



## UNSW Course Outline

# CHEM3998 Advanced Special Project in Chemistry - 2024

Published on the 20 May 2024

## General Course Information

Course Code : CHEM3998

Year : 2024

Term : Term 2

Teaching Period : T2

Is a multi-term course? : No

Faculty : Faculty of Science

Academic Unit : School of Chemistry

Delivery Mode : In Person

Delivery Format : Standard

Delivery Location : Kensington

Campus : Sydney

Study Level : Undergraduate

Units of Credit : 6

### Useful Links

[Handbook Class Timetable](#)

## Course Details & Outcomes

### Course Description

This course provides a more sophisticated introduction to the university research environment than CHEM2999 through undertaking a more complex short research project utilising the skills and knowledge obtained by students in their early undergraduate degree. The project will be

conducted under the direction of a Chemistry academic member of staff taking advantage of UNSW's world-class researchers and research facilities. Students will engage directly with academics and their research group, becoming involved with the group's regular activities such as group meetings, while learning important research and transferable graduate skills prized throughout academia, industry and business.

## **Course Aims**

This course aims to further develop the research skills developed through CHEM2999 and other undergraduate courses. Students will be integrated in a research group as part of the course, allowing them to gain research skills.

## **Relationship to Other Courses**

Chem3999 is the advanced or third year level version of Chem2998

## Course Learning Outcomes

Course Learning Outcomes
CLO1 : Engage in professional research activities such as the preparation of risk assessments and maintain appropriate records to ensure the replication of research results.
CLO2 : Investigate and solve qualitative and quantitative problems in chemical sciences by applying relevant research methods.
CLO3 : Access and evaluate peer reviewed literature.
CLO4 : Communicate research in the written and graphical format to a scientific audience in the format of a discipline journal paper and identify potential future research directions.
CLO5 : Identify and articulate the skills acquired during the research experience and relate these to employability and graduate attributes

Course Learning Outcomes	Assessment Item
CLO1 : Engage in professional research activities such as the preparation of risk assessments and maintain appropriate records to ensure the replication of research results.	<ul style="list-style-type: none"><li>• Summary Document</li><li>• Notebook</li></ul>
CLO2 : Investigate and solve qualitative and quantitative problems in chemical sciences by applying relevant research methods.	<ul style="list-style-type: none"><li>• Report</li><li>• Summary Document</li><li>• Notebook</li></ul>
CLO3 : Access and evaluate peer reviewed literature.	<ul style="list-style-type: none"><li>• Report</li></ul>
CLO4 : Communicate research in the written and graphical format to a scientific audience in the format of a discipline journal paper and identify potential future research directions.	<ul style="list-style-type: none"><li>• Focus Area: Future Direction</li><li>• Report</li></ul>
CLO5 : Identify and articulate the skills acquired during the research experience and relate these to employability and graduate attributes	<ul style="list-style-type: none"><li>• Summary Document</li></ul>

## Learning and Teaching Technologies

Moodle - Learning Management System

## Learning and Teaching in this course

The dominant learning mode for this course is regular approximately 7 hrs per week engagement with an authentic research project within one of UNSW's Chemistry research groups. This project should be determined through consultation between the primary supervisor and the student. This project will give students the opportunity to experience various aspects of the day-to-day life of a research student, expose them to the motivations, goals and key methodologies of the research

group as well as teach them valuable research skills and transferable skills. Students will also participate in a one-hour compulsory group meeting each week. This meeting will provide a venue for reflection by students on their project, research in general and the realities of being a scientist.

# Assessments

## Assessment Structure

Assessment Item	Weight	Relevant Dates
Focus Area: Future Direction Assessment Format: Individual	10%	Start Date: Not Applicable Due Date: Week 11 Friday 7pm Post Date: 12/05/2023 12:00 AM
Report Assessment Format: Individual	40%	Start Date: Not Applicable Due Date: Week 11 Friday 7pm
Summary Document Assessment Format: Individual	25%	Start Date: Not Applicable Due Date: Not Applicable
Notebook Assessment Format: Individual	25%	Start Date: Not Applicable Due Date: Not Applicable

## Assessment Details

### Focus Area: Future Direction

#### Assessment Overview

You will prepare a 1-2 page article focused on proposing and exploring future directions associated with your research project. This is due in Week 11.

To be awarded as satisfactory in the course, your submission should satisfactorily propose and explore the future directions of the research by presenting a scientifically sound report with no substantial typographic or grammatical mistakes.

You will receive feedback from the markers including your supervisor and one person external to the topic area. For any areas which are judged unsatisfactory, you will be given one opportunity to prepare an improved report (to be submitted by the end of the formal exam period), otherwise an unsatisfactory grade will be awarded.

#### Course Learning Outcomes

- CL04 : Communicate research in the written and graphical format to a scientific audience in the format of a discipline journal paper and identify potential future research directions.

#### Detailed Assessment Description

### **Assessment Length**

1-2 pages

### **Submission notes**

PDF.

### **Assessment information**

See moodle.

### **Assignment submission Turnitin type**

This assignment is submitted through Turnitin and students do not see Turnitin similarity reports.

## **Report**

### **Assessment Overview**

For this task, you must prepare a written report aimed at the scientifically literate general public. It must contain an abstract, literature review and/or introduction, project aims, methodology, results, discussion, or a combined results and discussion, conclusions, and references.

The report will be submitted in Week 11 and must satisfactorily address all the below points:

- Did the abstract adequately summarise the project describing the accomplishments and significance?
- Did the introduction (literature review) detail the literature and explain the rationale for the project?
- Did the research project explain what the goal was, and then what was accomplished?
- Are the techniques/methodology used in the project described and justified?

You will be provided with feedback from at least two markers including your supervisor and one person external to the topic area. For any areas that are judged unsatisfactory, students will be given one opportunity to prepare an improved report (to be submitted by the end of the formal exam period), otherwise an unsatisfactory grade will be awarded.

### **Course Learning Outcomes**

- CL02 : Investigate and solve qualitative and quantitative problems in chemical sciences by applying relevant research methods.
- CL03 : Access and evaluate peer reviewed literature.
- CL04 : Communicate research in the written and graphical format to a scientific audience in the format of a discipline journal paper and identify potential future research directions.

### **Detailed Assessment Description**

### **Assessment Length**

10-15 pages

### **Submission notes**

PDF

### **Assessment information**

See moodle.

### **Assignment submission Turnitin type**

This assignment is submitted through Turnitin and students do not see Turnitin similarity reports.

## **Summary Document**

### **Assessment Overview**

You will summarise what you have undertaken and the skills you have learnt in a document or spreadsheet. This document will be dated and have lists of activities undertaken, the research skills demonstrated/ acquired and transferable skills/graduate attributes demonstrated/ acquired. You will be able to showcase the skills you have learnt while undertaking the course.

The summary document will be assessed as satisfactory or unsatisfactory based on inclusion of all the above elements and evidence of an adequate amount of work. There will be an initial assessment in Wk 5, with a warning given if performance is not adequate.

During the final assessment in Wk 10, students will be graded as unsatisfactory if the above criteria are not demonstrated.

### **Course Learning Outcomes**

- CL01 : Engage in professional research activities such as the preparation of risk assessments and maintain appropriate records to ensure the replication of research results.
- CL02 : Investigate and solve qualitative and quantitative problems in chemical sciences by applying relevant research methods.
- CL05 : Identify and articulate the skills acquired during the research experience and relate these to employability and graduate attributes

### **Detailed Assessment Description**

#### **Submission notes**

PDF

#### **Assessment information**

See moodle.

### Assignment submission Turnitin type

This is not a Turnitin assignment

## **Notebook**

### Assessment Overview

Throughout the duration of the research project, you are expected to maintain a thorough laboratory notebook which includes research progress documentation including risk assessment information. The notebook should contain sufficient detail that would enable another scientist to repeat the research activities. The notebook should also contain results from all research, including where the activity did not work and discussion of why this might have occurred. The notebook should also track the progress of the research project including reference to what is next once the research activity has succeeded or how can the challenges faced be addressed.

The notebook will be assessed as satisfactory or unsatisfactory based on the inclusion of all the above elements and evidence of an adequate amount of work. There will be an initial assessment in Wk 5, with a warning given if performance is not adequate.

During the final assessment in Wk 10, students will be graded as unsatisfactory if the above criteria are not demonstrated.

### Course Learning Outcomes

- CL01 : Engage in professional research activities such as the preparation of risk assessments and maintain appropriate records to ensure the replication of research results.
- CL02 : Investigate and solve qualitative and quantitative problems in chemical sciences by applying relevant research methods.

### Detailed Assessment Description

#### Assessment Length

As required.

#### Submission notes

PDF

#### Assessment information

See moodle.

### Assignment submission Turnitin type

This is not a Turnitin assignment

# General Assessment Information

## Grading Basis

Satisfactory

# Course Schedule

## Attendance Requirements

This course consists of 1 hour per week class contact hours. You are expected to take an additional 7 hours per week of non-class contact hours to complete research work, including attending research group meetings where possible.

## General Schedule Information

See Moodle.

# Course Resources

## Prescribed Resources

Research training and safety information: <https://sites.google.com/view/unswsocresearchtraining/home>

Specific project reading and resources should be discussed with the project supervisor.

# Staff Details

Position	Name	Email	Location	Phone	Availability	Equitable Learning Services Contact	Primary Contact
Convenor	Neeraj Sharma		F12, Level 1 Room 129	via Microsoft Teams	By appointment	Yes	Yes
	Laura McKemish		F12 Level 1	via Microsoft Teams	By appointment	No	No

# Other Useful Information

## Academic Information

Upon your enrolment at UNSW, you share responsibility with us for maintaining a safe, harmonious and tolerant University environment.

You are required to:



- Comply with the University's conditions of enrolment.
- Act responsibly, ethically, safely and with integrity.
- Observe standards of equity and respect in dealing with every member of the UNSW community.
- Engage in lawful behaviour.
- Use and care for University resources in a responsible and appropriate manner.
- Maintain the University's reputation and good standing.

For more information, visit the [UNSW Student Code of Conduct Website](#).

## Academic Honesty and Plagiarism

**Referencing** is a way of acknowledging the sources of information that you use to research your assignments. You need to provide a reference whenever you draw on someone else's words, ideas or research. Not referencing other people's work can constitute plagiarism.

Further information about referencing styles can be located at <https://student.unsw.edu.au/referencing>

**Academic integrity** is fundamental to success at university. Academic integrity can be defined as a commitment to six fundamental values in academic pursuits: honesty, trust, fairness, respect, responsibility and courage. At UNSW, this means that your work must be your own, and others' ideas should be appropriately acknowledged. If you don't follow these rules, plagiarism may be detected in your work.

Further information about academic integrity, plagiarism and the use of AI in assessments can be located at:

- The [Current Students site](#),
- The [ELISE training site](#), and
- The [Use of AI for assessments](#) site.

The Student Conduct and Integrity Unit provides further resources to assist you to understand your conduct obligations as a student: <https://student.unsw.edu.au/conduct>

## Submission of Assessment Tasks

### Penalty for Late Submissions

UNSW has a standard late submission penalty of:

- 5% per day,
- for all assessments where a penalty applies,
- capped at five days (120 hours) from the assessment deadline, after which a student cannot

- submit an assessment, and
- no permitted variation.

***Any variations to the above will be explicitly stated in the Course Outline for a given course or assessment task.***

Students are expected to manage their time to meet deadlines and to request extensions as early as possible before the deadline.

### **Special Consideration**

If circumstances prevent you from attending/completing an assessment task, you must officially apply for special consideration, usually within 3 days of the sitting date/due date. You can apply by logging onto myUNSW and following the link in the My Student Profile Tab. Medical documentation or other documentation explaining your absence must be submitted with your application. Once your application has been assessed, you will be contacted via your student email address to be advised of the official outcome and any actions that need to be taken from there. For more information about special consideration, please visit: <https://student.unsw.edu.au/special-consideration>

**Important note:** UNSW has a “fit to sit/submit” rule, which means that if you sit an exam or submit a piece of assessment, you are declaring yourself fit to do so and cannot later apply for Special Consideration. This is to ensure that if you feel unwell or are faced with significant circumstances beyond your control that affect your ability to study, you do not sit an examination or submit an assessment that does not reflect your best performance. Instead, you should apply for Special Consideration as soon as you realise you are not well enough or are otherwise unable to sit or submit an assessment.

### **Faculty-specific Information**

#### **Additional support for students**

- [The Current Students Gateway](#)
- [Student Support](#)
- [Academic Skills and Support](#)
- [Student Wellbeing, Health and Safety](#)
- [Equitable Learning Services](#)
- [UNSW IT Service Centre](#)
- Science EDI Student [Initiatives](#), [Offerings](#) and [Guidelines](#)

## School-specific Information

### UNSW Changes to Special Consideration: Short Extension

The School of Chemistry has carefully reviewed all of its assessments to determine whether they are suitable for automatic short extensions as set out by the UNSW Short Extension Policy. The current deadline structures for all assessment tasks in the School of Chemistry already accommodate the possibility of unexpected circumstances that may lead students to require additional time for submission. **The School of Chemistry has opted out of the UNSW Short Extension provision for all its courses**, and we have already integrated flexibility into our assessment deadlines. This decision is subject to revision in response to the introduction of new course offerings. All students may still apply for Special Consideration for any assessment via the usual procedures.

### School Contact Information

Level 1, Dalton Building (F12)

W: [www.chemistry.unsw.edu.au](http://www.chemistry.unsw.edu.au)

Also see: ***Contacts and Support*** section of the course Moodle page (where applicable)