



# School of Civil and Environmental Engineering

Term 3, 2020

COURSE DETAILS	
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<b>Units of Credit</b>	0 g0 G[( )] TJET q308.63 518.15 209.6 29.5 reW*n /Span A/CID 9/Lang (en
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<b>Assessments</b>	<ul style="list-style-type: none"> <li>◁ Formative and summative assessment of knowledge and skills in assignments, with students encouraged to seek formative informal assessment via consultation with the lecturer during preparation of assignments</li> <li>◁ Demonstrate higher understanding and problem solving on real world problems in hypothetical, but realistic problem settings.</li> <li>◁ Exams are summative assessments on knowledge gained in the course, particularly as indicated by the ability to quickly undertake exercises set in the Workshop problems</li> </ul>
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<b>COURSE PROGRAM</b>
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**TERM 3, 2020**

Date	Lecture Content Mondays, 9-11am	Lecture Content Tuesdays, 11am-1pm	Demonstration Content Wednesdays, 4-6pm
14/09/2020 (Week 1)	Sustainability Principles (incl. rel. vs abs. sust.)	Sustainable Engineering and Industrial Ecology	Sustainability Principles
21/09/2020 (Week 2)	Footprints (Carbon Footprint)	Footprints (Ecological Footprint)	Calculate your Ecological Footprint
28/09/2020 (Week 3)			

## ASSESSMENT

Details of each assessment component, the marks assigned to it, the criteria by which marks will be assigned, and the dates of submission are set out below.

The final grade for this course will normally be based on the sum of the scores from each of the assessment tasks. The final examination is worth **50%** of the final mark if class work is included and **100%** if class work is not included. The class work is worth **50%** of the final mark if included. **The final examination is compulsory.** A mark of at least 40% of the exam mark in the final examination is required before the class work is included in the final mark. The formal exam scripts will not be returned but students are permitted to view the marked script.

The exam will be a **2-hour open book exam** during the normal exam period. The questions will generally be similar to the workshop exercises. Calculators must be UNSW approved, for details see:

<https://student.unsw.edu.au/exam-approved-calculators-and-computers>.

Supplementary Examinations for Term 3 2020 will be held on Monday 11<sup>th</sup> January – Friday 15<sup>th</sup> January 2021 (inclusive) should you be required to sit one. You are required to be available during these dates.

Please do not to make any personal or travel arrangements during this period.

Workshop problems and exercises are intended to give you formative assessment and assist with preparation of the formal assignments and the end-of-session exam. Students who perform poorly in the workshops are recommended to discuss progress with the demonstrators and lecturers during the semester.

The Course coordinator reserves the right to adjust the final scores by scaling if agreed to by the Head of School.

**ASSESSMENT OVERVIEW**

Item	Length	Weighting	Learning outcomes assessed	Assessment Criteria	Due date and submission requirements	Deadline for absolute fail	Marks returned
Online quiz		10%	LO3	Students will be expected to demonstrate an understanding of the qualitative and quantitative concepts that underpin decision making.	<b>Wednesday 7 Oct / 16:00</b> (during workshop session)	<b>Wednesday 7 Oct / 16:00</b> (during workshop session)	<b>Wednesday 7 Oct / 16:00</b> (during workshop session)
Assignment 1 (carbon footprinting)	8 pages (excluding cover sheet and appendices)	25%	LO1, LO2	This is a group assignment where carbon footprints of households are calculated, compared, altered and discussed and suggestions for changes presented. The aim is to demonstrate an understanding of environmental sustainability and footprinting methodology, the capacity for analytical and critical thinking, for creative problem solving and skills for collaborative team work. The assessment criteria refer to the study context, methodology and calculations, assumptions and explanations, results, discussion, recommendations, conclusions, summary and theC q316.85 428.92 203.05 60.525 reW			

## RELEVANT RESOURCES

### UNSW Moodle

All material required for this course will be provided on UNSW Moodle. It is compulsory for all students to access this resource: <https://moodle.telt.unsw.edu.au/login/index.php>

### Textbook

There is no required textbook for this course. However, we **strongly recommend** the following textbook:

- ◁ Peters, G. and Svanström, M. 2019. ***Environmental Sustainability for Engineers and Applied Scientists***. Cambridge University Press, Cambridge. <https://doi.org/10.1017/9781316711408>  
[Available through UNSW Library at <https://www.library.unsw.edu.au>].

### Recommended Readings

Sustainability and Industrial Ecology:

- ◁ 344(6188): 1114-1117. <http://dx.doi.org/10.1126/science.1248365>
- ◁ Hellweg, S. and L. Milà i Canals. 2014. Emerging approaches, challenges and opportunities in life cycle assessment. *Science* 344(6188): 1109-1113.  
<http://www.sciencemag.org/content/344/6188/1109.abstract> G[(1)6(1)-18(1)6(7)6(. )] TJ000887 y00516004C0/1(H)-2(e)6

## Appendix A: Engineers Australia (EA) Competencies

### Stage 1 Competencies for Professional Engineers

	<b>Program Intended Learning Outcomes</b>
<b>PE1: Knowledge and Skill Base</b>	PE1.1 Comprehensive, theory-based understanding of underpinning fundamentals
	PE1.2 Conceptual understanding of underpinning maths, analysis, statistics, computing
	PE1.3 In-depth understanding of specialist bodies of knowledge
	PE1.4 Discernment of knowledge development and research directions