



# MOLS8251

## Chemical Analysis

Session 2, Weekday attendance, North Ryde 2021

*Archive (Pre-2022) - Department of Molecular Sciences*

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### Disclaimer

Macquarie University has taken all reasonable measures to ensure the information in this publication is accurate and up-to-date. However, the information may change or become out-dated as a result of change in University policies, procedures or rules. The University reserves the right to make changes to any information in this publication without notice. Users of this publication are advised to check the website version of this publication [or the relevant faculty or department] before acting on any information in this publication.

### Session 2 Learning and Teaching Update

The decision has been made to conduct study online for the remainder of Session 2 for all units WITHOUT mandatory on-campus learning activities. Exams for Session 2 will also be online where possible to do so.

This is due to the extension of the lockdown orders and to provide certainty around arrangements for the remainder of Session 2. We hope to return to campus beyond Session 2 as soon as it is safe and appropriate to do so.

Some classes/teaching activities cannot be moved online and must be taught on campus. You should already know if you are in one of these classes/teaching activities and your unit convenor will provide you with more information via iLearn. If you want to confirm, see the list of [units with mandatory on-campus classes/teaching activities](#).

Visit the [MQ COVID-19 information page](#) for more detail.

## General Information

Unit convenor and teaching staff

Alison Rodger

[alison.rodger@mq.edu.au](mailto:alison.rodger@mq.edu.au)

Credit points

10

Prerequisites

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 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

Name	Weighting	Hurdle	Due
<u>Laboratory Work</u>	40%	No	Weeks 4, 6, 8, 13
<u>End of session 3-hour examination</u>	50%	No	End of Session 3-hour examination
<u>Assignments 1 and 2</u>	10%	No	Mid semester break

### Laboratory Work

Assessment Type <sup>1</sup>: Lab report

Indicative Time on Task <sup>2</sup>: 39 hours

Due: **Weeks 4, 6, 8, 13**

Weighting: **40%**

For each laboratory session, students are required to complete some Pre-laboratory work including Materials Safety Data Sheets and the general understanding of aim and procedure of the experiment. Following the completion of a laboratory session, students will then do either (i) written data analysis accompanied by a point-form list of key goals of the laboratory session and point-form conclusion from data including regarding data quality (x3), a full laboratory report (x1), an oral discussion of their data and the conclusions to which they lead (x1).

On successful completion you will be able to:

- Display competency in the use of important analytical techniques commonly used in industrial and academic research
- Analyse and interpret experimental data and present them in a structured report utilising appropriate scientific referencing
- Analyse and critique experimental data and present them in oral format
- Process and analyse chemical experimental data to draw scientifically sound conclusions, particularly the significance and validity of analytical results involving real-life samples
- Apply a combination of techniques to an analytical chemistry project to acquire results that facilitate appropriate actions
- Build teamwork with other members of the unit by working together in a laboratory

environment

## End of session 3-hour examination

Assessment Type <sup>1</sup>: Examination

Indicative Time on Task <sup>2</sup>: 30 hours

Due: **End of Session 3-hour examination**

Weighting: **50%**

Closed book examination.

On successful completion you will be able to:

- Display competency in the use of important analytical techniques commonly used in industrial and academic research
- Analyse and interpret experimental data and present them in a structured report utilising appropriate scientific referencing

## Assignments 1 and 2

Assessment Type <sup>1</sup>: Quantitative analysis task

Indicative Time on Task <sup>2</sup>: 20 hours

Due: **Mid semester break**

Weighting: **10%**

Numerical calculations and short answers.

On successful completion you will be able to:

- Display competency in the use of important analytical techniques commonly used in industrial and academic research
- Analyse and interpret experimental data and present them in a structured report utilising appropriate scientific referencing
- Analyse and critique experimental data and present them in oral format

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<sup>1</sup> If you need help with your assignment, please contact:

- the academic teaching staff in your unit for guidance in understanding or completing this type of assessment

- the [Writing Centre](#) for academic skills support.

<sup>2</sup> Indicative time-on-task is an estimate of the time required for completion of the assessment task and is subject to individual variation

## Delivery and Resources

The unit is delivered by a mixture of lectures, Q&A sessions, workshops, laboratory sessions and group work.

## Policies and Procedures

Macquarie University policies and procedures are accessible from [Policy Central](https://policies.mq.edu.au) (<https://policies.mq.edu.au>). 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](#)

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

To find other policies relating to Teaching and Learning, visit [Policy Central](https://policies.mq.edu.au) (<https://policies.mq.edu.au>) and use the [search tool](#).

## Student Code of Conduct

Macquarie University students have a responsibility to be familiar with the Student Code of Conduct: <https://students.mq.edu.au/admin/other-resources/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.

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Unit information based on version 2021.04 of the [Handbook](#)