**INDIANA UNIVERSITY SCHOOL OF INFORMATICS AND COMPUTING –
INDIANAPOLIS**

Spring 2019

INFO 644: Consumer Health Informatics

Contents

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Instructor

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About the Course

Section No.	INFO B644 or NURS- 635: Consumer Health Informatics
Credit Hours:	3 graduate credits
Time:	Asynchronously online
Location:	Online Canvas (https://canvas.iu.edu
Prerequisites:	None

Description

Consumer informatics is a field of informatics that sits at the intersection of public health informatics, clinical informatics, social informatics, human-centered computing, health education, the library and information sciences, and communication sciences. Consumer Health Informatics views informatics from consumer, patient, and caregiver perspectives, working to empower patients to manage their own health and healthcare. Consumer-driven health systems focus in the consumer's need for information, implementing best practices for making tailored resources available, and developing patient-driven health information systems. In this course, we learn about how technologies are used to deliver point-of-need, consumer-focused health resources and healthcare. Our focus will be on patient-focused (or patient-facing) tools and applications, health literacy and consumer education, and on information structures and processes that empower consumers to manage their own health.

Topics include

- Models for the delivery of consumer health information (eHealth, others)
- Commonly used (Web) and emerging (mHealth, body sensors) technologies for patient- provider interaction and patient-data collection
- Patient privacy and confidentiality
- Quality of consumer health information, information needs, and information seeking behaviors

- Health literacy and health information literacy
- Human-computer interaction and patient-focused design (of consumer health information tools and resources)
- Consumer access to clinical information and current biomedical research (OVID MEDLINE, PubMed)

Course Learning Outcomes

General course objectives are here. Weekly thematic learning goals and outcomes are located in weekly Modules on Canvas. Key themes are addressed each week, with important topics woven throughout and across the semester.

By the completion of this course, students will have accomplished, and will be able to:
- Define, identify, describe, compare and evaluate existing and emerging informatics approaches to consumer health information and patient care.
- These include consumer web-based healthcare delivery, eHealth models, mHealth models; eHealth models, social networking, news groups and chat rooms, and other relevant virtual spaces; e-mail; telephone and telehealth tools; body sensors; and others.
- Define and explain the myriad issues, challenges, and barriers that arise in technology- driven consumer health informatics environments, and informatics-driven tools and resources for delivering healthcare. Describe the impact of technology-driven healthcare on consumer decision-making, self-management, and self-care.
- Analyze and describe the changing relationships between healthcare consumers, patients, and providers. Describe the ways in which these changes are driven by, and are driving, health informatics. Recommend strategies for using informatics approaches and technologies to enhance interpersonal relationships among healthcare professionals, among patients and caregivers, and among patients (and their caregivers) and providers.
- Analyze any social and ethical problems and concerns related to online, digitized, and technology-based (sensors, mHealth, eHealth, etc.) health information and care delivery. Describe the ways in which these concerns or problems play-out in terms of healthcare delivery and outcomes.
- Recognize and describe contemporary trends and best practices in consumer health informatics, and consumer health information seeking and usage.
- Apply human-centered computing and patient-centric design theories and best practices to the development of consumer health information tools and resources.
- Explain the roles of the U.S. federal government and professional organizations in driving and/or responding to the development and proliferation of consumer health informatics. Analyze the implications and outcomes of relevant when policy decisions at local, regional and national levels.
- Define, describe, and explain relevant health policies, HIPAA, the Affordable Care Act, and other relevant laws and legislation (state and national).
- Use standardized methods for evaluating the quality of health information; recommend strategies for ensuring best practices in patient-centered design and information quality.
- Describe the ways in which consumer-driven social networking impacts on healthcare. Identify and demonstrate relevant social media sites. Identify and demonstrate relevant e- mail based healthcare delivery and information sharing models, telephone and telehealth models, mHealth models, eHealth models, etc.
- Demonstrate outstanding professional skills including, but not limited to: superb relationships with

classmates and colleagues, accountability, active listening, and ethical behavior (honesty, integrity, etc.)

Technical, Computing, & Professional Skills

1. Information Tools and Computing Skills: Students will develop these skills by using the CANVAS course portal for communication related to the course. Students will also search the biomedical journal literature through PubMed or OVID MEDLINE, and use Microsoft Office, Skype, Adobe Connect, and various mobile apps and web-based tools, resources, and applications.
2. Critical thinking: Students will develop and enhance this skill by completing a variety of independent tasks and assignments that require critical thinking; analyzing problems and issues in healthcare; and by applying their knowledge to course projects and discussions.
3. Problem solving: Students will analyze and apply information and assumptions to problem situations in healthcare management. Students will work independently and/or in small team environments to analyze and propose solutions for problems and issues in healthcare. Students will engage in problem-based learning methods through case study analysis.
4. Communication skills: Communication skills will be demonstrated by class participation via CANVAS Modules, Chat, Collaboration, Conference, and Discussion tools. Students will participate in online and/or face-to-face conversations. Students will practice professional communication skills through their engagement with classmates, teammates, and the instructor.
5. Independent research skills: Students will learn to search the biomedical journal literature through OVID MEDLINE and/or PubMed; analyze the literature of a topic of their choice, and conduct literature review.
6. Creativity and innovation: Students demonstrate creativity and innovation through independent projects, weekly graded tasks and assignments. Students will also design a consumer health app.
7. Ethical issues in decision making and behavior: Students will study ethical issues in healthcare management, delivery, and privacy and confidentiality. Students will practice integrity and demonstrate professional ethics through their engagement with classmates, teammates, and instructor; and through their engagement in independent activities, and graded tasks and assignments.

Principles of Graduate and Professional Learning (PGPL)

Course goals and learning outcomes are linked into the Indiana University PGPL required Learning Outcomes:

A. Knowledge and skills mastery (K&S)
B. Critical thinking and good judgment (CT)
C. Effective communication (EC)
D. Ethical behavior (EB)

Topical Outline

The course is organized into weekly modules, with specific themes and topics studied across the weeks. The course website on Canvas is the definitive guide for weekly topics, content, readings, activities, and assignments. The following is a tentative outline of topics, per week, but is subject to change. **Again, be sure to refer to Canvas for all timing information.**

TOPICS COVERED IN THE COURSE (Readings from the Lewis book are listed below; additional readings are assigned on Canvas)
Introduction to the course, getting acquainted, initial housekeeping and technology tasks (LEWIS, Ch. 1)
What IS consumer health informatics? Definitions, themes, terminology, trends
Overview of the U.S. healthcare system
Your health, online: EHRs, PHRs, ethics, privacy and confidentiality (LEWIS, Ch. 12 & 14)
Health policy, laws & legislation
Patient-centered clinical outcomes
Patient empowerment and self-activation (LEWIS, Ch. 2)
Literacy, numeracy, culture (LEWIS, Ch. 6 &13)
Health Literacy, health information literacy (LEWIS, Ch. 10)
Evaluating the quality of health information tools and resources (LEWIS, CH. 4 & 7)
Information seeking and information behavior
Smart homes, sensors, devices and interventions
Patient-centered design, human-centered computing
Trends, predictions, the future of consumer health informatics, and final reflections

Required Readings

D Lewis et al (Eds). Consumer Health Informatics: Informing Consumers and Improving Health Care (2005). Springer.

Chapter assignments from this book will be listed on Canvas under the weekly reading for that week. Additional readings will be assigned from book, journal, and online publications. Check weekly modules on Canvas!

Software Requirements

During the first week of class, get your technology needs in order!

- ➢ You should be familiar with Zoom and are recommended to use Zoom for all live meetings.
- ➢ Your computer must have fast (25mbps) and reliable Internet access.
- ➢ Your computer must have audio capabilities (that work! Take care of this the first week of class!)

Technical Support

Students are responsible for making all necessary provisions for accessing course-related tools and resources, including those that are available in Canvas -- MODULES.

Excellent technical assistance is available from the following:

Knowledge Base Online Q & A:	http://kb.iu.edu
IT Help Live:	https://ithelplive.iu.edu/
Telephone support:	317-274-4357, 24 hours a day, 7 days a week
Email:	ithelp@iu.edu
IUanyWare:	https://iuanyware.iu.edu/vpn/index.html

IUanyWare is a client virtualization (CV) service available to Indiana University students, faculty, and staff. With IUanyWare, you can use a web browser or mobile app to run IU-licensed software applications without having to install them on your computer or mobile device.

You'll need to do some initial setup and configure cloud storage if you wish to store files remotely (e.g., on your IU Box or SharePoint My Site account).

For information on software currently available through IUanyWare and in the IUB and IUPUI STCs, see the current software list at https://stcweb.stc.indiana.edu/Public/Software/current.cfm

Please note that IUanyWare resets your account at the end of each school year. Details at https://kb.iu.edu/d/bdlb

Course Process & Workload

Please read, re-read, and re-read the following sections. You will be held accountable to all the expectations and requirements listed here.

Learn what is expected – internalize it – model it – live it!

Getting Started!

The course is organized into topical weekly themes. Our weeks run from Monday – Sunday. Some themes are addressed in one week, and other themes extend over several weeks.

When you login to Canvas, go to MODULES. Start with WEEK 1. When you click on the link, you will be taken to a Word document that contains all the instructions for the week. You will see that each week is organized as follows:

- GOALS & LEARNING OUTCOMES – weekly learning goals and outcomes are listed here. You should read these and revisit them throughout the week. Be sure that you are focusing your learning on achieving these outcomes.

- READINGS – weekly readings are listed. Readings can be found in each weekly MODULE.

  Readings serve as the foundation for your learning, engagement in activities, and assignments. I recommend that you aim for completing readings and learning activities early-on each week (weeks run from Monday - Sunday). This will give you time to think about what you've learned and bring your best work to required "tasks" or "assignments." In addition to reading from posted lists, I encourage you to explore outside reading and share these with classmates.

- ACTIVITIES – weekly independent learning activities are listed here. You are expected to complete ALL activities. Learning activities provide opportunities to explore current topics, explore relevant information resources and tools, and think critically about this week's readings, and learning outcomes. It is expected that each student will complete all learning activities early in the week (week runs from Monday - Sunday). Activities are not submitted but may be required as graded "tasks."

- ASSIGNMENTS – all graded assignments are listed here.

  Details for each assignment are available in Canvas – ASSIGNMENTS and assignments are listed under weekly modules as well. Most assignments are of the weekly task variety and can be completed in under an hour. These are directly related to that week's independent learning activities and most are class discussions. A smaller number of other assignments are more detailed and expansive, incorporating several weeks of learning, and are more like a project or term paper. The biggest assignment is broken into pieces with discrete due dates.

About Asynchronous Online Learning

Our course is 'asynchronous,' meaning that not everyone is online at the same time. You CAN request an optional live chat for anytime!

- Keep in mind that online courses require different time-management options from traditional, face-to-face courses.
- Asynchronous, online learning requires a great deal of time and commitment: self- motivation, self-discipline, and a conscientious approach to learning and sharing. In an asynchronous, online learning environment, it helps to focus your learning on interacting with each other and with the information gleaned from readings and discussions.

- This requires that you organize the information gathered from the readings, and tie-in what you've learned from your professional experience and education. Identify what you need to know, find out, teach others, and apply the new knowledge. To a large extent, you can set your own pace each week, and discuss topics or readings that are interesting and relevant to you.
- Online learning environments appreciate diversity of input, experience, and opinions! You all have different levels of knowledge, expertise, and skills – share these with your classmates for lively discussions and exchange.
- Because the class is based on principles of collaborative learning, not only will you be at a disadvantage if you get behind, but you will affect your classmates' learning as well.

Netiquette
- Please follow common conventions of Internet etiquette.
- Avoid the POISON PEN! Never respond when you are distracted, tired, or annoyed. Anything you write remains forever. You cannot take back sharp words with a smile or pat on the arm.
- Remember that online communication does not come with body language, facial expressions, and body signals. Online communication is about WORDS. So, be super careful to use words and language that are the most accurate. Be very careful that your words do not come off as snotty, angry, aggressive, rude, nasty, dismissive, etc.
- Never share anything in our class that you would not distribute publicly.
- Do NOT share your personal health information or discuss you family and friends' health.
- Keep your comments brief, concise, succinct, and to the point. Learn to communicate your point with fewer words.
- Do not write in all caps. THIS IS THE EQUIVALENT OF YELLING, BY THE WAY... Please don't yell.
- Be sure that your work is easily readable from different machines with different settings: Use black text; 11 or 12-point font size; Arial, Times New Roman, or a simple font style; 1 inch margins all around; etc.

Privacy & Confidentiality
- Although access to course materials is restricted to registered students and invited guests, please be particularly conscientious about privacy.
- Do not post anything that you would not post in a public forum. Be mindful of the potentially confidential nature of class discussions.
- Do not tell us details about your private medical history or those of your family. Be discrete.

Course Workload Expectations
- It is expected that students will participate fully in all required assignments and activities. Please notify me (the instructor) and any team members with whom you are working if you are unable to participate.
- This is a student-driven, student-focused course for highly motivated adult learners. As an adult learner, you are responsible for your own actions, inactions, contributions, and ultimately, for your own learning.
- This class provides you with an extensive 'buffet' of information from which you should 'eat' (learn). Do not expect to be spoon fed; do not expect to sit on your hands at the buffet! You are responsible for making good use of this vast 'buffet.' What you learn ultimately depends on the time, effort,

energy, and commitment that you bring to the table.

- The role of the instructor is to provide you with ample resources and opportunities, to facilitate the learning process, and to provide assessment and feedback on your progress.
- Students should scan the current literature, be informed about related events and issues, and share noteworthy information.
- This is a three-credit, graduate-level course. In accordance with IUPUI policies and standard expectations, a 3:1 workload is expected: On-average, in addition to the 3 hours you would be spending in class, this course should take about 12 - 15 hours per week (a total of 15 – 18 hours). This workload will increase dramatically before assignments are due. This translates to a significant commitment of time each week. A graduate course is the equivalent of a rigorous, part-time job. Plan accordingly, pace yourself, and **frontload your workflow**.
- I understand that professional working adults may have commitments that occasionally keep you away from their coursework. If this is the case, let me (the instructor) and your teammates know ahead-of-time so that we can plan accordingly.

Special Accommodations

Students who require special accommodations must register with Adaptive Education Services and complete all documentation.

- ➢ http://life.iupui.edu/aes/
- ➢ Phone 317-274-3241
- ➢ TTD/TTY 317-278- 2050
- ➢ Fax 317-274-2051

Student Advocacy

If you are having problems of any kind, please know that student advocates are available in the IUPUI Office of Educational Partnerships and Student Advocacy. Shawn Patrick (Student Advocate):

- ➢ Phone 317-274-4431
- ➢ patricks@iupui.edu

Questions and Help

Feel free to contact me: catrsmit@iu.edu or 317-278-1841

Please ask questions about unclear coursework so that we can discuss and clarify any ambiguities in course assignments or activities before they are due. I encourage you to contact me with comments or feedback. It is much easier to deal with issues before they become problems.

- The most current copies of the course syllabus, assignments, course materials, and schedules are posted in Canvas. Any date or schedule changes will be posted in the ANNOUNCEMENTS. Students should **regularly** check the Canvas ANNOUNCEMENTS for course news and updates.
- Make **active** use of this syllabus, course resources, and course assignments. Use this syllabus as a handy reference guide and tool throughout the semester! Read and re-read, ask questions for clarification, and use these as information guides as you work.
- Refer to "Technical Support" (above) for help with hardware, software, and computing issues.

Professionalism

Our primary goal is to build a learning community where all can develop in an atmosphere of integrity, where honest and imaginative academic work may flourish. As co-participants in this learning community, all students are expected to treat each other with the utmost respect and to adhere to the highest standards of academic integrity, honesty and fairness.

Every student is expected to model the highest standards of collegiality and professional behavior. This includes:

- Being prepared, being accountable, honest and truthful; actively participating.
- Respecting others, the diversity of their experiences and perspectives, and their opinions (even when they differ from your own).
- Being direct and truthful in communication, taking credit only for work that you have done, and fairly giving credit to sources from which you draw ideas and information.
- Being accountable to the instructor and class colleagues for your class participation and making a good faith effort to ensure that the class goes well.

Respect
- Be respectful of classmates. Our rich and diverse backgrounds and life experiences provide the opportunities for lively discussions from multiple points-of-view.
- Mutual respect is a key component of trust in this online atmosphere.

Communication
- Communicate directly, honestly, graciously and politely with classmates at all times.
- Please feel free to talk with me anytime during the semester concerning your progress in class. I always prefer to hear about your concerns or difficulties before they become serious problems, so we can work together to find a solution with time left in the semester to implement a plan.

My goal is that this course be an important and valuable learning experience for you.

Assignments, Grade Policies & Assignment Rules

Graded Work & Due Dates

Graded Assignment	% Value of Course Grade	Due Date
Weekly graded discussions (See each week's Canvas Module for details)	35%	By Sunday 11:59 PM of each week. No exceptions.
App Mock-Up Project	50%	See Canvas
Part 1: Initial Idea & Timeline (5%)		See Canvas
Part 2: Literature Review (15%)		See Canvas

The Mobile App Mock-Up itself (15%)		See Canvas
Project report (15%)		See Canvas
Product Evaluation	15%	See Canvas

General Assignment Rules

- Detailed instructions for all graded tasks / assignments are available in Canvas.
- Final due dates for all graded assignments are available in Canvas.
- Complete or upload tasks/assignments using Canvas before midnight on the due date.
- Each assignment can only be submitted one time; subsequent submissions will delete the first submission.

Style & Formatting

- Use the APA style for all coursework: American Psychological Association. (2010). Publication manual of the American Psychological Association. (6th ed.) Washington, DC.

  REMEMBER: Style also applies to layout, syntax, grammar and many other elements, as well as to bibliographies. Use your style manual consistently for all aspects of your written works.

- Assignment word/page limits: Word or page requirements are specified when applicable. If there is no indication of page number, there are no length requirements.

Late Assignments

All late assignments will be automatically docked one full letter grade unless approved prior to their due dates. If you require an exception to this policy, please speak with the instructor ASAP.

Plan accordingly and frontload your workflow!

Course Incompletes

The SOIC policy dictates that instructor may assign an Incomplete (I) grade only if at least 75% of the required coursework has been completed at passing quality and holding you to previously established time limits would result in unjust hardship to you. All unfinished work must be completed by the date set by the instructor. Left unchanged, an Incomplete automatically becomes an F after one year.
http://registrar.iupui.edu/incomp.html

SOIC Policy on Course Evaluations

Course evaluations provide vital information for improving the quality of courses and programs. Students are required to complete one course and instructor evaluation for each section in which they are enrolled at the School of Informatics and Computing.

Course evaluations are completed at https://soic.iupui.edu/app/course-eval/

Course evaluations are open from the eleventh week, but I highly recommend that you complete the evaluation after the final class session. 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 can be left blank if it could be used to identify the student.

A course evaluation must close before the grade for that course can be released. To ensure students have had ample opportunity to complete the evaluation, an uncompleted course evaluation could delay the release of the grade for up to a week.

University Policies & Guidelines – Academic Misconduct

All IU and IUPUI academic standards and policies are in effect, including standards for computing ethics, plagiarism, academic honesty, and all provisions outlined in the Code of Student Rights, Responsibilities, and Conduct: http://www.dsa.indiana.edu/Code/ , (IU Campus Bulletin, pp. 36-38) and the IU Academic Handbook: http://www.dsa.indiana.edu/Code/Part_2acad.html

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.

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.

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.

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 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.
- 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.
- 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.
- 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.
- A student must not use any unauthorized assistance in a laboratory, at a computer terminal, or on fieldwork.
- A student must not steal examinations or other course materials, including but not limited to, physical copies and photographic or electronic images.
- 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.
- 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.

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.

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."

- A student must not adopt or reproduce ideas, opinions, theories, formulas, graphics, or pictures of another person without acknowledgment.
- A student must give credit to the originality of others and acknowledge indebtedness whenever: directly quoting another person's actual words, whether oral or written; using another person's ideas, opinions, or theories; paraphrasing the words, ideas, opinions, or theories of others, whether oral or written; borrowing facts, statistics, or illustrative material; or offering materials assembled or collected by others in the form of projects or collections without acknowledgment.