

UNIVERSITY OF WARWICK

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

Approval information	
Approval Type	<input checked="" type="checkbox"/> New module <input type="checkbox"/> Revised module <input type="checkbox"/> Discontinue module
Date of Introduction/Change	October 2017
If new, does this module replace another? If so, enter module code and title:	ES95B Project
If revised/discontinued, please outline the rationale for the changes:	ES95B Project covered both the Group Design Project available to full-time students on the MSc Tunnelling and Underground Space, and the Individual Project available to part-time students. In 2017-18 these are split into two separate, new modules.
Confirmation that affected departments have been consulted:	Module only involves the School of Engineering

Module Summary	
1. Module Code (if known)	ES97L
2. Module Title	Individual Project
3a. Lead department:	Engineering
3b. Teaching Split (if known):	100% Engineering
4. Name of module leader	Dr A G Bloodworth
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)	45
7. Principal Module Aims	This module provides the opportunity to integrate and apply the knowledge and understanding gained in the other core modules of the programme and demonstrate the skills required of professional engineers in an industrial context.

Module Summary	
	<p>This is by means of an individual research project leading to a dissertation. The project provides experience of performing an individual investigative project under the supervision of a member of staff and report its findings both orally and in writing. It provides students with an opportunity to apply and demonstrate their capabilities (engineering knowledge, initiative, enthusiasm, etc.) to plan, carry out, control and execute an open-ended project in a relevant engineering topic of current interest to the industry, making an independent contribution to the topic area, and enhancing their communication skills in writing and orally.</p>
<p>8. Principal Learning Outcomes</p>	<p>By the end of the module a student should be able to:</p> <ul style="list-style-type: none"> • Extrapolate existing knowledge and experience and apply them in an integrated systems approach to solve a complex and unfamiliar engineering problem. • Extract and critically evaluate relevant data in order to apply engineering analysis and advanced problem solving skills, in order to complete an engineering project to the satisfaction of a customer and/or user. • Use innovative techniques, materials or methods in delivering the project. • Consider the wider context of the project including, risk, ethics, environmental and sustainability limitations, intellectual property rights, codes of practice and standards, health and safety and liability, to inform the project specification (problem brief) as relevant to the project. • Plan and manage a project from the initial brief to a deliverable outcome • Demonstrate effective communication, both verbal and written, to a technical and non-technical audience. • Interpret a project brief and integrate their knowledge to develop a research methodology to meet that brief through critical thinking and analysis. • Develop skills in advanced research methods appropriate to advanced engineering and/or technology relevant to the project brief
<p>9. Timetabled Teaching Activities (summary)</p>	<p>Final presentation (1 hour)</p> <p>Approximately 23 hours of contact time with project supervisor(s) arranged at a mutually convenient time with the student during the normal working week. These slots are not timetabled and should not occur after 13:00 on a Wednesday.</p>
<p>10. Departmental Web-link</p>	<p>http://www2.warwick.ac.uk/fac/sci/eng/eso/modules/year4</p>

Module Summary	
11. Other essential notes	Advice and feedback hours are available for answering questions on the project.
12. Assessment methods (summary)	80% Written submission 20% Oral presentation

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				
14. Availability of module				
Degree Code	Title	Study Year	C/OC/A/B/C	Credits
P-H214 (PT)	MSc Tunnelling & Underground Space	2	C	45
15. Minimum number of registered students required for module to run				
1 (Core Module)				
16. Pre- and Post-Requisite Modules				
N/A (Core for the MSc Tunnelling & Underground Space)				

Module Content and Teaching	
17. Teaching and Learning Activities (<i>totals for module – please see guidance</i>)	
Module duration (weeks)	50 weeks
Lectures	
Seminars	1 h
Tutorials	
Project Supervision	23 h
Demonstration	
Practical Class/Workshops	
Supervised time in studio/workshop	
Fieldwork	
External visits	
Work based learning	
Placement	
Year abroad	
Other activity (<i>please describe</i>): e.g. distance-learning, intensive weekend teaching etc.	Guided independent learning 426 h

18. Assessment Method (Standard)		
Type of assessment	Length	% weighting
Written Examinations		
Practical Examinations	Final Presentation (30min)	20%
Assessed essays/coursework	Dissertation (Max. 15,000 words excluding figures and tables)	80%
18a. Final chronological assessment (<i>please see guidance</i>)	Final Presentation	

19. Methods for providing feedback on assessment.
Verbal feedback meetings with project supervisor.
Written comments on written submission.
Written comments and verbal feedback on presentation.
20. Outline Syllabus
Application of research and scientific method to a set problem: Students will agree a project brief with their project supervisor that may be related to their own field of employment, and carry out an in-depth experimental, analytical, theoretical or computational investigation of the topic.
21. Illustrative Bibliography
Dependent on project title
22. Learning outcomes
<i>Successful completion of the module leads to the learning outcomes. The learning outcomes identify the knowledge, skills and attributes developed by the module.</i>
<i>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:</i>

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

Approval	
24. Module leader's signature	Dr Alan Bloodworth
25. Date of approval	Meeting of 3 May 2017
26. Name of Approving Committee (include minute reference if applicable)	School of Engineering and WMG Teaching Policy Committee
27. Chair of Committee's signature	Professor Gillian Cooke
28. Head of Department(s) signature	Professor Nigel Stocks

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
	100%	
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 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.		
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)
Extrapolate existing fundamental knowledge, and experience of analysis and design methods, and apply them in an integrated systems approach to solve a complex and unfamiliar engineering problem.	Project Supervision Guided Independent Learning	Dissertation & Final Presentation
Extract and critically evaluate relevant data in order to apply engineering analysis and advanced problem solving skills, in order to complete an engineering project to the satisfaction of a customer and/or user.	Project Supervision Guided Independent Learning	Dissertation & Final Presentation
Use innovative techniques, materials or methods in delivering the project.	Project Supervision Guided Independent Learning	Dissertation & Final Presentation
Consider the wider context of the project including, risk, ethics, environmental and sustainability limitations, intellectual property rights, codes of practice and standards, health and safety and liability, to inform the project specification (problem brief) as relevant to the project.	Project Supervision Guided Independent Learning	Dissertation & Final Presentation
Plan and manage a project from the initial brief to a deliverable outcome.	Project Supervision Guided Independent Learning	Dissertation & Final Presentation
Demonstrate effective communication, both verbal and written, to a technical and non-technical audience.	Project Supervision Guided Independent Learning	Dissertation & Final Presentation
Interpret a project brief and integrate their knowledge to develop a research methodology to meet that brief through critical thinking and analysis.	Project Supervision Guided Independent Learning	Dissertation & Final Presentation
Develop skills in advanced research methods appropriate to advanced engineering and/or technology relevant to the	Project Supervision Guided Independent Learning	Dissertation & Final Presentation

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)
project brief		