Chemical Engineering (CHEN)

CHEN 5303 Adv Topics in Chemical Engng 1-3 SCH (1-3)

One or more advanced topics. May be repeated for a maximum of six SCH when topic changes.

CHEN 5305 Graduate Research Project 3 SCH (3)

Designed for project option students. Requires successful completion of an assigned research project topic. May be repeated for a maximum of six SCH. Project advisor approval and enrollment in final 3 SCH of required course work, or completion of all required course work. Minimum GPA of 3.0.

CHEN 5306 Graduate Thesis Research 3 SCH (3)

Designed for thesis option students. Requires successful completion of a thesis research proposal and final thesis. May be repeated for maximum of 6 semester hours. Thesis advisor approval and completion of 24 SCH of course work with a minimum GPA of 3.5.

CHEN 5308 Transport Phenomena 3 SCH (3-0)

An advanced and unified treatment of fluid mechanics, heat transfer, and mass transfer based upon the fundamental equations of mass, momentum, energy and species transport with applications in chemical engineering and related fields.

CHEN 5309 Separation Process 3 SCH (3-0)

Advanced treatment of the theory and methods associated with the solution, behavior and computation of both staged and continuous separation processes. Prerequisite: CHEN 4389 or equivalent. (Credit may not be obtained in both CHEN 5309 and NGEN 5309.)

CHEN 5331 Simulation & Analy of Chem Eng 3 SCH (3-0)

Analytical and numerical techniques for the simulation and analysis of processes and equipment employed in the chemical, biochemical, environmental and petroleum refining industries. Prerequisite: CHEN 4317 or equivalent.

CHEN 5333 Chem & Catalytic Reaction Eng 3 SCH (3-0)

Analysis of various interactions between reaction kinetics and transport effects in chemical reactors and their influences on design, scale-up and analysis of performance. Prerequisite: CHEN 4373 or equivalent and CHEN 5308.

CHEN 5334 Biochemical Reaction Engng 3 SCH (3-0)

Kinetics of microbial growth and enzyme-catalyzed reactions and the analysis of kinetic-transport interactions in biochemical reactors, including their influence on the design, scale-up and performance of biochemical reactor systems.

CHEN 5336 Polymer Rheology 3 SCH (3-0)

The study of non-Newtonian fluid flow behavior, including both theoretical and practical aspects of non-Newtonian fluid flows and their applications. Prerequisite: CHEN 5308. (Credit may not be obtained in both CHEN 5336 and NGEN 5336.)

CHEN 5360 Adv Chem & Natural Gas Proc 3 SCH (3-0)

Study of key processes that are utilized in the chemical & natural gas industry, including analysis, design methods and optimization with a consideration of process economics, environmental and safety aspects. (Credit may not be obtained in both CHEN 5360 and NGEN 5360.)

CHEN 5361 Adv Proc Dynamics & Control 3 SCH (3-0)

Fundamentals of modern process control theory with applications in the chemical, biochemical and petroleum refining industries. Prerequisite: CHEN 4392 or equivalent.

CHEN 5371 Adv Chem Eng Thermodynamics 3 SCH (3-0)

Advanced treatment of the thermodynamics of multicomponent and multiphase fluid systems, with application to phase equilibria and chemical reaction equilibria. Prerequisite: CHEN 3371 or equivalent.

CHEN 5401 Advance Probs in Chem Eng 1-4 SCH (1-4)

Individual or group research on advanced problems in chemical engineering conducted under the supervision of a faculty member. Maximum of 8 SCH allowed. Completion of 15 SCH of the required core courses and 6 SCH of electives with a minimum GPA of 3.25.

CHEN 6306 Proposal/Dissertation Research 1-9 SCH (0-0-1-9)

This course is for doctoral students undertaking dissertation research to take towards fulfilling doctoral dissertation proposal and dissertation requirements.