CHEMICAL ENGINEERING (CHE)

CHE 301 - Chemical Engineering Thermodynamics (3.0 hours)
Review of classical engineering thermodynamics. Multicomponent systems & multicomponent phase equilibria. Equilibrium in chemically reacting systems, heterogeneous equilibrium, Gibbs phase rule
Prerequisite: Minimum grade of C in CHM 110, 111; Minimum grade of C in PHY 201; Minimum grade of C in MTH 223.

CHE 302 - Material and Energy Balances (3.0 hours)
Material and energy balances applied to chemical systems. Introduction to chemical and physical properties.
Prerequisite: Minimum grade of C in CHE 301 or ME 301

CHE 321 - Chemical Reaction Engineering (3.0 hours)
Kinetics of homogeneous single reactions. Ideal reactors: batch, stirred tank and plug flow systems. Conversion and yield in multiple reactions. Design and optimization of reactors. Non-isothermal reactors.
Prerequisite: CHE 302 or ME 302 and CHM 250 or CHM 252 and CHM 253

CHE 415 - Transport Phenomena I (3.0 hours)
Energy, mass, and Momentum transport phenomena in chemical engineering. Fluid mechanics; laminar and turbulent flow; boundary layers; flow over immersed bodies.
Corequisite: CHE 321

CHE 416 - Transport Phenomena II (3.0 hours)
An extension and more in depth treatment of fluid mechanics, the three modes of heat transfer, and mass transfer, augmented by design applications. Emphasis is on development of analytical and specifically numerical skills needed for solving design problems involving mass, momentum, and heat transfer.
Prerequisite: CHE 415 or ME 415