



Module Specification

Skills for Science

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Part 1: Information

Module title: Skills for Science

Module code: USSKCL-30-0

Level: Level 3

For implementation from: 2024-25

UWE credit rating: 30

ECTS credit rating: 15

College: College of Health, Science & Society

School: CHSS School 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: 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 an understanding of the physics and mathematics underpinning an applied science degree and the skills to apply these.

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, 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 and mathematical methods underlying various areas in science.

MO4 Perform mathematical calculations in solving scientific problems and apply fundamental mathematical principles to more complex 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](https://uwe.rl.talis.com/modules/usskcl-30-0.html) 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 400 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: Portfolio

A portfolio of in-class weekly quizzes: a mixture of short quizzes (approx. 5 minutes each) based on practical work and longer quizzes (approx. 40 minutes each) based on the theoretical content of the module.

These assessments encourage engagement with the module and help to build a learning community. The assessment enables the students to reflect upon their learning and identify areas for development. Collusion is mitigated against by the use of computer generated random numbers in calculation questions and by the use

of question banks.

Students are supported by practice quizzes/questions and by in-class support and earlier quizzes are formative for later ones. Redundancy for absence is built into this assessment strategy.

Assessment tasks:

Written Assignment (First Sit)

Description: Data interpretation exercise (400 words)

Weighting: 40 %

Final assessment: No

Group work: No

Learning outcomes tested: MO1, MO3

Portfolio (First Sit)

Description: Portfolio of in-class quizzes.

Weighting: 60 %

Final assessment: Yes

Group work: No

Learning outcomes tested: MO2, MO4

Written Assignment (Resit)

Description: Data interpretation exercise (400 words)

Weighting: 40 %

Final assessment: No

Group work: No

Learning outcomes tested: MO1, MO3

Portfolio (Resit)

Description: Portfolio of in-class quizzes.

Weighting: 60 %

Final assessment: Yes

Group work: No

Learning outcomes tested: MO2, MO4

Part 5: Contributes towards

This module contributes towards the following programmes of study: