



School of Civil and Environmental Engineering

Term 3, 2021

ENGG4103

International Humanitarian Response

COURSE DETAILS

Units of Credit	6	
Contact hours	4 hours per week	
Lecture	Wednesday, 10:00 –13:00	Online
Workshop	Wednesday, 14:00 – 17:00	Online
Course Coordinator and Lecturer	Dr James Hayes email: j.e.hayes@unsw.edu.au office: H22 Room 133	

INFORMATION ABOUT THE COURSE

This course builds upon knowledge from other courses in Humanitarian Engineering including ENGG3001 which is a prerequisite. This course focuses predominantly on first response and disaster related content, unlike ENGG3001 and ENGG4103 which are centred on humanitarian development. This course is designed to provide an experience to students with regards to how the humanitarian sector operates with the context of humanitarian practice for engineers. This course builds on the experience students will have by attending the RedR Essentials of Humanitarian Practice course.

This course is run in conjunction with the RedR course Essentials of Humanitarian Practice which is compulsory to attend prior to the start of this course. The course may be used as an elective contribution of 6 UoC towards a 'Humanitarian Engineering Minor' or 'Humanitarian Science and Technology Minor' (<https://www.challeng.unsw.edu.au/social-impact/humanitarian-engineering/study-humanitarian-engineering>). Students who are interested in completing a Humanitarian Minor can speak with the Humanitarian Engineering academic lead, Dr. Andrew Dansie, and/or your School Undergraduate Coordinator.

HANDBOOK DESCRIPTION

See link to virtual handbook:

<https://www.handbook.unsw.edu.au/undergraduate/courses/2021/ENGG4103/>

OBJECTIVES

The objectives of this course include:

1. Provide students with enhanced understanding of humanitarian action, the humanitarian response and the United Nations humanitarian assistance system from an engineering focus
2. Develop skills for collaborative and multi-disciplinary teamwork, including with non-engineers
3. Use reflective learning practices
4. Present analytical, critical thinking, and problem solving skills
5. Provide effective communitive strategies in the context of disaster recovery, including high intensity scenarios
6. Instruct on the importance and value of ethical practice
7. Hone ability to operate within challenging environments with limited resources
8. Instruct via human-centred design approaches

TEACHING STRATEGIES

All lectures and workshops take place within a three hour block per week (typically 2 hour lectures, 1 hour workshops) to allow for a blended learning experience wherein the lecturer and student can work together on specific tasks. Workshops will consist of either a) Case study wherein specific concepts discussed in the lecture are identified in case studies and/or other research, b) Assessment feedback and discussion, or c) Lecture -based activities.

Private Study	<ul style="list-style-type: none">• Review lecture and supporting material• Do set problems and assignments• Join Moodle discussions of problems• Reflect on class problems and assignments• Download materials from Moodle• Keep up with notices and find out marks via Moodle
Lectures	<ul style="list-style-type: none">• Find out what you must learn• See methods that are not in the textbook• Follow worked examples
Workshops	<ul style="list-style-type: none">• Be guided by Demonstrators• Practice solving set problems• Engage with fellow students regarding specific issues• Participate in activities• Ask questions
Assessments	<ul style="list-style-type: none">• Demonstrate your knowledge and skills• Demonstrate higher understanding and problem solving• Demonstrate your self reflective abilities

EXPECTED LEARNING OUTCOMES

This course is designed to provide the student to engage critically and independently with concepts relating to humanitarian design, organisation, and principles.

This course is designed to address the learning outcomes below and the corresponding Engineers Australia Stage 1 Competency Standards for Professional Engineers as shown. The full list of Stage 1 Competency Standards may be found in Appendix A.

After successfully completing this course, you should be able to:

Learning Outcome		EA Stage 1 Competencies
1.	<i>Demonstrate understanding of the principles of Humanitarian Engineering in international humanitarian response and humanitarian cluster systems.</i>	PE1.3, 1.5, 1.6
2.	<i>Demonstrate what an orderly management of self and professional conduct entails in humanitarian response situations</i>	PE 3.1, 3.2, 3.3, 3.4
3.	<i>Evaluate successes and where improvements are needed in humanitarian response efforts</i>	PE 1.3, 2.4
4.	<i>Display effective team membership and leadership</i>	PE3.6
5.	<i>Communicate effectively using spatial data and oral presentation</i>	PE 3.3, 3.4
6.	<i>Demonstrate an ability to reflect on ethical, cultural, humanitarian and infrastructural systems and how these systems integrate</i>	PE 3.1, 3.3, 3.5

For each hour of contact it is expected that you will put in at least 1.5 hours of private study.

COURSE PROGRAM

Term 3 2021

Date	Lecture Content	Demonstration Content	Assessments
13/09/2021 (Week 1)	History, ethics, & research	Assignment discussion Orientation	
20/09/2021 (Week 2)	Local engagement and participation	Participation exercise Critical review topic selection	
27/09/2021 (Week 3)	Humanitarian successes, failures, and assessment	HE Case studies	Reflection journal part 1 due 1/10/21
04/10/2021 (Week 4)	Communication and cluster systems	Communication system case study Reflection work feedback	
11/10/2021 (Week 5)	Simulation exercise	Simulation exercise	Simulation exercise carried out in class and tutorial
18/10/2021 (Week 6)	<i>Flexibility week for all courses (non-teaching)</i>		
25/10/2021 (Week 7)	Needs assessment, decision making, and wicked problems	Critical review draft feedback and discussion Decision making exercise Wicked problem exercise	
01/11/2021 (Week 8)	Limitations in humanitarian settings and accountability	Limitations case study	
08/11/2021 (Week 9)	Civil and structural challenges	Site planning exercise	Reflection journal part 2 due 13/11/21
15/11/2021 (Week 10)	Trends in disaster and recovery	Alternative research case study	Critical review project due 20/11/21

ASSESSMENT

Students will undertake a variety of individual assessments as well as a simulation exercise that will be associated with course objectives.

Students are expected to write a self reflective journal throughout all weeks of the course as well as every day for the RedR Essentials of Humanitarian Practice Course. To ensure meaningful and useful application of the self reflection journal, multiple feedback sessions will be provided for students, and students are expected to engage with workshops.

Assessment components, the marks assigned to each task, and the dates of submission are set out below. See assessment details on assignments.

PENALTIES

Late work will be penalised at the rate of 10% per day after the due time and date have expired. The penalisation will be calculated as 10% from the graded mark of the submitted work.

ASSESSMENT OVERVIEW

Item	Length	Weighting	Learning outcomes assessed	Assessment Criteria <i>(this needs to explicitly describe what students are expected to demonstrate in the task)</i>	Due date and submission requirements	Deadline for absolute fail	Marks returned
1. Critical review project	2000 words	30%	1., 2., 5., 7.	Assessment was based on ability to provide critical thinking about relative success or failure of a humanitarian case study and the ability of the student to provide further recommendations	20/11/21	27/11/21	30/11/21
2. Humanitarian Engineering Reflection Journal	Approximately 300 Words per week/per day for EHP course	20%	1., 2., 4., 7.	Students will need to demonstrate deep thinking regarding their experiences and how these experiences contribute to their prospective humanitarian engineer careers	Part 1 due 1/10/21 Part 2 due 20/11/21	Part 1: 11/11/21 Part 2: 27/11/21	30/11/21
3. Simulation exercise	Approximately 2-3 hours	20%	3.	Students will be assessed on level of participation, contribution, engagement, and awareness of the humanitarian system	13/11/21	n/a	27/11/21
4. Professional Interview	Approximately 20 minutes	30%	1., 3., 6., & 7.	Assessments are based on communication ability, knowledge of the humanitarian system, as well as engagement	Week 11	n/a	30/11/21

RELEVANT RESOURCES

- Textbook details, including title, author(s), publisher, edition, year of publication, ISBN and availability (in bookshop, UNSW Library, Open Reserve).
- List of required and suggested additional readings and availability (in bookshop, UNSW Library, Open Reserve).
- Additional materials provided on Moodle.
- Recommended Internet sites.

DATES TO NOTE

Refer to MyUNSW for Important Dates available at:

<https://student.unsw.edu.au/dates>

PLAGIARISM

Beware! An assignment that includes plagiarised material will receive a 0% Fail, and students who plagiarise may fail the course. Students who plagiarise are also liable to disciplinary action, including exclusion from enrolment.

Plagiarism is the use of another person's work or ideas as if they were your own. When it is necessary or desirable to use other people's material you should adequately acknowledge whose words or ideas they are and where you found them (giving the complete reference details, including page number(s)). The Learning Centre provides further information on what constitutes Plagiarism at:

<https://student.unsw.edu.au/plagiarism>

ACADEMIC ADVICE

Useful information and resources:

- Key Staff to Contact for Academic Advice (log in with your zID and password): <https://intranet.civeng.unsw.edu.au/key-staff-to-contact-during-your-studies-at-unsw>
- CVEN Student Intranet (log in with your zID and password): <https://intranet.civeng.unsw.edu.au/student-intranet>
- Student Life at CVEN, including Student Societies: <https://www.unsw.edu.au/engineering/civil-and-environmental-engineering/student-life>
- Special Consideration: <https://student.unsw.edu.au/special-consideration>
- General and Program-Specific Questions: [The Nucleus: Student Hub](#)

Appendix A: Engineers Australia (EA) Competencies

Stage 1 Competencies for Professional Engineers

	Program Intended Learning Outcomes
PE1: Knowledge	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
	PE1.5 Knowledge of engineering design practice
	PE1.6 Understanding of scope, principles, norms, accountabilities of sustainable engineering practice
PE2: Engineering Application	PE2.1 Application of established engineering methods to complex problem solving
	PE2.2 Fluent application of engineering techniques, tools and resources
	PE2.3 Application of systematic engineering synthesis and design processes
	PE2.4 Application of systematic approaches to the conduct and management of engineering projects
PE3: Professional and Personal	PE3.1 Ethical conduct and professional accountability
	PE3.2 Effective oral and written communication (professional and lay domains)
	PE3.3 Creative, innovative and pro-active demeanour
	PE3.4 Professional use and management of information
	PE3.5 Orderly management of self, and professional conduct
	PE3.6 Effective team membership and team leadership