

# Syllabus

## Instructor

Dr. Enid Montague

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Office Hours: Wednesday 3:30- 5pm and by appointment

## Course Meeting

Monday 5:45PM - 9:00PM and online

CDM 00202 at Loop Campus (but verify with CampusConnect)

## Preparation

IS 421 and CSC 451 are prerequisites to this course.

## Course References

*Cognitive Informatics for Biomedicine: Human Computer Interaction in Healthcare*

by Vimla L. Patel, Thomas G. Kannampallil, David R. Kaufman ISBN 978-3-319-17272-9

## Course Overview

Course focus is on systems design for health care that enhances quality of patient care and satisfaction, staff efficiency, and improving patient outcomes. Specific topics include: database design; interface and dialogue design in the context of workflow; usability and human factors; report design; system implementation; and system maintenance. For projects, students will perform a hypothetical redesign of a health care system focusing on 1) defining the problem and analyzing an existing system, 2) developing system requirements, and 3) evaluating and choosing solutions and implementation strategies.

## Course Goals

By the end of the quarter, students will be able to...

- Understand health care systems and opportunities for re-design
- Use a variety of methods for evaluating health care systems
- Select an appropriate evaluation method and articulate its advantages and disadvantages
- Develop system requirements for health care systems
- Evaluate and choose the best designs for health care systems
- Prepare reports and present results

## Assignments

- Weekly news Each week you will submit a summary of a current event related to health care systems. The event can come from any source; TED talks, newspaper, blog, research article etc. However, the source must be credible. The article should discuss a topic related to healthcare than can possibly have an informatics solution or contribution. Over the course of the quarter students must present in class 2 current news articles related to health informatics or health system design. A ½ page summary and a link or copy of the article must be also posted in the D2L discussion board and students must present the article in class (distance students may present via video). Students in the class and online should comment and ask questions about the article for full participation credit. Time for weekly news article presentations will be allotted at the beginning of each class. To receive full credit for weekly article submission article and summary must be submitted to D2L

- Assignments are written exercises/ homework. The dates on which the assignments are due are shown in the course schedule and are due 11:30PM on the due date. These assignment will be available via D2L in the form of quizzes or paper assignments. Late assignments **will not** be accepted except for emergencies in which case the instructor must be notified **in advance**. You may submit assignments early. You may use your textbook and notes to complete assignments, but not the internet. The honor code is in effect.
- Project. This course involves the critical appraisal of a case study that applies health system design to a real-life health-care project. Please download the case study evaluation document from D2L for more information. Throughout the quarter you will evaluate a case study though three projects.
  - Project 1 Problem Definition
  - Project 2 System Analysis
  - Project 3 Final Report – must be a comprehensive and self-contained report. A reader must be able to get a complete picture of the problem and what was done to solve the problem and what alternative approaches could have been taken.
- Exams- There will be a final in class exam.

#### Grade Determination

30%	3 Projects
10%	Weekly News
30%	Homework assignments
20%	Final Exam
10%	Individual contribution

Students receiving more than 90% of possible points are guaranteed at least an A-, more than 80% at least a B-, more than 70% at least a C-, and more than 60% at least a D.

All submitted work (e.g. project reports, peer reviews, online discussions) must be original work unless its source is clearly referenced. Failure to clearly attribute quotes or designs from other people's work constitutes plagiarism. Violations will generally receive no credit for a given submission.

The final exam is a proctored, comprehensive exam. A major component of the exam addresses selecting an appropriate evaluation method and explaining its advantages and disadvantages. The midterm exam provides a non-proctored means for learning about course expectations and practice answering questions.

The score for individual contribution to class and team projects is based on contributions to class activities, documented contributions in team reports, observed team activities (in class, email or group message boards) and team member reports at the end of the quarter. Students who make solid contributions to their team projects and regularly participate in class (i.e. weekly contribution) receive at least 90% of the contribution points. Weekly contribution includes attendance for on-campus students and online posts for online students and those who need to miss a class. Exceptional contributions receive more than 90%. Team presentations occur in the last week of class. All students should contribute to the presentation, although all members do not need to be physically present for the presentation. At the end of the quarter every student is expected to submit a completed evaluation form for each group member.

Team projects will generally be completed in groups of two. Most groups will consist of students from both the on-campus section and the online section. Some class time will be used to coordinate among group members. When possible, online members are encouraged to communicate with the in-class groups using collaborative tools such as Skype and chat programs.

All group members are jointly responsible for the entire assignment, although the group may assign primary roles to each group member. Generally, each group member will receive the same score on each project. However, in some cases, additional credit may go to those who make an exceptional contribution to a project

and reduced credit to those who contribute little to a project. Any adjustment will be based on a variety of indications including group participation in class, contribution summaries in reports, and student feedback at the end of the quarter.

## Policies

Students are expected to attend every class or watch the lecture online.

Tests can be made up with a serious documented excuse (e.g. illness, death in the family) and must be arranged as soon as possible. Arrangements involving other excuses require prior permission from the instructor.

Late assignments will be accepted up to 3 days late, with a 10 point penalty. Assignments submitted more than 3 days after the due date will not be accepted without an excused absence cleared by the dean of students office (see forms for submitting an excused absence). All grade challenges must be submitted in writing and include an explanation why the given score or grade should be reconsidered.

*School policies on instructor evaluation, email, plagiarism, course withdrawal, absences, incompletes and students with disabilities.*

Week	Topic	Reading	Assignment or Exam
1 (Jan 4)	Introduction to Health Systems	Shi Ch 1, IOM Executive Summary ( <i>Note: IOM = Reid et al. Engineering a better Health Care Delivery System</i> ), Brandeau pp.1-14; Patel Ch 1	
2 (Jan 11)	Systems Analysis in Health Care, Quality in Health Care	IOM Ch 1 & 2, Shi Ch 2; Donabedian (1988); Leatherman (2003); Patel Ch 3	
Jan 18	No Class, University Closed	IOM Ch 3, Shi Ch 4 & 8	Assignment 1
3 (Jan 25)	Organization of HC Systems	Shi Ch 6, Ch 12 484-504, IOM Ch 4 Complete HIPAA certification in "Resource Center"	Project 1
4 (Feb 1)	IT and HC Finance	Shi Ch 11 pp.428-452, Ramsey et al. (2000), IOM Ch 3; Patel Ch 4, Ch 6	Assignment 2
5 (Feb 8)	Current Problems and prognosis in health care, where can system design make a difference in Health Care	Turner pp. 88-98, Turner Ch 6, Brandeau Ch 8, IOM pp. 157-161, Kolker (2011); Patel Ch 10	
6 (Feb 15)	System design tools and methods	IOM pp.119-124 & pp. 147-156, Benjamin (2003), Gelinas and Loh (2004),	Project 2
7 (Feb 22)	Creating a Culture of Safety	IOM pp.167-171, Warner et al. pp.287-288, Zayas-Caban (2003) Gold Ch 2, Weinstein and Stason (1977), Detsky and Naglie (1990).	Assignment 3
8 (Feb 29)	Lean and Six Sigma in Health Care and the future of Health Care	MacLaughlin&Hays Chapter 8, Chapter 9, Shi Ch 12 pp. 514-525; IOM Ch 5; Patel Ch 12	
9 (Mar 7)	Final presentations + review		Project 3
10 (Mar 14)	Final Exam		Final Exam

This course will be subject to the university's academic integrity policy. More information can be found at <http://academicintegrity.depaul.edu/> If you have any questions be sure to consult with your professor.

#### Academic Policies

All students are required to manage their class schedules each term in accordance with the deadlines for enrolling and withdrawing as indicated in the [University Academic Calendar](#). Information on enrollment, withdrawal, grading and incompletes can be found at <http://www.cdm.depaul.edu/Current%20Students/Pages/PoliciesandProcedures.aspx>.

#### Students with Disabilities

Students who feel they may need an accommodation based on the impact of a disability should contact the instructor privately to discuss their specific needs. All discussions will remain confidential.

To ensure that you receive the most appropriate accommodation based on your needs, contact the instructor as early as possible in the quarter (preferably within the first week of class), and make sure that you have contacted the Center for Students with Disabilities (CSD) at:

Lewis Center 1420, 25 East Jackson Blvd.

Phone number: (312)362-8002

Fax: (312)362-6544

TTY: (773)325.7296