

**DePaul University**  
**School of Computers and Digital Media**

**Health Information Exchange & Networking**  
**HIT 440 – Spring 2016**

**In-class Sessions: Mondays**  
**Loop Campus**  
**Room: 14EAS 801**

**Instructor: Ellis E. Confer**  
**E-mail: econfer@cdm.depaul.edu**  
**Office Hours: Monday, 4:00 – 5:30 pm**  
**Office Location: CDM617**

**Course Summary**

This course discusses electronic health information exchanges and their design, implementation and use including consideration of requirements and design criteria related to information security, privacy and integrity, data exchange standards, basic principles of telecommunications and infrastructure security. The course also discusses the challenges of adopting and sustaining the viability of HIE solutions.

This syllabus is subject to change as necessary during the quarter. If a change occurs, it will be thoroughly addressed during class, posted under Announcements in D2L, and sent via email.

**Text and Supplementary Reading Materials**

- The Health Information Exchange Formation Guide, 1<sup>st</sup> edition, by Laura Coleman and Bob Brown, HIMSS Publishing, ISBN 978-0982107089
- Other books, articles and web-links will be recommended or supplied as appropriate.

**Learning Outcomes**

The following are the minimum course objectives and expected outcomes from the course.

- Students will be able to articulate and explain the HIE objectives and value proposition.
- Students will be able to assess and evaluate the impact of prevalent internet security risks as they relate to the management, storage, distribution, and deletion of personal health information (PHI).
- Students will develop abilities to analyze HIE functional and non-functional requirements and design criteria to determine an appropriate and cost-effective HIE architecture.
- Students will be able to develop strategies that extend and sustain the value and viability of HIE beyond its initial implementation.

## **Grading Procedure**

The student's final grade will be based on a weighted average of the homework, exam scores, and class participation. Weights are as follows:

	<u>Weight</u>
HW/Project Assignments	35%
Midterm Exam	30%
Final Exam	30%
Class Participation	5%

Grades will be determined as follows:

92% - 100% A;  
90% - 91% A-;  
87% - 89% B+;  
80% - 86% B;  
77% - 79% B-;  
70% - 76% C;  
67% - 69% C-;  
60% - 66% D;  
0 % - 60% F.

## **Procedures and policies:**

1. No makeup exams will be given.
2. Homework assignments must be turned in on time on the day and date when the assignment is due for full credit.

Homework assignments must be turned in on time on the day of class when the assignment is due via D2L or as instructed per the assignment's posted response requirements. Late assignments will be docked two letter grades if turned in during the first week after the initial due date. Thereafter, late homework responses will be docked an additional letter grade for each week that the assignment response is turned in late.

For example, an assignment response that was turned in within the first week beyond the initial due date will receive a grade of 'C' if the response would have been appraised to be 'A' material. For each week thereafter when the assignment was turned in, the 'C' grade will be reduced by another letter grade.

3. Online Course Evaluations

Instructor and course evaluations provide valuable feedback that can improve teaching and learning. The greater the level of participation, the more useful the results. As students, you are in the unique position to view the instructor and assess the effectiveness of instruction over time. Your comments about what works and what does not can help faculty build on the elements of the course that are strong and improve those that are weak. Isolated comments from students and instructors' peers may also be helpful, but evaluation results based on high response rates may be statistically reliable.

Your honest opinions about your experience in and commitment to the course and your learning may help improve some components of the course for the next group of students. Positive comments also show the department chairs and college deans the commitment of instructors to the university and teaching evaluation results are one component used in annual performance reviews. The evaluation of the instructor and course provides an opportunity to make voices heard on an important issue – the quality of teaching at DePaul.

Do not miss this opportunity to provide feedback!

#### 4. Academic Integrity and Plagiarism

This course will be subject to the academic integrity policy passed by faculty. More information can be found at <http://academicintegrity.depaul.edu/>.

The university and school policy on plagiarism can be summarized as follows: Students in this course should be aware of the strong sanctions that can be imposed against someone guilty of plagiarism. If proven, a charge of plagiarism could result in an automatic F in the course and possible expulsion. The strongest of sanctions will be imposed on anyone who submits as his/her own work any assignment which has been prepared by someone else. If you have any questions or doubts about what plagiarism entails or how to properly acknowledge source materials be sure to consult the instructor.

#### 5. Withdrawal

Students who withdraw from the course do so by using the Campus Connection system (<http://campusconnect.depaul.edu>). Withdrawals processed via this system are effective the day on which they are made. Simply ceasing to attend, or notifying the instructor, or nonpayment of tuition, does not constitute an official withdrawal from class and will result in academic as well as financial penalty.

#### 6. Internet Browsing & Cell Phone Use

Laptop use for internet browsing is NOT allowed in the classroom while the class is in session unless specifically authorized or requested by the instructor for a specific class session. If you bring a cell phone to class, it must be off or set to a silent mode. Should you need to answer a call during class, students must leave the room in an unobtrusive manner. Out of respect to fellow students and the professor, texting is never allowable in class. If you are required to be on call as part of your job, please advise the Instructor at the start of the course.

### **Assignments**

Assignments will be posted in the Assignment section of the class D2L website typically 2 weeks prior to the assignment due date.

All assignments should be submitted via D2L on the assigned due date, unless otherwise noted. All assignments that are submitted after the designated due date will have to be sent to the Instructor as an email attachment. Submitting assignments through D2L ensures that homework responses will be properly time-stamped and delivered. Assignments submitted via email will not date stamped but should be sent with a receipt request to ensure that the assignment was received by the Instructor.

## Preliminary Schedule of Discussions

Week	Session Topics
1	<ul style="list-style-type: none"> <li>• <b>Introduction to Health Information Exchange</b> <ul style="list-style-type: none"> <li>○ US Healthcare System &amp; HIE Requirements</li> <li>○ US HIE Vision: Towards a Nationwide Health Information Network</li> <li>○ Status of US HIE Implementation</li> <li>○ Key Stakeholders &amp; Constituents</li> </ul> </li> </ul>
2	<ul style="list-style-type: none"> <li>• <b>HIE Required Services Defined</b> <ul style="list-style-type: none"> <li>○ Hardware Communication</li> <li>○ Understanding Information Exchange in HIT Systems, HIT System Planning, Acquisition, Installation, &amp; Training, Practice to Support &amp; Pitfall to Avoid</li> <li>○ HIT Standards and HIT Standardization</li> </ul> </li> </ul>
3	<ul style="list-style-type: none"> <li>• <b>HIE Design, Development and Sustainability Life Cycle</b> <ul style="list-style-type: none"> <li>○ Standards-Developing Organizations</li> <li>○ Federal Policies &amp; Initiatives</li> <li>○ Strategic and Business Plans to Create Sustainable HIE Models</li> <li>○ Health Information Systems Interoperability</li> </ul> </li> </ul>
4	<ul style="list-style-type: none"> <li>• <b>Health Information Exchange &amp; Interoperability Standards</b> <ul style="list-style-type: none"> <li>○ Basic Health Data Standards</li> <li>○ Data Standards &amp; Interoperability Standards</li> <li>○ Health Data Interchange Standards</li> <li>○ Clinical Data Collection and Visualization Challenges</li> <li>○ EHR Functional Model Standards</li> <li>○ Towards Business Process Standards</li> </ul> </li> </ul>
5	<ul style="list-style-type: none"> <li>• <b>HIE Enterprise Architecture Models, Information Architecture &amp; Data Types</b> <ul style="list-style-type: none"> <li>○ Supporting Standards for EHR Applications</li> <li>○ Empowering the Patient</li> <li>○ Overview of communication relevant to health IT, Key elements of effective communication</li> <li>○ HIT Standards: Information Content Standards</li> </ul> </li> <li>• <b>Midterm Exam</b></li> </ul>
6	<ul style="list-style-type: none"> <li>• <b>Core HIE Technologies</b></li> </ul>
7	<ul style="list-style-type: none"> <li>• <b>HIE Privacy, Security, Confidentiality, and Transparency Considerations</b> <ul style="list-style-type: none"> <li>○ Privacy Confidentiality, and Security Issues and Standards</li> <li>○ Computer Security, Components and development of large scale systems</li> <li>○ Professional Behavior in the Healthcare Environment</li> </ul> </li> <li>• <b>Midterm</b></li> </ul>
8	<ul style="list-style-type: none"> <li>• <b>HIE Risk Management &amp; Security Architecture Specification</b></li> </ul>
9	<ul style="list-style-type: none"> <li>• <b>HIE Organizational Structures and Governance</b> <ul style="list-style-type: none"> <li>○ HIE Principles, Policies, and Standards Governance</li> <li>○ HIE Governance Entities</li> </ul> </li> </ul>
10	<ul style="list-style-type: none"> <li>• <b>Measuring HIE's Value and Future HIE Value Stream Considerations</b> <ul style="list-style-type: none"> <li>○ Big Data Meets Healthcare</li> <li>○ HIT Standards: Privacy and Security Standards</li> <li>○ Using HIE to Improve Population Health</li> <li>○ HIT Standards Harmonization</li> </ul> </li> </ul>
11	<ul style="list-style-type: none"> <li>• <b>Final Exam</b></li> </ul>