

<b>Upland Farming for Net Zero</b>			
<b>Module Code:</b>	HSOR4013	<b>CAT credits:</b>	10
<b>Mode of delivery:</b>	Blended Learning	<b>NQF Level:</b>	4
<b>Owning Institute:</b>	Institute of Science and Environment	<b>HECoS Code:</b>	100517
<b>Validation Start Date:</b>	August 2022		

<b>Aims of the Module</b>
The aim of this module is to develop your understanding of carbon audit processes and related concepts, in the context of upland farmed landscapes.

<b>Intended Learning Outcomes</b>
On successful completion, you will be able to:
1. Complete a farm carbon audit using Farm Carbon Toolkit.
2. Explain the role of carbon and 'carbon equivalent' gases in climate change and the concept of net zero.
3. Describe where carbon is emitted and sequestered on an upland farm.
4. Compare the respective carbon, and carbon-equivalent, emissions from livestock under different management systems.
5. Recommend steps which could be taken to reach net zero and analyse the quantitative carbon impact of each recommendation.

<b>Indicative Module Content</b>
These aspects of your module content are shown as indicative of the approach planned and as such might reasonably be expected to change and be updated over time.
<ul style="list-style-type: none"> <li>• Climate role of carbon dioxide and 'carbon equivalent' gases</li> <li>• Enhancing soil quality; carbon storage on peatlands and grasslands</li> <li>• Grazing regimes in practice</li> <li>• Delivering on net zero ambitions in the upland livestock sector</li> <li>• Blended finance and carbon credits</li> <li>• Exploration of Farm Carbon Toolkit and/or similar resources.</li> <li>• Linking carbon with productivity and profitability</li> </ul>

<b>Indicative Student Workload (hours)</b>	
Tutor Led Live	4
External Visits	8
Practical Classes and Workshops	8
Scheduled Learning and Teaching	80

### Formative Assessment –

Formative assessment provides an opportunity for you to receive feedback on work as part of your learning for the module. Formative work does not have marks awarded that contribute to the final module mark.

1. A self-assessment exercise will be provided upon registration for the module, to be completed prior to the first taught session. This will guide the student through an audit of the key skills and knowledge encountered in the module. The outcomes will assist the student to select the most appropriate reference resources and allocate independent study time effectively. The outcomes will also assist the tutor in pitching and differentiating the teaching according to the needs and prior experiences of the cohort and individuals.
2. The module tutor will provide formative verbal feedback during practical classes/workshops and fieldwork.
3. Opportunities for formative feedback through peer discussion will be provided at times during workshops and live tutor-led sessions online.

### Summative Assessment –

Summative assessment provides the opportunity for you to demonstrate that you have met the learning outcomes for the module.

	Length/size of the assessment	ILOs assessed	% Weighting	Is anonymous marking possible?	Core element?‡
Portfolio	1500 words equivalent	All	pass/fail	No	Yes

‡ By default, your final module grade will be an aggregated mark. However, if this box is marked 'yes,' then you *must* also successfully pass this element of assessment in order to pass the module, regardless of the overall aggregated mark. If core element(s) of assessment are failed, the module will not be eligible for compensation. Further information on module compensation is available in the Academic Regulations.

### Portfolio Task

- Farm Carbon Audit
- Recorded presentation (10 minutes) *or* written report (1000 words)

### Marking

The Programme Team have taken the following steps to remove unconscious bias from the assessment process:

- Diversity of prior experience, academic attainment and academic confidence among students joining this module is expected.
- Opportunities to develop the further skills and knowledge required to pass assessment will be provided within the module to all students.
- The assessment methods are chosen to allow flexibility in how students demonstrate the learning outcomes.
- An assessment rubric will be developed to assist in deciding the extent to which learning outcomes are demonstrated, limiting the subjectivity of assessment decisions.

### Reassessment

Reassessment in the failed component(s) will be undertaken as stated in the Academic Regulations.

### Compensation

This module is **not** eligible for compensation (condonation) as a marginal fail within the limits set out in the Academic Regulations.

### Indicative Core Bibliography

### OneList

[https://eu.alma.exlibrisgroup.com/leganto/public/44UOC\\_INST/lists?courseCode=HSOR4013&auth=SAML](https://eu.alma.exlibrisgroup.com/leganto/public/44UOC_INST/lists?courseCode=HSOR4013&auth=SAML)

Essential reference resources for this module, listed below are publicly available, free of charge, online. This allows for the continued use of the resources after completion of studies.

Climate Change Committee (2020) *Land use: Policies for a Net Zero UK*. Available at:  
<https://www.theccc.org.uk/publication/land-use-policies-for-a-net-zero-uk/>

Department for Environment, Food & Rural Affairs (2021) *Farm practices survey February 2021 - greenhouse gas mitigation practices*. Available at:  
[https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/996163/fps-ghg2021-statsnotice-24jun21.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/996163/fps-ghg2021-statsnotice-24jun21.pdf)

Department for Environment, Food & Rural Affairs and Government Statistical Service (2021). *ELM Evidence Pack - Environmental Land Management and Public Money for Public Goods*. Available at:  
[https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/955920/ELM-evidencepack-28jan21.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/955920/ELM-evidencepack-28jan21.pdf)

Farm Carbon Toolkit (no date). *Climate Change*. Available at:  
<https://farmcarbontoolkit.org.uk/toolkit-page/climate-change/>

Farm Carbon Toolkit (no date). *Farm Net Zero: Livestock Factsheet*. Available at:  
<https://farmcarbontoolkit.org.uk/wp-content/uploads/2021/09/FNZ-FactSheet-Livestock.pdf>

Garnett, T., Godde, C., Muller, A., Rös, E., Smith, P., de Boer, I., zu Ermgassen, E., Herrero, M., van Middelaar, C., Schader, C., van Zanten, H. (2017) *Grazed and Confused*. Available at:  
[https://www.oxfordmartin.ox.ac.uk/downloads/reports/fcrn\\_gnc\\_report.pdf](https://www.oxfordmartin.ox.ac.uk/downloads/reports/fcrn_gnc_report.pdf)

### Additional Notes

### Stand-Alone Study

Students who successfully complete this module as a stand-alone module will be eligible for a University transcript of credit.