

# CIVL 7014 SUSTAINABLE SYSTEMS

**Credit Points** 10

**Legacy Code** 301003

**Coordinator** Sathaa Arumugam Sathasivan ([https://directory.westernsydney.edu.au/search/name/Sathaa Arumugam Sathasivan/](https://directory.westernsydney.edu.au/search/name/Sathaa%20Arumugam%20Sathasivan/))

**Description** This subject teaches students the essential tools available to achieve environmental sustainability in various engineering/construction/industrial design professional settings. The focus of the subject is on the selection and application of methods and processes to achieve sustainable development goals (SDGs) in Australian and global context. The skills gained in this subject will help the student to work in professions such as an environmental engineer, an environmental manager, a sustainability advisor or a sustainability engineer.

**School** Eng, Design & Built Env

**Discipline** Water and Sanitary Engineering

**Student Contribution Band** HECS Band 2 10cp

Check your fees via the Fees ([https://www.westernsydney.edu.au/currentstudents/current\\_students/fees/](https://www.westernsydney.edu.au/currentstudents/current_students/fees/)) page.

**Level** Postgraduate Coursework Level 7 subject

## Restrictions

Students must be enrolled in a postgraduate program

## Learning Outcomes

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

1. Critically evaluate and select appropriate approaches for achieving sustainable development goals
2. Conduct Environmental/Social/Economic Impact Assessment by taking into social, cultural, environmental, and global considerations.
3. Critically analyse materials and/or energy flow in a chosen project/process/setting and identify improvement options taking into consideration of latest literature.
4. Conduct Life Cycle Assessment to support decision-making.
5. Succinctly and effectively communicate assessment outcomes to a range of audience.
6. Apply Australian environmental regulations correctly to different facts and in different contexts.

## Subject Content

1. Introduction to sustainable development.
2. Material and energy flow in the environment and processes.
3. Ecosystems, Ecology.
4. Social aspects of environment and Environmental ethics.
5. Sustainability development goals (SDGs).
6. Food-water-energy nexus
7. Tools applied in achieving sustainability and case studies
  - a. Environmental/Economic and Social Impact Assessment,
  - b. Environmental auditing
  - c. Life Cycle Assessment
  - d. Social Impact Assessment

e. Regulatory, Economic, and Policy tools

## 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
Report	2000 to 3000 words	35	N	Individual
Quiz	30 minutes (per Quiz)	20	N	Individual
Professional Task	Report 3000-4000 words And Presentation 10 minutes	45	N	Group/ Individual

Prescribed Texts

- NULL

Teaching Periods

## Spring (2023)

**Parramatta City - Macquarie St**

**On-site**

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View timetable ([https://classregistration.westernsydney.edu.au/odd/timetable/?subject\\_code=CIVL7014\\_23-SPR\\_PC\\_1#subjects](https://classregistration.westernsydney.edu.au/odd/timetable/?subject_code=CIVL7014_23-SPR_PC_1#subjects))

## Spring (2024)

**Parramatta City - Macquarie St**

**On-site**

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