MEDTECH INNOVATION: UNMET NEEDS

This is a graduate student course offered through the UCLA Business of Science Center and the Department of Pharmacology that would like to open its doors for medical students to join and participate.

PLEASE NOTE!! This is different than other selectives. This is a more in-depth course for grad students and MBA students that DGSOM students are welcome to take, but please read the full description below to see if this is right for you.

The goal is to teach students a framework for developing medical device innovations that address unmet clinical needs, and to introduce students to product development and entrepreneurship. This is a two-quarter course; there are weekly lectures and hands-on workshops, which are intended to complement practical experience that students gain through an interdisciplinary team-based project. However, DGSOM students may take just the Winter Quarter portion of the course.

During the Winter Quarter, project teams select an unmet clinical need identified within the UCLA Health System and validate whether an opportunity for medical device development exists. Following completion of an individual need assessment, students form interdisciplinary teams around needs of common interest, and the project teams work toward generating concepts to solve each need. At the end of this quarter – the midpoint of the course – student teams present three final medical device concepts to a panel of clinicians, industry experts, and venture capitalists. The Spring Quarter focuses on concept refinement, rapid prototyping, provisional patent submission, and building a business plan. Lectures include invited guest speakers and panels composed of industry representatives from venture capital, medical device, design, and law as well as UCLA and Art Center College of Design faculty.

Students learn design thinking ideology, brainstorming techniques, and tools for clinical concept generation. Through this selective, medical students will play a special role as team advisors using their medical knowledge and experience.

For more information about the UCLA Business of Science Center and about this course, please go to their web site: http://www.bs.pharmacology.ucla.edu/courses/

Student Requirements: Medical students will be required to attend 2 hours of discussion per week on Mondays, and as much of the Wednesday lectures as your schedule will allow. The science, engineering, law, and business school graduate students are all committing 5-10 hours per week both inside and outside of the classroom understanding the medical needs, brainstorming concepts, and building prototypes and a business plan for the team’s health care solution. Medical students are encouraged to be as active as possible within these teams, but the teams will be informed of the time restraints of the Selective and medical student scheduling.

At the end of the course, students will be asked to contribute a 1-page summary on how they will apply the knowledge they have learned from the course, or they can become an active part of the team and stay through the medical needs presentations.

Course Chairs: Roy Doumani, JD, Executive Director of Business of Science Center and Professor in Molecular and Medical Pharmacology, David Geffen School of Medicine
Kalyanam Shivkumar, MD, PhD, Professor of Medicine and Radiology, Director of UCLA Cardiac Arrhythmia Center and EP programs, David Geffen School of Medicine
Wentai Liu, PhD, Professor, Dept. of Bioengineering, School of Engineering and Applied Science.

Teaching Methods: Discussions and Problem-Based Learning

Sponsoring College: Academic Medicine College

Schedule: 4:00 PM – 5:50 PM, Monday discussions and Wednesday lectures during main campus Winter Quarter (January – March).

Location: UCLA Engineering 5, room 2101