

LIS 629
Introduction to Health Informatics
Spring 2022

Instructor: Dr. Beth Strickland Bloch, MA, MLIS, PhD

Virtual Office Hours: Wednesdays, 11am-1pm (EST) & by appointment

Zoom Meeting ID: <https://uky.zoom.us/my/bethbloch>

Email: beth.s.bloch@uky.edu [Will respond within 24 hours; may be longer on weekends]

Course Description

This course is designed to introduce the interdisciplinary field of health informatics to information professionals. Health Informatics is a developing field that essentially seeks to apply information and computing technologies to improve all aspects of healthcare, including patient care, research, and education. We will take a health systems informatics approach to explore a number of topics central to understand the field; including: knowledge-based decision making, the role of multiple actors in IT development and use, predictive analytics, precision medicine, nursing, e-health, and consumer informatics, population and global health, controlled terminology and representations, financing health IT, and data and information security in healthcare. By the end of this course, students will gain an understanding of the broad aspects of the field which will serve as a foundation for further education, training, and work in various types of health information professions.

Student Learning Outcomes

After successful completion of this course, students will be able to:

- Define what health informatics is and how it relates to similar fields of informatics (e.g., biomedical, clinical, public health, nursing, consumer).
- Recognize how healthcare and IT function as a complex adaptive system made-up of interdependent relationships between people and technology.
- Understand common medical terminologies and how they are represented in different vocabularies and taxonomies (e.g., MeSH).
- Identify the different types of scholarly information used by health-related researchers and practitioners.
- Create a health-focused LibGuide (research guide) intended for use by a related researcher groups and institutional constituents.

Required Readings:

This is one required textbook for this course:

Brown, G. D., Patrick, T. B., & Pasupathy, K. S. (2019). *Health informatics: A systems perspective* (2nd edition). Health Administration Press.

* Any additional readings will be provided via PDF or web links on Canvas.

Course Format

This is an online course that requires asynchronous class participation. Canvas will be where we will have course discussions, and it will serve as the nexus for course logistics (e.g., course announcements, assignment submissions, grades posted). Because this is a distance learning course, **students are expected to log on to the course at least two times a week** to participate in discussion boards, access course information, and review lectures. Each week's materials will include required readings, lecture videos (w/captions), and power point slides. Links to supplemental material may also be provided.

Assessment & Assignments

Your final grade is determined by your performance on the items listed below. There is a participation requirement as well as four other assignments. **Full assignment descriptions are located on Canvas under "assignments"**.

- **Participation (25 points):**

Students will participate in weekly online discussions that occur on our Canvas site. **The week starts on Monday [12:01 AM] and ends on Sunday [11:59 PM] – All times EST.** Discussion boards will open at the beginning of each week, and then will be closed for comments at the end of the week. Late discussion posts will not be accepted and/or eligible to receive points. Weekly prompts will be provided and students will be required to post a minimum of **two** separate entries to receive full participation points.

Posts will be graded for quantity AND quality. Examples of poor-quality posts include (but are not limited to):

- Very short responses (under 4-5 sentences)
- Responses which only agree or disagree with a previous post *and* do not substantially add to the discussion
- Intentionally antagonistic, hostile, or baiting posts (see Discussion Board Policy below)

- **Reflection Papers (40 points total – 10pts x 4 papers):**

Students will be asked to write four short papers reflecting upon a course concept they have learned in the previous three weeks of the course. These papers should be approximately 500-750 words in length. As a part of the paper requirements, each student will need to locate and read a related non-course peer-reviewed resource (e.g., scholarly article; conference presentation) and include that piece in their discussion. A different resource will need to be selected for each reflection paper submitted.

- **MeSH Exercise (20 points):**

The Medical Subject Headings (MeSH) thesaurus is one of the most prevalently used controlled vocabularies in scholarly databases. It provides a controlled and hierarchically-organized vocabulary to index, catalog, and search biomedical and health-related information. In this assignment, students will use the PubMed database to explore and answer a set of predetermined prompts. They will also be asked to provide a short reflection (~500 words) about their opinions regarding MeSH. Students may complete this assignment on their own or with a partner.

- **Create a LibGuide (25 points total):**

LibGuides, also known as research guides, provide a highly structured web-based platform to provide researchers with information about resources. Such guides are often created by library and information professionals to support the research and instructional needs of their constituent groups. Students will be asked to pick a health-related topic or subject and make a LibGuide. Students can choose to keep their LibGuides active after the end of the course and add it to their professional portfolio. This assignment will be comprised of two parts with two different due dates:

Part I (10 points): Imagine you are working as an information professional who supports the research needs of your constituent group(s). What types of resources would they need to be able to find/access to help them with their work? Assemble a list of resources (e.g., databases, journals, books, datasets, and so on) which would help support their information needs.

Part II (15 points): Use the resources found in part one to start building your final LibGuide. Use the LibGuide platform as a way to provide your constituent group(s) with links to these resources. You will be given login information to the LibGuide system once you have submitted part one of this assignment.

Course Grading

Assignment	Points
Participation	25
Reflection Papers	40 (10pt x 4)
MeSH Exercise (solo or partner)	20
Create a LibGuide (2 parts)	25 (10pt + 15pt)
	Total: 110

Grades are based on a percentage scale. There are 110 points available. Students will be required to meet the requirements of the assignment to receive full points. Extensions will likely be granted if you contact me in advance; but, if not, late assignments will lose 10% for each day (or part of day) they are late. No assignments will be accepted after 1 week from the due date. Points will be converted into a percentage for the final grade:

Points	Percentage	Letter Grade
99 – 110	90% - 100%	A
88 – 98	80% - 89%	B
77 – 87	70% - 79%	C
76 and below	Below 70%	E

Course Policies

Absences

In an online course, there can still be excused absences. If you are ill or have an otherwise excusable absence, I will not deduct points for failure to participate in a given week, but you must contact me in advance for the absence to be considered excused (i.e., will not result in a point deduction).

Senate Rules 5.2.4.2 defines the following as acceptable 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 “reasonable cause for nonattendance” by the instructor.

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 two weeks prior to the absence. Information regarding major religious holidays may be obtained through the Ombud: 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. Reference Student Rights and Responsibilities at: <http://www.uky.edu/deanofstudents/student-rights-and-responsibilities>

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.

Submission of Assignments

Assignments are to be submitted in Canvas in the assignment folder. Written component formats for submissions should be in either doc, dox, or pdf. Many submissions for this course will be links to outside servers, or will be video files hosted outside of Canvas. All assignments will still need to be submitted through Canvas, but more details of how to do so will be included within assignment instructions. Penalties for late submissions will be 10% of the possible points per day (or part of) that the assignment is late. Extensions will likely be granted with prior notice.

Discussion Board Policy & General Communication Standards

The instructor reserves the right to discontinue any online discussion which stands in violation of the Student Code; including, Section F regarding harassment, and Section G about Disruptive Behavior (https://www.uky.edu/studentconduct/sites/www.uky.edu.studentconduct/files/AR_4-10_Student_Code-2020_0.pdf). This also includes posts which are found in violation of our diversity and inclusivity standards listed below (per: S.R. 6.1.2). The discussion boards are not to be treated like a Reddit page, and any discussion the instructor deems to be intentionally antagonistic, hostile, or baiting risks being removed from the board. **This includes choosing to negatively engage with others who say things which you find to be offensive.** It is the instructor’s job to address this behavior and not yours. If you find yourself wanting to post something which is antagonistic, hostile, or baiting, here is how that behavior will be addressed:

First offense: The inappropriate post will likely be deleted in order to maintain the integrity of the discussion and to maintain a safe space for others to dialogue in a respectful manner. The offending student will be emailed and invited to a discussion with the instructor.

Second offense: The offending behavior will be reported to the Assistant Director of SIS and the student will be included in the communication when this report is made.

Third and final offense: The student in violation will be reported to the Dean of Students and appropriate disciplinary measures will be followed.

In the highly unlikely event that a student chooses to engage in antagonistic, hostile, or baiting behavior in one-on-one communications with the instructor, the same stages of repercussions will be administered.

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/universitysenate/> 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. Making simple changes while leaving the organization, content, and phraseology intact is also plagiaristic. However, nothing in these Rules apply to ideas generally and freely circulated as to be a part of the public domain.

Accommodations Due to Disability

If you have a documented disability that requires academic accommodations, please contact me as soon as possible. **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 in the Multidisciplinary Science Building, Suite 407. You can reach them via phone at (859) 257-2754 and via email at 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>

Classroom Diversity and Inclusivity

All UK professional education programs address and affirm the value of diversity in education, the use of technology to support all aspects of instructional programming, and the importance of attaining high levels of skill in assessing the outcomes of instruction. In order to provide the rigorous debate and examination of ideas necessary for learning, respect is required, though debate is both a necessary and expected aspect of this course. The College of Information and

Communication's mission is: "We are a community of scholars, educators, and advisors who prepare information professionals to be leaders and change agents in meeting the needs of a diverse and evolving society." Thus, this course embraces diversity, professionalism, and inclusivity, even as it aims to support enlightened truth-seeking. Debate will occur within this framework. Students have the right to take reasoned exception and to voice opinions contrary to those offered by the instructor and/ or other students (S.R. 6.1.2).

Equally, the instructor has the right – and the responsibility – to ensure that all academic discourse occurs in a context characterized by respect and tolerance. The course content and the course environment are dedicated to an understanding of people. Disparaging remarks in relation to others' ethnic or racial background, sex, sexual orientation, age, disability, socioeconomic background, are unacceptable.

Professional Preparation

In a professional preparation program, it is necessary to begin to understand one's ethical duties within the context of the profession. In this course, the ALA Code of Ethics and the ACM Code of Ethics act as guidelines for our professional behavior. Students are encouraged to study them:

<http://www.ala.org/tools/ethics>

<https://www.acm.org/about-acm/acm-code-of-ethics-and-professional-conduct>

Withdrawal Policy

It is your responsibility to drop a course. Failure to do so will result in receiving an "E". See the Academic Calendar for important dates: <https://www.uky.edu/registrar/content/academic-calendar>

Course Resources

Technology

Distance Learning Students are expected to have a minimum level of technological acumen and the availability of technological resources. Students must have regular access to a computer with a reliable Internet connection and audio capabilities. 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: <https://download.uky.edu/>

If you need more immediate assistance, please contact UKIT. Information Technology Customer Service Center (UKIT): 859-218-4357: <http://www.uky.edu/its/>

Canvas

We will use the Canvas learning management system to perform some course management and administrative functions. Please visit <https://uk.instructure.com/> to learn about this system and the login requirements. You should be automatically added to the Canvas roll; if this goes as expected, you will not have to sign up manually for the course. Canvas help is available online through the Canvas Guides: <https://community.canvaslms.com/community/answers/guides/>

Writing Center

UK Writing Center offer both face-to-face and online consultation. They also provide eTutoring where you may send your work as an attachment. For more details: <http://ukwrite.wordpress.com/>

Course Calendar

Please note: This is a tentative course schedule and is subject to change. Consult Canvas when preparing for class each week.

All assignments are due by Sunday 11:59PM

Week	Date	Topic & Assigned Readings	Assignments Due
1	1/10 - 1/16	<p>Topic: Health Systems Informatics</p> <p>Required Readings:</p> <ul style="list-style-type: none"> ▪ Review the Syllabus ▪ Brown, G. (2019). Chapter 1: Health Systems Informatics: A Transformational Science. In <i>Health informatics: A systems perspective</i> (2nd ed., pp. 1-19). Chicago: AUPHA. 	Post Introductions
2	1/17 - 1/23	<p>Topic: Knowledge-Based Decision Making</p> <p>Required Readings:</p> <ul style="list-style-type: none"> ▪ Brown, Pasupathy & Popescu. (2019). Chapter 2: Knowledge-Based Decision Making. In <i>Health informatics: A systems perspective</i> (2nd ed., pp.21-48). Chicago: AUPHA. 	Discussion Posts
3	1/24 - 1/30	<p>Topic: Health Professions, Patients, and Decisions</p> <p>Required Readings:</p> <ul style="list-style-type: none"> ▪ Brown, G. (2019). Chapter 3: Health Professions, Patients, and Decisions. In <i>Health informatics: A systems perspective</i> (2nd ed., pp. 49-72). Chicago: AUPHA 	Discussion Posts Reflection Paper #1
4	1/31 - 2/6	<p>Topic: Predictive Analytics</p> <p>Required Readings:</p> <ul style="list-style-type: none"> ▪ Brown, Pasupathy & Popescu. (2019). Chapter 5: Predictive Analytics in Knowledge Management. In <i>Health informatics: A systems perspective</i> (2nd ed., pp.97-120). Chicago: AUPHA. 	Discussion Posts
5	2/7 - 2/13	<p>Topic: Clinical Decision Support Systems</p> <p>Required Readings:</p> <ul style="list-style-type: none"> ▪ Dissanayake & Kochendorfer. (2019) Chapter 6: Clinical Decision Support Systems in Medicine. In <i>Health informatics: A systems perspective</i> (2nd ed., pp. 121-146). 	Discussion Posts

6	2/14 - 2/20	<p>Topic: Nursing Informatics</p> <p>Required Readings:</p> <ul style="list-style-type: none"> ▪ Klingbeil, Tsai & Patrick. (2019) Chapter 7: Nursing Informatics. In <i>Health informatics: A systems perspective</i> (2nd ed., pp. 147-166). Chicago: AUPHA. 	Discussion Posts Reflection Paper #2
7	2/21 - 2/27	<p>Topic: E-Health and Consumer Health Informatics</p> <p>Required Readings:</p> <ul style="list-style-type: none"> ▪ Demiris & Reader. (2019). Chapter 8: E-Health and Consumer Health Informatics. In <i>Health informatics: A systems perspective</i> (2nd ed., pp. 167-190). Chicago: AUPHA. 	Discussion Posts
8	2/28 - 3/6	<p>Topic: Precision Medicine</p> <p>Required Readings:</p> <ul style="list-style-type: none"> ▪ Patrick & Mohaimani. (2019). Chapter 9: Precision Medicine. In <i>Health informatics: A systems perspective</i> (2nd ed., pp. 191-206). Chicago: AUPHA. 	Discussion Posts
9	3/7 - 3/13	<p>Topic: Information Systems & Population Health</p> <p>Required Readings:</p> <ul style="list-style-type: none"> ▪ Kapp, J. (2019). Chapter 10: Information Systems as Integrative Technology for Population Health. In <i>Health informatics: A systems perspective</i> (2nd ed., pp. 207-226). Chicago: AUPHA. 	Discussion Posts Reflection Paper #3
10	3/14 - 3/20	<i>Spring Break</i>	
11	3/21 - 3/27	<p>Topic: Global Health Systems Informatics</p> <p>Required Readings:</p> <ul style="list-style-type: none"> ▪ Brown, G. (2019). Chapter 11: Global Health Systems Informatics. In <i>Health informatics: A systems perspective</i> (2nd ed., pp. 227-250). Chicago: AUPHA. 	Discussion Posts

12	3/28 - 4/3	<p>Topic: Controlled Terminology & Representation</p> <p>Required Readings:</p> <ul style="list-style-type: none"> ▪ Patrick & Gaudioso. (2019). Chapter 12: Controlled Terminology and the Representation of Data and Information. In <i>Health informatics: A systems perspective</i> (2nd ed., pp. 251-267). Chicago: AUPHA. 	<p>Discussion Posts</p> <p>MeSH Exercise</p>
13	4/4 - 4/10	<p>Topic: Financing of Healthcare Services & I.T.</p> <p>Required Readings:</p> <ul style="list-style-type: none"> ▪ Pasupathy & Brown. (2019). Chapter 15: Valuation and Financing of Healthcare Services and Information Technology Infrastructure. In <i>Health informatics: A systems perspective</i> (2nd ed., pp. 315-340). Chicago: AUPHA. 	<p>Discussion Posts</p> <p>Reflection Paper #4</p>
14	4/11 - 4/17	<p>Topic: Data & Information Security in Healthcare</p> <p>Required Readings:</p> <ul style="list-style-type: none"> ▪ Baker & Patrick. (2019). Chapter 16: Data and Information Security in Healthcare Enterprise. In <i>Health informatics: A systems perspective</i> (2nd ed., pp. 341-368). Chicago: AUPHA. 	<p>Discussion Posts</p> <p>LibGuide: Part I</p>
15 & 16	4/18 - 5/1	<p><i>Course Wrap-Up</i></p>	<p>LibGuide: Part II due on 5/1</p>