CIVL 4012 WATER RESOURCE ENGINEERING

Credit Points 10

Legacy Code 300993

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Description This unit introduces optimisation theories applicable to water resources projects. The unit applies different optimisation models to select the best option available. Engineering economic theories specifically applicable to water resources projects are also discussed.

School Eng, Design & Built Env

Discipline Water and Sanitary Engineering

Student Contribution Band HECS Band 2 10cp

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

Level Undergraduate Level 4 subject

Pre-requisite(s) CIVL 3011

Learning Outcomes

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

1. differentiate between linear and non-linear programming principles
2. formulate water resources problems using linear, non-linear and dynamic programming techniques
3. employ appropriate optimisation techniques to water resource development projects
4. propose the best water resources project alternative among the available options
5. apply engineering economic principles to water resources projects
6. develop a decision support system as a team

Subject Content

1. Linear Programming
2. Non-linear Programming
3. Dynamic Programming
4. Water Resources Economics
5. Water Allocation Models

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.

Item	Length	Percent	Threshold	Individual/ Group Task
Mid-Term Exam	1 hr	20	N	Individual
Project Report	Each group submits one report of 2500 words (plus appendices) (est.)	30	Y	Group
Final Examination	2 hrs	50	Y	Individual

Teaching Periods