



## **Module Specification**

### Investigating and Communicating Science

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## Part 1: Information

**Module title:** Investigating and Communicating Science

**Module code:** USSKCM-30-0

**Level:** Level 3

**For implementation from:** 2023-24

**UWE credit rating:** 30

**ECTS credit rating:** 15

**Faculty:** Faculty of Health & Applied Sciences

**Department:** HAS Dept of Applied Sciences

**Partner institutions:** None

**Field:** Applied Sciences

**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:** Not applicable

**Educational aims:** Students will learn how science is investigated and communicated, both in general and within their degree area. They will also study the use of IT in a scientific context.

**Outline syllabus:** The module will introduce students to the nature of science and scientific investigation and will help introduce them to studying science at University. An appreciation of a learner's relationship with others in the context of scientific endeavours will enhance the effectiveness of students when they embark upon their graduate careers. The syllabus will be structured with the objective of providing experience of scientific ethos and techniques along with study and communication skills. This aims to enhance students' ability to engage successfully with their future studies at University and to be equipped both to deal with scientific ideas and data and to communicate them effectively and appropriately. Specifically, the module will introduce the following: -

Nature of science and science investigation and scientific advances from the past.

Selected topics to enable the transition to successful study at University and to know how to obtain, synthesise and report scientific information (both verbally and in writing).

Practical experience of using a range of computer packages, including the use of spreadsheets for statistical and graphical analysis of scientific data.

Learning skills including academic reading; literature and information searching; use of appropriate software for presentations, time management, planning.

An understanding of the interface between science and society, and the significance of equality, diversity and inclusion to all forms of science communication.

Clear examples of science communication activities (such as in the media and as part of direct audience interventions) that can be critically evaluated to explore their purpose, impact and effectiveness for a range of publics and settings.

Group-based and individual activities that develop a basic toolkit of skills with which to communicate science to others – both face-to-face and in graphic or written form.

### **Part 3: Teaching and learning methods**

**Teaching and learning methods:** A variety of learning approaches will be used. Scheduled learning includes on-line lectures and workshops. Students will engage in facilitated activities such as debates, case studies, problem-based learning etc.

Workshop sessions will provide opportunities for data handling and interpretation; problem solving; group-based activities; skills practice, rehearsal and development; discussions with and feedback from academic staff.

Independent learning includes hours engaged with essential reading, assignment preparation and completion. Students will be given support to develop independent learning skills through the workshops.

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

**MO1** Understand the nature of science and scientific investigation.

**MO2** Obtain and interpret scientific information.

**MO3** Use a range of computer software for statistical and graphical analysis of given experimental data including obtaining scientific quantities, writing up and presenting results, in documents, live presentations and executable files.

**MO4** Select, summarise and communicate scientific research effectively and accurately, demonstrating an awareness of science communication theory.

**MO5** Understand and apply a range of approaches for communicating science to different publics and use this to critically evaluate own and others' work.

**MO6** Develop and demonstrate relevant, practical communication skills relating to science (verbal and written; face-to-face and online; individual and group-work).

**Hours to be allocated:** 300

**Contact hours:**

Independent study/self-guided study = 234 hours

Tutor led = 66 hours

Total = 300

**Reading list:** The reading list for this module can be accessed at [readinglists.uwe.ac.uk](https://uwe.rl.talis.com/modules/usskcm-30-0.html) via the following link <https://uwe.rl.talis.com/modules/usskcm-30-0.html>

## Part 4: Assessment

**Assessment strategy:** Assessment 1 is an on-line assessment of IT skills and data analysis during scheduled sessions:-

Students will work through an IT (and data analysis) portfolio, covering basic software, data analysis and advanced presentation software, submitting required output as they finish assignments. They will also complete an on-line test, during scheduled sessions, which assesses their understanding of basic software and data analysis.

Assessment 2 is an essay on Investigation of Science (750 words): –

Students will be required to write an essay, on a set topic related to their semester one lecture material. The essay is designed to assess knowledge acquired during lectures, but also from students' own independent learning, including use of library systems and information retrieval for scientific study, and referencing using the UWE Harvard system. Students will be expected to write about scientific investigation both in general and within their own degree area.

Assessment 3 is a presentation and written analysis:

Students will work on a variety of tasks relating to science communication, including the analysis and evaluation of activities and mechanisms covered during the sessions. They will submit required output as they complete assignments. They will also work in small groups to research and deliver a five-minute presentation on a topic selected from a choice of titles provided, followed by five minutes of questioning. As part of this they will also submit an individual, written analysis of the presentation (750 words). Students will receive support and advice to develop the

skills and techniques required for the selection, assimilation and communication of the relevant science, along with opportunities for formative feedback. An ability to assess and digest research data and communicate it in a presentation is a highly sought-after graduate skill.

Formative activities underpinning assessment are available to students throughout the module via group discussions, and in workshops.

**Assessment tasks:****Online Assignment (First Sit)**

Description: Assessment of IT and Data Analysis

Weighting: 25 %

Final assessment: No

Group work: No

Learning outcomes tested: MO2, MO3

**Written Assignment (First Sit)**

Description: Essay on investigation of science (750 words)

Weighting: 25 %

Final assessment: No

Group work: No

Learning outcomes tested: MO1

**Presentation (First Sit)**

Description: Presentation on a scientific topic and written analysis of the presentation (750 words).

Weighting: 50 %

Final assessment: Yes

Group work: Yes

Learning outcomes tested: MO4, MO5, MO6

**Online Assignment (Resit)**

Description: Assessment of IT and Data Analysis

Weighting: 25 %

Final assessment: No

Group work: No

Learning outcomes tested: MO2, MO3

**Written Assignment (Resit)**

Description: Essay on investigation of science (750 words)

Weighting: 25 %

Final assessment: No

Group work: No

Learning outcomes tested: MO1

**Presentation (Resit)**

Description: Presentation on a scientific topic and written analysis of the presentation (750 words).

Weighting: 50 %

Final assessment: Yes

Group work: No

Learning outcomes tested: MO4, MO5, MO6

**Part 5: Contributes towards**

This module contributes towards the following programmes of study:

Biological Sciences {Foundation} [Frenchay] MSci 2023-24

Environmental Science {Foundation} [Frenchay] MSci 2023-24

Wildlife Ecology and Conservation Science {Foundation} [Frenchay] MSci 2023-24

Biological Sciences {Foundation} [Frenchay] BSc (Hons) 2023-24

Biomedical Science {Foundation} [Frenchay] BSc (Hons) 2023-24

Biomedical Science {Foundation} [Frenchay] MSci 2023-24

Forensic Science {Foundation} [Frenchay] BSc (Hons) 2023-24

Forensic Science {Foundation} [Frenchay] MSci 2023-24

Environmental Science {Foundation} [Frenchay] BSc (Hons) 2023-24

Wildlife Ecology and Conservation Science {Foundation} [Zoo] BSc (Hons) 2023-24