

ENGR 3032 HUMANITARIAN DESIGN AND PRACTICE

Credit Points 10

Description In this subject, students will learn community engagement strategies and prototype development using the framework of human-centered design. Through international and domestic mobility programs students will collaborate with local stakeholders to co-develop solutions for priority community needs. Drawing on inter-disciplinary approaches (combining social sciences, design and engineering), students will gain socio-technical skills and apply these to real-world humanitarian problems such as disaster preparedness and sustainable development. This subject is co-designed and delivered with industry partners (e.g. Engineers Without Borders, RedR) and will prepare students for career pathways working with regional and international industry agencies and local community partners in other countries to develop humanitarian engineering interventions.

School Eng, Design & Built Env

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) ENGR 1043 OR
ENGR 1024

Restrictions

Students must complete a minimum of 140 credit points before enrolling in this subject

Learning Outcomes

After successful completion of this Subject, students will be able to:

1. Analyse the issues that affect sustainability in a design solution
2. Identify failure and success indicators of projects addressing community needs
3. Apply a systems approach towards the selection of socio-technical options for a given scenario
4. Provide socio-technical recommendations for community needs with appropriate justification
5. Apply collaborative skills in a team setting to address a socio-technical problem
6. Professionally communicate methodology, analysis, and outcomes of a prototype idea/ development process in a range of different verbal and written formats

Subject Content

- Emergency management frameworks and technology
- Humanitarian engineering and human-centered design
- Community participatory approaches and appropriate technology
- Community-focused sustainable development and disaster risk reduction

Prescribed Texts

- Mitcham, C & Muñoz, D 2010, *Humanitarian engineering*, Springer, Cham, Switzerland.