COURSE DETAIL

FLUID MECHANICS
Country Taiwan
Host Institution National Taiwan University
Program(s) National Taiwan University
UCEAP Course Level Upper Division
UCEAP Subject Area(s) Mechanical Engineering
UCEAP Course Number 110
UCEAP Course Suffix A
UCEAP Official Title FLUID MECHANICS
UCEAP Transcript Title FLUID MECHANICS
UCEAP Quarter Units 4.50
UCEAP Semester Units

3.00

Course Description

This course discusses fluid statics (hydrostatic forces on submerged plane and curved surface, buoyancy, fluids in rigid motion), fluid kinematics(lagrangian and eulerian descriptions-acceleration field and material derivative, streamlines, streaklines, pathlines, profile plot, vector plot, contour plot), Reynolds transport theorem, control volume analysis, conservation of mass, conservation of momentum (Newton's Laws and choosing control volume, linear momentum and angular momentum), conservation of energy, mechanical energy and efficiency, the Bernoulli equation and its applications, general energy equation and energy analysis of steady forms, dimensional homogeneity, dimensional analysis and similarity, method of repeating variables and the Buckingham pi theorem, ideal flow, compressible flow.

Language(s) of Instruction
English

Host Institution Course Number
ME2007

Host Institution Course Title
FLUID MECHANICS

Host Institution Campus

Host Institution Faculty

Host Institution Degree

Host Institution Department

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