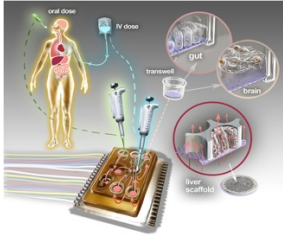




Course Announcement

The Department of Electrical and Computer Engineering Santa Clara University



ELEN 271: Microsensors: Components and Systems

Prof. Vanessa Velasco

Spring 2021

Class Time: Wednesday 5:10pm - 7:00pm

(2 units)

Course Description: Microfabrication technologies, bulk and surface micromachining, sensor fundamentals, electronic, chemical, and mechanical components as sensors, system level issues, technology integration; application and examples of sensors.

Perhaps every piece of technology you interact with or depend-on on a daily basis have embedded micro or nano-sensors. From cellphones, smart watches, laptops, car tire pressure sensors to new COVID-19 test incorporate micro-electro-mechanical systems (i.e. microsensors). Most big bay area companies with the highest compensation positions interface with this technology so understanding how microsensors work, how they are designed, manufactured, and what their applications are very beneficial.

This course covers recent developments in micro and nano-sensors and their applications. Microfabrication technologies/equipment, sensor fundamentals, and an introduction to a range of micro/nano-sensors (electronic, magnetic, chemical, biomedical, and mechanical sensors), technology integration and applications will be discussed.

About the Professor: Vanessa Velasco is a Stanford Postdoctoral Fellow in Ron Davis' Lab in Biochemistry. She has been dedicated to the development of MEMS and NEMS devices for over 10 years. Her focus and research center around innovation biomedical micro-devices for applications in understanding cell heterogeneity, mechanics, and drug interactions in order to device solutions to complex human health problems.