COURSE DETAIL

HEAT & MASS TRANSFER
Country United Kingdom - England
Host Institution Imperial College London
Program(s) English Universities,Imperial College London
UCEAP Course Level Upper Division
UCEAP Subject Area(s) Chemical Engineering
UCEAP Course Number 116
UCEAP Course Suffix
UCEAP Official Title HEAT & MASS TRANSFER
UCEAP Transcript Title TRANSFER PROCESS 1
UCEAP Quarter Units 3.00
UCEAP Semester Units 2.00

Course Description
This course is a unified introduction to heat and mass transport phenomena. The focus of the course is placed on the basic physical principles and concepts underlying transport processes, their mathematical formulation, solution of the relevant equations and interpretation in physical terms. Problem solving is an integral part of the course. Illustrative applications involving physical, chemical and biological systems are introduced and discussed, both during lectures and via problems. Topics covered include: conduction, diffusion; differential formulation of transport equations, conduction/diffusion in planar, cylindrical and spherical configurations; Effect of heat generation, reaction on transport processes; Transient conduction and diffusion in finite media; Convective heat and mass transport: forced convection; effect of flow on transport processes; Transport coefficients; Combined convection and Chemical Engineering and Chemical Technology; Conduction/diffusion processes; Macroscopic and differential energy/mass balances; Heat exchangers and their analysis; and applications of mass transport in biomedical and physiological systems.

Language(s) of Instruction
English

Host Institution Course Number
CE1-04

Host Institution Course Title
TRANSFER PROCESSES 1: FLUID MECHANICS 1 HEAT AND MASS TRANSFER

Host Institution Course Details

Host Institution Campus
Imperial College

Host Institution Faculty

Host Institution Degree

Host Institution Department
Chemical Engineering and Chemical Technology

Course Last Reviewed

Print