

As a chemical engineer, it might be difficult to study abroad and still take the required courses for your major. However, there are a variety of host institutions that allow you to fulfill course requirements and experience the cultural diversity of studying in Britain or South Africa. The following is just a sample of courses available. You can contact Interstudy for a complete listing and more information at 800.663.1999.

BRITAIN

Queen Mary, University of London

DEN101 Mechanics of Fluids 1

This module introduces the students to the properties of fluids and the laws governing their static and dynamic behaviour. It provides a sound theoretical and practical basis for further studies in fluid mechanics.

Other Courses Offered:

DEN403 Computational Fluid Dynamics

DEN108 Dynamics

DEN438 Renewable Energy Sources

DEN107 Thermodynamics 1

Swansea University

EG100 Chemical and Biochemical Process Principles

The module provides basic intellectual tools for analysis and design of chemical and biochemical processes with respect to flows of material and energy to and from them; to apply these tools to a variety of types of processes and produce complete mass and energy budgets and estimates of process efficiency. Some hazards related to release and exposure to flammable materials is considered in relation to their properties.

Other Courses Offered:

EG061 Thermofluid Mechanics

EG103 Heat Transfer

EGA303 Molecular, Particulate and Bulk Transfer

EG304 Safety and Loss Prevention

SOUTH AFRICA

University of the Witwatersrand

CHMT3003 Chemical Engineering Thermodynamics

External and internal energy, mechanical and thermal transfer of energy, conservation of energy; entropy, the 'second law', Legendre transforms, enthalpy, Gibbs and Helmholtz functions; generation of entropy. Flow processes, engines, 'heat' pumps, compressors and turbines, refrigeration and power cycles, thermodynamic efficiency; energy, thermodynamic analysis of the chemical plant. Fugacity, activity coefficients; equilibrium between phases, miscibility (total and partial). The equilibrium constant of chemical reactions in all phases at low and high pressures. Energy balance for chemical reactors and autothermal behaviour.

Other Courses Offered:

CHMT3012 Crystal Structure, Mineralogy and Analysis

CHMT2004 Materials and Mechanical Design

CHMT2007 Application of Energy Balances

CHMT2008 Practical Metallurgy

University of Cape Town

CHE4042F Process Dynamics and Control

Process dynamics: mathematical models, transfer functions, open-loop response of first, second and higher order systems. Feedback control systems; block diagrams, types of feedback controller. Stability Analysis: Bode diagrams and stability, gain and phase margins, Ziegler-Nichols tuning. Feed forward and cascade control. Multi-input-multi-output systems: stability, interaction, relative gain array, decoupling.

Other Courses Offered:

CHE4048F Business, Society, and Environment

CHE306F Mass Transfer

CHE2040S Design of Fluid Flow and Heat Transfer Systems

CHE3040S Solid-Fluid Operations

SOUTH AFRICA

University of KwaZulu-Natal, Howard College Campus, Durban

ENCHOM H1 Oil and Mineral Processes

An overview of South Africa's minerals industry; Terminology; Particle size measurements and modeling of data, Grinding; Effect of classification of grinding efficiency; Material balances; General flow sheets. Terminology; Characterization of oils; Discussion of typical refinery flow sheets; description of the major unit operations; basic calculations in blending.

Other Courses Offered:

ENCH3FD H1 Fluid Mechanics and Design

ENCH3EC H2 Chemical Engineering Design

ENCH3HE H1 Heat Transfer

ENCH2MS H2 Materials of Construction