I SY E 417, Health Systems Engineering

1. Credits : 3
2. Contact Hours : 2.8

No required textbook, however readings from:


a. Other Supplemental Materials : None

b. Specific Course Information :  
   
   a. Brief description of the content of the course (Course Catalog Description) :
      Introduction to the application of industrial engineering methods to the analysis and improvement of health care delivery. Exploration of common problems of decision making and control in health care. Examination of social, regulatory and economic factors unique to health care.
   
   b. Pre-requisites or Co-requisites : ISyE 320, ISyE 349
   c. This is a Required course.

   • Specific Goals for the Course :
a. Course Outcomes:

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

• ABET Student Learning Outcomes:

(a) Ability to apply mathematics, science and engineering principles.
(b) Ability to design and conduct experiments, analyze and interpret data.
(c) Ability to design a system, component, or process to meet desired needs.
(d) Ability to function on multidisciplinary teams.
(e) Ability to identify, formulate and solve engineering problems.
(f) Understanding of professional and ethical responsibility.
(g) Ability to communicate effectively.
(h) The broad education necessary to understand the impact of engineering solutions in a global and societal context.
(i) Recognition of the need for and an ability to engage in life-long learning.
(j) Knowledge of contemporary issues.
(k) Ability to use the techniques, skills and modern engineering tools necessary for engineering practice.

• Brief List of Topics to be Covered: