Module Specification

Meteorology

Version: 2023-24, v2.0, 13 Jul 2023

Contents

Part 1: Information

Module title: Meteorology

Module code: UBGMWN-15-2

Level: Level 5

For implementation from: 2023-24

UWE credit rating: 15

ECTS credit rating: 7.5

Faculty: Faculty of Environment & Technology

Department: FET Dept of Geography & Envrnmental Mgmt

Partner institutions: None

Field: Geography and Environmental Management

Module type: Module

Pre-requisites: None

Excluded combinations: None

Co-requisites: None

Continuing professional development: No

Professional, statutory or regulatory body requirements: None

Part 2: Description

Overview: Not applicable

Features: Module Entry requirements: 60 credits at level 1.

Educational aims: See Learning Outcomes

Outline syllabus: Topics to be covered:

Composition and structure of the Earth’s atmosphere.

The energy budget at the local and global scale, and the natural greenhouse effect.

General circulation of the Earth's atmosphere, climate and weather systems (e.g. mid-latitude frontal systems).

Water in the atmosphere and precipitation formation.

Plant/soil/atmospheric interactions at a range of scales (e.g. global, valley).

Links between these different components will be identified and examined within a systems framework.

Modelling of atmospheric responses to inputs/outputs of energy and materials at a range of scales i.e. from the local to the global.

Forecasting of short term to longer term (monthly/seasonal) weather events. Links between regional weather and larger scale events (e.g. El Nino may be considered here). Distinguishing of weather forecasting from longer term climate change predictions.

Practical Topics

These will be delivered in a variety of formats such as:

Campus based field work – change over time and over different surfaces.

Exploring models that deal with climate system behaviour e.g. simple energy balance model. (pc lab based).

Paper based practicals on a range of topics.

Seminars to critically review key papers.

Part 3: Teaching and learning methods

Teaching and learning methods: Students will receive – on average- 3 hours' contact time per week. This will be in a range of formats, including weekly keynote lectures, paper or computer-based practical sessions and fieldwork.

Scheduled learning on this module includes lectures, practical classes and fieldwork.

Independent learning includes time engaged with essential reading, further reading, practical completion and assessment preparation and completion.

Module Learning outcomes: On successful completion of this module students will achieve the following learning outcomes.

MO1 Describe and explain: the composition and structure of the atmosphere; the processes that transfer energy and materials within the atmosphere and across its boundaries; and the relationships between different types of land surface and atmospheric characteristics and features.

MO2 Define and distinguish between the terms 'climate', 'weather' and 'meteorology' and demonstrate a critical awareness of different ways of conceptualising atmospheric features and processes.

MO3 Demonstrate a critical awareness of academic literature relating to meteorology and apply a range of field and practical techniques to investigate it, as well as accurately and professionally present outputs to describe atmospheric features and processes.

MO4 Demonstrate an understanding of the character and applicability of models which represent land/atmosphere interactions and atmospheric features and processes.

Hours to be allocated: 150

Contact hours:

Independent study/self-guided study = 114 hours

Face-to-face learning = 36 hours

Total = 150

Reading list: The reading list for this module can be accessed at readinglists.uwe.ac.uk via the following link https://uwe.rl.talis.com/modules/ubgmwn-15-2.html

Part 4: Assessment

Assessment strategy: The Strategy

The assessment for this module is designed to assess: Theoretical understanding of the range of atmospheric processes and features and their interaction with the Earth's surface covered across the module lectures.

In class test - Students will be assessed by completing one essay from a selection of unseen questions, the in class test duration will be 1 hour.

Application of theoretical content from module lectures through a range of practical exercises. The exercises will comprise: field data collection, paper based practicals, analysis of online data bases, application of basic climate/atmospheric models. Students will demonstrate their practical, technical and communication skills through submission of a portfolio. Additionally, the portfolio is designed to demonstrate an engagement with relevant theory and also critical evaluation of the utility and effectiveness of the measurement techniques and models being applied.
Answers will be assessed according to the following criteria: Relevance of the content of the essay to the question set; Grounding in literature, and use of evidence and supporting material; Clarity, coherence and depth of argument; Standards of literacy and presentation.

Portfolio - (2000 words) of practical work. A selection of pieces of work drawn from practicals completed throughout the module.
Portfolios will be assessed according to the following criteria: Relevance of the

content of the work to the question set; Depth of interpretation of data; Standards of literacy and presentation.

Resit in class test - a similar structure to that described above, which may include some question changes.
Resit Portfolio - a similar brief to that described above, which may include a summary of changes to any previously submitted portfolio.

Assessment tasks:

Portfolio (First Sit)
Description: Portfolio of practical work (1500 words)
Weighting: 70 %
Final assessment: No
Group work: No
Learning outcomes tested: MO1, MO2, MO3, MO4

In-class test (First Sit)
Description: in class test 1 hour
Weighting: 30 %
Final assessment: Yes
Group work: No
Learning outcomes tested: MO1, MO2, MO3, MO4

Portfolio (Resit)
Description: Portfolio of practical work (2000 words)
Weighting: 70 %
Final assessment: No
Group work: No
Learning outcomes tested: MO1, MO2, MO3, MO4

In-class test (Resit)
Description: In class test (1 hour)
Weighting: 30 %

Final assessment: Yes

Group work: No

Learning outcomes tested: MO1, MO2, MO3, MO4

Part 5: Contributes towards

This module contributes towards the following programmes of study:

Geography [Frenchay] BSc (Hons) 2022-23

Geography {Foundation} [Sep][FT][Frenchay][4yrs] - Not Running BSc (Hons) 2021-22

Geography {Foundation} [Sep][SW][Frenchay][5yrs] - Not Running BSc (Hons) 2021-22