# CIS-6930 Informatics for Smart Health and Well-being (3 credits)

**Catalog Description**
The class explores recent research advances in the field of health informatics, smart health and well-being, with a special emphasis on personal health informatics.

**Prerequisite** Graduate Standing.

**Type**
Elective for CS Master and PhD students
Particularly relevant for the Intelligent systems and Cognitive Science tracks

**Course Objectives**
Western health care and medicine aim at curing established diseases, and recently they have become interested in promoting proactive and preventive care as well. Health informatics can help provide preventive care in a variety of ways. This course discusses latest progress on research in smart health and well-being technologies, personalized health and medical informatics from a patient-centered and consumer perspective, health dialog systems, as well as the development of virtual patients for training healthcare personnel.

**Sample Topics Covered**
- Scope, societal needs, promises and challenges of smart health and well-being
- Consumer and clinician health information needs and use
- Patient education, learning and involvement
- Computational support for patient-centered and evidence-based care
- Disease profiling and personalized treatment
- Lifestyle profiling and personalized/tailored behavior change interventions
- Motivational and mobile approaches to increasing healthy lifestyles and better self-care
- Health dialog systems and embodied conversational agent
- Computer-based therapy for mental health
- Virtual and augmented reality for healthcare
- Virtual patient modeling for learning, practicing and demonstrating care practices
- Computer Systems for telemedicine
- Assistive devices and tools for individual with special needs
- Health informatics for cultural diversity

**Text**
- A collection of articles available online which may vary each year.

**Last Update**
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