CIVL 3010 HIGHWAY INFRASTRUCTURE

Credit Points 10

Legacy Code 300988

Coordinator Chin Leo (https://directory.westernsydney.edu.au/search/name/Chin Leo/)

Description This subject focuses on two key aspects of highway infrastructure design, namely, the bridge superstructure design and the foundation soil preparation prior to construction of the highway pavement. It aims to provide students with specialised knowledge in bridge loading and structural design, methods to deal with soft and weak grounds, and building of earth embankments to support the highway pavement. These aspects will be discussed in relation to Australian design codes.

School Eng, Design & Built Env

Discipline Transport Engineering

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 3 subject

Pre-requisite(s) CIVL 2007 AND CIVL 2012

Learning Outcomes

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

1. Apply soil and structural mechanics principles in highway infrastructure design
2. Interpret soil properties and soil test data for use in geotechnical analysis and design
3. Apply engineering software as a tool for use in geotechnical analysis and design
4. Interpret and apply Australian Standards when designing highway infrastructures
5. Analyse and propose cost effective design highway infrastructures

Subject Content

Bridge Superstructure Module
1. Types of bridges
2. Bridge substructures and superstructures
3. Bridge loading and design loads
4. Design of superstructures
Highway Embankment and Foundation Module
1. Soft soil remediation
2. Soil stabilisation and improvement
3. Earth fills and retaining structures

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
Participation	2 Hours	10	N		N
Applied Project	15-20 pages each (include calculations and diagrams)	50	N		N
Numerical Problem Solving	1 hour each	40	N		N