

IE 48J.01 Sp. Top: Healthcare Delivery Planning Summer 2014

Course Instructor

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Course Description

Introduction to process and production of health care systems. Emphasis on the application of industrial engineering methodologies to analyze and solve health systems challenges.

Course Objectives

1. Analyze the context and components of the health care delivery systems.
2. Select and critically evaluate the utility of key industrial engineering (IE) concepts and tools for assessing and modeling health care problems and challenges in health care delivery.
3. Demonstrate the use of IE techniques in solving selected health care delivery problems.
4. Evaluate the roles of industrial engineers in health care.

Class Format

In order to maximize shared learning, this is an interactive course with strong classroom participation expected by the students. There is a Readings Package, but no textbook. Readings are drawn from books and journals from the operations research/ operations management, and the medical literature. There will also be some guest speakers.

Textbook

There is no required textbook for this class. A packet of articles will be provided, and additional readings will be distributed as needed. Most reading assignments will be from the following recommended textbooks

- Shi, L and Singh, D (2005). Delivering health care in America: A systems approach. Jones & Bartlett.
- Reid, P. P., Compton, W. D., Grossman, J. H., and Fanjiang, G. Editors, (2005). Building a Better Delivery System: A New Engineering/Health Care Partnership. Institute of Medicine, National Academy of Sciences (Available from www.iom.org)

In addition to these textbooks, the following books are also good references.

- Bodenheimer T. S., & Grumbach, K. (2005). Understanding health policy: A clinical approach (4th Ed), a Lange medical book, Norwalk, CT: Appleton & Lange.
- Kovner, A. R., and Jonas, S. (Eds) (2003, 2006). Jonas and Kovner's Health care delivery in the United States (7th or 8th Edition). New York: Springer Publishing Co. (an excellent reference that focuses on the policy dimension of health care.)

Distribution of information and Attendance

Distribution of Information: There is an email class list for this course, which will be used for general information, reminders, clarifications, and other purposes. Make sure to check your email regularly at whatever address you have registered.

Attendance: Attendance and participation are strictly required, and are very important to succeeding in this class. You are expected to participate and are responsible for assignments or policies that are announced in class or in material handed out in class, **whether or not you are in class**. You are also **responsible for any material distributed electronically by email or via the Web**.

Assignments & Grading

Besides homework assignments and an in class exam, class assignments will consist of a group project, and article reading/presentation assignments based on individual reflections on readings.

Homework Assignments

Homework exercises will include written exercises. You may work with other students on your homework, but you **must** turn in your own assignments. The homework must be handed to the instructor on the day the homework is due, in class, by the beginning of the class. Homework must be neat, organized, and stapled.

Article Assignments

There will be weekly assigned articles (on average two per week). Each student will present two of the articles from a reading list. You may also choose another article by yourself, but it needs to approve by the instructor. You are encouraged to prepare a powerpoint presentation (or a latex presentation) for the class. You are also expected to read the articles to be discussed prior to the class and join the discussions. Each paper presentation/discussion will last for around 45 minutes.

The presentation should cover:

- a) Main research problem
- b) Methodology used (should be introduced if you believe that not all students may be familiar with this methodology)
- c) Results
- d) Discussion
- e) Critique (e.g., weak points, how could this article be improved etc.)

You will also prepare a summary of the assigned article (approximately 1-2 pages). Article summaries and presentations should be submitted to the instructor at least three days prior to the presentation date.

Late Assignments: Late assignment will not be accepted and no exceptions will be made except for emergencies. "Late" means anything after the class hour the assignment is due. In case of emergencies or other special circumstances, proper documentation should be provided by the Deans of Students and if possible the instructor must be notified in advance. You may submit assignments early. Since each element of the graded work counts in the final grade, you are urged to complete work in advance of the deadline. You may work with other students on your homework. *However, your hand in assignment must that have been prepared by you alone.*

Exams

There will be one midterm exam and a final exam. If you miss the midterm exam, you will need to produce appropriate documentation from the Dean of Students Office. **If you have sufficient reasons, then an oral make up examination will be given.** In some cases, the instructor may also choose to add the midterm exam weight to the final examination. Depending on each case, this decision will be made by the instructor during the course.

Class Expectations

- The classroom is a professional space. If a comment, attitude, or behavior is not acceptable in a work setting, it is not acceptable in our classroom.
- If you have any questions about logistics (e.g., hw due date, exam date etc), ask three of your classmates. If they don't know, then ask me.
- **Laptop/Tablet Computer Use:** If you need to take notes on your laptop/tablet computer (or other related devices), you may use your laptop/tablet to do so. Computer use is otherwise not allowed, as they usually distract some of your classmates. If you need to use a laptop/tablet etc. to take notes, please sit at the very back row so that you will make sure that you are not distracting any of your fellow students.
- **Cell Phone Use:** Please make sure to set your phone to vibrate as they disturb other students' learning. They should be in your pocket or off of your desk during class. There is a wall clock in the classroom, so you do not need to use your phone as a clock. If there is an emergency, and you absolutely need to take the call, please leave the class without causing any distraction and deal with the emergency. If you use your cell phone for any other reasons during class, I may ask you to leave for the day.