



IUPUI

# SCHOOL OF INFORMATICS AND COMPUTING

DEPARTMENT OF BIOHEALTH INFORMATICS

Indiana University-Purdue University  
Indianapolis

## Health Information Exchange– INFO B582

**Course Info**                      3 Credit hours

**Location**                        Classroom & Online

**Prerequisites:**                None

### COURSE DESCRIPTION

This course offers an in-depth review of health information exchange (HIE), the electronic exchange of administrative and clinical information between disparate health care organizations. Students will examine the strategic, organizational, legal, technical, and socio-political aspects of HIE initiatives in the United States and abroad. Students will further review the evidence on the impact of HIE services on health care quality, safety, efficiency, and cost.

### Required Text(s):

Required and optional readings will be defined for each session and can be found in the class schedule. The readings consist of journal articles and slides. Additional independent readings may be recommended.

(1) Book: Kolkman and Brown. *The Health Information Exchange Formation Guide: The Authoritative Guide for Planning and Forming an HIE in Your State, Region, or Community*. 2011. Chicago, IL: HIMSS. ISBN: 978-0-9821070-8-9

(2) Articles: Articles are provided by the instructor or lecturer. Required readings will be made available in Canvas.

(3) Slides: Each week the slides will be posted online. It is highly recommended that students read any required articles or book chapters before reviewing the slides.

### Learning Objectives:

Course objectives	AMIA functional domains	Proposed competency driven objectives	Miller's Pyramid(map)	Class activities	Assessment

1. Outline and describe common HIE services and architectures	F4	The student will be able to list common HIE services and describe the architectures	Knows	Weekly readings, Class projects, guest lectures	Assignments, Project
2. Dissect the growth and expansion of HIE initiatives and infrastructures	F4	The student will be able to identify and assess the driving force of the growth of HIE initiatives and infrastructures	Knows How	Weekly readings, Class projects, guest lectures	Assignments, Project
3. Discuss the drivers and barriers to HIE adoption and usage	F4	The student will be able to identify the drivers and challenges of HIE adoption and usage	Knows	Weekly readings, Class projects, guest lectures	Assignments, Project
4. Develop a strategic and business plan for a HIE initiative	F7	The student will be able to develop a strategic and business plan for a HIE initiative	Knows How	Weekly readings, Class projects, guest lectures	Assignments, Project
5. Analyze, evaluate and critique the impact of HIE services on health care outcomes, processes, and costs	F7	The student will be able to analyze, evaluate and critique the impact of HIE services on health care outcomes, processes, and costs	Does	Weekly readings, Class projects, guest lectures	Assignments, Project

## **Course Topic**

- Week 1 Introduction to Health Information Exchange
- Week 2 HIE Services Defined
- Week 3 The Five Stages of the HIE Organizational Life Cycle
- Week 4 Strategic and Business Plans to Create Sustainable HIE Models
- Week 5 Privacy, Security, Confidentiality, and Transparency
- Week 6 HIE Organizational Structures and Governance
- Week 7 Infrastructure, Architecture and Data Types
- Week 8 Identity and Location Resolution: Core Technologies for HIE
- Week 9 Standards and Interoperability
- Week 10 Measuring the Value of Health Information Exchange
- Week 11 Using HIE to Improve Population Health
- Week 12 Engaging Consumers Using HIE
- Week 13 Global Health Information Exchange
- Week 14 Future Directions for HIE

## **EXPECTATIONS, GUIDELINES, AND POLICIES**

This is a three-credit, graduate-level course. In accordance with IUPUI policies and expectations, a 3:1 workload is expected: On-average, in addition to 3 hours in-class, this course should take approximately 12 - 15 hours per week. 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 (15+ hours per week). Plan accordingly, pace yourself, and frontload your workflow.

### **Teaching Strategies/Methods**

The course is offered in-person with remote attendance allowed as follows. Students who live more than 50 miles from Indianapolis will be granted permission to attend online only. Other requests will be considered but must receive permission from the instructor.

Attendance is mandatory for all sessions minus two. All of the materials (slides and readings) will be posted online and students should review the slides and readings on a weekly basis.

The class structure includes various guest speakers. Thus, materials such as slides, readings, assignments and quizzes are posted on a weekly basis and may not be posted all at the beginning of the semester.

This course includes a class project, which will require students to work together in teams. Students are expected to be professional and responsible in their collaborations.

To access the secure content of the course please login into your Canvas account at :  
<http://Canvas.iu.edu>

### **Grading Information:**

Grades will be based on a weighted scale distributed as follow:

Assessment Method	Percentage of Grade
Assignments	60%
Project	30%
Participation	10%
Total	100%

(1) **Assignments:** There will be periodic assignments given to students throughout the course. Students will generally have two (2) weeks to complete each assignment. The assignments and their due dates will be given to students in class and posted on Canvas.

Assignments are due on the date and time listed in Canvas. There is no credit for late assignments or failing to submit an assignment.

(2) **Project:** Students will be asked to form teams of 2-3 individuals to work on a project related to material taught in the course. The project must involve research or development relevant to HIE. Some examples include but are not limited to the following: a thorough literature review on privacy laws relevant to HIE; analysis of data captured by or transmitted within an HIE; an algorithm designed to enhance patient matching; a module in OpenMRS to process CDA documents; or the implementation of a HIE use case using CONNECT. A one-page summary of the proposed topic will be used to outline what the student teams seek to do. Instructor approval of the proposed project must be obtained before teams should begin work on their chosen topic. Students will submit a written report (3-5 pages) to the instructor at the end of the semester, summarizing their project. Student teams will further present to their peers during a class session, and members of student teams will complete evaluation forms of their peers to obtain full credit for the assignment. Students taking the course from a distance (e.g., out-of-state) can request an alternative assignment or post a video of their final presentation if they cannot be physically present in the classroom.

The paper must be submitted electronically to the instructor using Canvas no later than the start of class or 6:00pm on May 8, 2015. Otherwise the student risks not having the project graded until after the end of the semester, which may delay graduation.

**Note:** International students are strongly encouraged to have their paper reviewed prior to submission by the IUPUI Writing Center. Graduate students can receive up to three (3) 1-hour sessions each week with a mentor at the Writing Center throughout the semester to address writing skills. Students are encouraged to contact the Writing Center early in the semester to schedule time before time slots at the end of the semester are filled. English writing skills are very important to success in any career. Improper use of the English language will result in a loss of points in this course.

(3) **Participation:** Participation in class activities, including online posts in between class sessions, is required to achieve full credit. Please pay attention in class. Laptops used for other than class-related work, Smart Phones, tablets, etc., can be distracting to the instructor and other students. A student who appears distracted by unrelated use of gadgets may be asked to leave the class, with negative impact on participation and class attendance.

**Grading Scale:**

A+ 97 – 100 Outstanding achievement, given at the instructor’s discretion

A	93 – 100	Excellent achievement
A–	90 – 092.99	Very good work
B+	87 – 089.99	Good work
B	83 – 086.99	Marginal work
B–	80 – 082.99	Very marginal work
C+	77 – 079.99	Unacceptable work (Core course must be repeated)
C	73 – 076.99	Unacceptable work (Core course must be repeated)
C–	70 – 072.99	Unacceptable work (Elective or core course must be repeated)
D+	67 – 069.99	Unacceptable work (Elective or core course must be repeated)
D	63 – 066.99	Unacceptable work (Elective or core course must be repeated)
D–	60 – 062.99	Unacceptable work (Elective or core course must be repeated)
F	Below 60	Unacceptable work (Elective or core course must be repeated)

### **Grading Principles and Policies**

Students should review all grading forms that will be used by the instructor to grade projects, presentations, papers, and other assignments. If students want to see their grades at any time during the semester, they should contact the instructor by phone or email.

#### ***Criteria to evaluate written assignments:***

Exceptional quality (not quantity): (90-100 %)

- Evident that individual has completed all requirements
- Demonstrates applied level of understanding through personal reflections
- Answer is well-developed and logically reasoned
- Provides original insights or responses; extends comments of others
- Supports and leads others in discussion; respects others and their ideas

Superior quality (not quantity): (80-89%)

- Evident that individual has completed all requirements
- Demonstrates applied level of understanding through personal reflections
- Answer is provided; logic may not be clear
- Provides original insights or responses
- Makes connections to what others say; respects others and their ideas

Satisfactory quality and quantity: (60-79 %)

- Evident that individual has completed all requirements
- Primarily consists of summary or paraphrasing of readings
- Answer is not fully developed; logic is not clear
- Contribution is primarily a response to others; minimal originality
- Is respectful of others and their ideas

Does not meet expectations: (< 60%)

- Not clear that individual has completed all requirements
- Only consists of summary or paraphrasing of readings

- Minimal effort put into answer
- Is not respectful of others and their ideas

Requirements not completed (0)

### **Late work**

Assignments are due by the date and time posted in Canvas. Severe weather rarely results in cancellation of classes or changes in due dates/times of assignments. As such, previously assigned work will still be due as posted in Canvas. Please clarify with the instructor regarding due dates of future assignments.

### **Extensions**

Extensions may be granted in the case of exceptional circumstances. You must discuss these circumstances with your instructor at least 24 hours before the assignment is due.

(Note: Discussing the situation is not the same as merely informing your instructor.) In order for a late assignment to receive full marks, it must include a note from the instructor confirming the extension date. An instructor note, attached to your assignment, can include a printed copy of an e-mail exchange between instructor and student indicating that an extension has been granted. Medical reasons for a late assignment must be documented by a doctor's note. Under normal circumstances (according to university regulations) medical excuses must be presented promptly (within two weeks from the date of the illness).

### **Backup copies**

Please keep an electronic copy and a hard copy of your final paper and presentation.