COURSE DETAIL

FLUID MECHANICS (CHEMICAL) 4
Country United Kingdom - Scotland
Host Institution University of Edinburgh
Program(s) University of Edinburgh
UCEAP Course Level Upper Division
UCEAP Subject Area(s) Chemical Engineering
UCEAP Course Number 107
UCEAP Course Suffix
UCEAP Official Title FLUID MECHANICS (CHEMICAL) 4
UCEAP Transcript Title FLUID MECH / CHEM 4
UCEAP Quarter Units 4.00
UCEAP Semester Units 2.70

Course Description
This course builds on previous treatment of fluid mechanics in SCEE08003 Fluid Mechanics 2 and CHEE09013 Heat, Mass and Momentum Transfer 3. It presents fundamental concepts in fluid mechanics as a basis for chemical engineering design. Simplifications which allow analytical solutions to the 3D Navier Stokes and continuity equations are explored, including low Reynolds number flows and inviscid, irrotational flow. The use of inviscid flow coupled with boundary layer theory to model high Re flows is presented, together with current ideas on the nature of turbulence, including turbulence spectra and decay of turbulence. Turbulence models are used to predict dispersion in mixed flows and free jets. Models for predicting pressure drops in two-phase, liquid-gas flows are discussed.

Language(s) of Instruction
English

Host Institution Course Number
CHEE10004

Host Institution Course Title
FLUID MECHANICS (CHEMICAL) 4

Host Institution Campus
Edinburgh

Host Institution Faculty

Host Institution Degree

Host Institution Department
Chemical Engineering

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