, 2020

# CVEN4204 GROUND IMPROVEMENT AND MONITORING TECHNIQUES

Units of Credit 6

Contact hours 5 hours per week

**Lecture** Mondays 11:00 – 14:00 Online

Workshop

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This course is a final year elective offered to all undergraduate Civil and Environmental Engineering students. It forms part of the undergraduate specialisation in Geotechnical Engineering. The course introduces the need for ground improvements and brief descriptions of the methods used. Detailed design procedures of ground improvement techniques such as compaction, vibro-floatation and stone column, preloading, soil nailing and reinforced earth, dewatering techniques, and deep soil mixing will be presented.

### **TEACHING STRATEGIES**

The contents of this subject will be presented in a series of lectures, followed by examples/exercises. The lectures explain the theory and design recommendations. They tend to engage students in formal and informal discussions to broaden their understanding of different problems related to Geotechnical Engineering. Students are required to do extra research into the topics related to ground improvements not covered in the lecture.

An example of the approaches to learning is:

Lectures	Find out what you must learn
	Follow worked examples
	Hear announcements on course changes
	Research on topics not covered in the student notes
Exercises	Be guided by Lecturer
	Practice solving set problems
	Ask questions
Private Study	Review lecture material and textbook
	<ul> <li>Participate in solving examples and discussions</li> </ul>
	<ul> <li>Reflect on class problems and assignments</li> </ul>
	Consult with the Lecturer for their research topics

Assessments
(examinations and research assignments)

# COURSE PROGRAM

The table below shows the course program.

# Term 3, 2020

Date	Week	Lecture Topic
14/09/2020	1	Introduction to ground improvement techniques and Review of geotechnical
		engineering principles

21/09/2020

## ASSESSMENT OVERVIEW

1. Online test ~ 1 h

## ACADEMIC ADVICE

# Appendix A: Engineers Australia (EA) Competencies

Stage 1 Competencies for Professional Engineers

Program Intended Learning Outcomes

PE1: Knowledge anan *k*oe