



# MOLS8251

## Chemical Analysis

Session 1, Weekday attendance, North Ryde 2020

*Department of Molecular Sciences*

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## General Information

Unit convenor and teaching staff

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Credit points

10

Prerequisites

Admission to GradDipBiotech or GradCertLabAQMgt or GradDipLabAQMgt or MBiotech or MBioBus or MLabAQMgt or MRadiopharmSc or MSc or MScInnovationChemBiomolecularSc and CHEM6231

Corequisites

Co-badged status

Unit description

This unit discusses the chemical principles and practice of both qualitative and quantitative determination of sample identifying and determining the composition. Topics include many analytical techniques commonly employed in both industrial and academic research laboratories. The unit emphasises hands-on experience in analysing real-life samples. A proportion of the unit develops skills in the use of modern library resources and electronic information retrieval. Using these skills, students will complete a short research project addressing a real-life analytical chemistry problem.

## Important Academic Dates

Information about important academic dates including deadlines for withdrawing from units are available at <https://www.mq.edu.au/study/calendar-of-dates>

## Learning Outcomes

On successful completion of this unit, you will be able to:

**ULO1:** Display competency in the use of important analytical techniques commonly used in industrial and academic research

**ULO2:** Analyse and interpret experimental data and present them in a structured report utilising appropriate scientific referencing

**ULO3:** Analyse and critique experimental data and present them in oral format

**ULO4:** Process and analyse chemical experimental data to draw scientifically sound conclusions, particularly the significance and validity of analytical results involving real-life samples

**ULO5:** Apply a combination of techniques to an analytical chemistry project to acquire results that facilitate appropriate actions

**ULO6:** Build teamwork with other members of the unit by working together in a laboratory environment

## Assessment Tasks

### Coronavirus (COVID-19) Update

Assessment details are no longer provided here as a result of changes due to the Coronavirus (COVID-19) pandemic.

Students should consult [iLearn](#) for revised unit information.

[Find out more about the Coronavirus \(COVID-19\) and potential impacts on staff and students](#)

## General Assessment Information

In order to complete this unit satisfactorily students must

- attend and participate satisfactorily in **ALL** laboratory sessions;
- submit satisfactory efforts at two (2) assignments;
- perform satisfactorily in a final examination of three hours duration.

## Delivery and Resources

### Coronavirus (COVID-19) Update

Any references to on-campus delivery below may no longer be relevant due to COVID-19.

Please check here for updated delivery information: <https://ask.mq.edu.au/account/pub/>

[display/unit\\_status](#)

Lecture notes, laboratory notes, assignments can all be downloaded from iLearn.

#### Prescribed text:

D.C.Harris, Quantitative Chemical Analysis, 9th Edition, W.H.Freeman and Company (2016).

#### Recommended references (all available in University Library)

D.A.Skoog, D.M.West, F.J.Holler, S.R.Crouch, Fundamentals of Analytical Chemistry, 9th Edition, Brooks/Cole, Thomson Learning, Inc (2014).

D.S.Hage, J.D.Carr, Analytical Chemistry and Quantitative Analysis, International Edition, Prentice Hall (2011).

D.A.Skoog, F.J.Holler and S.R.Crouch, Principles of Instrumental Analysis, 6th Edition, Saunders College Publishing (2007).

## Unit Schedule

### Coronavirus (COVID-19) Update

The unit schedule/topics and any references to on-campus delivery below may no longer be relevant due to COVID-19. Please consult [iLearn](#) for latest details, and check here for updated delivery information: [https://ask.mq.edu.au/account/pub/display/unit\\_status](https://ask.mq.edu.au/account/pub/display/unit_status)

### Suggested Schedule

Date	Time	
February 24	2:00 - 4:00	Information Retrieval
	4:00 - 6:00	Scientific Report Writing
February 26	9:00 - 11:00	Outline of Unit
		Calibration Methods
		Electroanalytical Chemistry
March 2	1:30 - 5:30	Laboratory Session
March 4	9:00 - 11:00	Electroanalytical Chemistry
March 9 March 11	1:30 - 5:30 9:00 - 11:00	Laboratory Session
		Electroanalytical Chemistry

March 23	1:30 - 5:30	Laboratory Session
March 25	9:00 - 11:00	Flow Injection Analysis
March 30	1:30 - 5:30	Laboratory Session
April 1	9:00 - 11:00	Spectroscopic Techniques
April 6	1:30 - 5:30	Laboratory Session
April 8	9:00 - 11:00	Spectroscopic Techniques
April 27	1:30 - 5:30	Laboratory Session
April 29	9:00 - 11:00	Spectroscopic Techniques
May 4	1:30 - 5:30	Laboratory Session
May 6	9:00 - 11:00	TBA
May 11	1:30 - 5:30	Laboratory Session
May 13	9:00 - 11:00	TBA
May 18	1:30 - 5:30	Laboratory Session
May 20	9:00 - 11:00	TBA
May 25	1:30 - 5:30	Laboratory Session
May 27	9:00 - 11:00	TBA
June 1	1:30 - 5:30	Presentation of project work
June 3	9:00 - 11:00	Sensing Technologies

## Policies and Procedures

Macquarie University policies and procedures are accessible from [Policy Central \(https://staff.mq.edu.au/work/strategy-planning-and-governance/university-policies-and-procedures/policy-central\)](https://staff.mq.edu.au/work/strategy-planning-and-governance/university-policies-and-procedures/policy-central). Students should be aware of the following policies in particular with regard to Learning and Teaching:

- [Academic Appeals Policy](#)
- [Academic Integrity Policy](#)
- [Academic Progression Policy](#)
- [Assessment Policy](#)
- [Fitness to Practice Procedure](#)
- [Grade Appeal Policy](#)
- [Complaint Management Procedure for Students and Members of the Public](#)
- [Special Consideration Policy](#) (**Note:** *The Special Consideration Policy is effective from 4 December 2017 and replaces the Disruption to Studies Policy.*)

Students seeking more policy resources can visit the [Student Policy Gateway](https://students.mq.edu.au/support/study/student-policy-gateway) (<https://students.mq.edu.au/support/study/student-policy-gateway>). It is your one-stop-shop for the key policies you need to know about throughout your undergraduate student journey.

If you would like to see all the policies relevant to Learning and Teaching visit [Policy Central](http://staff.mq.edu.au/work/strategy-planning-and-governance/university-policies-and-procedures/policy-central) (<http://staff.mq.edu.au/work/strategy-planning-and-governance/university-policies-and-procedures/policy-central>).

## Student Code of Conduct

Macquarie University students have a responsibility to be familiar with the Student Code of Conduct: <https://students.mq.edu.au/study/getting-started/student-conduct>

## Results

Results published on platform other than [eStudent](#), (eg. iLearn, Coursera etc.) or released directly by your Unit Convenor, are not confirmed as they are subject to final approval by the University. Once approved, final results will be sent to your student email address and will be made available in [eStudent](#). For more information visit [ask.mq.edu.au](http://ask.mq.edu.au) or if you are a Global MBA student contact [globalmba.support@mq.edu.au](mailto:globalmba.support@mq.edu.au)

## Student Support

Macquarie University provides a range of support services for students. For details, visit <http://students.mq.edu.au/support/>

## Learning Skills

Learning Skills ([mq.edu.au/learningskills](http://mq.edu.au/learningskills)) provides academic writing resources and study strategies to help you improve your marks and take control of your study.

- [Getting help with your assignment](#)
- [Workshops](#)
- [StudyWise](#)
- [Academic Integrity Module](#)

The Library provides online and face to face support to help you find and use relevant information resources.

- [Subject and Research Guides](#)
- [Ask a Librarian](#)

## Student Services and Support

Students with a disability are encouraged to contact the [Disability Service](#) who can provide appropriate help with any issues that arise during their studies.

## Student Enquiries

For all student enquiries, visit Student Connect at [ask.mq.edu.au](http://ask.mq.edu.au)

If you are a Global MBA student contact [globalmba.support@mq.edu.au](mailto:globalmba.support@mq.edu.au)

## IT Help

For help with University computer systems and technology, visit [http://www.mq.edu.au/about\\_us/offices\\_and\\_units/information\\_technology/help/](http://www.mq.edu.au/about_us/offices_and_units/information_technology/help/).

When using the University's IT, you must adhere to the [Acceptable Use of IT Resources Policy](#). The policy applies to all who connect to the MQ network including students.