Module Descriptor

Title	Science Project		
Session	2025/26	**Status**	Published
Code	CHEM10001	**SCQF Level**	10
Credit Points	40	**ECTS (European Credit Transfer Scheme)**	10
School	**Computing, Engineering and Physical Sciences**		
Module Co-ordinator	Dr Alastair Marr		

Summary of Module

The projects may be; field based, modelling studies, laboratory based, or be a 'desk based' assessment of an area of science. CHEM10001 runs over trimesters 1 and 2 attracting 40 credit points.

Induction week - students assess the offered projects with allocation according to preference and availability.

Module structure:

1. Literature Review - Relevant literature from primary research sources.

2. Poster presentation summarising literature, methods and techniques relevant to project objectives.

3. Carrying out research.

4. Production of a research report, including a rationale, research aims, state of knowledge (literature review above), data derived, experimental methods, analysis of results including statistical & error analysis, appropriate layout of graphs, tables etc, conclusions, future work and relevant references (UWS Harvard referencing system).

5. A short oral presentation of results and conclusions.

Ongoing formative feedback will be given by the supervisor and at poster / oral presentations.

A critical assessment of results and methods is required at this level. Research and statistical method lectures will be presented in weeks 1 - 6.

These cover research methods viz; peer-reviewed literature, technical books, government reports, library resources, referencing, essential statistical methods and error measurements.

Examples are presented for illustration covering both straight line and fitting curves. Assessment of these skills will take the form of assessed coursework.

Graduate Attributes: Academic research / literature review competency, scientific thinker, problem solver, practical skills, calculation numeracy, referencing. Personal / Professional - Team working, written & verbal communicator, motivated in science, presentation / poster skills, lab EHS competency, awareness of current research

Module Delivery Method	On-Campus[1] ☒	Hybrid[2] ☐	Online[3] ☐	Work -Based Learning[4] ☐
Campuses for Module Delivery	☐ Ayr ☐ Dumfries	☐ Lanarkshire ☐ London ☒ Paisley	☐ Online / Distance Learning ☐ Other (specify)	

Terms for Module Delivery	Term 1	☒	Term 2	☒	Term 3	☐
Long-thin Delivery over more than one Term	Term 1 – Term 2	☐	Term 2 – Term 3	☐	Term 3 – Term 1	☐

Learning Outcomes	
L1	To design and use a spreadsheet to help with statistical calculations of standard laboratory data or data collected through modelling, or field research
L2	To critically evaluate and summarise current understanding of key scientific research in both written report and poster presentation
L3	To design and carry out appropriate research in order to rigorously test a scientific hypothesis or revise current understanding.
L4	To critically evaluate scientific results using appropriate statistical methods and to draw conclusions as to their relevance to current understanding of the field.
L5	To present information both orally and in a formatted, structured, critical report detailing the background of the research, research aims, methods and analysis and a critical assessment of the research in terms of current understanding of that research area.

Employability Skills and Personal Development Planning (PDP) Skills	
SCQF Headings	**During completion of this module, there will be an opportunity to achieve core skills in:**
Knowledge and Understanding (K and U)	**SCQF 10** Critical and integrated understanding of current scientific literature, available research techniques and practice, applicability of appropriate statistical approach and methodology to the relevant research project.
Practice: Applied Knowledge and Understanding	**SCQF 10**

[1] Where contact hours are synchronous/ live and take place fully on campus. Campus-based learning is focused on providing an interactive learning experience supported by a range of digitally-enabled asynchronous learning opportunities including learning materials, resources, and opportunities provided via the virtual learning environment. On-campus contact hours will be clearly articulated to students.

[2] The module includes a combination of synchronous/ live on-campus and online learning events. These will be supported by a range of digitally-enabled asynchronous learning opportunities including learning materials, resources, and opportunities provided via the virtual learning environment. On-campus and online contact hours will be clearly articulated to students.

[3] Where all learning is solely delivered by web-based or internet-based technologies and the participants can engage in all learning activities through these means. All required contact hours will be clearly articulated to students.

[4] Learning activities where the main location for the learning experience is in the workplace. All required contact hours, whether online or on campus, will be clearly articulated to students

	Application of standard laboratory calculation protocols e.g. control charts and assessment of process capability. Knowledge of field data collection and analysis in the case of field research projects.
Generic Cognitive skills	**SCQF 10** Ability to gather literature relevant to the research topic. Critically review current literature of relevance to the research topic. Make judgments where information comes from a number of sources. Demonstrate some originality in dealing with professional level issues relating to the research project.
Communication, ICT and Numeracy Skills	**SCQF 10** Interpret, use and evaluate a range of numerical or graphical data. Presentation of scientific knowledge through report writing and oral presentation.
Autonomy, Accountability and Working with Others	**SCQF 10** Designing a unique work profile, meeting deadlines for reports and presentations.

Prerequisites	**Module Code**	**Module Title**
	Other	
Co-requisites	**Module Code**	**Module Title**

Learning and Teaching	
In line with current learning and teaching principles, a 20-credit module includes 200 learning hours, normally including a minimum of 36 contact hours and maximum of 48 contact hours. This is a 40 credit module	
Learning Activities During completion of this module, the learning activities undertaken to achieve the module learning outcomes are stated below:	**Student Learning Hours** (Note: Learning hours include both contact hours and hours spent on other learning activities)
Lecture / Core Content Delivery	8
Tutorial / Synchronous Support Activity	12
Laboratory / Practical Demonstration / Workshop	10
Independent Study	370
Please select	
Please select	
TOTAL	400

Indicative Resources
The following materials form essential underpinning for the module content and ultimately for the learning outcomes:

Access to library; electronic journals, textbooks, appropriate techniques and labs (computer, chemical).
(N.B. Although reading lists should include current publications, students are advised (particularly for material marked with an asterisk*) to wait until the start of session for confirmation of the most up-to-date material)

Attendance and Engagement Requirements
In line with the Student Attendance and Engagement Procedure, Students are academically engaged if they are regularly attending and participating in timetabled on-campus and online teaching sessions, asynchronous online learning activities, course-related learning resources, and complete assessments and submit these on time. **For the purposes of this module, academic engagement equates to the following:** The School of Computing, Engineering and Physical Sciences considers attendance and engagement to mean a commitment to attending, and engaging in, timetabled sessions. You will scan your attendance via the scanners each time you are on-campus and you will login to the VLE several times per week. Where you are unable to attend a timetabled learning session due to illness or other circumstance, you should notify the Programme Leader that you cannot attend. Across the School an 80% attendance threshold is set. If you fall below this, you will be referred to the Student Success Team to see how we can best support your studies.

Equality and Diversity
The University's Equality, Diversity and Human Rights Procedure can be accessed at the following link: UWS Equality, Diversity and Human Rights Code. Aligned with the University's commitment to equality and diversity, this module supports equality of opportunity for students from all backgrounds and learning needs. Using the VLE, material will be presented electronically in formats that allow flexible access and manipulation of content. This module complies with University regulations and guidance on inclusive learning and teaching practice. This module has lab-based teaching and as such you are advised to speak to the Module Co-ordinator to ensure that specialist assistive equipment, support provision and adjustment to assessment practice can be put in place, in accordance with the University's policies and regulations.
(N.B. Every effort will be made by the University to accommodate any equality and diversity issues brought to the attention of the School)

Supplemental Information

Divisional Programme Board	**Engineering Physical Sciences**
Overall Assessment Results	☐ **Pass / Fail** ☒ **Graded**
Module Eligible for Compensation	☒ **Yes** ☐ **No** **If this module is eligible for compensation, there may be cases where compensation is not permitted due to programme accreditation requirements. Please check the associated programme specification for details.**
School Assessment Board	Physical Sciences
Moderator	Dr Callum McHugh
External Examiner	Prof. Martin Paterson

Accreditation Details	This module is accredited by the royal Society of Chemistry (RSC) as part of the BSc (Hons) Chemistry programme
Module Appears in CPD catalogue	☐ **Yes** ☒ **No**
Changes / Version Number	2.17

Assessment (also refer to Assessment Outcomes Grids below)
Assessment 1
Coursework, Poster, Presentation and Conduct of Study
Assessment 2
Dissertation
Assessment 3
(N.B. (i) Assessment Outcomes Grids for the module (one for each component) can be found below which clearly demonstrate how the learning outcomes of the module will be assessed. (ii) An indicative schedule listing approximate times within the academic calendar when assessment is likely to feature will be provided within the Student Module Handbook.)

Component 1							
Assessment Type	**LO1**	**LO2**	**LO3**	**LO4**	**LO5**	**Weighting of Assessment Element (%)**	**Timetabled Contact Hours**
Coursework, Poster, Presentation and Conduct of Study	☒	☒	☐	☒	☒	40	12

Component 2							
Assessment Type	**LO1**	**LO2**	**LO3**	**LO4**	**LO5**	**Weighting of Assessment Element (%)**	**Timetabled Contact Hours**
Dissertation	☒	☒	☒	☒	☐	60	0

Component 3							
Assessment Type	**LO1**	**LO2**	**LO3**	**LO4**	**LO5**	**Weighting of Assessment Element (%)**	**Timetabled Contact Hours**
	☐	☐	☐	☐	☐		
Combined total for all components						100%	hours

Change Control

What	**When**	**Who**
