

Course 7: Integrating GDE into the Academia

Academic coordinator: Mr. Andrew Lamb

Andrew was the first staff Chief Executive of Engineers Without Borders UK until summer 2013 where he made significant progress in the organisation's scope and effectiveness, including a much stronger focus on reforming engineering education. Andrew is a director of the Appropedia Foundation which runs the Appropedia website – a sustainability wiki. He is a trustee of disaster relief organisation RedR UK and of the Humanitarian Centre in Cambridge. He was the technical editor of the world's first UNESCO Engineering Report and was a Visiting Lecturer for EngineeringUK. Andrew is now working as a consultant for the World Federation of Engineering Organisations and the World Bank. He is an advisor to Field Ready (an organisation that is looking to use innovative technologies to transform relief supply chains), to the Institution of Civil Engineers development policy panel and to Engineers Without Borders International.

Syllabus

Overview

This course will introduce academics to methods for integrating the global dimension into engineering education at a high level in order to achieve systemic change. The sessions within this course will provide the students an overview of why a deeper integration of global dimension issues is important, as well as running through various examples of this type of integration in practice by analysing case studies of different programmes. Ancillary topics, such as the monitoring and evaluation of such programmes, will be covered as well.

This course aims to prepare participants to identify and define spaces within their own curricular contexts for the introduction of such interventions, as well as with the necessary tools with which to implement them. It will prepare students to take part in Courses 8 and 9, which will focus on interventions at the curricular and research level, respectively.

Learning outcomes:

By the end of the course the participant will be able to:

1. Knowledge of the role of GD in engineering education, and understanding of how GD relates to other education agendas (sustainability, humanitarian engineering, etc.)
2. Capacity to map the GD onto existing educational contexts and practices, including both content and the regulatory frameworks in which the contexts exist.
3. A practical understanding of different ways that the GD can manifest in the curriculum, as well as the advantages and disadvantages of each.
4. Understanding of the regulatory frameworks which operate on a European or in-country level.



5. Understanding of the relevance of M & E to the development of new programming and an ability to develop a preliminary M & E program for curricular interventions.
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The course at a glance:

Session	Week	Topic covered
1	1	The role of engineering education in relation to the Global Dimension
2	1	Mapping the Global Dimension within teaching and learning
3	2	Level, distribution and depth
4	2	"Nuts and Bolts": regulatory frameworks and barriers to inclusion
5	3	Monitoring and evaluation
0	3	Final Exam

Estimated time commitment

This course will run for 3 weeks beginning on September 8th, 2014. In total, the course should take approximately 20-25 hours to complete, including readings, assignments and activities. Each session is equivalent to two hours in the classroom plus 3 hours of personal study, broken down as follows.

N.	Activity	Estimated time commitment
1	Reading & Coursework	100 minutes
2	Explore Further Materials	60 minutes
3	Review Quizzes	20 minutes
4	Academic Activity	90 minutes
5	Participation in Discussion Forums	(Minimum of) 30 minutes



Course structure:

New lecture materials will be posted every Monday. Once posted, materials will be up for the duration of the course.

Each week, lecture material for two sessions will be posted. The lecture materials for each session will be comprised of one assigned reading, an Academic Activity, and a set of web resources, carefully selected to help participants deepen their understanding of the topics covered.

Session Review Quizzes will be posted online twice per week. They will be graded and passing the Review Quizzes is a requirement for passing the course. (For more information on course grading, please read the section entitled "Passing the Course").

The Academic Activity, included with each session, is designed to test your ability to put into practice what you have learnt during the sessions. **Only 2 of the 5 available Academic Activities will be graded. The course coordinator will announce the Academic Activities to be graded at the beginning of the course.** You will only be required to complete the 2 graded activities.

The Final Exam will take place in the last week of the course. It will be comprised of 30 questions covering all of the course material. Passing the Final Exam is a requirement of the course.

In addition to the graded activities, a discussion forum will run throughout the duration of the course. Each week, the course coordinator will post a discussion question related to the session topics. Participation in the discussion forum is not required to pass the course, and participants' discussion contributions will not be graded. However, students are **strongly encouraged** to participate in the discussion forum as the discussion and debate which will take place in the forums will greatly enhance student learning and topic engagement.

Quizzes/Assignments/Final exam:

Review Quizzes

There are 5 quizzes in total, each comprised of 10 questions and worth 10 possible points. 2 review quizzes will be posted each week, evaluating participants understanding of the weekly session topics. All quizzes count towards the final grade and can be attempted twice. The quiz format is a mixture of True/False and Multiple Choice questions.

Academic activities

Each session includes an academic activity for practicing key concepts learnt. Only 2 academic activities will be evaluated for grading. The course coordinator will indicate at

the beginning of the course which activity will be evaluated, as well as provide detailed instructions and evaluation criteria. The completed activity must be uploaded on the platform upon completion. Activities can be attempted only once; they worth a maximum of 10 points each, for a total of 20 points.

Final exam

The final exam consists of a mix of 30 True/False and Multiple Choice questions covering all the course topics. It worth a maximum of 30 points. It can be attempted twice.

Passing the Course

To pass the course you should:

- Have submitted all review quizzes before the due date
- Have submitted the academic activities before the due date
- Have submitted the final exam before the due date
- Obtain a grade of at least 70 points in total

Grading Policy

Students who successfully complete the course will be offered a Statement of Accomplishment according to the following grading policy.

Grading Policy	
Statement of accomplishment	at least 70 points
Statement of accomplishment with distinction	at least 90 points



Course 7: Integrating GDE into the Academia – COURSE TIMELINE

Course Start: September 8th

Sessions	Learning Outcomes By the end of the course you will be able to:		Due GA (Graded Activity)
Orientation	<ul style="list-style-type: none"> • Navigate the course • Know the other participants 	WEEK 0	<ul style="list-style-type: none"> • Read carefully the Syllabus • Complete the orientation questionnaire • Introduce yourself to others participants (Forum)
1. The role of engineering education in relation to the Global Dimension	<ul style="list-style-type: none"> • Knowledge of the role the Global Dimension plays in engineering education. • Understand how the Global Dimension relates to other education agendas. • Understand the impact of engineering education on global development. 	WEEK 1	<ul style="list-style-type: none"> • Reading & Coursework 1 (Release 08.09) • Quiz 1 (Release 09.09 – Due 21.09) GA • Discussion Forum (Release 09.09) • Reading & Coursework 2 (Release 08.09) • Quiz 2 (Release 12.09 – Due 21.09) GA • Academic Activity 1 (Release 11.09 – Due 21.09) GA
2. Mapping the Global Dimension within Academia	<ul style="list-style-type: none"> • Capacity to map the Global Dimension onto existing educational contexts and engineering practices, including both content and the relevant regulatory frameworks. • Awareness of specific opportunities incorporation of Global Dimension related initiatives and perspectives within teaching and research programmes. 		



<p>3. Level, Distribution and Depth</p>	<ul style="list-style-type: none"> • A practical understanding of different ways that the Global Dimension can manifest in the curriculum. • Understanding of the advantages and disadvantages of each manifestation. • Ability to select most appropriate method of integration for a variety of situations. 	<p style="writing-mode: vertical-rl; transform: rotate(180deg);">WEEK 2</p>	<ul style="list-style-type: none"> • Reading & Coursework 3 (Release 15.09) • Quiz 3 (Release 16.09 – Due 26.09) GA • Discussion Forum (Release 16.09) • Reading & Coursework 4 (Release 15.09) • Quiz 4 (Release 19.09 – Due 26.09) GA • Academic Activity 2 (Release 18.09 – Due 26.09) GA
<p>4. Regulatory Frameworks and Barriers to Inclusion</p>	<ul style="list-style-type: none"> • Identify key learning outcomes of engineering education at various levels. • Identify the key aspects of professional competence and understand indicators of attainment. • Understand why the global mobility of engineers is important, and identify the regulatory constraints and barriers to global aspects of education and training. • Understand the global responsibilities of engineers. 		
<p>5. Monitoring and evaluation</p>	<ul style="list-style-type: none"> • Understanding of the relevance of Monitoring and Evaluation to the development of new programming. • Ability to develop a preliminary Monitoring & Evaluation programme for curricular interventions. 	<p style="writing-mode: vertical-rl; transform: rotate(180deg);">WEEK 3</p>	<ul style="list-style-type: none"> • Reading & Coursework 5 (Release 22.09) • Quiz 5 (Release 22.09 – Due 28.09) GA
<p>Final exam</p>			<ul style="list-style-type: none"> • Exam (Release 25.09 – Due 28.09) GA • Post-course evaluation survey (Release 28.09)