

MODULE SPECIFICATION

Part 1: Information						
Module Title	Core	Chemistry				
Module Code	USSł	KNE-15-1	Level	1		
For implementation from	Septe	September 2020				
UWE Credit Rating	15		ECTS Credit Rating	7.5		
Faculty	Health and Applied Sciences		Field	Applied Sciences		
Department	Applied Sciences					
Contributes towards	FdSc Biological Laboratory Sciences, compulsory					
Module type:	Stand	Standard				
Pre-requisites	None					
Excluded Combinations		None				
Co- requisites	None					
Module Entry requirements		None				

Part 2: Description

This module will cover the following topics within the area of chemical science:

Structure and bonding:

Why do atoms combine into complex molecules and materials, and how does this influence their chemical and physical properties? Chemical combinations - origins of ionic and covalent bonding related to atomic structure and the Periodic Table; electronegativity, polar bonds and intermolecular forces. Naming and structures of important organic and inorganic compounds.

Chemical reactions:

Nature and order of chemical reactions. Redox and acid-base reactions. Neutralisation and titration procedure. Introduction to stability of atoms, molecules and mixtures. Enthalpy of combustion. Factors influencing the rate of a chemical reaction. Experimental and mathematical methods for rates of reactions.

Organic chemistry:

Identifying organic functional groups and ring systems. Synthesis and reactivity of aromatic and non-aromatic ring systems. Fundamental stereochemistry in the context of drugs and biochemistry - structural isomers and stereoisomers. Common synthetic reactions in organic synthesis.

This module aims to deliver specialist knowledge through taught lectures, seminars and practical sessions to promote application of knowledge acquired, analytical and problem-solving skills.

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Generic Graduate Skill	Specific strand (eg presentation) - Optional	Introduced	Develope	d Evide	encea
1. Communication	Written communication [A, B]				
2. Professionalism	Practical exam; practical sessions [B]				
3. Critical Thinking	Evaluation of experiments [B]			\boxtimes	
4. Digital Fluency	Digital assignment [B]				
5. Innovative and Enterprising					
6. Forward Looking		\boxtimes			
7. Emotional Intelligence					
8. Globally Engaged					
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STUDENT AND ACADEMIC SERVICES

Component A (controlled conditions) Description of each element					E	Element weighting (as % of component)		
1. Practical Exam (2 hours)						100		
Component B Description of each element					E (Element weighting (as % of component)		
1. Workbook							100	
		Part	4: Learning	Outcomes & I	KIS Data			
Learning Outcomes	On successful completion of this module students will be able to:							
	Apply mathematical skills to the analysis of experimental data (A)							
	• Apply practical techniques encountered in chemistry and analyse, evaluate and present data in a controlled environment (A)							
	• Apply problem solving and critical thinking skills to theoretical tasks covering various chemistry topics (B)							
	Demonstrate understanding of various concepts encountered in chemistry (B)							
Key Information Sets Information								
		Key Inform	nation Set - Mo	odule data				
		Numberd	f credits for this	s module		1	5	
		Hours to be allocated	Scheduled learning and teaching study hours	Independent study hours	Placement study hours	Allocated Hours		
		150	45	105	0	150		
Contact Hours	The ta	ble below ii	ndicates as a r	percentage the	total assessn	nent of the	module which	n
	constit	utes a;						
	Writter Course test	n Exam: U ework: Wr	nseen or open itten assignme	book written e nt or essay, re	exam port, dissertat	ion, portfol	io, project or i	n class
	Practic practic	cal Exam: al exam (i.o	Oral Assessme e. an exam det	ent and/or pres termining mast	sentation, prac ery of a techn	ctical skills ique)	assessment,	
T-4-1 A								
Total Assessment		٦	otal assessm	ent of the mod	ule:			
		٧	Vritten exam as	ssessmentpe	rcentage	0%		
		C	Coursework as	sessmentper	centage	50%	5	
		F	ractical exam	assessmentp	ercentage	50% 1009	%	

Reading List	The following book is recommended as it covers most of the module material at an appropriate level.
	• W.H. Freeman, Lewis, R. and Evans, W. (2011) <i>Chemistry</i> . 4th ed. Basingstoke: Palgrave Macmillan
	Extensive notes will be provided via blackboard on the scientific topics. Links to useful and credible websites will also be provided.
	The students are also advised to consult the basic scientific texts in UCW, Frenchay and Glenside libraries, of which the following is a representative sample:
	The latest editions of:
	 Johll, M E, (2009) <i>Investigating Chemistry, a Forensic Science Perspective</i>.2nd ed. Crowe, J. and Bradshaw, T. (2010) <i>Chemistry for the Biosciences</i>.2nd ed. Oxford: Oxford University Press.
	 Volhardt P. Schore N., (2009) Organic Chemistry - structure and function. 6th ed. London: Freeman Palgrave Macmillan.

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