

Module specification

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

Module code	SCI448
Module title	Essential Skills for the Life Sciences
Level	4
Credit value	20
Faculty	FAST
Module Leader	Dr Amiya Chaudhry
HECoS Code	100344
Cost Code	GAFS

Programmes in which module to be offered

Programme title	Is the module core or option for this programme
BSc (Hons) Forensic Science	Core
BSc (Hons) Biochemistry	Core
BSc (Hons) Biomedical Science	Core

Pre-requisites

None

Breakdown of module hours

Learning and teaching hours	36 hrs
Placement tutor support	0 hrs
Supervised learning e.g. practical classes, workshops	0 hrs
Project supervision (level 6 projects and dissertation modules only)	0 hrs
Total active learning and teaching hours	36 hrs
Placement / work based learning	164 hrs
Guided independent study	0 hrs
Module duration (total hours)	200 hrs

For office use only	
Initial approval date	14/10/2020
With effect from date	01/09/2021
Date and details of revision	21/04/21 addition of BSc Biomedical Science
Version number	2

Module aims

- Develop essential skills in laboratory procedures and techniques and carry these out with due regard to safety and ethics.
- 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 simple instrumental techniques and 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.

Assessment

Indicative Assessment Tasks:

Students will submit a laboratory portfolio and they will be assessed on two laboratory reports (2000 words).

Assessment number	Learning Outcomes to be met	Type of assessment	Weighting (%)
1	1- 4	Portfolio	100%

Derogations

N/A

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.

Indicative Syllabus Outline

- Health, safety and ethics in a laboratory and COSHH regulations.
- Introduction to simple instrumental techniques and laboratory equipment their use.
- Laboratory note keeping and writing laboratory reports.
- Data collection, management and presentation (including graphs) and analysis.
- Qualitative analysis.
- Gravimetric analysis.
- Determination of citric acid in food products.
- Determination of ascorbic acid (Vitamin C) in urine samples.
- Presumptive tests for amino acids and proteins.
- Analysis of organic phosphate bonds.
- Extraction of DNA.

Indicative Bibliography:

Please note the essential reads and other indicative reading are subject to annual review and update.

Essential Reads

Dean, J.R., et al. (2017). *Practical Skills in Chemistry*. 4th ed. Harlow: Pearson.

Other indicative reading

Jones, A., et al. (2016). *Practical Skills in Biology*. 6th ed. Harlow: Pearson

Langford, R. et al. (2018). *Practical Skills in Forensic Science*. 3rd ed. Harlow: Pearson

Employability skills – the Glyndŵr Graduate

Each module and programme is designed to cover core Glyndŵr Graduate Attributes with the aim that each Graduate will leave Glyndŵr having achieved key employability skills as part of their study. The following attributes will be covered within this module either through the content or as part of the assessment. The programme is designed to cover all attributes and each module may cover different areas. [Click here to read more about the Glyndwr Graduate attributes](#)

Core Attributes

Engaged
Creative
Enterprising
Ethical

Key Attitudes

Commitment
Curiosity
Resilience
Confidence
Adaptability

Practical Skillsets

Digital Fluency

Organisation

Leadership and Team working

Critical Thinking

Emotional Intelligence

Communication