MODULE DESCRIPTOR

Module Title

Practical Analytical Skills For Life Sciences

Reference	PL1903	Version	1
Created	October 2022	SCQF Level	SCQF 7
Approved	June 2023	SCQF Points	30
Amended		ECTS Points	15

Aims of Module

To train students in laboratory safety and the basic manipulative skills associated with laboratory work. To provide students with fundamental understanding of the principles and applications of analytical techniques in the life sciences. To provide training in the accurate recording of experimental procedures, observations, results, calculations and conclusions.

Learning Outcomes for Module

On completion of this module, students are expected to be able to:

1	Understand the theoretical principles of fundamental immunological, microbiological, chromatographic, electrophoretic, and electroanalytical techniques and their applications.
2	Identify risks in the laboratory and use laboratory reagents and equipment appropriately.
3	Record and analyze experimental observations appropriately.

Indicative Module Content

Laboratory safety. Preparation of risk assessments. Keeping accurate records. Data handling, use of Excel and presentation. Introductory statistics. Preparation of solutions and dilutions. Accurate use of balances and pipettes. Microbiological techniques: principles and applications. Processing of biological samples. Light microscopy: principles and applications. Electrophoresis: principles and applications. Calibration. Colorimetry and spectrophotometry: principles and applications. Immunological Methods: principles and applications. Electroanalytical Techniques. Chromatography. The cell culture laboratory.

Module Delivery

This is a laboratory-based module supported by tutorials, workshops, online support material and guided reading.

Module Ref:	PL1903 v1

Indicative Student Workload	Full Time	Part Time
Contact Hours	70	N/A
Non-Contact Hours	230	N/A
Placement/Work-Based Learning Experience [Notional] Hours	N/A	N/A
TOTAL	300	N/A
Actual Placement hours for professional, statutory or regulatory body		

ASSESSMENT PLAN

If a major/minor model is used and box is ticked, % weightings below are indicative only.

Component 1

Type:	Practical Exam	Weighting:	100%	Outcomes Assessed:	1, 2, 3
Description:	Laboratory skills test				

MODULE PERFORMANCE DESCRIPTOR

Explanatory Text

Component 1 (PE1) comprises 100%. A minimum of a PASS is required to pass the module.

Module Grade	Minimum Requirements to achieve Module Grade:
Pass	PE1: Pass
Fail	PE1: Unsuccessful
NS	Non-submission of work by published deadline or non-attendance for examination

Module Requirements

Prerequisites for Module	None, in addition to course entry requirements.
Corequisites for module	None.
Precluded Modules	None.

INDICATIVE BIBLIOGRAPHY

1	LANGFORD, A., DEAN, J.R., REED, R., HOLMES, D., WEYERS, J. and JONES, A. 2018. Practical Skills in Forensic Science. 3rd Edition. Pearson.
2	REED, R.H., HOLMES, D., WEYERS, J. and JONES, A. 2016. Practical Skills in Biomolecular Science. 5th Edition. Pearson.