Course Outline

CHEM6041

Advanced Instrumental Analysis

School of Chemistry

Faculty of Science

Term 1, 2019
1. Staff

<table>
<thead>
<tr>
<th>Position</th>
<th>Name</th>
<th>Email</th>
<th>Consultation times and locations</th>
<th>Contact Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Course Convenor</td>
<td>Dr. W. Alexander Donald</td>
<td><a href="mailto:w.donald@unsw.edu.au">w.donald@unsw.edu.au</a></td>
<td>By appointment; Dalton 221</td>
<td>02 9385 8827</td>
</tr>
<tr>
<td>Lecturer &amp; Course Champion</td>
<td>Dr Shannan Maisey</td>
<td><a href="mailto:s.maisey@unsw.edu.au">s.maisey@unsw.edu.au</a></td>
<td>By appointment; Dalton 132</td>
<td>Please email</td>
</tr>
</tbody>
</table>

2. Course information

Units of credit: 6
Pre-requisite(s): Chem2041
Teaching times and locations:
http://www.timetable.unsw.edu.au

2.1 Course summary

This course builds on students’ existing background in analytical chemistry to develop both theory and practice relating to the latest analytical techniques used in industry and research. The course covers in general, method validation and quality assurance in the analytical chemistry laboratory; and for selected major techniques, method development, theory, operation, instrumentation and applications. Analytical methods covered include separation techniques (chromatography), mass spectrometry, hyphenated chromatography-mass spectrometry techniques, surface analysis, X-ray diffraction, and elemental analysis, which are amongst the most widely used analytical instrumental techniques across a broad range of disciplines and in many different industries. The course was designed in close consultation with industry leaders (who will also give guest lectures) to provide valuable perspectives from outside academia and provide focus on the most relevant occupational skills. Students will obtain hands-on experience using state-of-the art, instruments in the Mark Wainwright Analytical Centre. Thus, the course strongly emphasises employability in industry, government and research.

2.2 Course aims

The aims of the course include:

1. Develop theoretical and practical skills in key methods of instrumental analysis.
2. Devise practical solutions for analytical chemistry problems in a professional context.
3. Effectively communicate results and their significance to a variety of audiences.
2.3 Course learning outcomes (CLO)

At the successful completion of this course you (the student) should be able to:

1. Demonstrate independent learning of an analytical technique by solving simple lab based analytical problems, communicating the technique and findings to an expert audience and teaching the basics of the technique to classmates.
2. Demonstrate knowledge of the theory, practical application and use of several key analytical techniques with specialist knowledge for two analytical techniques. Apply elements of lab safety and regulation in this context.
3. Solve a significant analytical chemistry problem that requires the selection of appropriate analytical techniques and communicate the results and significance to a non-expert audience.
4. Interpret and communicate the significance of a chemical analysis report to expert and non-expert audiences.

2.4 Relationship between course and program (RACI Threshold Learning Outcomes) learning outcomes and assessments

<table>
<thead>
<tr>
<th>Course Learning Outcome (CLO)</th>
<th>Program Learning Outcome (PLO)</th>
<th>Related Tasks &amp; Assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td>CLO 1</td>
<td>3.2, 3.3, 3.4, 4.1, 5.1, 5.2</td>
<td>Lab classes weeks 2-7</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Skills workshops</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Oral presentation assessment task</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Midterm test</td>
</tr>
<tr>
<td>CLO 2</td>
<td>1.2, 4.1, 5.2</td>
<td>Skills workshops</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lectures</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Midterm test</td>
</tr>
<tr>
<td>CLO 3</td>
<td>1.2, 3.2, 3.3, 3.4, 4.1, 5.1, 5.2</td>
<td>Lab classes weeks 8-10</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Caption Project report</td>
</tr>
<tr>
<td>CLO 4</td>
<td>1.2, 3.3, 3.4, 4.1,</td>
<td>Skills workshops and Final exam</td>
</tr>
</tbody>
</table>
3. Strategies and approaches to learning

3.1 Learning and teaching activities

Students will partake in ~2 h of lecture/workshop content per week (face-to-face; F2F) and 6 h of laboratory activities per week (F2F). They are expected to dedicate ~5 h/week to assignments, lab preparation, online blended learning, and exam preparation.

3.2 Expectations of students

Level of engagement: 2 h/w F2F in lectures/workshops; 6 h in lab, ~5 h/week to assignments, lab preparation, online blended learning, and exam preparation.

Attendance: Students are expected to attend 90% of lectures/workshops and complete all laboratory tasks satisfactorily.

Students are expected to follow the UNSW policy governing the use of email, social networks and discussion forums.
4. Course schedule and structure

This course consists of 2 hours of class contact hours and 6 hours of lab contact per week. You are expected to take an additional 4 hours per week of non-class contact hours to complete assessments, readings and exam preparation.

<table>
<thead>
<tr>
<th>Week</th>
<th>Topic</th>
<th>Activity</th>
<th>Related CLO</th>
</tr>
</thead>
<tbody>
<tr>
<td>Week 1</td>
<td>Course structure, expectations. Putting instrument options in context. Getting started self-learning an instrument. Lab induction: Workplace Health and Safety and Risk Assessments</td>
<td>Lecture/skills workshop</td>
<td>1, 2</td>
</tr>
<tr>
<td>Week 2</td>
<td>Responsibilities and obligations for workplace health and Safety. Good laboratory practice (GLP) planning and implementing. How to write standard operating procedures (SOPs).</td>
<td>Lecture/skills workshop Lab activities: Students will self-learn analytical techniques with assistance of lab activities, training modules, and online resources. Peer assisted learning.</td>
<td>1, 2</td>
</tr>
<tr>
<td>Week 3</td>
<td>Quality control and assurance in lab context, lab accreditation, auditing and inspections. Analytical data handling</td>
<td>Lecture/skills workshop Lab activities: Students will self-learn analytical techniques with assistance of lab activities, training modules, and online resources. Peer assisted learning.</td>
<td>1, 2</td>
</tr>
<tr>
<td>Week 4</td>
<td>Analytical data handling Intellectual property management. Analytical data handling, analysis and reporting.</td>
<td>Lecture/skills workshop Lab activities: Students will self-learn analytical techniques with assistance of lab activities, training modules, and online resources. Peer assisted learning. Instrument outline document.</td>
<td>1, 2</td>
</tr>
</tbody>
</table>
| Week  5 | Ethical and legal implications of analytical chemistry. Instruction to Capstone projects | Lecture/skills workshop
Oral Presentation/Instrument competency test
Lab activities: detailed chemical analyses | 1,2 |
|--------|------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| Week  6 | Analytical report writing and executive summary                                    | Capstone proposal
Lab activities: detailed chemical analyses | 1,2,3,4 |
| Week  7 | Feedback session on proposal                                                        | Lecture/skills workshop
Midterm Test
Lab activities: detailed chemical analyses using a few instrumental methods. | |
| Week  8 | Showcasing your skills to employers Capstone project.                               | Lecture/skills workshop
Lab activities: detailed chemical analyses to solve ‘grand challenge’ using multiple instrumental techniques. | 2,3,4 |
| Week  9 | Making recommendations for analysis from a brief Capstone project.                  | Lecture/ skills workshop
Lab activities: detailed chemical analyses to solve ‘grand challenge’ using multiple instrumental techniques. | 2,3,4 |
<p>| Week 10 | Capstone report mentoring. Capstone project.                                        | Lab activities: detailed chemical analyses to solve ‘grand challenge’ using multiple instrumental techniques. | 2,3,4 |</p>
<table>
<thead>
<tr>
<th>Wk</th>
<th>F2F Session 1 (1 hr)</th>
<th>F2F Session 2 (1 hr)</th>
<th>Lab A (3 hrs)</th>
<th>Lab B (3 hrs)</th>
<th>Weekly Deliverables</th>
</tr>
</thead>
</table>
| 1  | Course Structure and expectations. | Introduction to instruments in course. | Lab induction and skills session | NO LAB | -Background reading on assigned instrument.  
-Form companies  
-Learn to write risk assessments.  
-Complete questions in lab manual. |
| 2  | Lisa Stevens: Safety Consultant  
Responsibilities and obligations for safe chemical handling: OHS legislation, GHS, Dangerous Goods | Dr Adam Cawley: Racing NSW  
Good Laboratory Practice (GLP) planning and implementing. | Phase 1 Week 1A | Phase 1 Week 1B | -Background reading on assigned instrument.  
-Complete questions in lab manual. |
| 3  | Daniel Slee: NMI  
Quality control and assurance in lab context, Laboratory accreditation, Auditing and Inspections | Analytical data handling, analysis and reporting workshop 1 – *Please bring a device you can enter data into.* | Phase 1 Week 2A | Phase 1 Week 2B | -Prepare a one-page document outlining function, appropriate application, benefits and limitations of the instrument for peers.  
-Complete questions in lab manual |
| 4  | Analytical data handling, analysis and reporting workshop 1 – *Please bring a device you can enter data into.* | Dr Andrew Jones: Foundry IP  
Intellectual Property Management in Science (BPN, I.P, patent attorney). | Students to teach and learn a second instrument (using same procedure as in lab 3A or B) | As for Lab A (students to switch between instructing and learning) | -Refine instrument document based on feedback from peers and submit for assessment |
<table>
<thead>
<tr>
<th>Wk</th>
<th>F2F Session 1 (1 hr)</th>
<th>F2F Session 2 (1 hr)</th>
<th>Lab A (3 hrs)</th>
<th>Lab B (3 hrs)</th>
<th>Weekly Deliverables</th>
</tr>
</thead>
</table>
| 5  | Prof. Brynn Hibbert: Expert Witness  
Ethical and legal implications of analytical chemistry | Introducing the capstone projects  
Details and background of the capstone projects. How to create a proposal. | Oral presentations and vivas | Phase 2 Week 1B  
- 10 minute oral presentation on instrument.  
- Instrument competency assessment | |
| 6  | Analytical report writing workshop. | Writing Executive summaries workshop | Phase 2 Week 2A | Phase 2 Week 2B | - Capstone proposal due |
| 7  | Company meeting and feedback on capstone project proposal from mentors | MIDTERM TEST *(Details to be announced on Moodle)* | Capstone work | Capstone work | - Act on feedback and finalise action plan for capstone project.  
- Hold progress meetings and keep minutes |
| 8  | David Sammut: DCS Technical  
Showcasing your skills to employers: applying for a professional job | Company meeting and mentoring session for capstone project | Capstone work | Capstone work | - Hold progress meetings and keep minutes |
| 9  | Putting it all together: interpreting a brief and making recommendations for analysis | GOOD FRIDAY | Capstone Work  
Company meeting and mentoring session | Capstone work | - Hold progress meetings and keep minutes |
| 10 | EASTER MONDAY | Capstone report drop in session | Labs Open all sessions – Lab clean up. Data analysis | Labs Open all sessions – Lab clean up. Data analysis | Submit final report Week 11 |
5. Assessment

5.1 Assessment tasks

<table>
<thead>
<tr>
<th>Assessment task</th>
<th>Length</th>
<th>Weight</th>
<th>Mark</th>
<th>Due date</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Assessment 1: Presentation on analytical technique</strong></td>
<td>10 minute talk, one-page document</td>
<td>10%</td>
<td>Std. UNSW marking</td>
<td>9:00 am 18th March (Summary document)</td>
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<tr>
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<td></td>
<td></td>
<td>Lab A of Week 5 (Presentation)</td>
</tr>
<tr>
<td><strong>Assessment 2: Midterm exam</strong></td>
<td>50 min</td>
<td>20%</td>
<td>Std. UNSW marking</td>
<td>Week 7</td>
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<tr>
<td></td>
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<td></td>
<td></td>
<td>Date to be announced on Moodle</td>
</tr>
<tr>
<td><strong>Assessment 3: Summative report on capstone project</strong></td>
<td>See assessment details</td>
<td>35%</td>
<td>Std. UNSW marking</td>
<td>Week 6; 5:00pm 29th March (Draft proposal)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Week 11; 11:55pm 2nd May (Final report)</td>
</tr>
<tr>
<td><strong>Assessment 4: Final exam</strong></td>
<td>2 h</td>
<td>35%</td>
<td>Std. UNSW marking</td>
<td>TBA</td>
</tr>
</tbody>
</table>

**Important note:** To be awarded a pass in this subject, students must satisfy these conditions:

(i) Satisfactory performance in instrument competency test
(ii) An overall pass (≥ 50%) for the weighted average of the assessment tasks 1, 2 and 3; and
(iii) Satisfactory overall performance (≥ 35%) in the final exam;
(iv) A minimum attendance of 90% in laboratories is required.

Failure to satisfy these criteria could result in either a FL (Fail) or UF (Unsatisfactory Fail) grade being awarded, or further assessment being offered at the sole discretion of the course coordinator. Students must ensure their availability to attend any supplementary examination that will usually be offered in the week suggested by UNSW; inability or failure to attend a supplementary examination may lead to a FL or UF grade being confirmed.

**Further information**

UNSW grading system: [https://student.unsw.edu.au/grades](https://student.unsw.edu.au/grades)

5.2 Assessment criteria and standards

Presentation on an analytical technique

Communication to an expert audience
Students will be required to give a 10 minute talk (with slides) to their peers on the instrument in which they have specialised. In this talk students must address:

1. Description of the fundamental chemical principles underlying the technique.
2. The type of sample the instrument can analyse.
3. Typical sample preparation considerations and how the sample is introduced to the instrument.
4. Data analysis techniques and considerations
5. Pros and cons and alternatives of the analytical technique
6. Briefly summarise the application of a second instrument, outlining the key purpose of the instrument and the results obtained in week 4 labs.

This presentation needs to be supported by a single page summary of the primary instrument (outlining points 1-5 above) including figures and references where applicable. The best of these will be distributed to other students for use as a study guide for the mid-session exam.

All students will be provided with a marking rubric to assess peers and provide anonymous feedback on the presentation.

The presentation will also be independently assessed by academic staff using the same marking rubric and the marks moderated accordingly.

Marking rubrics are available on Moodle.

Instrument competency test (hurdle task)

During the Week 5 lab A class all students in Chem6041 will be required to undertake an instrument competency test (as individuals) to demonstrate and explain:

- How to prepare their primary analytical instrument to analyse a sample using specific parameters (as given in lab manual for phase 1 week 3 lab B)
- Perform all system checks and processes to ensure sampling can take place
- Successfully run an analysis or demonstrate imaging of a single sample
- In addition to the practical demonstration students will be asked to answer 3 questions relating to the pre and post lab tasks from first 3 weeks of labs (students will be permitted to bring any materials they wish which will assist them in answering questions, such as note books, calibration curves and instrument results)

It is anticipated that individual instrument competency tests will take 10-15 minutes. Students will be scheduled individually during their Lab A class in week 5. This test will be marked as satisfactory/non satisfactory. Students who are marked as non-satisfactory will be given a second opportunity to the test in week 6 lab A. Please see important note in box under heading 5.1 for details on pass requirement for this assessment and the course.
**Midterm Exam**

This exam will be composed of multiple choice and short answer questions. It will assess:

- Knowledge of theory and application of all core analytical techniques to a threshold level
- Knowledge of theory and application of two analytical techniques to a mastery level (primary and secondary instruments from lab course)
- Knowledge and application of laboratory safety and industry standards (weeks 1-5 lecture and workshop content)

*A practice exam will be provide on Moodle in week 5.*

**Summative report of capstone project**

In week 5, students will be presented with a question or scenario typical of those that commercial and government analytical labs are faced with. It is the responsibility of the whole company (6-8 students) to resolve the issue that has been presented and communicate these findings. As such, there are no set lab tasks that students must perform, rather, the lab is open for students to conduct analysis as they have devised, with the potential for more advanced techniques to be engaged with assistance.

The company is accountable for submitting a report to the ‘customer’ of their findings addressing their given scenario. This report will summarise the key analytical findings and recommendations based on the results of the lab work carried out by individuals in the group. Students will be assessed individually on their contribution to chemical analysis and presentation of data. Students will be assessed as a group on the executive summary, conclusions and recommendations from the report.

**Please note:** Several seminars throughout semester will be dedicated to sections of this report. More details as well as rubrics and expectations will be provided in these classes and on Moodle.

<table>
<thead>
<tr>
<th>Component</th>
<th>Completed by</th>
<th>Marks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Draft project proposal</td>
<td>Group (sum of individual contributions)</td>
<td>20</td>
</tr>
<tr>
<td>(due week 6)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Instrument analysis report</td>
<td>Individual</td>
<td>50</td>
</tr>
<tr>
<td>Introduction &amp; Aims</td>
<td></td>
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<tr>
<td>Full Method</td>
<td></td>
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<tr>
<td>Results &amp; Discussion</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Conclusion</td>
<td></td>
<td></td>
</tr>
<tr>
<td>References</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Executive summary</td>
<td>Group</td>
<td>20</td>
</tr>
<tr>
<td>Report of company performance*</td>
<td>Group</td>
<td>5</td>
</tr>
<tr>
<td>Research highlights</td>
<td>Individual</td>
<td>5</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

*As a group: You need to ensure that the individual elements come together to form a cohesive report therefore you are required to submit a company performance report including summary of personal contributions, attendance record at labs and summary of all meetings and attendance at group meetings.*
Final Examination

Further details of the final exam will be provided during course seminars and on Moodle.

5.3 Submission of assessment tasks

Presentation on an analytical technique \((individual)\)
The summary page must be uploaded to Moodle as a .doc (or .docx) file before 9:00 am 18th March 2019

Capstone project

Draft proposal (group)
The draft proposal must be submitted to Moodle as a .doc file with supporting material as required such as *.doc; *.docx *.xls; *.xlsx before 5:00pm 29th March 2019

Individual component of the capstone project must be submitted to Moodle as a .doc (or .docx) file with supporting material as required such as *.doc; *.docx *.xls; *.xlsx by 11:55pm 2nd May 2019

Group component of the capstone project must be submitted by one member the group to Moodle as a .doc file with supporting material as required such as *.doc; *.docx *.xls; *.xlsx by 11:55pm 2nd May 2019

Any assessment task submitted past the due date will incur a 10% per day penalty up to a maximum of 7 days. After 7 days a mark of 0% will be awarded however students may still submit work after this period at the discretion of the unit coordinator to receive feedback. Penalties will be applied to any day in excess of the due date including weekends, public holidays and non-teaching periods.

5.4. Feedback on assessment

Weeks 2-7 lab skills development sessions: Students will receive instructional feedback through the active learning tasks in the lab as well as formative and summative feedback on lab tasks. Students will also receive peer feedback from teaching their peers the instrument technique and presentations.

Week 6 (before mid-semester test): Students will receive marking rubrics with comments on their presentation and their written summary sheet.

Week 8: Students will receive feedback on their mid-session exam.

Weeks 8-10: Each student ‘company’ will be assigned a board member (Academic staff/industry mentor). Students will be provided with the opportunity early in the capstone phase of the unit to present a project plan and analysis timeline to these individuals for discussion and feedback.

Groups will be required to provide weekly updates at board meetings (during Lab A class) on their progress, preliminary results and address any problems to ensure satisfactory progression and be given feedback on their progress by lab demonstrating staff.

Two drop-in sessions will be available for student to seek feedback on draft version of their final report on the capstone project.
6. Academic integrity, referencing 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 and plagiarism can be located at:

- The Current Students site https://student.unsw.edu.au/plagiarism, and
- The ELISE training site http://subjectguides.library.unsw.edu.au/elise/presenting

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

7. Readings and resources

<table>
<thead>
<tr>
<th>Text Book</th>
<th>Principles of Instrumental Analysis by Douglas A. Skoog and Stanley R. Crouch, 7th Edition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Course Manual</td>
<td>All material is on the Moodle Learning Management System <a href="http://moodle.telt.unsw.edu.au/">http://moodle.telt.unsw.edu.au/</a></td>
</tr>
<tr>
<td>Required Readings</td>
<td>Any other materials will be distributed by individual lecturers</td>
</tr>
<tr>
<td>Additional Readings</td>
<td>Any other materials will be distributed by individual lecturers</td>
</tr>
<tr>
<td>Recommended Internet Sites</td>
<td>See Moodle for information and specific websites for analytical instruments</td>
</tr>
</tbody>
</table>

### Societies


Students of Chemistry Society (UNSW)
[http://www.chemistry.unsw.edu.au/current-students/undergraduate/socs](http://www.chemistry.unsw.edu.au/current-students/undergraduate/socs)

### Computer Laboratories or Study Spaces

Laboratory – Chemical Sciences Building 162

Gibson Computer laboratory – Ground floor, Dalton Building

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## 8. Administrative matters

### Occupational Health and Safety


School of Chemistry OH&S policy and requirements see laboratory manual and Moodle.

To be admitted to a laboratory, you must wear safety glasses, a lab coat and covered shoes (no thongs, open sandals or clogs). You must also complete all safety pre-lab work, risk assessment or other prescribed preparation relating to carrying out safe laboratory work. Visitors are not allowed to undergraduate laboratories without the permission of the lab supervisor.

### Assessment Procedures

**UNSW Assessment Policy**

Important note: To be awarded a pass in this subject, students must satisfy two conditions:

1. Satisfactory performance in instrument competency test;
2. An overall pass (≥ 50%) for the weighted average of the assessment Tasks 1, 2 and 3;
3. Satisfactory overall performance (≥ 35%) in the final exam;
4. A minimum attendance of 90% in laboratories is required.

Failure to satisfy these criteria could result in either a FL or UF (Unsatisfactory Fail) grade being awarded, or further assessment being offered at the sole discretion of the course coordinator. Students must ensure their availability to attend any supplementary examination that will usually be offered in the week suggested by UNSW; inability or failure to attend a supplementary examination may lead to a FL or UF (Unsatisfactory Fail) grade being confirmed.

Failure to satisfy either criterion will result in an UF (Unsatisfactory Fail) grade or further assessment being offered at the discretion of the course coordinator. Supplementary exams will take place from 27th -31st May 2019. Inability or failure to attend a supplementary examination will result in the original grade being confirmed.
Those students who have a disability that requires some adjustment in their teaching or learning environment are encouraged to discuss their study needs with the course Convenor prior to, or at the commencement of, their course, or with the Equity Officer (Disability) in the Disability Support Services Unit (https://student.unsw.edu.au/disability).

Issues to be discussed may include access to materials, signers or note-takers, the provision of services and additional exam and assessment arrangements. Early notification is essential to enable any necessary adjustments to be made.

<table>
<thead>
<tr>
<th>Student Complaint Procedure</th>
<th>School Contact</th>
<th>Faculty Contacts</th>
<th>University Contact</th>
</tr>
</thead>
</table>
|                            | A/Prof. Jason Harper  
Director of Teaching  
j.harper@unsw.edu.au  | A/Prof. Janelle Wheat  
Associate Dean (Education)  
cct@unsw.edu.au  
Tel: 9385 6792  
or  
Dr Gavin Edwards  
Associate Dean (Academic Programs)  
g.edwards@unsw.edu.au  
Tel: 9385 4652  | Student Conduct and Appeals Officer (SCAO) within the Office of the Pro-Vice-Chancellor (Students) and Registrar.  
Telephone 02 9385 8515, email studentcomplaints@unsw.edu.au  
University Counselling and Psychological Services  
Tel: 9385 5418 |

9. Additional support for students

- The Current Students Gateway: https://student.unsw.edu.au/
- Academic Skills and Support: https://student.unsw.edu.au/academic-skills
- Student Wellbeing, Health and Safety: https://student.unsw.edu.au/wellbeing
- Disability Support Services: https://student.unsw.edu.au/disability-services
- UNSW IT Service Centre: https://www.it.unsw.edu.au/students/index.html