**BBE 3207 Biomedical Modeling and Simulation**

Course content

Introduction: definitions, purposes of models, and types of models - Mathematical modeling: purposes, types, and modeling methodology (problem definition, model construction and model analysis, validation, interpretation of results, and implementation) - Curve fitting - Compartmental models - Population dynamics models - Mathematical model of continuous culture of microorganisms - The principles of conservation and analogy (mechanical, electrical, fluid, and thermal systems) & applications - Muscle model - Human thermoregulation model - The principles of simulation.