BMEN 6386 - Biological Processes: Modeling and Simulation

BMEN 6386 Biological Processes: Modeling and Simulation (3 semester credit hours) Introduces fundamental principles to develop and simulate mathematical and computer models of biological systems. Topics include modeling principles [continuous (differential equation models), discrete (Boolean network and Markov model), probabilistic (Bayesian network) and stochastic models] and model optimization. Methods to simulate mathematical biological models using computer programming (software: MATLAB) will be introduced. Prerequisite: MATH 2419 or equivalent. (3-1) R