University of the West of England
BRISTOL

CORPORATE AND ACADEMIC SERVICES

MODULE SPECIFICATION

Part 1: Basic Data						
Module Title	Skills for Science					
Module Code	USSKCL-30-0		Level	0	Version	1.1
Owning Faculty	Health & Applied Sciences		Field	Biological, Biomedical & Analytical Sciences		
Contributes towards	Science Foundation Year					
UWE Credit Rating	30	ECTS Credit Rating	15	Module Type	standard	
Pre-requisites	none		Co-requisites	none		
Excluded Combinations	none		Module Entry requirements	N/A		
Valid From	September 2014		Valid to	September 2020		

CAP Approval Date	2 June 2015

Part 2: Learning and Teaching	
Learning Outcomes	On successful completion of this module students will be able to: • Demonstrate effective keyboard skills, including word-processing (A2 B1). • 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 (A1 A2). • Use appropriate software (for example excel) to process, display, interpret and communicate (i.e. using powerpoint)) scientific data (A2). • Engage in group-working skills – both face-to-face, and faciliated by technology, such as the use of wikis (A2). • Demonstrate an understanding of the physical processes underlying

	various areas in science (A1). • Apply fundamental principles to more complex problems (A1 B1). • Perform numerical calculations in solving scientific problems (A1 B1). • Use various graphical, statistical and numerical methods in analysing experimental data (A1 A2 B1). • Use a variety of mathematical techniques (A1 B1). • Demonstrate an understanding of the methodology of science (A1 A2).
Syllabus Outline	The information technology element of this module is skills and competency based, and aims to support and enhance the development of generic data processing, presentation and learning skills which will enhance the effectiveness students as they embark upon their graduate careers. Specifically, the module will introduce the following: • IT Skills for processing raw scientific data and using generic skills in the use of spreadsheets, excel and various presentation packages. • Learning Skills. Within the context of a science case study, students will engage in activities relating to this task: academic reading, literature and information searching, scientific writing, referencing/plagiarism, use of appropriate software useful for presentations, time management, planning. The Physics and Mathematics components of this module will comprise the physical principles underlying various aspects of Science relevant to the students' future studies. • 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. • 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.
Contact Hours	The contact hours (72) are distributed as follows: 24 Lectures = 24 hours 36 Tutorials @ 1 hours/tutorial = 36 hours 6 IT Workshops @ 2 hour = 12 hours
Teaching and Learning Methods	A variety of learning approaches will be used. Taught sessions will utilise TEL where possible, to support pedagogy of Inductive Learning where the students

<table>
<tr><td></td><td>will engage in facilitated activities such as tutorials, debates, case studies, problem based learning etc.

Tutorial and workshop sessions will provide opportunities for data handling and interpretation, problem solving and discussions with academic staff. Online and wiki facilitated group work will provide contexts 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 (>70% of module allocated time) will be supported with interactive revision material, workbooks, wiki-facilitated tutor feedback and the University's E-Learning Environment (Blackboard).

Scheduled learning includes lectures, tutor feedback via wikis, 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 (such as a wiki) to support the group project working. These sessions constitute an average time per level as indicated in the table below.</td></tr>
<tr><td>Key Information Sets Information</td><td>Key Information Sets (KIS) are produced at programme level for all programmes that this module contributes to, which a requirement is set by HESA/HEFCE. KIS are comparable sets of standardised information about undergraduate courses allowing prospective students to compare and contrast between programmes they are interested in applying for.

<u>Key Information Set - Module data</u>

Number of credits for this module 30

<table>
<tr><th>Hours to be allocated</th><th>Scheduled learning and teaching study hours</th><th>Independent study hours</th><th>Placement study hours</th><th>Allocated Hours</th></tr>
<tr><td>300</td><td>72</td><td>228</td><td></td><td>300</td></tr>
</table>

The table below indicates as a percentage the total assessment of the module which constitutes a -

Controlled conditions: Unseen written exam and IT Skills Portfolio,
Coursework: Data Interpretation Exercise

<table>
<tr><td>Controlled conditions assessment percentage</td><td>40%</td></tr>
<tr><td>Coursework assessment percentage</td><td>60%</td></tr>
<tr><td></td><td></td></tr>
<tr><td></td><td>100%</td></tr>
</table>
</td></tr>
<tr><td>Reading</td><td>All students will be encouraged to make full use of the print and electronic</td></tr>
</table>

Strategy	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. Any **essential reading** will be indicated clearly, along with the method for accessing it, e.g. students may be expected to purchase a set text, be given or sold a print study pack or be referred to texts that are available electronically, etc. This guidance will be available either in the module handbook, via the module information on Blackboard or through any other vehicle deemed appropriate by the module/programme leaders. If **further reading** is expected, this will be indicated clearly. If specific texts are listed, a clear indication will be given regarding how to access them and, if appropriate, students will be given guidance on how to identify relevant sources for themselves, e.g. through use of bibliographical databases. A detailed reading list will be made available through relevant channels, e.g. module handbooks, Blackboard, etc.
Indicative Reading List	Poulson, L., and Wallace, M. eds. (2004) Learning to Read Critically in Teaching &Learning. London: Sage Robbins, S. (2009) Science Study Skills. Basingstoke:Palgrave Macmillan. Cottrell, S. (2013) The Study Skills Handbook. 2nd ed. Basingstoke: PalgraveMacmillan. Breithaupt, J. (1999) Physics. Basingstoke : Macmillan. Olenick , R.P., Apostol, T.M. and Goodstein, D. (2008) The Mechanical Universe.Introduction to Mechanics and Heat. Cambridge: Cambridge University Press. Olenick , R.P., Apostol, T.M. and Goodstein, D. (2008) Beyond The MechanicalUniverse. From Electricity to Modern Physics. Cambridge:Cambridge University Press. Touger, J., (2005) Introductory Physics. New York: Wiley Cummings, K., Laws, P., Redish, E., and Cooney P (2004), Understanding Physics.New York: Wiley

Part 3: Assessment	
Assessment Strategy	The Assessment Strategy has been designed to support and enhance the development of both subject-based and skills which will support progression onto the destination Programme, whilst ensuring that the modules Learning Outcomes are attained, as described below.

	The Controlled Component [40%] contains two elements. **Written exam (30% of the final module mark)**. The exam will be 2 hours duration which is consistent with the Department's assessment strategy for Level 0 modules. This assessment will provide students with an opportunity to demonstrate both their knowledge on a broad range of topics through a series of short answer questions, and more in-depth knowledge though a selection of medium length questions. This assessment will test a range of the learning outcomes and will provide a valuable learning experience through recalling and demonstrating knowledge which will be of benefit when progressing to UG Programmes in the Faculty. **IT Skills Portfolio (10% of the final module mark)**. The submission of a portfolio of IT based exercises completed during the sessions in semester 1, in which students will be assessed upon their competence to complete the given tasks. *The Coursework Component [60%]* **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 workshops. 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.

Identify final assessment component and element		
% weighting between components A and B (Standard modules only)	**A:** **40%**	**B**: **60%**
First Sit		

Component A (controlled conditions) **Description of each element**	**Element weighting (as % of component)**
1. Written examination (2hr)	75%
2. IT Skills Portfolio	25%
Component B **Description of each element**	**Element weighting (as % of component)**
1. Data interpretation exercise	100%

Resit (further attendance at taught classes is not required)	
Component A (controlled conditions) **Description of each element**	**Element weighting (as % of component)**
1. Written examination (2hr)	100%
Component B **Description of each element**	**Element weighting (as % of component)**
1. Data interpretation exercise	100%
If a student is permitted an **EXCEPTIONAL RETAKE** of the module the assessment will be that indicated by the Module Description at the time that retake commences.	