

## **LIS 630 Section 210 (2018 Summer) Information Retrieval**

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**Office hours:** by appointment  
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**Preferred method of contact:** Email/ Canvas.  
I usually respond to questions within 24 hours  
(expect a delay during weekends and holidays)

### **Course Description**

This course reviews important information retrieval (IR) theories and models; explores a brief history of IR research; and examines various IR applications. Students will get familiar with IR foundations such as document indexing or query expansion/optimization strategies, as well as understand overall system architectures for selected IR applications. Students will explore how to analyze and compare IR systems, how to select the best IR systems for particular tasks and how to design a prototype for an efficient IR system. Prereq or concur: LIS 636 or LIS 637 or LIS 638. Counts as part of Library Science foundational requirement.

### **Student Learning Outcomes**

Students will be equipped with critical and analytical skills related to selecting appropriate information retrieval systems, databases, resources for assistance, query formulation, and other information retrieval techniques. Special attention is also given to the evaluation of IR systems.

After completing this course, the student will be able to:

1. Describe and critically compare fundamental characteristics of information retrieval systems, their interfaces, and other components;
2. Describe the key concepts and theories in information retrieval;
3. Understand the different types of data structures for information retrieval;
4. Apply information retrieval theories and models to analyze and evaluate information retrieval systems;
5. Analyze and evaluate different types of IR systems in terms of their interfaces, performance, and other components.

### **Required Materials**

No required textbook.

### **Course Activities and Assignments**

- 3 hands-on exercises (40%)
- Final term paper (30%)
- Final exam (10%)

- Online discussion (20%)

### **Summary Description of Course Assignments**

- 3 hands-on exercises – A student will exercise the organization structured and semi-structured data for information retrieval.
- Final term paper – Please see the attached instruction.
- Final exam (10%) – There is an online test in Week 8. The test will consist of true/false, multiple choice, and short answer questions.
- Online discussion (20%) – Participation points come from both quantity and quality of posts to the discussion board. For each week, we are going to have a discussion forum for class discussion. In the forum, you can discuss an important issue of each week's topic posted by the instructor as well as any questions, ideas or thoughts you have regarding the topic, slides, readings or exercises for that week. To get full credits for class participation, each student needs to participate in at least twice in each of the forums. More importantly, each student needs to read/view the required readings, class slides, and other students' postings, before posting her/his messages. The week starts on Monday and ends on Sunday at midnight. Although you can continue participating in the earlier week discussions, no credit will be given for posts that occur after the week.

### **Course Grading**

- 90-100% = A
- 80 – 89.99% = B
- 70 – 79.99% = C
- Below 70%= E

### **Tentative Course Schedule**

A linear listing of topics, assignment due dates, and examination dates.

### **Final Exam Information**

Date, time, location, other information

### **Submission of Assignments**

All assignments, including hands-on exercises and final term paper, should be submitted via Canvas. Prepare and submit all assignments on time. A 10% penalty will be exacted every day the assignment is late.

### **Excused Absences**

Students need to notify the professor of absences prior to class when possible. *Senate Rules 5.2.4.2* defines the following as acceptable reasons for excused absences: (a) serious illness, (b) illness or death of family member, (c) University-related trips, (d) major religious holidays, and (e) other circumstances found to fit “reasonable cause for nonattendance” by the professor.

Students anticipating an absence for a major religious holiday are responsible for notifying the instructor in writing of anticipated absences due to their observance of such holidays no later than the last day in the semester to add a class. Two weeks prior to the absence is reasonable, but should not be given any later. Information regarding major religious holidays may be obtained through the Ombud (859-257-3737, [http://www.uky.edu/Ombud/ForStudents\\_ExcusedAbsences.php](http://www.uky.edu/Ombud/ForStudents_ExcusedAbsences.php)).

Students are strongly encouraged to withdraw from the class if more than 20% of the scheduled classes for the semester are missed per university policy. Please reference the definition of excused absences in the current edition of *Student Rights and Responsibilities* or on the web at [http://www.uky.edu/Faculty/Senate/rules\\_regulations/Rules%20Versions/MASTER%20RULES%20from%20February%202012\\_clean.pdf](http://www.uky.edu/Faculty/Senate/rules_regulations/Rules%20Versions/MASTER%20RULES%20from%20February%202012_clean.pdf)

Option #2 (quoting the rule):

Per *Senate Rule 5.2.4.2*, students missing any graded work due to an excused absence are responsible: for informing the Instructor of Record about their excused absence within one week following the period of the excused absence (except where prior notification is required); and for making up the missed work. The professor must give the student an opportunity to make up the work and/or the exams missed due to an excused absence, and shall do so, if feasible, during the semester in which the absence occurred.

### **Verification of Absences**

Students may be asked to verify their absences in order for them to be considered excused. *Senate Rule 5.2.4.2* states that faculty have the right to request “appropriate verification” when students claim an excused absence because of illness, or death in the family. Appropriate notification of absences due to University-related trips is required prior to the absence when feasible and in no case more than one week after the absence.

### **Academic Integrity**

Per University policy, students shall not plagiarize, cheat, or falsify or misuse academic records. Students are expected to adhere to University policy on cheating and plagiarism in all courses. The minimum penalty for a first offense is a zero on the assignment on which the offense occurred. If the offense is considered severe or the student has other academic offenses on their record, more serious penalties, up to suspension from the University may be imposed.

Plagiarism and cheating are serious breaches of academic conduct. Each student is advised to become familiar with the various forms of academic dishonesty as explained in the Code of Student Rights and Responsibilities. Complete information can be found at the following website: <http://www.uky.edu/Ombud>. A plea of ignorance is not acceptable as a defense against the charge of academic dishonesty. It is important that you review this information as all ideas borrowed from others need to be properly credited.

*Senate Rules 6.3.1* (see <http://www.uky.edu/Faculty/Senate/> for the current set of *Senate Rules*) states that all academic work, written or otherwise, submitted by students to their instructors or other academic supervisors, is expected to be the result of their own thought, research, or self-expression. In cases where students feel unsure about a question of plagiarism involving their work, they are obliged to consult their instructors on the matter before submission.

When students submit work purporting to be their own, but which in any way borrows ideas, organization, wording, or content from another source without appropriate acknowledgment of the fact, the students are guilty of plagiarism.

Plagiarism includes reproducing someone else's work (including, but not limited to a published article, a book, a website, computer code, or a paper from a friend) without clear attribution. Plagiarism also includes the practice of employing or allowing another person to alter or revise the work, which a student submits as his/her own, whoever that other person may be. Students may discuss assignments among themselves or with an instructor or tutor, but when the actual work is done, it must be done by the student, and the student alone.

When a student's assignment involves research in outside sources or information, the student must carefully acknowledge exactly what, where and how he/she has employed them. If the words of someone else are used, the student must put quotation marks around the passage in question and add an appropriate indication of its origin. Making simple changes while leaving the organization, content, and phraseology intact is plagiaristic. However, nothing in these Rules shall apply to those ideas, which are so generally and freely circulated as to be a part of the public domain.

Please note: Any assignment you turn in may be submitted to an electronic database to check for plagiarism.

### **Accommodations due to disability**

If you have a documented disability that requires academic accommodations, please see me as soon as possible during scheduled office hours. In order to receive accommodations in this course, you must provide me with a Letter of Accommodation from the Disability Resource Center (DRC). The DRC coordinates campus disability services available to students with disabilities. It is located on the corner of Rose Street and Huguelet Drive in the Multidisciplinary Science Building, Suite 407. You can reach them via phone at (859) 257-2754 and via email at [drc@uky.edu](mailto:drc@uky.edu). Their web address is <http://www.uky.edu/StudentAffairs/DisabilityResourceCenter/>.

Policies concerning academic integrity, excused absences and academic accommodations due to disability are available online at:  
<https://ci.uky.edu/sis/sites/default/files/policies.pdf>

## **TECHNOLOGY INFORMATION & RESOURCES**

Distance Learning Students are expected to have a minimum level of technological acumen and the availability of technological resources. Students must have regular access a computer with a reliable Internet connection and audio capabilities. Internet Explorer 7 (IE) or Firefox 2.x are the recommended browsers for those using a Windows-based PC. Those using Firefox 3.x may encounter problems with assignment uploads. Those using an Apple computer with MAC OS X (10.5.x) may use Firefox 3.x or Safari 3.x. Please be certain that your computer and/or browser allow you to view Adobe Reader documents (.pdf). Microsoft Office and other software products are free for students: <http://download.uky.edu/>.

As your instructor, I am your first go-to person for technology problems. If you need more immediate assistance, please contact UKIT.

### **Information Technology Customer Service Center (UKIT)**

<http://www.uky.edu/UKIT/>; 859-218-4357

### **Library Services & Distance Learning Services**

<http://www.uky.edu/Libraries/DLLS>

- Carla Cantagallo, DL Librarian
- Local phone number: (859) 257-0500, ext. 2171; long-distance phone #: (800) 828-0439 (option #6)
- Email: [dllservice@email.uky.edu](mailto:dllservice@email.uky.edu)
- DL Interlibrary Loan Service:  
[http://www.uky.edu/Libraries/libpage.php?lweb\\_id=253&llib\\_id=16](http://www.uky.edu/Libraries/libpage.php?lweb_id=253&llib_id=16)

For more resources about online classes and student resources, visit

<http://www.uky.edu/ukonline/>

The School of Information Science has a page with a comprehensive list of technology resources here: <http://ci.uky.edu/sis/students/techtips>

### **Military Members and Veterans**

We recognize the complexities of being a member of the military community and also a student. If you are a member of the military or a military veteran or dependent, please inform your instructor if you are in need of special accommodations. Drill schedules, calls to active duty, mandatory training exercises, complications with GI Bill disbursement, and other unforeseen military and veteran related developments can complicate your academic life. If you are aware of a complication, we will work with you and put you in contact with university staff members who are trained to assist you. Please contact the Coordinator of the University of Kentucky Veterans Resource Center at (859) 257-1148 for additional assistance. Visit <http://www.uky.edu/veterans> for more available resources.

**Course Schedule (subject to change)**

<b>Week</b>	<b>Dates</b>	<b>Topic</b>	<b>Assignment</b>
1	6/7 – 6/10	Course overview	
2	6/11 – 6/17	Data Structure and IR (1)	Exercise 1 (Due: Jun. 18)
3	6/18 – 6/24	Data Structure and IR (2)	Exercise 2 (Due: Jun. 25)
4	6/25 – 7/1	Data Structure and IR (3)	Exercise 3 (Due: Jul.2)
5	7/2 – 7/8	Text Retrieval/ Evaluation of Search Results and IR Systems	Term Paper Topic selection (Due: Jul. 3)
6	7/9 – 7/15	Multimedia Information Retrieval/ Natural Language Processing (NLP)	
7	7/16 – 7/22	Information Retrieval Strategies	
8	7/23 – 7/29	Search Interface Design	
9	7/30 – 8/2	Final Exam	Term Paper (Due: Aug. 1)