MODULE DESCRIPTOR

Module Title

Laboratory Work

Reference	PLM302	Version	1
Created	February 2023	SCQF Level	SCQF 11
Approved	March 2023	SCQF Points	15
Amended	August 2021	ECTS Points	7.5

Aims of Module

To develop the core scientific analytical skills relevant to the choice of elective in a practical context using modern instrumentation and data handling and developing analytical skills. Practical skills complement and support theoretical knowledge gained in PLM301, PLM303 and encourage students to be confident in the solution of practical analytical problems.

Learning Outcomes for Module

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

1	Demonstrate competence in practical skills associated with sample preparation and analysis.
2	Effectively solve a range of analytical problems using analytical instrumentation and critically appraise the data/results produced.

Indicative Module Content

Practical exercises and problem solving using analytical instrumentation will be undertaken in the context of the elective chosen. The following list is representative of the techniques. Microscopy; optical, transmission and SEM-EDXA. Spectroscopy; ICP-OES, ultraviolet/visible, FTIR, fluorescence, NMR, MS. Chromatography; HPLC, packed and capillary GC, GC-MS, GC-FID, Ion chromatography and LC-MS. Ion selective electrodes. Sample pre-treatment methods including SPME and SPE.

Module Delivery

Laboratory work is delivered through 11 lab sessions. All students must successfully complete the Laboratory Passport in the first week of study. Practical competence is developed by a series of analytical problem-solving exercises ranging from supervised use of instrumentation initially and progress to working confidently and autonomously.

Indicative Student Workload

	Full Time	Part Time
Contact Hours	75	75
Non-Contact Hours	75	75
Placement/Work-Based Learning Experience [Notional] Hours	N/A	N/A
TOTAL	150	150
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
Description:	This is a skills test based on practical tasks, analytical planning of procedure and data handling				

MODULE PERFORMANCE DESCRIPTOR

Explanatory Text

The grade represents PE. A minimum module grade of D is required for a pass. Non-submission will result in an NS grade.

Module Grade	Minimum Requirements to achieve Module Grade:
A	A
B	B
C	C
D	D
E	E
F	F
NS	Non-submission of work by published deadline or non-attendance for examination

Module Requirements

Prerequisites for Module	In addition to course entry requirements, students must successfully complete the RGU Laboratory Safety Passport.
Corequisites for module	None.
Precluded Modules	None.

ADDITIONAL NOTES

Students must pass the RGU Laboratory Safety Passport prior to undertaking any laboratory work. Students are issued with booklets at the beginning of the year in which details of each laboratory exercise are given. Some exercises require additional reading and this is detailed on the appropriate sheets. The use of industry standard state-of-the-art instrumental equipment greatly enhances the employability of our graduates.

INDICATIVE BIBLIOGRAPHY

1   Lab Handbook and Experiment Procedures Booklet.

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