

## Module Information

2022.01, Approved

### Summary Information

Module Code	3501YAUNUT
Formal Module Title	Quantitative Analytical Chemistry
Owning School	Sport and Exercise Sciences
Career	Undergraduate
Credits	20
Academic level	FHEQ Level 3
Grading Schema	40

### Teaching Responsibility

LJMU Schools involved in Delivery
Sport and Exercise Sciences

### Learning Methods

Learning Method Type	Hours
Lecture	24
Practical	16

### Module Offering(s)

Display Name	Location	Start Month	Duration Number Duration Unit
SEP-PAR	PAR	September	12 Weeks

### Aims and Outcomes

Aims	The aim of this module is to enable students to understand the basic principles, concepts and theories of quantitative analytical chemistry. Through theoretical and practical study students will master some basic analytical methods, have an understanding of the development process, grasp the characteristics of quantitative analytical chemistry and recognise connections with other disciplines. Through experimental work students will master basic laboratory operation skills, learn to process experimental data and analyse results.
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**After completing the module the student should be able to:**

### Learning Outcomes

Code	Number	Description
MLO1	1	Develop an understanding of the basic principles, concepts and theories of quantitative analytical chemistry
MLO2	2	Develop the skills of titration operation and classical chemical analysis methods
MLO3	3	Work in teams to master basic instrumental analysis

### Module Content

Outline Syllabus	Introduction to quantitative analytical chemistry: classification of analytical chemistry; general procedures for quantitative analysis. Errors and data processing in quantitative analysis: accuracy and precision. Overview of titration analysis: acid-base titration. Absorptiometry; principles of light absorption and the molecular absorption spectrum; colour reaction principle and conditions; measurement of absorbance; Lambert-Beer Law.
Module Overview	
Additional Information	Students will be taught the theory in lecture sessions then have the opportunity to apply this knowledge by carrying out practical experiments in the laboratory. Students will have the opportunity to preview experiments before laboratory sessions.

### Assessments

Assignment Category	Assessment Name	Weight	Exam/Test Length (hours)	Module Learning Outcome Mapping
Exam	Exam	30	2	MLO1
Report	In class test	20	0	MLO1
Dissertation	Experimental Report	30	0	MLO2, MLO3
Practice	Classroom Experiment	20	0	MLO2, MLO3

### Module Contacts

#### Module Leader

Contact Name	Applies to all offerings	Offerings
Elizabeth Mahon	Yes	N/A

#### Partner Module Team

Contact Name	Applies to all offerings	Offerings
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