

165:197 International Development (3 S.H.)

Section 14: Healthcare and Technology in Rural Settings in India

Dec. 27, 2009 - Jan. 15, 2010

The course instructor, Madhavan Lakshmi Raghavan is an Associate Professor of Biomedical Engineering and Director of the Biomechanics of Soft Tissues Division at the Center for Computer Aided Design at University of Iowa, Iowa City, IA, USA. He teaches courses on engineering mechanics, biomechanics, and biomedical device design. He has a BS in mechanical engineering from Coimbatore Institute of Technology, India (1992) and a PhD in Bioengineering from University of Pittsburgh, USA (1998). His interdisciplinary research applies knowledge in classical engineering to medicine.

Sponsoring Organization, the Swamy Vivekananda Youth Movement (<http://www.svym.net/>) is a long-standing collaborator with the Study Abroad Program of the University of Iowa. Their current activities are in the areas of health, education, community development, organizational management, and training, research, advocacy, and consultancy. Course activities will involve significant coordination with staff at the SVYM-affiliated Vivekananda Memorial Hospital.

Course Description: The overall objective of the course is to expose students to the process of leveraging engineering design to address some of the challenges in rural healthcare settings. Students will work with healthcare personnel at a hospital affiliated with the sponsor serving a rural/tribal population to design/develop solutions, products, devices or software. The classes will involve lectures, field trips to healthcare settings, discussions/consultations with healthcare personnel and discussions with the instructor. Students will choose specific design objectives that serve the needs at the sponsor's site, develop or layout solutions, obtain feedback and where possible, develop prototypes of products. Specific course requirements will be posted here as they are being developed in collaboration with the sponsors.

Recommended readings (before beginning of course)

- About the Swamy Vivekananda Youth Movement (<http://www.svym.net/>) and the affiliated hospital (<http://www.svym.net/ACTIVITIES/ACTIVITIESTEMP.htm#HEALTH>)
- About Mysore, a city located in southern India in the state of Karnataka (<http://en.wikipedia.org/wiki/Mysore>)
- Examples of biomedical engineering design projects for the developing world
 - Beyond Traditional Borders:
http://beyondtraditionalborders.rice.edu/design.cfm?doc_id=12096
 - Engineering World Health:
http://216.92.64.45/uploads/docs//09-10_EWH_Projects_that_Matter.pdf