MODULE SPECIFICATION

When printed this becomes an uncontrolled document. Please access the Module Directory for the most up to date version by clicking here.

Refer to guidance notes for completion of each section of the specification.

Module Code:	SCI429

Module Title:	Laboratory Chemical Analysis

Level:	4	Credit Value:	20

Cost Centre(s):	GAFS	**JACS3 code:** **HECoS code:**	100417

Faculty:	FAST	**Module Leader**	Dr Amiya Chaudhry

Scheduled learning and teaching hours	36 hrs
Placement tutor support	0 hrs
Supervised learning eg practical classes, workshops	0 hrs
Project supervision (level 6 projects and dissertation modules only)	0 hrs
Total contact hours	**36 hrs**
Placement / work-based learning	
Guided independent study	164 hrs
Module duration (total hours)	**200 hrs**

Programme(s) in which to be offered (not including exit awards)	Core	Option
BSc (Hons) Chemistry	✓	☐
BSc (Hons) Forensic Science	✓	☐

Pre-requisites
None

Office use only
Initial approval: Mar 18 –Validation of BSc Chemistry Version no:1
With effect from: Sept 2018
Date and details of revision: Feb 2020 APSC approved contact hours revision with effect from Sept 20 Version no:3
23/4/21 Administrative changes to update the indicative assessment description.

Module Aims
• Develop and reflect on essential skills in laboratory procedures and techniques and carry these out with due regard to safety. • Develop an understanding of the link between theory and experiment. • Introduce key qualitative and quantitative analysis methods. • Develop and improve report writing skills with weekly reports based on each experiment conducted.

Module Learning Outcomes - at the end of this module, students will be able to	
1	Follow instructions and perform laboratory tasks in an efficient and safe fashion.
2	Correctly set up and use basic laboratory equipment.
3	Identify and quantify chemical compounds through qualitative and quantitative analysis.
4	Prepare a report of scientific laboratory investigations, with due regard for the subject conventions.

Employability Skills The Wrexham Glyndŵr Graduate	**I = included in module content A = included in module assessment N/A = not applicable**
Guidance: complete the matrix to indicate which of the following are included in the module content and/or assessment in alignment with the matrix provided in the programme specification.	
CORE ATTRIBUTES	
Engaged	I
Creative	I
Enterprising	I
Ethical	I
KEY ATTITUDES	
Commitment	I
Curiosity	I
Resilient	I
Confidence	I
Adaptability	I
PRACTICAL SKILL SETS	N/A
Digital fluency	A
Organisation	I and A
Leadership and team working	I
Critical thinking	I and A
Emotional intelligence	N/A

Communication	I and A
Derogations	
N/A	

Assessment:			
Indicative Assessment Tasks:			
Students will submit a laboratory portfolio and they will be assessed on two laboratory reports and two self-reflections on the laboratory skills developed. (Word count equivalent 4000 words)			
Assessment number	Learning Outcomes to be met	Type of assessment	Weighting (%)
1	1,2,3,4	Portfolio	100%

Learning and Teaching Strategies:

The module will be delivered using a variety of methods including lectures, tutorials, individual Professional Development Planning meetings and group based activities. Where relevant, students will be encouraged to become increasingly autonomous as they gain competence and confidence within their academic studies. Moodle will act as a repository for session materials.

Syllabus outline:

- Health and safety in a laboratory and COSHH regulations
- Introduction to basic laboratory equipment and their use
- Writing laboratory reports
- Data collection, presentation (including graphs) and analysis.
- Qualitative analysis
- Gravimetric analysis
- Acid base titrations
- Titration with iodine
- Complexometric titrations
- Precipitation titrations
- Protein colour test

Indicative Bibliography:

Essential reading

Dean, J.R., et al. (2011), Practical Skills in Chemistry. 2nd ed. Harlow: Pearson

Other indicative reading

Langford, R. et al. (2010), Practical Skills in Forensic Science. 2nd ed. Harlow: Pearson

MODULE SPECIFICATION