



Department of Computer Science & Engineering

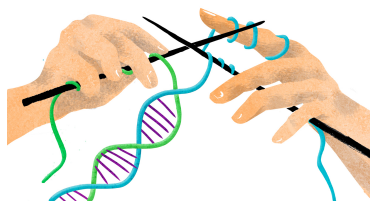
Fall 2015

CSCE 496/896 – Genetically Engineered Systems

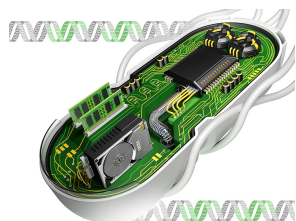
Section: 002
Credit Hours: 3
Instructor: Massimiliano Pierobon
Schedule: MWF, 2:30PM - 3:20PM
Location: Avery Hall 119

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Genetically Engineered Systems



The goal of this course is to introduce students to the emerging field of synthetic biology, and its interdisciplinary foundational concepts. This course will present the technologies at the basis of synthetic biology, together with the engineering concepts that underlie the design, modeling, and realization of genetically engineered systems. The course will survey examples of cutting edge applications, from the production of biofuels to the design and implementation of biosensors to detect harmful agents. A special emphasis will be given to the International Genetically Engineered Machine (iGEM) competition and its latest results in terms of research and training. Ethical, legal, and societal aspects of this new interdisciplinary field will be also discussed by glancing at possible future scenarios.



Good standing undergraduate/graduate students from Computer Science and Engineering, Mathematics, Statistics,, Biology, Biochemistry, and other Life Science and Engineering departments are welcome to attend this course. *Most of the necessary concepts* from physics, chemistry, biology, and engineering will be provided during the lectures to accommodate students with diverse background. Student creativity, passion, and open-minded attitude will be highly appreciated and rewarded.



The Genetically Engineered Systems course will also include semester-long projects, where students will expand their knowledge on specific selected topics in synthetic biology. This course will provide a broad overview of a fast-growing interdisciplinary field, which will be one of the main future trends not only in the academic, but also in the industrial and medical job markets.