

# 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 Course Details**

[https://nol.ntu.edu.tw/nol/coursesearch/print\\_table.php?course\\_id=502%2031000&c...](https://nol.ntu.edu.tw/nol/coursesearch/print_table.php?course_id=502%2031000&c...)

### **Host Institution Campus**

### **Host Institution Faculty**

### **Host Institution Degree**

### **Host Institution Department**

**Course Last Reviewed**

2022-2023

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