an accompanying **handout** (no more than 1 double sided page) for the presentation that might include information about:

- How to access the database/resource
- Motivation for why the user group might want to use it/under what circumstances it could be used
- Scope and coverage
- Special search features or techniques that are particularly helpful when using the tool
- How to access and utilize the controlled vocabulary (if relevant)
- Strengths and weaknesses

The idea is that the handout will act as both a supplement to your presentation and a resource for your classmates to build up their knowledge of different information retrieval systems.

You should also prepare a **bibliography** of all of the resources you used in the presentation. This may include scholarly and professional articles, but also tutorials, LibGuides, reviews, lesson plans and so on. Again, the idea is to not only document your sources but also to provide your classmates with valuable information that they can draw upon in future.

3. Peer review of Instructional Presentation
You will act as a peer reviewer for one of the instructional presentations. We will use a template as a guide for you to craft your feedback, but you should be sure to include concrete rationales for your evaluations, and specific examples of how your classmates met/exceeded expectations for the assignment and areas for improvement. Your peer review will be due 1 week after the instructional seminar takes places. Your evaluation will comprise 5% of your peer's grade. You will be graded for this assignment on the quality of your feedback.

4. Independent Research Paper OR Systematic Review
Students will have the opportunity to select ONE of two options for the final major assignment in the course: an independent research paper or a systematic review of a topic. Rubrics for these assignments will be similar but also different to reflect the nature of these distinct assignments.

- Paper Length: 4000 words (+/- 500 words)
- Weight: 40%
- Deadline: Submitted report April 14
- Submission: via Canvas.

This assignment is designed to provide an opportunity to:

- Carry out self-directed research in an area of interest relevant to the course;
- Conduct analysis and synthesis of the existing research literature and, where possible, including an examination of existing IR systems.
- Hone written communication skills, with an emphasis on making sense of and clearly communicating knowledge of information systems and technologies;
- Apply the knowledge and concepts gained through the course to a particular problem space in IR.

Option 1: Research Paper
Overview: Students will select an information retrieval application domain and conduct a review of the research literature and of available systems in that domain.

For this assignment, you will be writing a paper that provides an overview of a current type of IR system or a technology used in IR systems. A typical approach would be to select a type of IR system focused on a particular kind of content or user population. Examples include: conversational search, children's search engines, e-discovery (legal search), image or video retrieval, music retrieval, mobile search, social media retrieval, e-commerce, and bibliographic/citation-based search.

Another approach would be to examine a broader theme, such as personalization, semantic technologies, visualization, or artificial intelligence, and discuss how this intersects with IR. The report should consist of an overview of the technology and review of the literature, which may include an historical dimension (the development of the technology) or may focus primarily on the current state of the art. In cases where there are existing systems that can serve as examples, a review of several example systems should be included in the paper, which may illustrate points raised in the literature review. You should highlight and discuss relevant system features or aspects of the system design, and figures or illustrations of the systems can be included, as appropriate.

The report will be assessed using the following criteria:

- Evidence of understanding of the technology; its strengths and weaknesses;
- Selection of sources to include in the review (quality, relevance);
- Evidence of analysis and critical thought in the written content;
- Clarity and flow of writing; an appropriate level of detail;
- Grammar and editing

Option 2: Systematic review

Overview: Students will select a topic for the purposes of conducting a small-scale systematic review.

If you choose option 2, you will be selecting a topic about which to carry out a small systematic review. This will involve: developing search terms/strings based on relevant keywords and controlled vocabularies, selecting appropriate IR tools and strategies to carry out the searches, organizing the results, applying inclusion and exclusion criteria, and analyzing items that meet your criteria. You may select any topic, but should keep in mind that interest and prior knowledge of the topic may aid you in the analysis of the resulting items. You should also be mindful of scope to ensure that you can complete the review in the timeframe for the course, and that what you propose to do is feasible. For example, if your search results in 100 items that meet your inclusion criteria, you will not be able to analyze them in depth, whereas if you have 20 items you may be able to examine their full-text and extract salient information. You should use a range of presentation media, such as figures and tables, in addition to your narrative to explain your process, decision-making, and findings.

The report will be assessed using the following criteria:

- Development and execution of effective search strategies using appropriate search tools;
- Construction and use of inclusion and exclusion criteria;
- Ability to scope the topic and results within the timeframe and other parameters of the assignment;
- Ability to extract salient information from included items and describe the findings;
- Evidence of analysis and critical thought in the written content;
- Clarity and flow of writing; an appropriate level of detail;
- Grammar and editing

Course Schedule [week-by-week]:

Date	Topic	Readings
Jan 13	Introduction to the course Review of core information retrieval concepts	
Jan 20	Document representation: Guest lecture, Dr. Luanne Freund Search tools: Databases, OPAC, digital libraries, search engines	Smucker. M. (2011). Information Representation. In Ruthven, I. & Kelly, D. (Eds). *Interactive Information Seeking, Behavior and Retrieval* (pp. 77-94). Facet publishing. Markey, K. (2019). Accessing scholarly, professional and educational information. *Online Searching: A guide to finding quality information efficiently and effectively* (pp. 15-25). Rowman & Littlefield. Markey, K. (2019). Selecting a relevant database. *Online Searching: A guide to finding quality information efficiently and effectively* (pp. 49-63). Rowman & Littlefield. *Recommended:* Manning, D., Raghavan, P. & Schutze, H. (2008). Boolean retrieval. *Introduction to Information Retrieval*. (pp. 1-18). Available online: http://nlp.stanford.edu/IR-book/information-retrieval-book.html Rasmussen, E. (2011). Library systems. In Baeza-Yates, R & Ribeiro-Neto, Berthier (Eds). *Modern information retrieval: the concepts and technology behind search, 2nd* ed. Pearson Education System.
Jan 27	Social search and multimedia IR: Guest lecture, Sam Dodson, PhD Candidate Search tools (continued)	Hearst, M. (2009). Emerging trends in search interfaces. In *Search user interfaces* (pp. 297–324). Cambridge, UK: Cambridge UP.
Feb 3	Systematic reviews Guest Lecture, Charlotte Beck, UBC Library	Arksey, H., & O'Malley, L. (2005). Scoping studies: towards a methodological framework. *International Journal of Social Research Methodology*, *8*(1), 19-32. Grant, M. J., & Booth, A. (2009). A typology of reviews: an analysis of 14 review types and associated methodologies. *Health Information & Libraries Journal, 26*(2), 91-108. Spencer, A. J., & Eldredge, J. D. (2018). Roles for librarians in systematic reviews: a scoping review. *Journal of the Medical Library Association: JMLA*, *106*(1), 46.
Feb 10	*Instructional presentations*	
Feb 17	NO CLASS, Spring Break	
Feb 24	*Instructional presentations*	
Mar 2	*Instructional presentations*	
Mar 9	*Instructional presentations*	

Mar 16	NO CLASS	
Mar 23	Search interface design: Focus on accessibility	Hearst, M. (2009). The Design of Search User Interfaces. In *Search User Interfaces* (pp. 1-28). Cambridge: Cambridge University Press. Available, https://searchuserinterfaces.com/book/sui_ch1_design.html Kazuye Kimura, A. (2018). Defining, evaluating, and achieving accessible library resources: A review of theories and methods. *Reference Services Review*, *46*(3), 425-438. Yoon, K., Hulscher, L., & Dols, R. (2016). Accessibility and diversity in library and information science: inclusive information architecture for library websites. *The Library Quarterly*, *86*(2), 213-229.
Mar 30	Ethics, bias and privacy	CBC Spark. We trust our virtual assistants more than we should. Available, https://www.cbc.ca/radio/spark/we-trust-our-virtual-assistants-more-than-we-should-1.4842813 Noble, S. U. (2018). A society, searching. *Algorithms of Oppression : How Search Engines Reinforce Racism* (pp. 15-63). New York: NYU Press. Pekala, S. (2017). Privacy and user experience in 21st century library discovery. *Information Technology and Libraries (Online), 36*(2), 48-58.
Apr 6	Evaluation of IR systems and the user experience Course wrap up	Demir, F., & Parraci, W. (2018). The more complex the less success in online library services: Evaluating the user experience for international students. *Issues and Trends in Educational Technology*, *6*(2). Haggerty, K. C., & Scott, R. E. (2019). Do, or Do Not, Make Them Think?: A Usability Study of an Academic Library Search Box. *Journal of Web Librarianship*, 1-15. Rennick, B. (2019). Library Services Navigation: Improving the Online User Experience. *Information Technology and Libraries, 38*(1), 14-26. *Recommended:* MacDonald, C. M. (2017). "It Takes a Village": On UX Librarianship and Building UX Capacity in Libraries. *Journal of Library Administration*, *57*(2), 194-214.

Course Policies

FNCC specialization: The assignments in this course can serve the requirements of the First Nations Curriculum Concentration (FNCC). If students would like to take this course for FNCC credit, they are invited to contact the instructor to discuss this option.

Attendance: Attendance is required in all class meetings. If you know you are going to be absent you must inform me beforehand if at all possible. Any penalties imposed for excessive absences are at the discretion of the instructor.

Evaluation: All assignments will be marked using the evaluative criteria given on the iSchool web site. Late assignments and requests for extensions should be negotiated with the instructor **in advance of the assignment deadlines**. The instructor will determine whether extensions are granted and late assignments are accepted with or without penalty on a case-by-case basis.

Required Materials: This course will rely on resources provided by the UBC Library or freely available on the Web. It is not anticipated that students will incur any costs for materials in this course.

Policies and Resources to Support Student Success: UBC provides resources to support student learning and to maintain healthy lifestyles but recognizes that sometimes crises arise and so there are additional resources to access including those for survivors of sexual violence. UBC values respect for the person and ideas of all members of the academic community. Harassment and discrimination are not tolerated nor is suppression of academic freedom. UBC provides appropriate accommodation for students with disabilities and for religious and cultural observances. UBC values academic honesty and students are expected to acknowledge the ideas generated by others and to uphold the highest academic standards in all of their actions. Details of the policies and how to access support are available here (https://senate.ubc.ca/policies-resources-support-student-success)

Centre for Accessibility: Centre for Accessibility works with the University to create an inclusive living and learning environment in which all students can thrive. The University accommodates students with disabilities who have registered with the Centre for Accessibility unit: [https://students.ubc.ca/about-student-services/centre-for-accessibility]. You must register with the Disability Resource Centre to be granted special accommodations for any on-going conditions.

Religious Accommodation: The University accommodates students whose religious obligations conflict with attendance, submitting assignments, or completing scheduled tests and examinations. Please let your instructor know in advance, preferably in the first week of class, if you will require any accommodation on these grounds. Students who plan to be absent for family obligations, or other similar commitments, cannot assume they will be accommodated, and should discuss with the instructor before the course drop date. UBC policy on Religious Holidays: http://equity.ubc.ca/days-of-significance-calendar/

Academic Integrity

Plagiarism

The Faculty of Arts considers plagiarism to be the most serious academic offence that a student can commit. Regardless of whether or not it was committed intentionally, plagiarism has serious academic consequences and can result in expulsion from the university. Plagiarism involves the improper use of somebody else's words or ideas in one's work. The UBC policy on Academic Misconduct is available here: http://www.calendar.ubc.ca/Vancouver/index.cfm?tree=3,54,111,959.

It is your responsibility to make sure you fully understand what plagiarism is. Many students who think they understand plagiarism do in fact commit what UBC calls "reckless plagiarism." The UBC Learning Commons has a resource page on how to avoid plagiarism, with policies on academic integrity and misconduct found here: [http://learningcommons.ubc.ca/resource-guides/avoid-plagiarism/

If after reading these materials you still are unsure about how to properly use sources in your work, please ask your instructor for clarification.