# 2.782J/3.961J/BE.451J/HST524J DESIGN OF MEDICAL DEVICES AND IMPLANTS

Prof. Myron Spector
Harvard Medical School
Director, Orthopedics
Research Laboratory
Brigham and Women's
Hospital

Prof. Ioannis Yannas
Massachusetts Institute
of Technology
Fibers and Polymers
Laboratory

## DESIGN OF MEDICAL DEVICES (suggested outline)

- 1. Anatomy of organ
- structure
- function

- 2. Pathology of organ
- description of different lesions
- selection of a patient population

## DESIGN OF MEDICAL DEVICES (suggested outline) (cont.)

#### 3. Old and new solutions

- past and present approaches to solving problem
- best current approach
- problems with 'gold standard'

#### 4. The new design

- visualization
- space and time constraints
- safety and efficacy
- risk/benefit analysis

### 2.782J/3.961J/BE.451J/HST524J DESIGN OF MEDICAL DEVICES AND IMPLANTS

#### **Rules**

- 1. Team design. 3-4 per team.
- 2. Final Grade = Quiz 35% + Oral proposal 15% + Final oral + written presentation 50%.