

## Module specification

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Module code	ENG4AV
Module title	Introduction to Climate Change
Level	4
Credit value	10
Faculty	FAST
Module Leader	David Sprake
HECoS Code	100180
Cost Code	GAME

### Programmes in which module to be offered

Programme title	Is the module core or option for this programme
BEng Renewable and Sustainable Engineering	Stand alone optional module offered on an extra credit basis to all students and staff. Also open to the general public

### Pre-requisites

N/A

### Breakdown of module hours

Learning and teaching hours	18 hrs
Placement tutor support	0 hrs
Supervised learning e.g. practical classes, workshops	Click here to enter hours. hrs
Project supervision (level 6 projects and dissertation modules only)	0 hrs
<b>Total active learning and teaching hours</b>	<b>18 hrs</b>
Placement / work based learning	0 hrs
Guided independent study	82 hrs
<b>Module duration (total hours)</b>	<b>100 hrs</b>

For office use only	
Initial approval date	07/10/2021
With effect from date	October 2021
Date and details of revision	

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Version number	1

## Module aims

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This short course aims to:

- Give a learner a basic overview of the problems and solutions surrounding climate change.
- To assess the science and consensus of the body of evidence surrounding carbon dioxide linked climate warming.
- To investigate climate model predictions of future warming and its possible consequences.
- To analyse a range of solutions to mitigate climate change for effectiveness and practicality.
- To investigate possible reasons for inaction historically.
- To research climate sceptics conspiracies surrounding and critically assess.

**Module Learning Outcomes** - at the end of this module, students will be able to:

1	Analyse the evidence for the scientific reality of CO2 linked climate change.
2	Interpret the possible consequences and predictions of climate models.
3	Establish a range of possible solutions and analyse timelines for change.
4	Explain why more urgent action has not been taken historically and today

## Assessment

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Indicative Assessment Tasks:

Assessment number	Learning Outcomes to be met	Type of assessment	Weighting (%)
1	1,2,3,4	In-class test	100

There will be an automated online multiple-choice quiz testing knowledge and understanding of all aspects of the module.

## Derogations

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None

## **Learning and Teaching Strategies**

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Online or face to face on campus delivery (Depending on covid regulations and tutor availability). This will form formal lectures, discussions and debates. This optional module is flexible and can be delivered intensively in one block over 2 weeks (9 hrs contact a week) or spread over a trimester (2hrs/ week for 9 weeks) contact hours.

## **Indicative Syllabus Outline**

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### **Topics will include**

- 1 How did humanity create climate change? Our addiction to fossil fuel.
- 2 The science behind climate change, climate change sceptics and their arguments.
- 3 Consequences of a warming planet, a range of model predictions and its effects on humanity.
- 4 Solutions to climate change, and the drivers preventing meaningful action.
- 5 What is likely to practically solve climate change in the real world (Covering science, economic, political, and social aspects)

## **Indicative Bibliography:**

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Please note the essential reads and other indicative reading are subject to annual review and update.

### **Essential Reads**

Maslin M.A. (2021): How To Save Our Planet, Penguin Life. ISBN: 9780241472521

All class notes, exercises, and lectures.

### **Other indicative reading**

Doughnut Economics: Seven Ways to Think Like a 21st-Century Economist, Kate Raworth.

## **Employability skills – the Glyndŵr Graduate**

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Each module and programme is designed to cover core Glyndŵr Graduate Attributes with the aim that each Graduate will leave Glyndŵr having achieved key employability skills as part of their study. The following attributes will be covered within this module either through the content or as part of the assessment. The programme is designed to cover all attributes and each module may cover different areas. [Click here to read more about the Glyndwr Graduate attributes](#)

### **Core Attributes**

Engaged  
Creative  
Ethical

**Key Attitudes**

Commitment

Confidence

Curiosity

**Practical Skillsets**

Digital Fluency

Critical Thinking

Organisation

Leadership & Team working

Communication