

Proposal Form for New or Revised Modules (MA1 - version 7 – April 2014)

Approval information	
Approval Type	<input type="checkbox"/> New module <input checked="" type="checkbox"/> Revised module <input type="checkbox"/> Discontinue module
Date of Introduction/Change	02/10/2018
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 title since we removed the part on temporary works from the module content. The temporary works part is replaced by a workshop on project management. Change in hours of lectures and tutorials. Assessment changed to 30% Coursework comprising of: 10% Individual reflective report on formative group activity; 10% Group Oral Presentation including peer assessment and 10% Simulation and in class quiz during workshop.
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)	ES4D5
2. Module Title	Construction Management
3a. Lead department:	School of Engineering (100%)
3b. Teaching Split (if known):	100% Engineering
4. Name of module leader	Dr Georgia Kremmyda
5. Level	UG: <input type="checkbox"/> Level 4 (Certificate) <input type="checkbox"/> Level 5 (Intermediate) <input type="checkbox"/> Level 6 (Honours) PG: <input checked="" 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

Module Summary	
7. Principal Module Aims	To provide the students with grounding in construction management of building and civil engineering works. To prepare students for working in the construction industry through an understanding of the important interactions between construction processes, strategic and business management. To apply this understanding to achieve safe, economic, timely and quality outcomes over the life cycle of a project.
8. Principal Learning Outcomes	By the end of the module the student should be able to... <ul style="list-style-type: none"> ○ Identify, use and critically analyse the range of processes involved in design, construction and post construction of civil engineering projects. ○ Identify and interpret forms of contract and documents associated with a typical construction project. ○ Demonstrate an advanced understanding and critical awareness of team collaboration and building information modelling and management in civil engineering projects. ○ Demonstrate systematic knowledge and critical awareness of the process of strategy formation and implementation in the construction business and project environment. ○ Specify appropriate surveying techniques and apply them appropriately with due regard to survey control, analysis and purpose. ○ Evaluate topographical survey data and apply appropriate systems of adjustment. ○ Demonstrate effective communication, both verbal and written, to a technical and non-technical audience.
9. Timetabled Teaching Activities (summary)	30 hrs Lectures (including lectures from invited speakers), 2 hrs Seminars; 2x8 hrs workshop (on project management), 2 hrs Revision Classes, 4 hrs Visit and 3x8 Hours Surveying Fieldwork. Total of 78 hours.
10. Departmental Web-link	www2.warwick.ac.uk/fac/sci/eng/eso/modules/year4/es4d5/
11. Other essential notes	This module is suitable for site visits and guest speakers. Advice and feedback hours are available for answering questions on the lecture material (theory and examples).
12. Assessment methods (summary)	70% Examination (3 hours) 30% Coursework comprising of: 10% Individual reflective report on formative group activity; 10% Group Oral Presentation including peer assessment and 10% Simulation and in class quiz during workshop.

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>

External Credit Level		Scheme	

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
H107	MEng Engineering (and variants)	4	A	15
H109	MEng Engineering with Intercolated year	5	A	15
H110	MEng Engineering with a Year in Research	5	A	15
New	MEng Engineering with Exchange year	4	A	15
H211	Civil Engineering (MEng) and variants	4	C (Core)	15
H212	MEng Civil Engineering with Intercolated Year	5	C (Core)	15
H213	MEng Civil Engineering with a Year in Research	5	C (Core)	15
H21A	MEng Civil Engineering with Exchange year	4	C (Core)	15
HN12	Engineering Business Management (BEng)	3	B	15
15. Minimum number of registered students required for module to run				
1 (core module)				
16. Pre- and Post-Requisite Modules				

Module Content and Teaching	
17. Teaching and Learning Activities (<i>totals for module – please see guidance</i>)	
Module duration (weeks)	15
Lectures	30x1 hrs
Seminars	2x1 hrs
Tutorials	0
Project Supervision	0
Demonstration	0
Practical Class/Workshops	2x8 hrs = 16 hours total
Supervised time in studio/workshop	0
Fieldwork	3 daysx8 hrs = 24 hrs Surveying
External visits	1 day x4 hrs = 4 hrs
Work based learning	0
Placement	0

Module Content and Teaching		
Year abroad	0	
Other activity <i>(please describe): e.g. distance-learning, intensive weekend teaching, etc.</i>	2 hrs of Revision Class 72 hrs of guided independent learning	
18. Assessment Method (Standard)		
Type of assessment	Length	% weighting
Written Examinations	3 Hours	70
Practical Examinations		
Assessed essays/coursework	Coursework comprising of: individual reflective report on group work (1000 Words) 10%, group oral Presentation including peer assessment 10%, simulation and in class quiz during workshop 10%.	30
18a. Final chronological assessment <i>(please see guidance)</i>	Examination	
19. Methods for providing feedback on assessment.		
Individual & Group feedback will be given on the assignments together with general feedback. Formative feedback on surveying tasks will be delivered during the fieldwork. Past examination papers and model solutions will be published to students. Cohort level feedback on examination.		
20. Outline Syllabus		
<ul style="list-style-type: none"> ○ Introduction to Construction Business and Project Management ○ Construction Management Roles and Responsibilities ○ Obtaining the project <ul style="list-style-type: none"> ▪ Bids (Pre-qualification and Tendering; Estimating) ▪ Selection methods ▪ Contracts (standard forms of contract; construction law and resolving disputes) ○ Project stages <ul style="list-style-type: none"> ▪ Design (planning approval; stages of design, RIBA; Design Management BS 7000-4; site investigation) ▪ Pre-construction ▪ Procurement ▪ Construction (project management; contract administration; billing; getting paid; cost management; time management, quality management; safety management; environmental management) ○ Sustainability in Construction ○ Building Information Modelling (BIM) <ul style="list-style-type: none"> ▪ Requirements ▪ BIM maturity levels ○ Site Design and Operation 		

Module Content and Teaching

- Health and Safety in Design and Construction, CDM Regulations
- Site Waste Management Plans
- Site Organisation
- Surveying
 - Survey planning & control: Whole to part, Geodetic vs plane, Types of survey
 - Common techniques and equipment: tape, level, theodolite, EDM, GPS
 - Techniques of measurement and error evaluation and control: Error types and mitigation, Bowditch, Least Squares, GPS
 - Setting out: profiles, curves
 - Instrumentation and Monitoring

21. Illustrative Bibliography

Harris F., Ronald McCaffer , Francis Edum-Fotwe (2013) *Modern Construction Management*, Wiley Blackwell, 7th ed. ISBN-10: 047067217X, ISBN-13: 978-0470672174

Powell, G. (2016) *Construction Contract Preparation and Management: From Concept to Completion*. UK: Palgrave Macmillan, ISBN-13: 978-1-137-51114-0

Chuck Eastman, Paul Teicholz, Rafael Sacks, Kathleen Liston (2011) *BIM Handbook: A Guide to Building Information Modeling for Owners, Managers, Designers, Engineers and Contractors*, 2nd Edition ISBN: 978-0-470-54137-1

March, C.,(2009), *Operations Management for Construction*, Taylor & Francis, ISBN-10: 0415371139, ISBN-13: 978-0415371131

Uren J. & Price B, (2010). *Surveying for Engineers*. Palgrave Macmillan, 5th ed. ISBN-10: 0230221572, ISBN-13: 978-0230221574

Bannister, A., Raymond S. & baker R., (1998). *Surveying*. Prentice Hall, 7th ed. ISBN-10: 0582302498, ISBN-13: 978-0582302495

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.

Resources

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

None

Approval	
24. Module leader's signature	Dr Georgia Kremmyda
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 201-17/18
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
70	Coursework comprising of: individual reflective report on group work (1000 Words) 10%, group oral presentation including peer assessment 10%, simulation and in class quiz during workshop 10%	3 hrs
A3. Will this module be examined together with any other module (sectioned paper)? If so, please give details below.		
No		
A4. How many papers will the module be examined by?	<input checked="" type="checkbox"/> 1 paper <input type="checkbox"/> 2 papers	
A5. When would you wish the exam to take place (e.g. Jan, April, Summer)?	Summer	
A6. Is reading time required?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
A7. Please specify any special exam timetable arrangements.		
A8. Stationery requirements		
No. of Answer books?	1	
Graph paper?	Yes	
Calculator?	Student approved	
Any other special stationery requirements (e.g. Data books, tables etc)?	Engineering Data Book	
A9. Type of examination paper		
Seen?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	

Examination Information	
Open Book?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Restricted?	<input type="checkbox"/> Yes <input checked="" 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)
Identify, use and critically analyse the range of processes and technologies involved in design, construction and post construction of civil engineering projects.	Lectures, Seminars, Workshop.	Examination.
Identify and interpret forms of contract and documents associated with a typical construction project.	Lectures, Seminars, Workshop.	Reflective report and oral presentation. Examination.
Demonstrate an advanced understanding and critical awareness of team collaboration and building information modelling and management in civil engineering projects.	Lectures, Seminars, Workshop.	Reflective report and oral presentation. Examination.
Demonstrate systematic knowledge and critical awareness of the process of strategy formation and implementation in the construction business and project environment.	Lectures, Seminars, Workshop.	Reflective report and oral presentation. Examination.
Specify appropriate surveying techniques and apply them appropriately with due regard to survey control, analysis and purpose.	Lectures & fieldwork.	Examination.
Evaluate topographical survey data and apply appropriate systems of adjustment.	Lectures & fieldwork.	Examination.
Demonstrate effective communication, both verbal and written, to a technical and non-technical audience.	Lectures, Seminars, Workshop.	Reflective report and oral presentation.