Learning, Teaching and Assessment Showcase 2024

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Utilising the SDG Impact Assessment Tool to assess students' understanding of sustainability in the context of a community-based project

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Drivers for the Integration of Sustainability Assessment

- Engineers Ireland – Sustainability as a new accreditation criteria January 2021

- TU Dublin Strategic Plan – Commitment to environmental sustainability through Teaching & Research

Action Plan

Developing comprehensive strategy to assess sustainability within Water and Environmental Engineering modules across programs at levels 7, 8, and 9 within the School of Transport and Civil Engineering

Methodology for Executing the Action Plan

LITERATURE REVIEW

SELECTION OF PILOT MODULES

DESIGNING SUSTAINABILITY ASSESSMENT ACTIVITIES

ASSESSMENT OF SUSTAINABILITY

Findings from the Literature Review

Defining

Measuring

Teaching

Assessing

What should we be assessing?

Education for
Sustainable Development Goals
Learning Objectives

The ability to think sideways !

Findings from the Literature Review

Defining

Measuring

Teaching

Assessing

How ?

The learning environment needs to be learner centred and learner led.

- **Collaborative real-world projects**
- **Vision building exercises**
- **Community based research projects**
- **Critical and reflective thinking: discussions and reflective journals / videos**

These kinds of learning activities require a shift away from traditional teaching approaches

Pilot Modules

Level 7

Module	Year	Semester
Introduction to Civil Engineering	1	S1
Water & Env. Eng. 1	2	S2
Water & Env. Eng. 2	3	S1
Water & Env. Eng. 3	3	S2

Level 8

Module	Year	Semester
Env. Eng.	3	S1
Civil Eng. Hydraulics 2	3	S2
Hydraulic Structures 2	4	S2
Scheme Design	4	S2

Level 9

Module	Semester
Climate Resilient Infrastructure	S2
Water Resources Management	S2

Pilot Module: Scheme Design – Overview

- Module: Civil Scheme Design, Level 8, Year 4/Sem 2
- Module Assessment: 100% CA
- Module Aim: To simulate the role of the graduate/project engineer in the context of current design practice in Ireland
- Module delivery: 4 design projects to address open-ended problems

Pilot Module: Scheme Design – Learning Activity

- Community based research projects targeting multiple SDGs
- Delivered as part of the “**Where There Is No Engineer**” Programme
- External involvement: Friend In Need (FIN) India Trust
- Designing “EcoSan: A Circular Economy Sanitation Solution” for Kameswaram Village in India

Pilot Module: Scheme Design – Assessment

- Developing core competencies

Assessment activity	Targeted Competencies
Knowledge - Attitude – Practice (KAP) Survey	▪ Self-awareness competency
Development of problem statement	▪ Anticipatory competency ▪ Critical thinking competency
Project Report/Presentation	▪ Collaboration competency ▪ Integrated problem-solving competency
SDG Impact Assessment Tool	▪ Strategic competency

SDG Impact Assessment Tool

GOTHENBURG CENTRE FOR SUSTAINABLE DEVELOPMENT, GMV

CHALMERS UNIVERSITY OF TECHNOLOGY

UNIVERSITY OF GOTHENBURG

How to do an SDG impact assessment

There are five steps you need to go through in the assessment. The method provides an opportunity for a systematic approach to how your work relates to the SDGs, ensuring that all aspects of sustainability are covered and discussed.

Steps in the self-assessment method

SDG Impact Assessment Tool

SDG IMPACT ASSESSMENT TOOL

Ecosan Sustainability Review

Description

A new innovative ecosan technology was designed as part of a technical investigation and design report. The project addressed numerous aspects relating to relevant sustainable development goals SDG's that are a key function for the United Nations fundamental targets.

Students Achievements

Students Learning With Communities

Certificate of Participation 2022

This certificate is awarded to

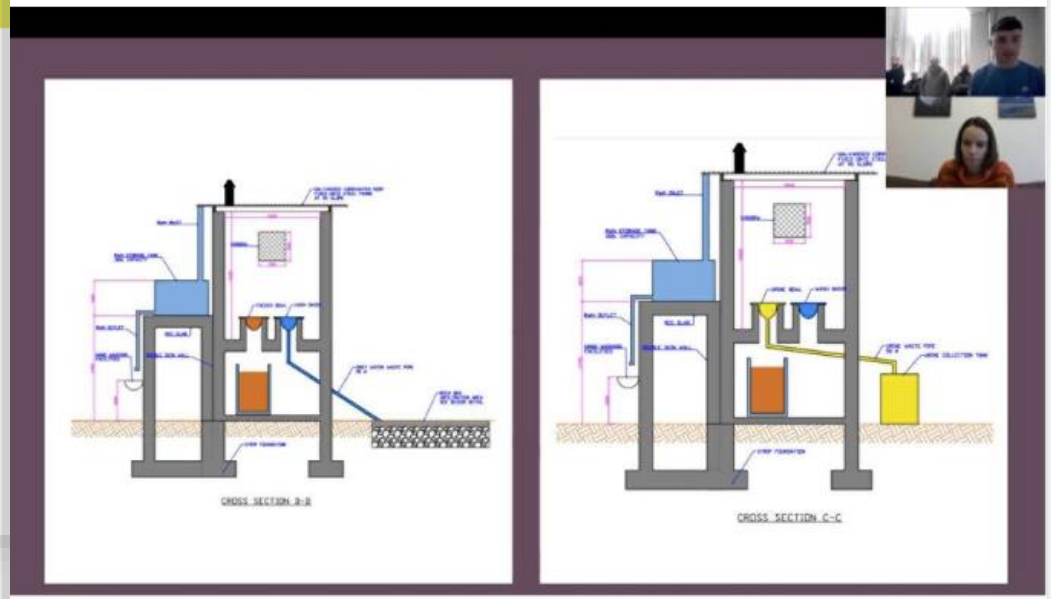
_____

For

Excellent collaborative work with a community group by the whole class

School of Civil & Structural Engineering, TU Dublin
17 May 2022 ·

Our final year students in the Civil Engineering BE(Hons) programme participated in a community-based project in which sustainable innovative sanitary systems for Kameswaram village in India were designed. Engineers Without Borders (EWB) Ireland represented the community partner in the project and they worked closely with the students in their design. Both the students and the EWB will receive awards from the Students Learning with Communities (SLW) programme in TU Dublin in recognition of their engagement in community-based learning activity. The award ceremony will take place on Tuesday 24th of May 2022 at 1:30 PM



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Acknowledgements

- TU Dublin Faculty of Engineering & Built Environment for the Teaching Champion Award

Teaching Champion

Engineering & Built Environment

Award Certificate

This certificate is awarded to

Dr Ahmed Nasr, Dr Zeinab Bedri, Liam Mc.Carton, Caitriona Quinn, Dr Janet Kennedy

For

Alternative Assessment Strategies

Dr Avril Behan, Director College Engineering & Built Environment, City Campus, Technological University Dublin

Patrick Flynn, Head of Learning Development, College of Engineering and Built Environment, City Campus, Technological University Dublin

TU DUBLIN

- Team of TU Dublin Civil Engineering Teaching Champions

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