

# DEFINITIVE MODULE RECORDS

**Programme Title: MSc Land & Ecological Restoration**

**University of Plymouth Programme Code: FT 6343 PT 6344**

**Partner Faculty: Academic Partnerships, University of Plymouth**

**Partner Delivering Institution: Cornwall College**

**Start Date: September 2021**

**Date of Approval: April 2018**

**Date(s) of Revision(s) to this Document: 26 April 2018/ December 2018/ November 2021**



**UNIVERSITY OF  
PLYMOUTH**

### Professional Development (PD) modules within the award/s:

Please outline in the table below any modules from the award/s that will be used for Professional Development delivery. This allows for scrutiny of these modules by Approval Panels.

Module names*	Using the same Learning Outcomes?	Using the same mode of delivery?	Using the same mode of assessment?	Additional Information (see below)
CORC406 Planning and implementing a restoration programme	Yes	Yes*	Yes	
CORC407 Principles and practice of ecological restoration	Yes	Yes*	Yes	
CORC408 Biosecurity and invasive species management	Yes	Yes*	Yes	
CORC411 Wetland ecosystem and riparian zone restoration	Yes	Yes*	Yes	

\*Whilst the majority mode for CPD delivery is likely to be through infill of learners to the full-time programme there may in some circumstances be block delivery at alternative locations to meet the needs of employers. For example, CORC408 may be delivered as a block / short course with residential accommodation at Bicton College for ease of access by participants. Delivery at TCCG sites other than the Eden Project at the request of employers will be subject to site approval.

### 60 Credit Certificate of Professional Development (CPD) Awards

If any of the modules listed in the table are to be grouped together to form a 60 Credit CPD Award, please list combinations planned below:

CORC406 **and** CORC407 with either CORC408 **or** CORC411

Student who opt to undertake the 60 credit CPD award will receive a non-named award (Certificate of Professional Development). The associated transcript will list all the modules that made up the 60-credit award.

**UNIVERSITY OF PLYMOUTH MODULE RECORD (approved by UTLQC June 2017)**

**SECTION A: DEFINITIVE MODULE RECORD. Proposed changes must be submitted via Faculty/AP Quality Procedures for approval and issue of new module code.**

<b>MODULE CODE: CORC406</b>		<b>MODULE TITLE: Planning and implementing a restoration programme</b>			
<b>CREDITS: 20</b>		<b>FHEQ LEVEL: 7</b>		<b>HECoS CODE: 100864</b>	
<b>PRE-REQUISITES: None</b>		<b>CO-REQUISITES: None</b>		<b>COMPENSATABLE: Yes</b>	
<b>SHORT MODULE DESCRIPTOR:</b> <i>(Max 425 characters)</i> The module uses a case study approach with external visits to give an overview of the activity of land restoration from baseline survey and stakeholder engagement through agreement of objectives, selection of methodology, aftercare and evaluation. The module develops in learners the ability to select and use project management tools.					
<b>ELEMENTS OF ASSESSMENT:</b> <i>[HESA KIS definitions]</i>					
<b>E1</b> (Examination)		<b>C1</b> (Coursework)	70 %	<b>P1</b> (Practical)	30 %
<b>E2</b> (Clinical Examination)		<b>A1</b> (Generic assessment)			
<b>T1</b> (Test)					
<b>SUBJECT ASSESSMENT PANEL to which module should be linked:</b> MSc Land and Ecological Restoration					
<b>Professional body minimum pass mark requirement:</b> NA					
<b>MODULE AIMS</b>					
<ul style="list-style-type: none"> <li>To give a holistic overview of the process of land restoration from inception to aftercare and evaluation</li> <li>To provide a ‘toolbox’ of restoration methodologies and guide learners to select the most appropriate tools for given circumstances</li> <li>To explain the legal and regulatory framework as it applies to the restoration and remediation of active and derelict industrial sites</li> <li>To develop in learners the ability to select and apply project management tools within the context of land restoration</li> </ul>					
<b>ASSESSED LEARNING OUTCOMES:</b> (Additional guidance below; please refer to the Programme Specification for relevant award / programme Learning Outcomes. At the end of the module the learner will be expected to be able to:					
<b>Assessed Module Learning Outcomes</b>			<b>Award / Programme Learning Outcomes contributed to</b>		
<ol style="list-style-type: none"> <li>Describe how success criteria in land restoration projects are defined</li> <li>Evaluate the applicability and effectiveness of different methodologies available to land restoration practitioners</li> <li>Explain how regulatory requirements inform the design and implementation of land restoration projects</li> <li>Critically evaluate the use of project management tools in land restoration</li> </ol>			<b>Knowledge and understanding:</b> <ul style="list-style-type: none"> <li><i>Techniques and methodologies</i> applicable to determining appropriate restoration objectives and practices used to progress towards them(7.1b)</li> <li><i>Environmental processes</i> the outcomes of human-environment interactions and the implications of these for restoring ecosystem structure and function (7.1c)</li> <li><i>Political and institutional frameworks</i> related to policy development, legislation and compliance, stakeholder engagement and</li> </ul>		

	<p>implementation in programmes of land restoration (7.1d)</p> <p><b>Key and transferable skills:</b></p> <ul style="list-style-type: none"> <li>• <i>Effective information sourcing</i> using a full range of learning resources (7.3a)</li> <li>• <i>Communication</i> of ideas, principles and theories confidently and effectively by oral, written and visual means (7.3c)</li> <li>• <i>Use of appropriate information technology</i> including word-processing, graphics, spreadsheets, presentation packages, specialist statistics programmes and GIS software (7.3d)</li> </ul> <p><b>Employment related skills:</b></p> <ul style="list-style-type: none"> <li>• <i>Applying knowledge</i> to a variety of practical situations in the pursuit of the best and most sustainable approaches to land and ecological restoration (7.4a)</li> </ul> <p><b>Practical skills:</b></p> <ul style="list-style-type: none"> <li>• <i>Data collection</i> including primary and secondary data collection, including fieldwork (7.5b)</li> </ul>
<b>DATE OF APPROVAL:</b> April 18	<b>FACULTY/OFFICE:</b> Academic Partnerships
<b>DATE OF IMPLEMENTATION:</b> Sept 18	<b>SCHOOL/PARTNER:</b> Cornwall College
<b>DATE(S) OF APPROVED CHANGE:</b>	<b>SEMESTER:</b> Semester 1

## SECTION B: DETAILS OF TEACHING, LEARNING AND ASSESSMENT

Items in this section must be considered annually and amended as appropriate, in conjunction with the Module Review Process. Some parts of this page may be used in the KIS return and published on the extranet as a guide for prospective students. Further details for current students should be provided in module guidance notes.

<b>ACADEMIC YEAR: 2021-2022</b>		<b>NATIONAL COST CENTRE: 111</b>
<b>MODULE LEADER: Yvonne Oates</b>		<b>OTHER MODULE STAFF: Dr Mark Nason</b>
<b>Summary of Module Content:</b>		
<ul style="list-style-type: none"><li>• Principles and practise of stakeholder identification and engagement with group work activity interviewing Eden Project visitors and staff</li><li>• Identification of desired outcomes and success criteria in land restoration projects</li><li>• Overview of methodologies for land restoration and exploration of factors informing choice of methods in different settings</li><li>• Guided field and industry visits to view ongoing and historical restoration and remediation activities in Cornwall with practitioners and stakeholders</li><li>• Discussion of the effectiveness of global, national and local policy and regulation informing land restoration projects with evaluation of the effectiveness of legislation</li><li>• Discussion of local, regional and national legislation relevant to planning and waste management</li><li>• Exploration with industry practitioners of financial controls and constraints, the tender process and the production of project proposals for clients</li><li>• Use of project management tools to schedule activities, manage risks and monitor the progress of complex projects (e.g. project proposal, risk register, Agile, PRINCE2, Gantt charts)</li></ul>		
<b>SUMMARY OF TEACHING AND LEARNING: [Use HESA KIS definitions]</b>		
<b>Scheduled Activities</b>	<b>Hours</b>	<b>Comments/Additional Information (briefly explain activities, including formative assessment opportunities)</b>
Lectures	30	Explanation and discussion of the principles and practise of land restoration from inception to aftercare and evaluation
External visits	6	Visits to current and historical restoration sites in Cornwall with industry practitioners e.g. tour of Environment Agency trials, ongoing China clay restoration at Imerys, Cornwall Wildlife Trust reserves and EU funded infrastructure projects in Pool / Camborne
Fieldwork	4	Group work activity engaging stakeholders at the Eden Project and presenting results with formative feedback on style and content
Seminar	10	Discussion and debate on appropriateness and usefulness of legislation. Exploration of differences in global, national and local policy
Independent Guided Study	150	Background research to consolidate and extend learning and produce coursework assignments
<b>Total</b>	<b>200</b>	<b>(NB: 1 credit = 10 hours of learning; 10 credits = 100 hours, etc.)</b>

**SUMMATIVE ASSESSMENT**

<b>Element Category</b>	<b>Component Name</b>	<b>Component Weighting</b>
Coursework	Written case study report (LOs 2 - 4)	100 %
Practical	Group oral presentation (LO1)	100 %

**REFERRAL ASSESSMENT**

<b>Element Category</b>	<b>Component Name</b>	<b>Component Weighting</b>
Coursework	Written case study report (LOs 2 – 4)	100 %
Practical	Individual oral presentation (LO1)	100 %

**To be completed when presented for Minor Change approval and/or annually updated****Updated by:** HE Operations**Date:** 02/11/2021**Approved by:** HE Operations**Date:** 02/11/2021

**UNIVERSITY OF PLYMOUTH MODULE RECORD (approved by UTLQC June 2017)**

**SECTION A: DEFINITIVE MODULE RECORD. Proposed changes must be submitted via Faculty/AP Quality Procedures for approval and issue of new module code.**

<b>MODULE CODE:</b> CORC407	<b>MODULE TITLE:</b> Principles and practice of ecological restoration				
<b>CREDITS:</b> 20	<b>FHEQ LEVEL:</b> 7	<b>HECoS CODE:</b> 100864			
<b>PRE-REQUISITES:</b> None	<b>CO-REQUISITES:</b> None	<b>COMPENSATABLE:</b> Yes			
<b>SHORT MODULE DESCRIPTOR:</b> <i>(Max 425 characters)</i> The module introduces the ethos, key definitions and fundamental concepts of ecological restoration and provides opportunities to apply learning to live case studies. Drawing heavily on research, learners explore and evaluate techniques used by practitioners and will develop an appreciation for the distinctive nature of a relatively young and evolving applied science discipline.					
<b>ELEMENTS OF ASSESSMENT:</b> <i>[HESA KIS definitions]</i>					
<b>E1</b> (Examination)		<b>C1</b> (Coursework)	100 %	<b>P1</b> (Practical)	
<b>E2</b> (Clinical Examination)		<b>A1</b> (Generic assessment)			
<b>T1</b> (Test)					
<b>SUBJECT ASSESSMENT PANEL to which module should be linked:</b> MSc Land and Ecological Restoration					
<b>Professional body minimum pass mark requirement:</b> N/A					
<b>MODULE AIMS:</b>					
<ul style="list-style-type: none"> <li>To introduce and explain the ethos, key definitions and fundamental concepts of ecological restoration and related ecological concepts</li> <li>To develop in learners the ability to select and critically evaluate published scientific research in the field of ecological restoration</li> <li>To explore and evaluate a range of techniques used by ecological restoration practitioners</li> <li>To provide opportunities for learners to observe ecological restoration in action and apply learning to case studies</li> </ul>					

<b>ASSESSED LEARNING OUTCOMES:</b> (Additional guidance below; please refer to the Programme Specification for relevant award / programme Learning Outcomes. At the end of the module the learner will be expected to be able to:	
<b>Assessed Module Learning Outcomes</b>	<b>Award / Programme Learning Outcomes contributed to</b>
<ol style="list-style-type: none"> <li>Describe the guiding principles informing the practise of ecological restoration</li> <li>Describe the process of natural succession and explain how and which human activities deflect this process</li> <li>Summarise practical techniques available to ecological restoration practitioners and explain where, when and how they should be employed</li> <li>Critically evaluate a programme of habitat restoration</li> </ol>	<p><b>Knowledge and understanding:</b></p> <ul style="list-style-type: none"> <li><i>Techniques and methodologies</i> applicable to determining appropriate restoration objectives and practises used to make progress towards them (7.1b)</li> <li><i>Theoretical and research-based knowledge</i> at the forefront of the relatively young and rapidly evolving disciplines of land and ecological restoration (7.1a)</li> </ul> <p><b>Cognitive and intellectual skills:</b></p> <ul style="list-style-type: none"> <li><i>Analysis</i> - the ability to undertake analysis of complex, incomplete or contradictory areas of knowledge with critical awareness, including</li> </ul>

<p>5. Synthesise and apply learning to design a programme of habitat restoration</p>	<p>the formulation and testing of hypotheses (7.2a)</p> <ul style="list-style-type: none"> <li>• <i>Synthesis</i> - the ability to critically assess, validate and synthesise multidisciplinary evidence from disparate sources in an innovative manner, using knowledge or processes from the cutting edge of land and ecological restoration (7.2b)</li> </ul> <p><b>Key and transferable skills:</b></p> <ul style="list-style-type: none"> <li>• <i>Effective information sourcing</i> using a full range of learning resources (7.3a)</li> <li>• <i>Communication</i> of ideas, principles and theories confidently and effectively by oral, written and visual means (7.3c)</li> <li>• <i>Independent working</i> to organise own learning autonomously (7.3e)</li> </ul> <p><b>Practical skills:</b></p> <ul style="list-style-type: none"> <li>• <i>Critical investigation</i>: identifying, formulating and resolving complex problems and research questions using good scientific practises and contemporary methods in environmental management (7.5a)</li> </ul>
<p><b>DATE OF APPROVAL:</b> April 18</p>	<p><b>FACULTY/OFFICE:</b> Academic Partnerships</p>
<p><b>DATE OF IMPLEMENTATION:</b> Sept 2018</p>	<p><b>SCHOOL/PARTNER:</b> Cornwall College</p>
<p><b>DATE(S) OF APPROVED CHANGE:</b></p>	<p><b>SEMESTER:</b> Semester 1</p>



## SECTION B: DETAILS OF TEACHING, LEARNING AND ASSESSMENT

Items in this section must be considered annually and amended as appropriate, in conjunction with the Module Review Process. Some parts of this page may be used in the KIS return and published on the extranet as a guide for prospective students. Further details for current students should be provided in module guidance notes.

<b>ACADEMIC YEAR:</b> 2021-2022	<b>NATIONAL COST CENTRE:</b> 111
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<b>MODULE LEADER:</b> Dr Mark Nason	<b>OTHER MODULE STAFF:</b> Dr James Wagstaffe
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### Summary of Module Content:

- Ethos, key definitions and role of ecological restoration
- Key associated ecological theories including biodiversity, primary and secondary succession, biotic and abiotic factors affecting species composition
- Overview of practical methodologies for habitat creation (e.g. natural regeneration, habitat translocation, construction of soil-forming materials, soft landscaping)
- Guided field and industry visits to view habitat creation sites on post-agricultural and post-industrial land, with stakeholders and practitioners
- Consideration of various habitat types to include woodland, heathland, grassland and wetland
- Discussion of the biodiversity value of post-industrial sites
- Critical evaluation of the effectiveness of intervention on the success and trajectory of restoring sites
- Consideration of rewilding to include public perception and visits to industry practitioners and 'rewilded' sites
- Application of new learning to the design of a habitat creation scheme

### SUMMARY OF TEACHING AND LEARNING: *[Use HESA KIS definitions]*

Scheduled Activities	Hours	Comments/Additional Information (briefly explain activities, including formative assessment opportunities)
Lectures	35	Explanation and discussion of the principles and practise of ecological restoration and related ecological concepts
External visits	6	Visits to habitat creation sites in Cornwall with industry practitioners e.g. heathland and woodland recreation on China clay spoil
Fieldwork	4	Floristic surveys of sites of varying quality from mature biodiverse moorland to heath sites at various stages of regeneration with and without human intervention
Seminar	10	Discussion and evaluation of peer-reviewed research articles e.g. in <i>Restoration Ecology</i> and their relevance to practise. Debate on the subjective value of different habitat types and difficulty in choosing and achieving objectives with competing priorities
Independent Guided Study	145	Background research to consolidate and extend learning and produce coursework assignments
<b>Total</b>	<b>200</b>	<b>(NB: 1 credit = 10 hours of learning; 10 credits = 100 hours, etc.)</b>

**SUMMATIVE ASSESSMENT:**

<b>Element Category</b>	<b>Component Name</b>	<b>Component Weighting</b>
Coursework	Written report (LOs 1 – 3)	50 %
	Written case study report (LOs 4 and 5)	50 %
		100 %

**REFERRAL ASSESSMENT:**

<b>Element Category</b>	<b>Component Name</b>	<b>Component Weighting</b>
Coursework	Written report (LOs 1 – 5)	100 %

**To be completed when presented for Minor Change approval and/or annually updated**

**Updated by:** HE Operations

**Date:** 02/11/2021

**Approved by:** HE Operations

**Date:** 02/11/2021

**UNIVERSITY OF PLYMOUTH MODULE RECORD (approved by UTLQC June 2017)**

**SECTION A: DEFINITIVE MODULE RECORD. Proposed changes must be submitted via Faculty/AP Quality Procedures for approval and issue of new module code.**

<b>MODULE CODE:</b> CORC408		<b>MODULE TITLE:</b> Biosecurity and invasive species management			
<b>CREDITS:</b> 20		<b>FHEQ LEVEL:</b> 7		<b>HECoS CODE:</b> 100864	
<b>PRE-REQUISITES:</b> None		<b>CO-REQUISITES:</b> None		<b>COMPENSATABLE:</b> Yes	
<b>SHORT MODULE DESCRIPTOR:</b> <i>(Max 425 characters)</i> Invasive species may cause environmental and economic harm and deflect the desired trajectory in programmes of ecological and habitat restoration. The module introduces techniques for identifying and managing invasive terrestrial and aquatic plant and animal species and provides an opportunity for learners to participate in research and visit trial sites. Relevant UK and EU legislation is summarised and critiqued.					
<b>ELEMENTS OF ASSESSMENT:</b> <i>[HESA KIS definitions]</i>					
<b>E1</b> (Examination)		<b>C1</b> (Coursework)	60 %	<b>P1</b> (Practical)	40 %
<b>E2</b> (Clinical Examination)		<b>A1</b> (Generic assessment)			
<b>T1</b> (Test)					
<b>SUBJECT ASSESSMENT PANEL to which module should be linked:</b> MSc Land and Ecological Restoration					
<b>Professional body minimum pass mark requirement:</b> NA					
<b>MODULE AIMS</b>					
<ul style="list-style-type: none"> <li>To define and distinguish between invasive and non-native species and give an overview of species of concern and their relative impact globally and in the UK</li> <li>To review and critique relevant global, national and local policies designed to limit the environmental and economic impact of invasive non-native species</li> <li>To provide an opportunity for learners to view and assess the impact of invasive species at restoration sites in Cornwall</li> <li>To evaluate the effectiveness of strategies for monitoring and preventing the spread of invasive terrestrial and aquatic flora and fauna</li> <li>To synthesise and apply learning in the production of a biosecurity strategy and invasive species action plan for a restoring site</li> </ul>					
<b>ASSESSED LEARNING OUTCOMES:</b> (Additional guidance below; please refer to the Programme Specification for relevant award / programme Learning Outcomes. At the end of the module the learner will be expected to be able to:					
<b>Assessed Module Learning Outcomes</b>			<b>Award / Programme Learning Outcomes contributed to</b>		
<ol style="list-style-type: none"> <li>Identify invasive species of concern and describe their impact on land restoration projects</li> <li>Critique the effectiveness of policy and legislation in limiting the impact of invasive non-native species</li> <li>Evaluate methods used to monitor and control the spread of invasive species</li> </ol>			<b>Knowledge and understanding:</b> <ul style="list-style-type: none"> <li><i>Techniques and methodologies</i> applicable to determining appropriate restoration objectives and practises used to make progress towards them (7.1b)</li> <li><i>Environmental processes:</i> the outcomes of human-environment interactions and the implications of these for restoring ecosystem structure and function (7.1c)</li> <li><i>Political and institutional frameworks:</i> related to policy development, legislation and</li> </ul>		

<p>4. Synthesise and apply learning in the production of a biosecurity strategy and invasive species management plan for a restoring site</p>	<p>compliance, stakeholder engagement and implementation in programmes of land restoration(7.1d)</p> <p><b>Cognitive and intellectual skills:</b></p> <ul style="list-style-type: none"> <li>• <i>Evaluation</i> – the development of a level of conceptual competency that allows a reasoned evaluation of research, advanced scholarship and methodologies and the development of arguments for alternative approaches to practices in land and ecological restoration (7.2c)</li> <li>• <i>Application</i> – to demonstrate initiative and originality in problem solving, acting independently to plan and implement tasks at a professional or equivalent level, making decisions in complex situations (7.2d)</li> </ul> <p><b>Key and transferable skills:</b></p> <ul style="list-style-type: none"> <li>• <i>Effective information sourcing</i> using a full range of learning resources (7.3a)</li> <li>• <i>Effective and supportive participation in groups</i>, managing own requirements while meeting obligations to others (7.3f)</li> </ul> <p><b>Employment related skills:</b></p> <ul style="list-style-type: none"> <li>• <i>Applying knowledge</i> to a variety of practical situations in the pursuit of the best and most sustainable approaches to land and ecological restoration(7.4a)</li> </ul> <p><b>Practical skills:</b></p> <ul style="list-style-type: none"> <li>• <i>Data collection:</i> including primary and secondary data collection, including fieldwork contemporary methods in environmental management (7.5b)</li> </ul>
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<p><b>DATE OF APPROVAL:</b> April 18</p>	<p><b>FACULTY/OFFICE:</b> Academic Partnerships</p>
<p><b>DATE OF IMPLEMENTATION:</b> Sept 2018</p>	<p><b>SCHOOL/PARTNER:</b> Cornwall College</p>
<p><b>DATE(S) OF APPROVED CHANGE:</b></p>	<p><b>SEMESTER:</b> Semester 1</p>

## SECTION B: DETAILS OF TEACHING, LEARNING AND ASSESSMENT

Items in this section must be considered annually and amended as appropriate, in conjunction with the Module Review Process. Some parts of this page may be used in the KIS return and published on the extranet as a guide for prospective students. Further details for current students should be provided in module guidance notes.

<b>ACADEMIC YEAR:</b> 2021-2022	<b>NATIONAL COST CENTRE:</b> 111
<b>MODULE LEADER:</b> Nicola Morris	<b>OTHER MODULE STAFF:</b> Dr Peter McGregor
<b>Summary of Module Content</b> <ul style="list-style-type: none"> <li>• Key definitions and distinction between invasive and non-native species</li> <li>• Identification of the relative environmental and economic impact of non-native invasive species in terrestrial, aquatic and marine environments</li> <li>• Review and discussion of relevant policy and legislation, the role of compliance and mode of operation of public bodies, companies and government agencies</li> <li>• Overview of methods for monitoring the presence and spread of invasive species e.g. environmental DNA (eDNA), citizen science and web-based recording, GIS and mapping</li> <li>• Exploration and evaluation of methods of controlling invasive species of plants and animals and preventing new introductions to terrestrial, aquatic and marine environments</li> <li>• Identification and mapping of invasive non-native species at restoring sites</li> <li>• Synthesis and application of learning to produce a biosecurity strategy and invasive species management plan for a restoring site</li> </ul>	

<b>SUMMARY OF TEACHING AND LEARNING: [Use HESA KIS definitions]</b>		
<b>Scheduled Activities</b>	<b>Hours</b>	<b>Comments/Additional Information (briefly explain activities, including formative assessment opportunities)</b>
Lectures	30	Explanation and discussion of key definitions, consideration of species of particular importance, legislation and practical techniques for monitoring and limiting the spread of invasive non-native species
External visits	5	Visits to habitat creation sites in Cornwall to assess the impact of invasive non-native species and discuss their management with practitioners
Fieldwork	15	Identification and recording of invasive non-native species and submission of sighting to citizen science initiatives. Volunteering with Student Invasive Non-Native Group to engage in awareness raising activities
Independent Guided Study	150	Background research to consolidate and extend learning and produce coursework assignments
<b>Total</b>	<b>200</b>	<b>(NB: 1 credit = 10 hours of learning; 10 credits = 100 hours, etc.)</b>

<b>SUMMATIVE ASSESSMENT:</b>		
<b>Element Category</b>	<b>Component Name</b>	<b>Component Weighting</b>
Coursework	Written report (LOs 1 – 3)	100 %
Practical	Poster presentation (LO4)	100 %

<b>REFERRAL ASSESSMENT:</b>		
<b>Element Category</b>	<b>Component Name</b>	<b>Component Weighting</b>
Coursework	Written report (LOs 1 – 3)	100 %
Coursework (in lieu of the original assessment)	Poster (LO4)	100%

<b>To be completed when presented for Minor Change approval and/or annually updated</b>	
<b>Updated by:</b> HE Operations <b>Date:</b> 02/11/2021	<b>Approved by:</b> HE Operations <b>Date:</b> 02/11/2021

**UNIVERSITY OF PLYMOUTH MODULE RECORD (approved by UTLQC June 2017)**

**SECTION A: DEFINITIVE MODULE RECORD. Proposed changes must be submitted via Faculty/AP Quality Procedures for approval and issue of new module code.**

<b>MODULE CODE:</b> CORC409		<b>MODULE TITLE:</b> Postgraduate research methods			
<b>CREDITS:</b> 20		<b>FHEQ LEVEL:</b> 7		<b>HECOS CODE:</b> 100864	
<b>PRE-REQUISITES:</b> None		<b>CO-REQUISITES:</b> None		<b>COMPENSATABLE:</b> Yes	
<b>SHORT MODULE DESCRIPTOR:</b> <i>(Max 425 characters)</i> The module develops the research and communication skills that postgraduates need to carry out an original project within the paradigm of hypothesis-led research at the forefront of their academic discipline. Emphasis is given to the philosophy, design, ethics and management of research, effective communication to a range of audiences, and advice on career management and presentation skills involved in job applications and interviews.					
<b>ELEMENTS OF ASSESSMENT:</b> <i>[HESA KIS definitions]</i>					
<b>E1</b> (Examination)		<b>C1</b> (Coursework)	100 %	<b>P1</b> (Practical)	
<b>E2</b> (Clinical Examination)		<b>A1</b> (Generic assessment)			
<b>T1</b> (Test)					
<b>SUBJECT ASSESSMENT PANEL to which module should be linked:</b> MSc Land and Ecological Restoration					
<b>Professional body minimum pass mark requirement:</b> NA					
<b>MODULE AIMS</b>					
<ul style="list-style-type: none"> <li>To provide a broad understanding of the philosophy, context and practice of advanced scientific enquiry in the biological sciences</li> <li>To develop an appreciation of key methods related to a specialised field of interest</li> <li>To further develop the ability of learners to formulate and understand how to properly test hypotheses within the paradigm of mechanistic research</li> <li>To provide training in a variety of communication formats</li> <li>To advise on career management, including commercialisation and intellectual property rights</li> </ul>					
<b>ASSESSED LEARNING OUTCOMES:</b> (Additional guidance below; please refer to the Programme Specification for relevant award / programme Learning Outcomes. At the end of the module the learner will be expected to be able to:					
<b>Assessed Module Learning Outcomes</b>			<b>Award / Programme Learning Outcomes contributed to</b>		
<ol style="list-style-type: none"> <li>Demonstrate appropriate understanding of advanced, specialised research issues</li> <li>Apply appropriate research skills to the design of the postgraduate research project</li> <li>Review the current status of the chosen specialised field of scientific investigation</li> <li>Communicate clearly and concisely in an advanced scientific style and format</li> </ol>			<b>Cognitive and intellectual skills:</b> <ul style="list-style-type: none"> <li><i>Analysis</i> - the ability to undertake analysis of complex, incomplete or contradictory areas of knowledge with critical awareness, including the formulation and testing of hypotheses (7.2a)</li> <li><i>Synthesis</i> - the ability to critically assess, validate and synthesise multidisciplinary evidence from disparate sources in an innovative manner, using knowledge or processes from the cutting edge of land and ecological restoration (7.2b)</li> </ul>		

	<ul style="list-style-type: none"> <li>• <i>Evaluation</i> – the development of a level of conceptual competency that allows a reasoned evaluation of research, advanced scholarship and methodologies and the development of arguments for alternative approaches to practices in land and ecological restoration (7.2c)</li> </ul> <p><b>Key and transferable skills:</b></p> <ul style="list-style-type: none"> <li>• <i>Effective information sourcing</i> using a full range of learning resources (7.3a)</li> <li>• <i>Communication</i> of ideas, principles and theories confidently and effectively by oral, written and visual means (7.3c)</li> <li>• <i>Use of appropriate information technology</i> including word-processing, graphics, spreadsheets, presentation packages, specialist statistics programmes and GIS software (7.3d)</li> </ul> <p><b>Employment related skills:</b></p> <ul style="list-style-type: none"> <li>• <i>Effective self-reflection</i> in action planning for personal and career development (7.4c)</li> <li>• <i>Life-long learning</i> - to appreciate the importance of life-long learning and reflect critically on career plans and needs for continuing professional development (7.4d)</li> </ul> <p><b>Practical skills:</b></p> <ul style="list-style-type: none"> <li>• <i>Reporting original research:</i> planning, design, execution and report writing using personal initiative (7.5d)</li> </ul>
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<b>DATE OF APPROVAL:</b> April 18	<b>FACULTY/OFFICE:</b> Academic Partnerships
<b>DATE OF IMPLEMENTATION:</b> Sept 2018	<b>SCHOOL/PARTNER:</b> Cornwall College
<b>DATE(S) OF APPROVED CHANGE:</b>	<b>SEMESTER:</b> 2

## SECTION B: DETAILS OF TEACHING, LEARNING AND ASSESSMENT

Items in this section must be considered annually and amended as appropriate, in conjunction with the Module Review Process. Some parts of this page may be used in the KIS return and published on the extranet as a guide for prospective students. Further details for current students should be provided in module guidance notes.

<b>ACADEMIC YEAR:</b> 2021-2022	<b>NATIONAL COST CENTRE:</b> 111
<b>MODULE LEADER:</b> Dr Peter McGregor	<b>OTHER MODULE STAFF:</b> Dr Michael Hunt

### Summary of Module Content:

- History and philosophy of science and the acquisition of knowledge through scientific method
- Scientific method as a paradigm for professional and personal life
- Experimental design and data analysis in R statistical environment
- Safety assessment, project management and planning, funding environment
- Written, verbal and graphical communication skills for research, teaching, and public understanding of science
- Intellectual property rights, career mapping and personal development

### SUMMARY OF TEACHING AND LEARNING: *[Use HESA KIS definitions]*

Scheduled Activities	Hours	Comments/Additional Information (briefly explain activities, including formative assessment opportunities)
Lectures	40	Explanation and discussion of scientific method, development of communication and research skills
Tutorial	5	One-to-one and small group discussion of philosophy of science and development of research proposal, personal action planning
Seminar	5	Familiarisation with R software environment
Independent Guided Study	150	Background research to consolidate and extend learning and produce coursework assignments
<b>Total</b>	<b>200</b>	<b>(NB: 1 credit = 10 hours of learning; 10 credits = 100 hours, etc.)</b>

### SUMMATIVE ASSESSMENT:

Element Category	Component Name	Component Weighting
Coursework	Project proposal (LOs 1 and 2)	50 %
	Literature review (LOs 3 and 4)	50 %
		100 %

### REFERRAL ASSESSMENT:

Element Category	Component Name	Component Weighting
Coursework (	Project proposal (LOs 1 and 2)	50 %
	Literature Review (LOs 3 and 4)	50 %
		100 %

### To be completed when presented for Minor Change approval and/or annually updated

<b>Updated by:</b> HE Operations <b>Date:</b> 02/11/2021	<b>Approved by:</b> HE Operations <b>Date:</b> 02/11/2021
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**UNIVERSITY OF PLYMOUTH MODULE RECORD (approved by UTLQC June 2017)**

**SECTION A: DEFINITIVE MODULE RECORD. Proposed changes must be submitted via Faculty/AP Quality Procedures for approval and issue of new module code.**

<b>MODULE CODE:</b> CORC410		<b>MODULE TITLE:</b> GIS and Survey Techniques in Land Restoration			
<b>CREDITS:</b> 20		<b>FHEQ LEVEL:</b> 7		<b>HECOS CODE:</b> 100864	
<b>PRE-REQUISITES:</b> None		<b>CO-REQUISITES:</b> None		<b>COMPENSATABLE:</b> Yes	
<b>SHORT MODULE DESCRIPTOR:</b> <i>(Max 425 characters)</i> This module explores applications of Geographical Information Systems (GIS) in land restoration programmes, which rely on accurate baseline assessments of the physical environment and associated plant and animal communities together with ongoing monitoring of progress against objectives. Learners will populate and maintain GIS datasets using data from a variety of sources including habitat assessment and drone surveys.					
<b>ELEMENTS OF ASSESSMENT:</b> <i>[HESA KIS definitions]</i>					
<b>E1</b> (Examination)		<b>C1</b> (Coursework)	100 %	<b>P1</b> (Practical)	
<b>E2</b> (Clinical Examination)		<b>A1</b> (Generic assessment)			
<b>T1</b> (Test)					
<b>SUBJECT ASSESSMENT PANEL to which module should be linked:</b> MSc Land and Ecological Restoration					
<b>Professional body minimum pass mark requirement:</b> NA					
<b>MODULE AIMS:</b>					
<ul style="list-style-type: none"> <li>To explain how GIS is used to plan, implement and monitor the development of programmes of land restoration</li> <li>To review sources of information gathered (e.g. from floristic and aerial surveys) as part of baseline and periodic surveys to monitor progress of land restoration against desired objectives</li> <li>To become familiar with GIS software and develop a level of competency that will aid success on the course and in employment</li> <li>To employ modern drone technology safely in the acquisition of spatial data</li> </ul>					
<b>ASSESSED LEARNING OUTCOMES:</b> (Additional guidance below; please refer to the Programme Specification for relevant award / programme Learning Outcomes. At the end of the module the learner will be expected to be able to:					
<b>Assessed Module Learning Outcomes</b>		<b>Award / Programme Learning Outcomes contributed to</b>			
<ol style="list-style-type: none"> <li>Evaluate the usefulness of different sources of survey data used to inform restoration programmes</li> <li>Demonstrate competence in the production and organisation of data within a GIS</li> <li>Interrogate a GIS to produce informative outputs such as tables and maps</li> <li>Summarise and evaluate the applications of modern drone technology to the field of land and ecological restoration</li> </ol>		<p><b>Knowledge and understanding:</b></p> <ul style="list-style-type: none"> <li><i>Techniques and methodologies</i> applicable to determining appropriate restoration objectives and practises used to make progress towards them (7.1b)</li> </ul> <p><b>Cognitive and intellectual skills:</b></p> <ul style="list-style-type: none"> <li><i>Application</i> – to demonstrate initiative and originality in problem solving, acting independently to plan and implement tasks at a professional or equivalent level, making decisions in complex situations (7.2d)</li> </ul> <p><b>Key and transferable skills:</b></p> <ul style="list-style-type: none"> <li><i>Collation, analysis and interpretation of data</i> in quantitative and qualitative forms</li> </ul>			

	<p>independently and with minimum guidance (7.3b)</p> <ul style="list-style-type: none"> <li>• <i>Use of appropriate information technology</i> including word-processing, graphics, spreadsheets, presentation packages, specialist statistics programmes and GIS software (7.3d)</li> </ul> <p><b>Employment related skills:</b></p> <ul style="list-style-type: none"> <li>• <i>Applying knowledge</i> to a variety of practical situations in the pursuit of the best and most sustainable approaches to land and ecological restoration (7.4a)</li> <li>• <i>Designing and executing projects</i> to be able to plan, implement and present results of project work and discuss their implications (7.4b)</li> </ul> <p><b>Practical skills:</b></p> <ul style="list-style-type: none"> <li>• <i>Data collection:</i> including primary and secondary data collection, including fieldwork contemporary methods in environmental management (7.5b)</li> <li>• <i>Data analysis:</i> utilising manual and computer-based analysis of quantitative and qualitative data with precision and effectiveness, adapting skills or procedures for new situations (7.5c)</li> </ul>
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<b>DATE OF APPROVAL:</b> April 18	<b>FACULTY/OFFICE:</b> Academic Partnerships
<b>DATE OF IMPLEMENTATION:</b> Sept 2018	<b>SCHOOL/PARTNER:</b> Cornwall College
<b>DATE(S) OF APPROVED CHANGE:</b>	<b>SEMESTER:</b> 2

## SECTION B: DETAILS OF TEACHING, LEARNING AND ASSESSMENT

Items in this section must be considered annually and amended as appropriate, in conjunction with the Module Review Process. Some parts of this page may be used in the KIS return and published on the extranet as a guide for prospective students. Further details for current students should be provided in module guidance notes.

<b>ACADEMIC YEAR:</b> 2021-2022	<b>NATIONAL COST CENTRE:</b> 111
<b>MODULE LEADER:</b> Yvonne Oates	<b>OTHER MODULE STAFF:</b> Dr Michael Hunt

### Summary of Module Content:

- Consideration of the usefulness of different types of survey data in planning and monitoring restoration programmes
- Role of different survey methods in assessing sites e.g. soil survey, Phase 1 and 2 habitat surveys, invertebrate survey, specialist ID skills and drone survey work
- Collection of primary data by habitat assessment and aerial survey
- GIS theoretical concepts to contextualise practical entry and manipulation of spatial and non-spatial data
- Interrogation of GIS datasets to display data in creative and useful ways
- Consideration of the relative merits of a range of software packages (including ArcGIS and QGIS) used in industry in the UK and abroad
- Health, safety, regulation and compliance in the use of drone technology

### SUMMARY OF TEACHING AND LEARNING: *[Use HESA KIS definitions]*

Scheduled Activities	Hours	Comments/Additional Information (briefly explain activities, including formative assessment opportunities)
Lectures	10	Explanation and discussion of key concepts and review of the role of contractors in contributing to site survey and assessment
Fieldwork	15	Supervised use of drones to generate primary data at a restoring site
Workshop	25	Guided population of QGIS database with drone and other survey data. Interrogation of QGIS databases to produce useful outputs
Independent Guided Study	150	Background research to consolidate and extend learning and produce coursework assignments
<b>Total</b>	<b>200</b>	<b>(NB: 1 credit = 10 hours of learning; 10 credits = 100 hours, etc.)</b>

### SUMMATIVE ASSESSMENT:

Element Category	Component Name	Component Weighting
Coursework	Written report (LOs 1 and 4)	50 %
	Production of GIS database (LOs 2 and 3)	50 %
		100 %

### REFERRAL ASSESSMENT:

Element Category	Component Name	Component Weighting
Coursework (in lieu of the original assessment)	Written report (LOs 1 – 4)	100 %

### To be completed when presented for Minor Change approval and/or annually updated

<b>Updated by:</b> HE Operations <b>Date:</b> 02/11/2021	<b>Approved by:</b> HE Operations <b>Date:</b> 02/11/2021
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**UNIVERSITY OF PLYMOUTH MODULE RECORD (approved by UTLQC June 2017)**

**SECTION A: DEFINITIVE MODULE RECORD. Proposed changes must be submitted via Faculty/AP Quality Procedures for approval and issue of new module code.**

<b>MODULE CODE:</b> CORC411		<b>MODULE TITLE:</b> Wetland Ecosystem and Riparian Zone Restoration			
<b>CREDITS:</b> 20		<b>FHEQ LEVEL:</b> 7		<b>HECOS CODE:</b> 100864	
<b>PRE-REQUISITES:</b> None		<b>CO-REQUISITES:</b> None		<b>COMPENSATABLE:</b> Yes	
<b>SHORT MODULE DESCRIPTOR:</b> <i>(Max 425 characters)</i> Wetland ecosystems and riparian zones include a range of naturally biodiverse and globally important habitat types that continue to experience degradation due to the activities of humans. This module reviews threats to habitats within these ecosystems and the effectiveness of practical techniques used to restore the structure, function and resilience of habitats.					
<b>ELEMENTS OF ASSESSMENT:</b> <i>[HESA KIS definitions]</i>					
<b>E1</b> (Examination)		<b>C1</b> (Coursework)	50 %	<b>P1</b> (Practical)	50 %
<b>E2</b> (Clinical Examination)		<b>A1</b> (Generic assessment)			
<b>T1</b> (Test)					
<b>SUBJECT ASSESSMENT PANEL to which module should be linked:</b> MSc Land and Ecological Restoration					
<b>Professional body minimum pass mark requirement:</b> NA					
<b>MODULE AIMS:</b>					
<ul style="list-style-type: none"> <li>To review the global distribution of wetland ecosystems and habitat types and evaluate the effectiveness of policy measures designed to protect them</li> <li>To evaluate the long-term prospects of wetland ecosystems, categorise and rank the significance of historical and ongoing human activities that have led to their degradation</li> <li>To evaluate the effectiveness and feasibility of a range of practical interventions designed to restore the structure and function of wetland ecosystems through wetland creation, enhancement and mitigation of ongoing damage</li> <li>To evaluate the importance of catchment scale research and management in the restoration of wetlands and riparian zones</li> </ul>					
<b>ASSESSED LEARNING OUTCOMES:</b> (Additional guidance below; please refer to the Programme Specification for relevant award / programme Learning Outcomes. At the end of the module the learner will be expected to be able to:					
<b>Assessed Module Learning Outcomes</b>			<b>Award / Programme Learning Outcomes contributed to</b>		
<ol style="list-style-type: none"> <li>Evaluate the effectiveness of policy measures designed to protect a range of globally important wetland ecosystems</li> <li>Explain how human activities lead to the degradation of wetland ecosystems and riparian zone habitats</li> <li>Evaluate the effectiveness and feasibility of different practical methods of mitigating against the loss of wetland habitats and quality</li> </ol>			<b>Knowledge and understanding:</b> <ul style="list-style-type: none"> <li><i>Theoretical and research-based knowledge</i> at the forefront of the relatively young and rapidly evolving disciplines of land and ecological restoration (7.1a)</li> <li><i>Techniques and methodologies</i> applicable to determining appropriate restoration objectives and practises used to make progress towards them (7.1b)</li> <li><i>Environmental processes:</i> the outcomes of human-environment interactions and the implications of these for restoring ecosystem structure and function (7.1c)</li> </ul>		

<p>4. Summarise the recommendations of research into catchment scale management and explain how this influences the work of restoration practitioners</p>	<p><b>Cognitive and intellectual skills:</b></p> <ul style="list-style-type: none"> <li>• <i>Synthesis</i> - the ability to critically assess, validate and synthesise multidisciplinary evidence from disparate sources in an innovative manner, using knowledge or processes from the cutting edge of land and ecological restoration (7.2b)</li> </ul> <p><b>Key and transferable skills:</b></p> <ul style="list-style-type: none"> <li>• <i>Communication</i> of ideas, principles and theories confidently and effectively by oral, written and visual means (7.3c)</li> <li>• <i>Independent working</i> to organise own learning autonomously (7.3e)</li> <li>• <i>Effective and supportive participation</i> in groups, managing own requirements while meeting obligations to others (7.3f)</li> </ul> <p><b>Employment related skills:</b></p> <ul style="list-style-type: none"> <li>• <i>Applying knowledge</i> to a variety of practical situations in the pursuit of the best and most sustainable approaches to land and ecological restoration (7.4a)</li> </ul> <p><b>Practical skills:</b></p> <ul style="list-style-type: none"> <li>• <i>Critical investigation:</i> identifying, formulating and resolving complex problems and research questions using good scientific practises and contemporary methods in environmental management (7.5a)</li> </ul>
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<p><b>DATE OF APPROVAL:</b> April 18</p>	<p><b>FACULTY/OFFICE:</b> Academic Partnerships</p>
<p><b>DATE OF IMPLEMENTATION:</b> September 2018</p>	<p><b>SCHOOL/PARTNER:</b> Cornwall College</p>
<p><b>DATE(S) OF APPROVED CHANGE:</b></p>	<p><b>SEMESTER:</b> 2</p>

**SECTION B: DETAILS OF TEACHING, LEARNING AND ASSESSMENT**

Items in this section must be considered annually and amended as appropriate, in conjunction with the Module Review Process. Some parts of this page may be used in the KIS return and published on the extranet as a guide for prospective students. Further details for current students should be provided in module guidance notes.

<b>ACADEMIC YEAR:</b> 2021-2022	<b>NATIONAL COST CENTRE:</b> 111
<b>MODULE LEADER:</b> Dr Angus Jackson	<b>OTHER MODULE STAFF:</b> Dr Stephen Green, Andrew Golley

**Summary of Module Content:**

- Definition and range of wetland and riparian zone habitats; biodiversity value
- Protected status, international agreements and legislation
- Historic and ongoing anthropogenic factors leading to degradation
- Practical techniques to restore ecosystem structure, function and resilience
- Relative merits and feasibility of habitat creation vs restoration and enhancement
- Catchment-scale research and management; UK legislation and initiatives including flood risk management and how these are included in policy and planning
- Application of theory to case study informed by visits to degraded, restoring and reference wetland habitats in Cornwall and in China

**SUMMARY OF TEACHING AND LEARNING: [Use HESA KIS definitions]**

Scheduled Activities	Hours	Comments/Additional Information (briefly explain activities, including formative assessment opportunities)
Lectures	30	Explanation and discussion of key concepts and definitions, review of wetland habitat types, ecosystem functions and key species. Review of historic and ongoing threats
External visit	20	Review of and comparison of techniques used in Cornwall and China to create, restore and enhance degraded wetland ecosystems
Workshop	5	Guided production of poster presentations according to agreed conventions
Independent Guided Study	145	Background research to consolidate and extend learning and produce coursework assignments
<b>Total</b>	<b>200</b>	<b>(NB: 1 credit = 10 hours of learning; 10 credits = 100 hours, etc.)</b>

**SUMMATIVE ASSESSMENT:**

Element Category	Component Name	Component Weighting
Coursework	Written report (LOs 1 and 2)	100 %
Practical	Poster defence (LOs 3 and 4)	100 %

**REFERRAL ASSESSMENT:**

Element Category	Component Name	Component Weighting
Coursework	Written report (LOs 1 and 2) New Assessments to be provided different from the originals	100 %
Practical	Poster defence (LOs 3 and 4) Assessments to be provided different from the originals	100 %

**To be completed when presented for Minor Change approval and/or annually updated**

<b>Updated by:</b> HE Operations <b>Date:</b> 02/11/2021	<b>Approved by:</b> HE Operations <b>Date:</b> 02/11/2021
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**UNIVERSITY OF PLYMOUTH MODULE RECORD (approved by UTLQC June 2017)**

**SECTION A: DEFINITIVE MODULE RECORD. Proposed changes must be submitted via Faculty/AP Quality Procedures for approval and issue of new module code.**

<b>MODULE CODE:</b> CORC412		<b>MODULE TITLE:</b> Work Placement			
<b>CREDITS:</b> 20		<b>FHEQ LEVEL:</b> 7		<b>HECOS CODE:</b> 100864	
<b>PRE-REQUISITES:</b> None		<b>CO-REQUISITES:</b> None		<b>COMPENSATABLE:</b> Yes	
<b>SHORT MODULE DESCRIPTOR:</b> <i>(Max 425 characters)</i> The module allows the student to gain credit for completing not less than 120 hours of work experience related to the programme aims and objectives. This will usually be with industry practitioners / ecological consultants working on or providing services to land restoration or associated environmental management projects.					
<b>ELEMENTS OF ASSESSMENT:</b> <i>[HESA KIS definitions]</i>					
<b>E1</b> (Examination)		<b>C1</b> (Coursework)	100 %	<b>P1</b> (Practical)	
<b>E2</b> (Clinical Examination)		<b>A1</b> (Generic assessment)	P/F		
<b>T1</b> (Test)					
<b>SUBJECT ASSESSMENT PANEL to which module should be linked:</b> MSc Land and Ecological Restoration					
<b>Professional body minimum pass mark requirement:</b> NA					
<b>MODULE AIMS:</b>					
<ul style="list-style-type: none"> <li>To identify key competencies required to work at an appropriate level in land / environmental management and consultancy</li> <li>To critically reflect on own competencies and produce and action plan to guide continuing personal and professional development</li> <li>To introduce and evaluate the usefulness of schemes of professional registration / recognition</li> <li>To map own competencies against those outlined in a scheme of professional registration / recognition</li> </ul>					

<b>ASSESSED LEARNING OUTCOMES:</b> (Additional guidance below; please refer to the Programme Specification for relevant award / programme Learning Outcomes. At the end of the module the learner will be expected to be able to:	
<b>Assessed Module Learning Outcomes</b>	<b>Award / Programme Learning Outcomes contributed to</b>
<ol style="list-style-type: none"> <li>1. Work effectively alongside practitioners identifying key priorities for developing management practice within the field</li> <li>2. Critically evaluate conflicting priorities prioritising logical orders for key actions</li> <li>3. Appraise, evaluate and reflect on individual professional development, creating an action plan for continuing development</li> </ol>	<b>Knowledge and understanding:</b> <ul style="list-style-type: none"> <li>• <i>Techniques and methodologies</i> applicable to determining appropriate restoration objectives and practises used to make progress towards them (7.1b)</li> <li>• <i>Environmental processes:</i> the outcomes of human-environment interactions and the implications of these for restoring ecosystem structure and function (7.1c)</li> <li>• <i>Political and institutional frameworks:</i> related to policy development, legislation and compliance, stakeholder engagement and implementation in programmes of land restoration (7.1d)</li> </ul>

<p>4. Evaluate own competencies and priorities for development against requirements for professional registration / recognition</p>	<p><b>Cognitive and intellectual skills:</b></p> <ul style="list-style-type: none"> <li>• <i>Synthesis</i> - the ability to critically assess, validate and synthesise multidisciplinary evidence from disparate sources in an innovative manner, using knowledge or processes from the cutting edge of land and ecological restoration (7.2b)</li> </ul> <p><b>Key and transferable skills:</b></p> <ul style="list-style-type: none"> <li>• <i>Communication</i> of ideas, principles and theories confidently and effectively by oral, written and visual means (7.3c)</li> <li>• <i>Independent working</i> to organise own learning autonomously (7.3e)</li> <li>• <i>Effective and supportive participation</i> in groups, managing own requirements while meeting obligations to others (7.3f)</li> </ul> <p><b>Employment related skills:</b></p> <ul style="list-style-type: none"> <li>• <i>Applying knowledge</i> to a variety of practical situations in the pursuit of the best and most sustainable approaches to land and ecological restoration (7.4a)</li> <li>• <i>Effective self-reflection</i> in action planning for personal and career development (7.4c)</li> <li>• <i>Life-long learning</i> - to appreciate the importance of life-long learning and reflect critically on career plans and needs for continuing professional development (7.4d)</li> </ul> <p><b>Practical skills:</b></p> <ul style="list-style-type: none"> <li>• <i>Critical investigation:</i> identifying, formulating and resolving complex problems and research questions using good scientific practises and contemporary methods in environmental management (7.5a)</li> </ul>
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<p><b>DATE OF APPROVAL:</b> April 18</p>	<p><b>FACULTY/OFFICE:</b> Academic Partnerships</p>
<p><b>DATE OF IMPLEMENTATION:</b> Sept 2018</p>	<p><b>SCHOOL/PARTNER:</b> Cornwall College</p>
<p><b>DATE(S) OF APPROVED CHANGE:</b></p>	<p><b>SEMESTER:</b> 2</p>



## SECTION B: DETAILS OF TEACHING, LEARNING AND ASSESSMENT

Items in this section must be considered annually and amended as appropriate, in conjunction with the Module Review Process. Some parts of this page may be used in the KIS return and published on the extranet as a guide for prospective students. Further details for current students should be provided in module guidance notes.

<b>ACADEMIC YEAR:</b> 2021-2022		<b>NATIONAL COST CENTRE:</b> 111	
<b>MODULE LEADER:</b> Dr Mark Nason		<b>OTHER MODULE STAFF:</b> Dr James Wagstaffe, Lawrence Moores	
<p><b>Summary of Module Content:</b>            Students will work within a professional environment for a period of at least 120 hours of work placement, noting key competencies required for the job role, reflecting on development needs and producing an action plan for personal development aligned either to the Society for Ecological Restoration's Certified Practitioner In-Training (CERP-iT) scheme, or Registered Scientist (RSci) status (whichever is most applicable to job role and aspirations).</p> <ul style="list-style-type: none"> <li>• Evidence of work placement at management / consultancy level</li> <li>• Effective work shadowing</li> <li>• Appraisal of management practices</li> <li>• Communication and professional discussion</li> <li>• Promoting positive change</li> <li>• Self-evaluation and reflection</li> <li>• Managing staff expectations</li> <li>• Developing self and team work ethic</li> <li>• Schemes of professional registration / accreditation</li> </ul>			
<b>SUMMARY OF TEACHING AND LEARNING: [Use HESA KIS definitions]</b>			
<b>Scheduled Activities</b>	<b>Hours</b>	<b>Comments/Additional Information (briefly explain activities, including formative assessment opportunities)</b>	
Lectures	10	Development of logbook, communication for placement, identification of personal key priorities and goals. Delivery of theoretical material including management styles and practices, making work shadowing activities effective; the use of professional discussion as a method of communication; further focus on effective self-evaluation. Introduction and explanation of schemes for professional recognition and accreditation	
Guided independent study	70	Recording of competencies, critical reflection and action planning. Commence professional registration	
Work-based learning	120	Hours to be completed at an agreed and appropriate partner in the field of land / environmental management and consultancy/ Pass / fail on completion of work experience hours	
<b>Total</b>	<b>200</b>	<b>(NB: 1 credit = 10 hours of learning; 10 credits = 100 hours, etc.)</b>	
<b>SUMMATIVE ASSESSMENT:</b>			
<b>Element Category</b>	<b>Component Name</b>		<b>Component Weighting</b>
Coursework	Report including critical reflection and action plan (LOs 1 – 4)		100 %
Generic assessment	120 hours programme relevant work experience (Pass / Fail)		
<b>REFERRAL ASSESSMENT:</b>			
<b>Element Category</b>	<b>Component Name</b>		<b>Component Weighting</b>
Coursework	Report including critical reflection and action plan and mapping own competencies against requirements for professional registration (LOs 1 - 4)		100 %
<b>To be completed when presented for Minor Change approval and/or annually updated</b>			
<b>Updated by:</b> HE Operations <b>Date:</b> 02/11/2021		<b>Approved by:</b> HE Operations <b>Date:</b> 02/11/2021	

**UNIVERSITY OF PLYMOUTH MODULE RECORD (approved by UTLQC June 2017)**

**SECTION A: DEFINITIVE MODULE RECORD. Proposed changes must be submitted via Faculty/AP Quality Procedures for approval and issue of new module code.**

<b>MODULE CODE:</b> CORC413		<b>MODULE TITLE:</b> MSc Dissertation			
<b>CREDITS:</b> 60		<b>FHEQ LEVEL:</b> 7		<b>HECOS CODE:</b> 100864	
<b>PRE-REQUISITES:</b> None		<b>CO-REQUISITES:</b> None		<b>COMPENSATABLE:</b> No	
<b>SHORT MODULE DESCRIPTOR:</b> <i>(Max 425 characters)</i> Candidates will produce a dissertation to satisfy the requirements of this Masters level qualification. In doing so they will demonstrate the ability to synthesise and apply learning gained throughout the programme to identify a research topic, formulate and test a hypothesis through original research and communicate outputs according to agreed scientific format.					
<b>ELEMENTS OF ASSESSMENT:</b> <i>[HESA KIS definitions]</i>					
<b>E1</b> (Examination)		<b>C1</b> (Coursework)	100 %	<b>P1</b> (Practical)	
<b>E2</b> (Clinical Examination)		<b>A1</b> (Generic assessment)			
<b>T1</b> (Test)					
<b>SUBJECT ASSESSMENT PANEL to which module should be linked:</b> MSc Land and Ecological Restoration					
<b>Professional body minimum pass mark requirement:</b> NA					
<b>MODULE AIMS</b>					
<ul style="list-style-type: none"> <li>Provide an opportunity for learners to demonstrate their ability to design, conduct and report an original piece of research on a subject relevant to their MSc programme.</li> </ul>					

<b>ASSESSED LEARNING OUTCOMES:</b> (Additional guidance below; please refer to the Programme Specification for relevant award / programme Learning Outcomes. At the end of the module the learner will be expected to be able to:	
<b>Assessed Module Learning Outcomes</b>	<b>Award / Programme Learning Outcomes contributed to</b>
<ol style="list-style-type: none"> <li>Design and conduct a statistically valid study to test appropriate and relevant hypotheses</li> <li>Develop research skills commensurate with the accomplishment of a masters degree</li> <li>Analyse results and display data appropriately</li> <li>Communicate conclusions and their significance as both a written thesis and individual oral presentation to satisfy a research or commercial audience</li> </ol>	<p><b>Knowledge and understanding:</b></p> <ul style="list-style-type: none"> <li><i>Theoretical and research-based knowledge</i> at the forefront of the relatively young and rapidly evolving disciplines of land and ecological restoration (7.1a)</li> <li><i>Techniques and methodologies</i> applicable to determining appropriate restoration objectives and practises used to make progress towards them (7.1b)</li> </ul> <p><b>Cognitive and intellectual skills:</b></p> <ul style="list-style-type: none"> <li><i>Analysis</i> - the ability to undertake analysis of complex, incomplete or contradictory areas of knowledge with critical awareness, including the formulation and testing of hypotheses (7.2a)</li> <li><i>Synthesis</i> - the ability to critically assess, validate and synthesise multidisciplinary evidence from disparate sources in an innovative manner, using knowledge or processes from the cutting edge of land and ecological restoration (7.2b)</li> <li><i>Evaluation</i> – the development of a level of conceptual competency that allows a reasoned evaluation of research, advanced scholarship and</li> </ul>

	<p>methodologies and the development of arguments for alternative approaches to practices in land and ecological restoration (7.2c)</p> <ul style="list-style-type: none"> <li>• <i>Application</i> – to demonstrate initiative and originality in problem solving, acting independently to plan and implement tasks at a professional or equivalent level, making decisions in complex situations (7.2d)</li> </ul> <p><b>Key and transferable skills:</b></p> <ul style="list-style-type: none"> <li>• <i>Effective information sourcing</i> using a full range of learning resources (7.3a)</li> <li>• <i>Collation, analysis and interpretation of data</i> in quantitative and qualitative forms independently and with minimum guidance (7.3b)</li> <li>• <i>Communication</i> of ideas, principles and theories confidently and effectively by oral, written and visual means (7.3c)</li> <li>• <i>Independent working</i> to organise own learning autonomously (7.3e)</li> <li>• <i>Use of appropriate information technology</i> including word-processing, graphics, spreadsheets, presentation packages, specialist statistics programmes and GIS software (7.3d)</li> </ul> <p>•</p> <p><b>Employment related skills:</b></p> <ul style="list-style-type: none"> <li>• <i>Applying knowledge</i> to a variety of practical situations in the pursuit of the best and most sustainable approaches to land and ecological restoration (7.4a)</li> </ul> <p><b>Practical skills:</b></p> <ul style="list-style-type: none"> <li>• <i>Critical investigation:</i> identifying, formulating and resolving complex problems and research questions using good scientific practises and contemporary methods in environmental management (7.5a)</li> <li>• <i>Data collection:</i> including primary and secondary data collection, including fieldwork (7.5b)</li> <li>• <i>Data analysis:</i> utilising manual and computer-based analysis of quantitative and qualitative data with precision and effectiveness, adapting skills or procedures for new situations (7.5c)</li> <li>• <i>Reporting original research:</i> planning, design, execution and report writing using personal initiative (7.5d)</li> </ul>
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<b>DATE OF APPROVAL:</b> 26 April 2018	<b>FACULTY/OFFICE:</b> Academic Partnerships
<b>DATE OF IMPLEMENTATION:</b> Sept 2018	<b>SCHOOL/PARTNER:</b> Cornwall College
<b>DATE(S) OF APPROVED CHANGE:</b>	<b>SEMESTER:</b> 2

**SECTION B: DETAILS OF TEACHING, LEARNING AND ASSESSMENT**

Items in this section must be considered annually and amended as appropriate, in conjunction with the Module Review Process. Some parts of this page may be used in the KIS return and published on the extranet as a guide for prospective students. Further details for current students should be provided in module guidance notes.

<b>ACADEMIC YEAR:</b> 2021-2022	<b>NATIONAL COST CENTRE:</b> 111
<b>MODULE LEADER:</b> Dr Peter McGregor	<b>OTHER MODULE STAFF:</b> Dr Mark Nason, Dr James Wagstaffe, Dr Stephen Green, Dr Angus Jackson, Dr Kelly Haynes

**Summary of Module Content:**

- Plan and agree project plan with supervisor
- Reflect on personal development needs and skill development needed to deliver the project
- Undertake original experiments and / or sample collection
- Analyse data using appropriate statistical techniques
- Synthesise results, demonstrating independent thought
- Write and submit a dissertation

**SUMMARY OF TEACHING AND LEARNING: [Use HESA KIS definitions]**

Scheduled Activities	Hours	Comments/Additional Information (briefly explain activities, including formative assessment opportunities)
Project supervision	30	1-to-1 supervision to mentor learners
Independent Guided Study	570	Independent research, collection, analysis, presentation and discussion of data
<b>Total</b>	<b>600</b>	<b>(NB: 1 credit = 10 hours of learning; 10 credits = 100 hours, etc.)</b>

**SUMMATIVE ASSESSMENT**

Element Category	Component Name	Component Weighting
Coursework	MSc thesis (LOs 1 – 4)	100 %

**REFERRAL ASSESSMENT**

Element Category	Component Name	Component Weighting
Coursework	MSc thesis (LOs 1 – 4)	100 %

**To be completed when presented for Minor Change approval and/or annually updated**

<b>Updated by:</b> HE Operations <b>Date:</b> 02/11/2021	<b>Approved by:</b> HE Operations <b>Date:</b> 02/11/2021
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The following modules are already approved through Plymouth University –

- GEES516 Science, Society and Environmental Governance
- ENVS5002 Investigation and Assessment of Contaminated Environments.

**SECTION A: DEFINITIVE MODULE RECORD.** *Proposed changes must be submitted via Faculty Quality Procedures for approval and issue of new module code.*

<b>MODULE CODE:</b> ENV5002	<b>MODULE TITLE:</b> Investigation and assessment of Contaminated environments	
<b>CREDITS:</b> 20	<b>FHEQ LEVEL:</b> 7	<b>HECOS CODE:</b> 100864, 100408
<b>PRE-REQUISITES:</b>	<b>CO-REQUISITES:</b>	<b>COMPENSATABLE:</b> Y

**SHORT MODULE DESCRIPTOR:** *(Max 425 characters)*

Students are introduced to the scientific principles underpinning pollutant behaviour in the environment including the use of modelling and the process of site investigation and risk assessments. Students undertake a risk assessment of a contaminated site using literature and field investigation. Case study examples are used to highlight environmental consultancy approaches to site investigation and evaluation.

**ELEMENTS OF ASSESSMENT:** *[Use HESA KIS definitions]*

<b>E1</b> (Examination)		<b>C1</b> (Coursework)	100%	<b>P1</b> (Practical)	
<b>E2</b> (Clinical Examination)		<b>A1</b> (Generic assessment)			
<b>T1</b> (Test)					

**SUBJECT ASSESSMENT PANEL Group to which module should be linked:** MENV

**Professional body minimum pass mark requirement:**

**MODULE AIMS:**

- To understand the nature of environmental contamination and the interdisciplinary scientific approach to its investigation and assessment.
- To undertake a risk assessment of a contaminated site.
- To use models in predicting contamination and impacts.

**ASSESSED LEARNING OUTCOMES:** (Additional guidance below)

At the end of the module the learner will be expected to be able to:

1. Demonstrate a critical understanding of the principles and concepts of pollutant behaviour in the environment
2. Undertake a risk assessment of a site of contaminated land
3. Use and evaluate models for the prediction of impacts of chemicals in the environment

<b>DATE OF APPROVAL:</b> 17/11/2014	<b>FACULTY/OFFICE:</b> SciEng
<b>DATE OF IMPLEMENTATION:</b> 01/09/2015	<b>SCHOOL/PARTNER:</b> SoGEES
<b>DATE(S) OF APPROVED CHANGE:</b> XX/XX/XXXX	<b>Semester:</b> 2

Additional notes (For office use only):

### **Additional Guidance for Learning Outcomes:**

**To ensure that the module is pitched at the right level check your intended learning outcomes against the following nationally agreed standards**

Framework for Higher Education Qualifications:

[http://www.qaa.ac.uk/Publications/InformationAndGuidance/Documents/FHEQ\\_08.pdf](http://www.qaa.ac.uk/Publications/InformationAndGuidance/Documents/FHEQ_08.pdf)

- Subject benchmark statements  
<http://www.qaa.ac.uk/ASSURINGSTANDARDSANDQUALITY/SUBJECTGUIDANCE/Pages/Subject-benchmark-statements.aspx>
- SEEC level descriptors <http://www.seec.org.uk/academic-credit/seec-creditlevel-descriptors-2010> (scroll to pdf link at bottom of page)
- Professional, regulatory and statutory (PSRB) accreditation requirements (where necessary e.g. health and social care, medicine, engineering, psychology, architecture, teaching, law)
- QAA Quality Code  
<http://www.qaa.ac.uk/AssuringStandardsAndQuality/qualitycode/Pages/default.aspx>

**SECTION B: DETAILS OF TEACHING, LEARNING AND ASSESSMENT:** *Items in this section must be considered annually and amended as appropriate, in conjunction with the Module Review Process. Some parts of this page may be used in the KIS return and published on the extranet as a guide for prospective students. Further details for current students should be provided in module guidance notes.*

<b>ACADEMIC YEAR:</b> 2021-2022	<b>NATIONAL COST CENTRE:</b> 111
<b>MODULE LEADER:</b> Charlotte Braungardt	<b>OTHER MODULE STAFF:</b> John Rieuwerts, Mike Foulkes, Will Blake, Sean Comber, Andy Turner

**Summary of Module Content:**

Lectures: Soil-contaminant interaction, impacts of contaminated land on waters, sediments and human health. Water quality regulation in the UK and principles of catchment management. Site investigation, risk assessment, legislation and regulation. Atmospheric plume modelling. Fieldwork: Visit to a site of contaminated land.  
Seminars: Student led presentations on impacts of contaminated land on different receptors.

<b>SUMMARY OF TEACHING AND LEARNING: [Use HESA KIS definitions]</b>		
<b>Scheduled Activities</b>	<b>Hours</b>	<b>Comments/Additional Information</b>
Lectures	11	Principles of pollutant behaviour and application to site investigation and risk assessment
	8	Atmospheric plume modelling
	6	Principles of catchment management, WQ monitoring, catchment management, P in Taw
	3	Introduction to Tamar catchment: land use and other pressures on water quality
Tutorials	3	To support coursework preparation
Fieldwork	7	To a site of contaminated land
Seminars	3	Given by students on specific topics
Practical	4	Macroinvertebrate ID and data processing
Workshop	5	Luckett River water quality assessment planning. Discussion of results from Luckett River
Directed learning	150	To prepare for final report
<b>Total</b>	<b>200</b>	



<b>Category</b>	<b>Element</b>	<b>Component Name</b>	<b>Component Weighting</b>	<b>Comments Include Links to learning objectives</b>
Written exam	E_		100%	
	T_		100%	
Coursework	C1	Report	50%	ALO1 and ALO2: Report outlining and prioritising the risks from arsenic at Devon Great Consols mine site.
		Contaminant plume modelling	50%	ALO1 and ALO3: Report based on modelling the distributions of SO <sub>2</sub> as a function of distance from the stack; consider any impacts incurred on sensitive receptors in the locality and prepare a report of findings.
			100%	
Practice	P_		% 100%	

**Updated by:** HE Operations  
**Date:** 02/11/2021

**Approved by:** HE Operations  
**Date:** 02/11/2021

## PLYMOUTH UNIVERSITY MODULE RECORD

**SECTION A: DEFINITIVE MODULE RECORD.** *Proposed changes must be submitted via Faculty Quality Procedures for approval and issue of new module code.*

<b>MODULE CODE:</b> GEES516	<b>MODULE TITLE:</b> Science, Society and Environmental Governance		
<b>CREDITS:</b> 20	<b>FHEQ LEVEL:</b> 7	<b>HECOS CODE:</b> 100864, 100408	

<b>PRE-REQUISITES:</b>	<b>CO-REQUISITES:</b>	<b>COMPENSATABLE:</b> Y
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**SHORT MODULE DESCRIPTOR:** *(Max 425 characters)*

This module provides students, firstly, with a critical understanding of key debates in the principles, ethics and methods of both scientific and societal understandings of environmental issues. Secondly, the module makes a critical examination of the systems of governance and policy-making that have been established to regulate resource management, environmental degradation and nature conservation.

**ELEMENTS OF ASSESSMENT:** *[Use HESA KIS definitions]*

<b>E1</b> (Examination)		<b>C1</b> (Coursework)	50%	<b>P1</b> (Practical)	50%
<b>E2</b> (Clinical Examination)		<b>A1</b> (Generic assessment)			
<b>T1</b> (Test)					

**SUBJECT ASSESSMENT PANEL Group to which module should be linked:** MEAR

**Professional body minimum pass mark requirement:** n/a

**MODULE AIMS:**

- Develop a critical understanding of the key principles and concepts used in science to understand and analyse the functioning of environmental systems
- Develop a critical understanding of competing societal visions of sustainability and the implications for how environmental issues should be addressed.
- Develop a critical understanding of political, social and economic factors influencing the governance of environmental and stability issues
- Critically assess the strengths, limitations and consequences of different approaches for governing environmental issues at different scales

**ASSESSED LEARNING OUTCOMES:** (Additional guidance below)

At the end of the module the learner will be expected to be able to:

1. Demonstrate an understanding of how environmental systems operate and retain stability in the face of disturbance,
2. Demonstrate a critical appreciation of the different approaches to scientific analysis of, and societal attitudes to, environmental issues,
3. Identify and evaluate key political, social, institutional and economic factors that influence contemporary environmental governance, engaging critically with the underpinning theoretical frameworks
4. assess the ways in which governance processes operate and impact on environmental management

<b>DATE OF APPROVAL:</b> 06/02/2017	<b>FACULTY/OFFICE:</b> SciEng
<b>DATE OF IMPLEMENTATION:</b> 01/09/2017	<b>SCHOOL/PARTNER:</b> SoGEES
<b>DATE(S) OF APPROVED CHANGE:</b> XX/XX/XXXX	<b>SEMESTER:</b> Semester 1

Additional notes (For office use only):

**Additional Guidance for Learning Outcomes:**

**To ensure that the module is pitched at the right level check your intended learning outcomes against the following nationally agreed standards**

- Framework for Higher Education Qualifications <http://www.qaa.ac.uk/publications/information-and-guidance/publication/?PubID=2718#.VW2INtJVikp>
- Subject benchmark statements <http://www.qaa.ac.uk/ASSURINGSTANDARDSANDQUALITY/SUBJECT-GUIDANCE/Pages/Subject-benchmark-statements.aspx>
- SEEC level descriptors <http://www.seec.org.uk/academic-credit/seec-credit-level-descriptors-2010>
- Professional, regulatory and statutory (PSRB) accreditation requirements (where necessary e.g. health and social care, medicine, engineering, psychology, architecture, teaching, law)
- QAA Quality Code <http://www.qaa.ac.uk/AssuringStandardsAndQuality/quality-code/Pages/default.aspx>

**SECTION B: DETAILS OF TEACHING, LEARNING AND ASSESSMENT**

*Items in this section must be considered annually and amended as appropriate, in conjunction with the Module Review Process. Some parts of this page may be used in the KIS return and published on the extranet as a guide for prospective students. Further details for current students should be provided in module guidance notes.*

<b>ACADEMIC YEAR: 2021-2022</b>	<b>NATIONAL COST CENTRE: 124</b>
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<b>MODULE LEADER: Ian Bailey</b>	<b>OTHER MODULE STAFF: tbc</b>
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<p><b>Summary of Module Content:</b>  <b>Environmental science:</b> the physical and ecological basis for how environmental systems function; ecological stability in the face of disturbance, multi- and interdisciplinary, holism and reductionism.  <b>Societal debates:</b> the mediation and adjudication of environmental science by political and societal preferences and interactions: discourses – e.g. ecological modernisation and eco-efficiency; de-growth; power relations. Case studies. <b>Key concepts in environmental governance and policy-making:</b> the rationales for and distinctive characteristics of cooperation on environmental issues; theoretical frameworks for analysing environmental governance. <b>Key actors and institutions:</b> the characteristics and varieties of international environmental regimes; the development of policy networks; government and non-government organisations  <b>Instruments of governance:</b> regulatory, economic &amp; informational instruments; voluntary cooperation.  <b>Issues in integration for governance:</b> across organisational scales, of different knowledges; reconciling different values and interests; decision-making institutions and procedures within regional organisations</p>
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<b>SUMMARY OF TEACHING AND LEARNING: [Use HESA KIS definitions]</b>		
<b>Scheduled Activities</b>	<b>Hours</b>	<b>Comments/Additional Information</b>
tutorial	30	
Field visits	8	
Seminars & Practicals	8	
Independent Study	154	
<b>Total</b>	<b>200</b>	<b>(NB: 1 credit = 10 hours of learning; 10 credits = 100 hours, etc.)</b>

<b>Category</b>	<b>Element</b>	<b>Component Name</b>	<b>Component weighting</b>	<b>Comments Include links to learning objectives</b>
Written exam	E_			
	T_			
Coursework	C1	report	100%	ALOs 3 & 4
Practice	P1	presentation	100%	ALOs 1 & 2

<b>Updated by:</b> HE Operations <b>Date:</b> 02/11/2021	<b>Approved by:</b> HE Operations <b>Date:</b> 02/11/2021
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