CIVL 2003 FLUID MECHANICS

Credit Points 10

Legacy Code 300762

Coordinator Surendra Shrestha (https://directory.westernsydney.edu.au/search/name/Surendra Shrestha/)

Description This subject provides a basic understanding of fluid mechanics principles. Fluid mechanics is the study of the properties and movements of fluids, and key to understanding many of our engineering systems involving fluids, such as power generation, lubrication, irrigation and navigation. While the main focus is on incompressible fluids, effects of compressible fluids are also discussed. The theories learned in classes are reinforced in laboratory sessions. Students analyse fluid systems and apply principles in designing basic pipes and open-channels.

School Eng, Design & Built Env

Discipline Other Engineering And Related Technologies

Student Contribution Band HECS Band 2 10cp

Check your fees via the Fees (https://www.westernsydney.edu.au/currentstudents/current_students/fees/) page.

Level Undergraduate Level 2 subject

Pre-requisite(s) MATH 1016 AND
ENGR 1011 OR
ENGR 1028

Equivalent Subjects CIVL 2015 - Water Engineering CIVL 2004 - Fluid Mechanics (WSTC Assoc Deg)

Assumed Knowledge

200238 - Mathematics for Engineers 2.

Learning Outcomes

On successful completion of this subject, students should be able to:

1. Apply concepts of statics, kinematics and dynamics of fluids to solve fluid related engineering problems
2. Estimate flow through basic pipes and open channels
3. Analyse and design basic pipes and open-channels

Subject Content

Fluid properties
Fluid statics
Fluid kinematics
Types of flow
Continuity, momentum and energy principles
Dimensional analysis
Flow measurements, such as using plate orifices, venturi meters, semi-venturi meters
Surface resistance
Form resistance
Basic pipe flow
Basic open channel flow principles

Assessment

The following table summarises the standard assessment tasks for this subject. Please note this is a guide only. Assessment tasks are regularly updated, where there is a difference your Learning Guide takes precedence.

Type	Length	Percent	Threshold	Individual/ Group Task	Mandatory
Quiz	30 minutes (per Quiz)	20	N	Individual	N
Report	1,000 words (per report)	20	N	Group	N
Participation	1.5 hours (per participation)	6	N	Individual	N
Final Exam	2 hours	54	N	Individual	N

Prescribed Texts

- Elger, DF 2013. Engineering fluid mechanics, 10th edn, Wiley, Hoboken, NJ.

Teaching Periods

Autumn (2025)

Penrith (Kingswood)

On-site

Subject Contact Ataur Rahman (https://directory.westernsydney.edu.au/search/name/Ataur Rahman/)

View timetable (https://classregistration.westernsydney.edu.au/odd/timetable/?subject_code=CIVL2003_25-AUT_KW_1#subjects)

Parramatta City - Macquarie St

On-site

Subject Contact Surendra Shrestha (https://directory.westernsydney.edu.au/search/name/Surendra Shrestha/)

View timetable (https://classregistration.westernsydney.edu.au/odd/timetable/?subject_code=CIVL2003_25-AUT_PC_1#subjects)

Sydney City Campus - Term 1 (2025)

Sydney City

On-site

Subject Contact Eileen An (https://directory.westernsydney.edu.au/search/name/Eileen An/)

View timetable (https://classregistration.westernsydney.edu.au/odd/timetable/?subject_code=CIVL2003_25-SC1_SC_1#subjects)

Sydney City Campus - Term 3 (2025)

Sydney City

On-site

Subject Contact Eileen An (https://directory.westernsydney.edu.au/search/name/Eileen An/)

View timetable (https://classregistration.westernsydney.edu.au/odd/timetable/?subject_code=CIVL2003_25-SC3_SC_1#subjects)