Module Specification

Skills for Science

Version: 2023-24, v2.0, 19 Jun 2023

Contents

Part 1: Information

Module title: Skills for Science

Module code: USSKCL-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

Delivery locations: Not in use for Modules

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: This module will cover the physical principles underlying various aspects of Science relevant to the students' future studies and the mathematical skills that are necessary to understand and solve problems that apply these physical principles.

Features: Not applicable

Educational aims: This module aims to give students the mathematical techniques and understanding of the physical world to embark successfully on an applied science degree.

Outline syllabus: Basic physical laws and principles will be reviewed as they are applied and used in various Applied Sciences such as Biological Sciences, Forensic Sciences and Environmental Sciences. Students will be trained in calculating physical parameters.

Mathematical methods and IT skills will be developed alongside with an emphasis on their relevance and usefulness for the understanding and application of the physical knowledge.

Part 3: Teaching and learning methods

Teaching and learning methods: A variety of learning approaches will be used. Students will engage in facilitated activities such as lectures, tutorials, debates, problem based learning etc. including the use of IT.

Tutorial and practical sessions will provide opportunities for data handling and interpretation, problem solving and discussions with academic staff. Students will be presented with opportunities within the curriculum to develop their information retrieval and evaluation skills in order to identify resources effectively.

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

MO1 Access library resources and other essential information support networks within (i.e. Blackboard, and MyUWE) and outside the University in order to facilitate research, problem solving and study skills

MO2 Use appropriate software (for example excel) to process, display, interpret and communicate scientific data

MO3 Demonstrate an understanding of the physical processes underlying various areas in science

MO4 Demonstrate an understanding of the mathematical methods underlying various areas in science

MO5 Apply fundamental principles to more complex problems

MO6 Perform mathematical calculations in solving scientific problems

Hours to be allocated: 300

Contact hours:

Independent study/self-guided study = 228 hours

Face-to-face learning = 72 hours

Total = 300

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/usskcl-30-0.html

Part 4: Assessment

Assessment strategy: Assessment 1: Written Assignment (Data interpretation exercise).

Students will be asked to interpret a simple, personalised set of experimental data using mathematical and statistical techniques taught in the module and showing their understanding of the physical meaning of the results. This assignment will include a 600 word theoretical explanation of the main physical principle applied in the described experiment, for which they will need to apply their skills of using a variety of sources from the library and combining information from these into a coherent text, with appropriate referencing.

Assessment 2: Practical Skills Assessment (short weekly quizzes)

These assessments encourage engagement with the module and help to build a learning community. The assessment enables the student to reflect upon their learning and identify areas for development. Students are supported by practice quizzes, which can be taken earlier in the session and by in-class support.

Redundancy for absence is built into this assessment strategy.

Assessment 3: Set Exercise

Open book in-class tests (45 minutes) on lecture and tutorial content, held at key points throughout the year.

This assessment has been selected to assess student learning on the module. This assessment model will engender a culture of continuous engagement and learning as students prepare for assessments. These are assessments for learning, as students can use feedback from one test to feed forward to the next. Redundancy for absence will be built into the strategy as a supportive measure. Students will be further supported in tutorial classes where exemplar test questions are worked through and discussed.

Formative feedback is available to students throughout the module through group discussions, and in tutorials.

Assessment components:

Written Assignment (First Sit)

Description: Data interpretation exercise

Weighting: 40 %

Final assessment: No

Group work: No

Learning outcomes tested: MO1, MO3, MO4, MO5, MO6

Practical Skills Assessment (First Sit)

Description: Assessment of learning from practical classes

Weighting: 20 %

Final assessment: No

Group work: No

Learning outcomes tested: MO2, MO3, MO4, MO5, MO6

Set Exercise (First Sit)

Description: Assessment of lecture and tutorial content

Weighting: 40 %

Final assessment: Yes

Group work: No

Learning outcomes tested: MO2, MO3, MO4, MO5, MO6

Written Assignment (Resit)

Description: Data interpretation exercise

Weighting: 40 %

Final assessment: No

Group work: No

Learning outcomes tested: MO1, MO3, MO4, MO5, MO6

Practical Skills Assessment (Resit)

Description: Assessment of learning from practical classes

Weighting: 20 %

Final assessment: No

Group work: No

Learning outcomes tested: MO2, MO3, MO4, MO5, MO6

Set Exercise (Resit)

Description: Assessment of lecture and tutorial content

Weighting: 40 %

Final assessment: Yes

Group work: No

Learning outcomes tested: MO2, MO3, 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] MSci 2023-24

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