

# **BMI 560/660 - Design and Evaluation in Biomedical Informatics**

Paul Gorman, MD, Course Director

3 credit hours

Winter Quarter 2009

## **PREREQUISITES:**

This course is a part of the required Evaluative Sciences curriculum, which also includes PHPM 524 Intro to Biostatistics, and a third course in evaluation methods chosen by the student according to individual interests and needs. Examples include Qualitative Methods, Quantitative Research Methods, Software Engineering or other evaluation courses on approval from the student's advisor. If you have already taken several of these, you may not be required to take BMI 560.

This course is the second in the three quarter series for first year students which prepares students to conduct a capstone or thesis project in year two, and which also includes BMI 515 Ethical, Legal and Social Issues in Medical Informatics and BMI 570 Scientific Writing.

## **COURSE DESCRIPTION:**

Research and development projects in the broad field of biomedical informatics can take many forms, from field studies that improve understanding of the tasks and information needs of users, to development projects that design, build, and deploy information systems, to studies that assess the impact of information systems on health care processes and outcomes. This course is intended to provide a broad overview of the concepts, terminology, and strategies needed to design and evaluate projects in biomedical informatics, including diverse methodologies drawn from software engineering, qualitative research, and quantitative research.

## **INSTRUCTOR:**

Paul Gorman, MD. Contact me any time with questions or concerns. Please post questions about the course (of general interest to the class) online in the Discussion Boards. Contact me personally about anything else. Email is best: gormanp@ohsu.edu. My office is BICC 533. Office hours are by appointment – email me for a time to meet, or leave a message at 503 494-4025.

## **REQUIRED TEXTBOOK(S):**

Required Text: TBA

## **COURSE COORDINATION**

This class is offered as a hybrid on-campus and distance learning course. The online activities are available through the Sakai system at <http://sakai.ohsu.edu>, including video of lectures, Powerpoint slides and handouts, reading assignments, and project material. Classroom sessions

for on campus students take place in BICC 124 on Tuesdays between 9:00 and 11:30 am. Classroom lectures are videotaped and posted online within 24 hours.

## **EXPECTATIONS**

### *Readings*

Reading assignments include chapters from the required textbook, articles or handouts, and independent reading for projects and clinical questions. Students are responsible for learning all content in the assigned readings, whether discussed in the lectures or not.

### *Homework and Projects*

Homework is assigned most weeks, and is due to be completed by the beginning of the next class. Assignments should be submitted using the Blackboard website except when otherwise noted.

### *Participation*

This class is most beneficial with active engagement and participation by everyone. It's remarkable how much we all learn from the depth and breadth of the group's collective knowledge. Your participation grade will be based on how much you contribute to the learning of others.

### *Examinations*

A final exam is given the last week of class.

## **EVALUATION:**

Assignments and Projects	40%
Online participation	20%
Exam	40%

## **LEARNING GOALS**

- Provide students with an overview and framework for the design and evaluation of biomedical informatics projects, across the spectrum of system types, developmental stages, user perspectives, and evaluation methods.
- Examine in detail a spectrum of design and evaluation methods and apply them to specific projects in three major categories: software development, qualitative evaluation, and quantitative evaluation.
- Prepare students to design and conduct thesis or capstone research or development projects in biomedical informatics.

## **COURSE SCHEDULE:**

See Course Schedule posted on Sakai. This syllabus and class schedule is subject to changes by the instructor. Changes will be made with as much advance notice as possible

## **ACADEMIC HONESTY:**

Course participants are expected to maintain academic honesty in their course work. Participants should refrain from seeking published solutions to any assignments. Literature and resources (including Internet resources) employed in fulfilling assignments must be cited. See <http://ozone.ohsu.edu/som/faculty/docs/graduatecouncil/profconductpolicy.pdf> for details.

**SPECIAL NEEDS:**

If you need reasonable accommodation in academic settings, please communicate with the instructor as soon as possible so that we may make appropriate arrangements.