

UNIVERSITY OF WARWICK

Proposal Form for New or Revised Modules (MA1 - version 6 - November 2012)

Approval information	
Approval Type	<input type="checkbox"/> New module <input checked="" type="checkbox"/> Revised module <input type="checkbox"/> Discontinue module
Date of Introduction/Change	01/10/2018
If new, does this module replace another? If so, enter module code and title:	
If revised/discontinued, please outline the rationale for the changes:	Change in the assessment methods. Removed the written examination and the module will be assessed by a poster (30%) and a project report (70%).
Confirmation that affected departments have been consulted:	Changes were made in consultations between the School of Engineering and WMG.
Module Summary	
1. Module Code (if known)	ES2D9
2. Module Title	Technology in International Development
3. Lead department:	100% School of Engineering
4. Name of module leader	Dr Lizzie Miles
5. Level	UG: <input type="checkbox"/> Level 4 (Certificate) <input checked="" type="checkbox"/> Level 5 (Intermediate) <input type="checkbox"/> Level 6 (Honours) PG: <input type="checkbox"/> Level 7 (Masters) <input type="checkbox"/> Level 8 (Doctoral) See Guidance Notes for relationship to years of study
6. Credit value(s) (CATS)	15
7. Principal Module Aims	

Approval information	
	The aim of this module is to examine technology and engineering projects in the context of disasters and international development. It will look at the relationship between international development, disasters and conflict and the impact that technology and engineers can have in these situations. There will be an introduction to the principles and realities of working in international development and the disaster sector and an insight into working in the field examining technological choices in areas of concern including: water, sanitation, energy, food, transport, building, waste and information technology.
8. Principal Learning Outcomes	<p>By the end of the module the student should be able to...</p> <ul style="list-style-type: none"> • Demonstrate a detailed knowledge of the relationship between international development, human development, UN Sustainable Development Goals (SDGs), disasters and conflict in a global context. • Evaluate current technologies used for provision of water, sanitation, energy, food, transport, building, waste and information technology. • Appropriately apply and critically analyse different technological and social choices based on economic, social and environmental criteria. • Show detailed analysis of a number of current technologies used for provision of water, sanitation, energy, food, transport, building, waste and information technology in both an international and disaster context. • Show understanding of the requirement for engineering activities to promote sustainable development and ability to apply quantitative techniques where appropriate.
9. Timetabled Teaching Activities (summary)	Lectures 6 hrs, Seminars 16 hrs. Total of 22hours.
10. Departmental Web-link	http://www2.warwick.ac.uk/fac/sci/eng/eso/modules/year2
11. Other essential notes	Advice and feedback hours are available for answering questions on the lecture material (theory and examples).
12. Assessment methods (summary)	Group poster including peer assessment (30%) Group project report 4000 words including peer assessment (70%)

For use by Strategic Planning and Analytics Office only - Do not fill in this section

Level	JACS3 Code	Teaching Split
		<i>If not provided in 3b above</i>

For use by Strategic Planning and Analytics Office only - Do not fill in this section

External Credit Level		Scheme	
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Module Context

13. Please list all departments involved in the teaching of this module. If taught by more than one department, please indicate percentage split.

School of Engineering (100%)

14. Availability of module

Degree Code	Title	Study Year	C/OC/A/B/C	Credits
H113	BEng Engineering	2	B	15
H114	MEng Engineering	2	B	15
H216	BEng Civil Engineering	2	A	15
H217	MEng Civil Engineering	2	A	15
H315	BEng Mechanical Engineering	2	A	15
H316	MEng Mechanical Engineering	2	A	15
H605	BEng Electrical and Electronic Engineering	2	A	15
H606	MEng Electrical and Electronic Engineering	2	A	15
HH35	BEng Systems Engineering	2	C	15
HH31	MEng Systems Engineering	2	C	15
H161	BEng Biomedical Systems Engineering	2	A	15
H163	MEng Biomedical Systems Engineering	2	A	15
HN11	BSc Engineering and Business Studies	2	B	15

15. Minimum number of registered students required for module to run

20 (optional module)

16. Pre- and Post-Requisite Modules

None.

Module Content and Teaching

17. Teaching and Learning Activities *(totals for module – please see guidance)*

Module duration (weeks)	9
Lectures	6 hrs
Seminars	(8 x 2hrs)=16 hrs
Tutorials	
Project Supervision	
Demonstration	

Module Context		
Practical Class/Workshops		
Supervised time in studio/workshop		
Fieldwork		
External visits		
Work based learning		
Placement		
Year abroad		
Other activity <i>(please describe): e.g. distance-learning, intensive weekend teaching etc.</i>	128 hours of Guided Independent Learning	
18. Assessment Method (Standard)		
Type of assessment	Length	% weighting
Written Examinations		
Practical Examinations		
Assessed essays/coursework	Group poster including peer assessment	30
	Group project report 4 000 words including peer assessment	70
18a. Final chronological assessment <i>(please see guidance)</i>	Group project report.	

19. Methods for providing feedback on assessment.
Feedback from poster submission, feedback from report submission.
20. Outline Syllabus
<p>Introduction: The nature of International Development, Human Development and the UN Sustainable Development Goals.</p> <p>Basic concepts : Economics; Sustainability; Livelihoods; Development; Productivity</p> <p>The relationship between International Development, Disaster Management and Technology Management.</p> <p>Current technologies: A round-up of technologies used for production of goods and services in low-income countries and in disaster situations.</p> <p>Technology choice: The use of economic and other criteria to choose and design technologies appropriate to their use and environment with focus on disaster recovery.</p>

Technical growth: The means of technical change in low-income countries post disaster, the nature of innovation and its risks and rewards, change agents and the nature of growth changes. Examples/ illustrations: Examples and case studies will be taken from the areas of: water, sanitation, energy, food, transport, building, waste and information technology.

21. Illustrative Bibliography

"The Bottom Billion", Collier, P., Oxford, 2008.

"Enabling Innovation - A Practical Guide to Understanding and Fostering Technological Change", Douthwaite, B., 2002

"Economic Development", Todaro, M.P., Smith S.C., 2006

22. Learning outcomes

Successful completion of the module leads to the learning outcomes. The learning outcomes identify the knowledge, skills and attributes developed by the module.

Learning Outcomes should be presented in the format "By the end of the module students should be able to..." using the table at the end of the module approval form:

Resources

23. List any additional requirements and indicate the outcome of any discussions about these.

N/A

Approval

24. Module leader's signature	Dr Lizzie Miles
25. Date of approval	21 March 2018
26. Name of Approving Committee (include minute reference if applicable)	School of Engineering and WMG Course and Module Approval Committee (CMAC) Minute 198-17/18
27. Chair of Committee's signature	Professor Gillian Cooke
28. Head of Department(s) Signature	Professor David Towers

Examination Information		
A1. Name of examiner (if different from module leader)		
A2. Indicate all available methods of assessment in the table below		
% Examined	% Assessed by other methods	Length of examination paper
	30% group poster including peer assessment 70% Group project report 4000 words including peer assessment	
A3. Will this module be examined together with any other module (sectioned paper)? If so, please give details below.		
N/A		
A4. How many papers will the module be examined by?	<input type="checkbox"/> 1 paper	<input type="checkbox"/> 2 papers
A5. When would you wish the exam take place (e.g. Jan, April, Summer)?		
A6. Is reading time required?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
A7. Please specify any special exam timetable arrangements.		
N/A		
A8. Stationery requirements		
No. of Answer books?		
Graph paper?		
Calculator?		
Any other special stationery requirements (e.g. Data books, tables etc)?		
A9. Type of examination paper		
Seen?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Open Book?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Restricted?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
If restricted, please provide a list of permitted texts:		

LEARNING OUTCOMES		
(By the end of the module the student should be able to....)	Which teaching and learning methods enable students to achieve this learning outcome? (reference activities in section 15)	Which summative assessment method(s) will measure the achievement of this learning outcome? (reference activities in section 16)
<ul style="list-style-type: none"> • Demonstrate a detailed knowledge of the relationship between international development, human development, UN Sustainable Development Goals (SDGs), disasters and conflict in a global context. 	Lectures, seminars	Report
<ul style="list-style-type: none"> • Evaluate current technologies used for provision of water, sanitation, energy, food, transport, building, waste and information technology. 	Lectures, seminars	Report, Poster
<ul style="list-style-type: none"> • Appropriately apply and critically analyse different technological and social choices based on economic, social and environmental criteria. 	Lectures, seminars	Report

LEARNING OUTCOMES		
(By the end of the module the student should be able to....)	Which teaching and learning methods enable students to achieve this learning outcome? (reference activities in section 15)	Which summative assessment method(s) will measure the achievement of this learning outcome? (reference activities in section 16)
<ul style="list-style-type: none"> • Show detailed analysis of a number of current technologies used for provision of water, sanitation, energy, food, transport, building, waste and information technology in both an international and disaster context. 	Lectures, seminars	Poster
Show understanding of the requirement for engineering activities to promote sustainable development and ability to apply quantitative techniques where appropriate.	Lectures, seminars	Report