

## **MGT 879 - Healthcare Operations**

### **Course Syllabus**

**Who** Professor Donald Lee  
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**When** 1:00-2:20pm Tuesdays and Thursdays, January 27<sup>th</sup> – March 10<sup>th</sup>, 2009

**Where** Yale School of Management, 135 Prospect Street, room B60

#### **Overview**

With healthcare spending in the United States exceeding 16% of GDP and the demand for health services continuing to increase, improvements in the quality and efficiency of healthcare delivery are urgently needed. This course explores opportunities for improvement in the design and management of healthcare operations. The course utilizes standard operations tools such as optimization with Excel solver, simulation, resource allocation, economic analysis, and decision-making under uncertainty.

#### **Grading Policy**

The class will be predominantly discussion-based, and students are expected to attend each class and bring laptops for in-class demonstrations. There will be occasional reading assignments with a 1 to 2-page summary/response due before class. The final grade will be based on:

- Class participation (40%)
- Reading summaries (20%)
- Project proposal and presentation (40%)

#### **Project Proposal**

Groups of two to three students will submit a 10-page project proposal and give a 10-minute presentation on the last day of class. The proposal should outline an approach for modeling a healthcare topic of their choice, and should include an introduction, brief literature review, and a discussion of how topic(s) from class could be applied to the problem. We will discuss possible project topics later in class.

## **Course Outline**

### Managing hospital operations

1. Hospital staff scheduling.
2. Physician – patient appointment scheduling.
3. Guest lecture: Dr. Michael Apkon  
Vice President, Performance Management, Yale-New Haven Health System  
Medical Director, Yale-New Haven Children's Hospital
4. Field trip to Yale-New Haven Hospital.

### Measuring efficiency in healthcare

5. Data envelopment analysis (part 1)
6. Data envelopment analysis (part 2)

### Valuing medical interventions

7. Cost effectiveness analysis (CEA) of medical technology.
8. CEA (part 2), project assignment

### Implementing pay-for-performance (P4P)

9. Provider reimbursement schemes (Yale primary care clinic, Medicare's dialysis payment system).

### Health policy modeling

10. Allocating resources for HIV prevention.

### Healthcare decision making under uncertainty

11. Decision analysis and simulation.
12. Case study: "Merck & Company: Evaluating a Drug Licensing Opportunity".
13. Student presentations