



## MODULE SPECIFICATION

| Part 1: Information       |                                      |                    |                  |
|---------------------------|--------------------------------------|--------------------|------------------|
| Module Title              | Skills for Science                   |                    |                  |
| Module Code               | USSKCL-30-0                          | Level              | Level 3          |
| For implementation from   | 2020-21                              |                    |                  |
| UWE Credit Rating         | 30                                   | ECTS Credit Rating | 15               |
| Faculty                   | Faculty of Health & Applied Sciences | Field              | Applied Sciences |
| Department                | HAS Dept of Applied Sciences         |                    |                  |
| Module type:              | Standard                             |                    |                  |
| Pre-requisites            | None                                 |                    |                  |
| Excluded Combinations     | None                                 |                    |                  |
| Co- requisites            | None                                 |                    |                  |
| Module Entry requirements | None                                 |                    |                  |

| Part 2: Description  |
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| <p><b>Overview:</b> 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.</p> <p><b>Educational Aims:</b> See Learning Outcomes.</p> <p><b>Outline Syllabus:</b> Basic physical laws and principles will be reviewed as they are applied and used in various Applied Sciences such as Health and Life Sciences, Forensic Sciences and Environmental Sciences.</p> <p>Mathematical methods and skills will be developed alongside with an emphasis on their relevance and usefulness for the understanding and application of the physical knowledge.</p> <p><b>Teaching and Learning Methods:</b> A variety of learning approaches will be used. Taught sessions will utilise TEL where possible, to support pedagogy of Inductive Learning where the students will engage in facilitated activities such as tutorials, debates, case studies, problem based learning etc.</p> <p>Tutorial and workshop sessions will provide opportunities for data handling and interpretation, problem solving and discussions with academic staff. Online group work will provide contexts</p> |

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and overviews of topics to guide student-centred learning. Wherever necessary, workshops are supplemented by audio-visual material (e.g. BoB/online video tutorials) showing specific examples relevant to supporting student case studies.

Student independent learning (more than 70% of module allocated time) will be supported with interactive revision material, tutor feedback and the University's E-Learning Environment (Blackboard).

Scheduled learning includes on-line lectures, tutor feedback, workshops, and tutorials. Independent learning includes hours engaged with essential reading, assignment preparation and completion. Students will be encouraged to use a facilitated online collaborative working approach. These sessions constitute an average time per level as indicated in the table below.

All students will be encouraged to make full use of the print and electronic resources available to them through membership of the University. These include a range of electronic journals and a wide variety of resources available through web sites and information gateways. The University Library's web pages provide access to subject relevant resources and services, and to the library catalogue. Many resources can be accessed remotely. Students will be presented with opportunities within the curriculum to develop their information retrieval and evaluation skills in order to identify such resources effectively.

### Part 3: Assessment

The Assessment Strategy has been designed to support and enhance the development of both subject-based learning and skills which will support progression onto the destination Programme, whilst ensuring that the Learning Outcomes of the module are attained, as described below.

Component A (40%) contains two elements.

Online exam with a 24 hour window for completion (30% of the final module mark). This assessment will test a range of the learning outcomes and will provide a valuable learning experience through demonstrating knowledge which will be of benefit when progressing to UG Programmes in the Faculty.

Online tests during scheduled sessions (10% of the final module mark). The submission of in-class tests completed during scheduled sessions, in which students will be assessed upon their competence to complete the given tasks.

The Coursework Component (60%) comprises one element

Data interpretation exercise (60% of the final module mark). Students will be asked to interpret a simple 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 500 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.

Formative feedback is available to students throughout the module through group discussions, and in tutorials. Students are provided with formative feed-forward for their exam through a revision and exam preparation session prior to the exam and through the extensive support materials supplied through Blackboard.

All work is marked in line with the Department's Generic Assessment Criteria and conforms to university policies for the setting, collection, marking and return of student work. Where an individual piece of work has specific assessment criteria, this is supplied to the students when the work is set.

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| First Sit Components               | Final Assessment | Element weighting | Description  |
|------------------------------------|------------------|-------------------|--|
| Online Assignment - Component A    |                  | 10 %              | On-line tests of practical material during scheduled sessions. |
| Examination (Online) - Component A | ✓                | 30 %              | Online examination (24 hours)                                  |
| Online Assignment - Component B    |                  | 60 %              | Data interpretation exercise                                   |
| Resit Components                   | Final Assessment | Element weighting | Description  |
| Examination (Online) - Component A | ✓                | 40 %              | Online examination (24 hours)                                  |
| Online Assignment - Component B    |                  | 60 %              | Data interpretation exercise                                   |

| Part 4: Teaching and Learning Methods  |   |                          |           |  |     |   |            |  |     |  |     |   |           |  |     |
|--|---|--------------------------|-----------|--|-----|---|------------|--|-----|--|-----|---|-----------|--|-----|
| Learning Outcomes  | <p>On successful completion of this module students will achieve the following learning outcomes:</p> <table border="1"> <thead> <tr> <th>Module Learning Outcomes</th> <th>Reference</th> </tr> </thead> <tbody> <tr> <td>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</td> <td>MO1</td> </tr> <tr> <td>Use appropriate software (for example excel) to process, display, interpret and communicate scientific data</td> <td>MO2</td> </tr> <tr> <td>Demonstrate an understanding of the physical processes underlying various areas in science</td> <td>MO3</td> </tr> <tr> <td>Demonstrate an understanding of the mathematical methods underlying various areas in science</td> <td>MO4</td> </tr> <tr> <td>Apply fundamental principles to more complex problems</td> <td>MO5</td> </tr> <tr> <td>Perform mathematical calculations in solving scientific problems</td> <td>MO6</td> </tr> </tbody> </table> | Module Learning Outcomes | Reference | 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 | MO1 | Use appropriate software (for example excel) to process, display, interpret and communicate scientific data | MO2        | Demonstrate an understanding of the physical processes underlying various areas in science | MO3 | Demonstrate an understanding of the mathematical methods underlying various areas in science | MO4 | Apply fundamental principles to more complex problems | MO5       | Perform mathematical calculations in solving scientific problems | MO6 |
| Module Learning Outcomes   | Reference   |                          |           |  |     |   |            |  |     |  |     |   |           |  |     |
| 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 | MO1   |                          |           |  |     |   |            |  |     |  |     |   |           |  |     |
| Use appropriate software (for example excel) to process, display, interpret and communicate scientific data  | MO2   |                          |           |  |     |   |            |  |     |  |     |   |           |  |     |
| Demonstrate an understanding of the physical processes underlying various areas in science   | MO3   |                          |           |  |     |   |            |  |     |  |     |   |           |  |     |
| Demonstrate an understanding of the mathematical methods underlying various areas in science   | MO4   |                          |           |  |     |   |            |  |     |  |     |   |           |  |     |
| Apply fundamental principles to more complex problems  | MO5   |                          |           |  |     |   |            |  |     |  |     |   |           |  |     |
| Perform mathematical calculations in solving scientific problems   | MO6   |                          |           |  |     |   |            |  |     |  |     |   |           |  |     |
| Contact Hours  | <table border="1"> <thead> <tr> <th colspan="2">Independent Study Hours:</th> </tr> </thead> <tbody> <tr> <td>Independent study/self-guided study</td> <td>234</td> </tr> <tr> <td><b>Total Independent Study Hours:</b></td> <td><b>234</b></td> </tr> <tr> <th colspan="2">Scheduled Learning and Teaching Hours:</th> </tr> <tr> <td>Tutor led</td> <td>66</td> </tr> <tr> <td><b>Total Scheduled Learning and Teaching Hours:</b></td> <td><b>66</b></td> </tr> </tbody> </table>   | Independent Study Hours: |           | Independent study/self-guided study  | 234 | <b>Total Independent Study Hours:</b>   | <b>234</b> | Scheduled Learning and Teaching Hours:   |     | Tutor led  | 66  | <b>Total Scheduled Learning and Teaching Hours:</b>   | <b>66</b> |  |     |
| Independent Study Hours:   |   |                          |           |  |     |   |            |  |     |  |     |   |           |  |     |
| Independent study/self-guided study  | 234   |                          |           |  |     |   |            |  |     |  |     |   |           |  |     |
| <b>Total Independent Study Hours:</b>  | <b>234</b>  |                          |           |  |     |   |            |  |     |  |     |   |           |  |     |
| Scheduled Learning and Teaching Hours:   |   |                          |           |  |     |   |            |  |     |  |     |   |           |  |     |
| Tutor led  | 66  |                          |           |  |     |   |            |  |     |  |     |   |           |  |     |
| <b>Total Scheduled Learning and Teaching Hours:</b>  | <b>66</b>   |                          |           |  |     |   |            |  |     |  |     |   |           |  |     |

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|              |  |     |
|--------------|--|-----|
|              | <b>Hours to be allocated</b>   | 300 |
|              | <b>Allocated Hours</b>   | 300 |
| Reading List | <i>The reading list for this module can be accessed via the following link:</i><br><a href="https://uwe.rl.talis.com/modules/usskcl-30-0.html">https://uwe.rl.talis.com/modules/usskcl-30-0.html</a> |     |

### **Part 5: Contributes Towards**

This module contributes towards the following programmes of study: