



**CORPORATE AND ACADEMIC SERVICES**




**MODULE SPECIFICATION**

Part 1: Basic Data					
Module Title	People and Environmental Change				
Module Code	USSKAH-30-2	Level	2	Version	1
Owning Faculty	Health & Applied Sciences	Field	Biological, Biomedical and Applied Sciences		
Contributes towards	BSc Environmental Science				
UWE Credit Rating	30	ECTS Credit Rating	15	Module Type	Standard
Pre-requisites	None		Co- requisites	None	
Excluded Combinations	None		Module Entry requirements	N/A	
Valid From	September 2014		Valid to	September 2020	

<b>CAP Approval Date</b>	28/03/2014
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Part 2: Learning and Teaching	
Learning Outcomes	<p>On successful completion of this module students will be able to:</p> <ul style="list-style-type: none"> <li>- describe and discuss the impact that human activities have on the environment and living organisms, past, present and future</li> <li>- describe and discuss the impact that environmental change is having on human development and on living organisms, past present and future</li> <li>- discuss the effect of environmental change on the impact and availability of resources</li> <li>- gain practical experience in analytical and modelling techniques for understanding the presence and movement of pollutants in the environment;</li> </ul>
Syllabus Outline	<p>Environmental change is defined as a change or disturbance of the environment caused by human influences or natural ecological processes, this includes climate change. Our planet faces unprecedented change. If we continue on our current path, by the end of this century, or earlier, our environment will be in a state that modern humans have never experienced. In parts of the world, supplies of food and water will be at risk and flood defences stretched. This module introduces students to these very complex issues.</p>

	<p>Specifically students will study:</p> <ul style="list-style-type: none"> <li>• Current and future environmental change with respect to the water resources, the atmosphere and current and future climate change, and the terrestrial biosphere (e.g. food production and food security).</li> <li>• How these resources are changing through both time and space – and understand the causes and drivers of these changes</li> <li>• The anthropogenic inputs into the environment, including pollution of the atmosphere and hydrosphere and effects of intensive land use.</li> <li>• Environmental fate of pollutants. The movement and fate of important pollutants in the environment. The impact of pollutants on organisms and ecosystems.</li> </ul> <p>Experiential learning will be supported and developed by practical study within the laboratory and within the field.</p> <p>Specifically students will learn:</p> <ul style="list-style-type: none"> <li>• Techniques for measuring and understanding important environmental pollutants</li> <li>• Collection, monitoring and analysis of environmental samples using a range techniques.</li> <li>• Analysis and interpretation of environmental data.</li> <li>• The limitations and sources of error associated with the analysis of environmental samples and the analysis of environmental data</li> </ul>
Contact Hours	<p>The contact hours (72) are distributed as follows:</p> <p>12 interactive lectures @ 3 hours/lecture = 36 hours  12 Laboratory Workshops @ 3 hours/workshop = 36 hours</p> <p>In addition to the described contact time, this material will be supported through online learning material, including technology enhanced lecture material.</p> <p><b>Independent learning:</b> Using defined TEL strategies includes hours engaged with essential reading, data handling, presentations etc.</p>
Teaching and Learning Methods	<p><b>Lectures:</b> This module will be delivered in discrete sections, following the subject areas outlined in the syllabus. Each topic area will be introduced with underpinning lectures followed by a series of tutorials where extensive use of case studies will be made. Guided reading will be provided in advance of lectures and will direct the student to both preparative and supplementary information sources. Copies of all hand-outs will be available on Blackboard. A Web site has been constructed which links to some of the best available information sources on the internet. All links have been investigated for their validity and usefulness in this context</p> <p><b>Tutorials:</b> Students will be given indicative reading prior to tutorials and a list of indicative questions will be given to help guide and support student learning.</p> <p><b>Laboratory and Field Work:</b> A major feature of this module is the focus on the experiential learning of transferable analytical (field-based and laboratory) skills and therefore field work and in particular laboratory work will formulate a large component of the module. Regular laboratory-based analytical practical classes will be used in parallel to lectures to link practice and theory.</p>

<p>Key Information Sets Information</p>	<p>Key Information Sets (KIS) are produced at programme level for all programmes that this module contributes to, which is a requirement set by HESA/HEFCE. KIS are comparable sets of standardised information about undergraduate courses allowing prospective students to compare and contrast between programmes they are</p> <table border="1" data-bbox="459 304 1370 694"> <thead> <tr> <th>Hours to be allocated</th> <th>Scheduled learning and teaching study hours</th> <th>Independent study hours</th> <th>Placement study hours</th> <th>Allocated Hours</th> <th></th> </tr> </thead> <tbody> <tr> <td>290</td> <td>66</td> <td>224</td> <td></td> <td>290</td> <td></td> </tr> <tr><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td><td></td></tr> </tbody> </table> <p>The table below indicates as a percentage the total assessment of the module which constitutes a -</p> <p><b>Controlled:</b> Written Exam  <b>Coursework:</b> Coursework Report; Practical Logbook and Report</p> <table border="1" data-bbox="568 909 1264 1144"> <thead> <tr> <th colspan="2">Total assessment of the module:</th> <th></th> </tr> </thead> <tbody> <tr> <td>Written Examination</td> <td></td> <td>50%</td> </tr> <tr> <td>Coursework</td> <td></td> <td>50%</td> </tr> <tr> <td></td> <td></td> <td>100%</td> </tr> </tbody> </table>	Hours to be allocated	Scheduled learning and teaching study hours	Independent study hours	Placement study hours	Allocated Hours		290	66	224		290																										Total assessment of the module:			Written Examination		50%	Coursework		50%			100%
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<p>Reading Strategy</p>	<p>All students will be encouraged to make full use of the print and electronic resources available to them through membership of the University. These include a range of electronic journals and a wide variety of resources available through web sites and information gateways. The University Library's web pages provide access to subject relevant resources and services, and to the library catalogue. Many resources can be accessed remotely. Students will be presented with opportunities within the curriculum to develop their information retrieval and evaluation skills in order to identify such resources effectively.</p> <p>Any <b>essential reading</b> will be indicated clearly, along with the method for accessing it, e.g. students may be expected to purchase a set research article or watch a research webinar Guidance will be available via the module handbook and Blackboard or through any other vehicle deemed appropriate by the module/programme leaders.</p> <p><b>Further reading</b> is expected and this will be indicated clearly, in advance. If specific texts are listed, a clear indication will be given regarding how to access them and, if appropriate, students will be given guidance on how to identify relevant sources for themselves, e.g. through use of bibliographical databases.</p> <p>A detailed reading list will be made available through relevant channels, e.g. module handbooks, Blackboard, etc.</p>																																																
<p>Indicative Reading List</p>	<p><b>Books</b>  Kemp, D. (2012) <i>Exploring Environmental Issues</i>. London: Routledge  Goudie, A. (2013) <i>The Human Impact on the Natural Environment</i>, 7<sup>th</sup> Edition, Oxford: Wiley-Blackwell  Hill, M.(2004) <i>Understanding Environmental Pollution</i> Cambridge: CUP</p>																																																

### Online Resources

The following journal resources are available via the UWE library webpages (e-journals A-Z link), and students will be referred to these as part of the research informing teaching and learning culture of this module. This will provide students with the opportunity to engage in and to appreciate the importance of research.

**Environmental Pollution**  
**Water Research**  
**Science of the Total Environment**  
**Nature Climate Change**

**Web resources – students will be referred to the following web resources throughout the module as part of the independent learning philosophy adopted within the module**

Intergovernmental Panel on Climate Change, IPCC  
(<http://www.ipcc.ch/>)

Environment Agency  
(<http://www.environment-agency.gov.uk/>)

European Commission on Climate Change  
([http://ec.europa.eu/environment/climat/home\\_en.htm](http://ec.europa.eu/environment/climat/home_en.htm))

Hadley Centre for Climate Prediction and Research  
([www.metoffice.gov.uk/research/hadleycentre/](http://www.metoffice.gov.uk/research/hadleycentre/))

Horizon 2020 – European Commission ([ec.europa.eu/programmes/horizon2020](http://ec.europa.eu/programmes/horizon2020))

### Part 3: Assessment

#### Assessment Strategy

The Assessment Strategy has been designed to support and enhance the development of both subject-based and generic key skills as described in the Learning Outcomes. The focus is on assessment strategies that underpin and inform employability skills in the areas described in the syllabus outline (Part 2).

#### Component A.

This will be assessed via a written examination (2 hours).

The written examination will be used to assess the student's key knowledge and understanding Environmental Change both in terms of how change may impact on people and also how people may influence environmental change. In addition to this, students will be assessed on their understanding on contemporary environmental techniques for measuring and monitoring environmental change (e.g. air, water or land). Finally students will be expected to demonstrate an understanding of the analysis environmental data sets.

#### Component B

##### Coursework 1

This coursework contains will take the form of a scientific or technical report synthesising the results from laboratory practicals, field sessions or environmental modelling.

##### Coursework 2

This coursework will develop analytical, data handling, sampling and

	analysis skills and will involve the analysis of scientific data collected in the field and/or analysed in the laboratory. This coursework is designed to develop analytical skills and to encourage students to critically evaluate and interpret environmental change data and further their understanding and appreciation of the technical and scientific challenges of measuring environmental change through time and space.
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Identify final assessment component and element		
% weighting between components A and B (Standard modules only)	<b>A:</b>	<b>B:</b>
	<b>50%</b>	<b>50%</b>
<b>First Sit</b>		
<b>Component A</b> (controlled conditions) <b>Description of each element</b>	<b>Element weighting</b> (as % of component)	
1. 2hr Written Exam	100%	
<b>Component B</b> <b>Description of each element</b>	<b>Element weighting</b> (as % of component)	
1. Coursework 1 – Laboratory/Practical Report	50	
2. Coursework 2 – Data Collection, Data Handling and Data Analysis	50	

<b>Resit (further attendance at taught classes is not required)</b>		
<b>Component A</b> (controlled conditions) <b>Description of each element</b>	<b>Element weighting</b> (as % of component)	
1. 2hr Written Exam	100%	
<b>Component B</b> <b>Description of each element</b>	<b>Element weighting</b> (as % of component)	
1. Coursework 1 – Critical Review	50%	
2. Coursework 2 – Laboratory/Practical Report	50%	
If a student is permitted an <b>EXCEPTIONAL RETAKE</b> of the module the assessment will be that indicated by the Module Description at the time that retake commences.		