School of Chemistry

CHEM910: Research Skills Training

Subject Outline
Autumn, 2016
On-Campus
Wollongong

Subject Information
Credit Points: 12
Pre-requisite(s): Nil
Co-requisite(s): Nil
Restrictions: Nil
Contact Hours: Email Subject Coordinator to arrange contact hours

NB: Enrolment in this subject is restricted. Students may not enrol over the web. Please refer to the Head of the relevant School for further information about BIOL, CHEM, EESC, ENVI, and MARE subjects and to SMAH Central for further information about SCIE subjects. If you require further assistance, please contact SMAH Central on (02) 4221 3492, smah-students@uow.edu.au, or on level 1 of building 41.

Subject Contacts
Subject Coordinator/Lecturer

<table>
<thead>
<tr>
<th>Name</th>
<th>A/PR Stephen Ralph</th>
</tr>
</thead>
<tbody>
<tr>
<td>Location</td>
<td>Building 18, Room 102A</td>
</tr>
<tr>
<td>Telephone</td>
<td>61 2 4221 4286</td>
</tr>
<tr>
<td>Email</td>
<td><a href="mailto:stephen_ralph@uow.edu.au">stephen_ralph@uow.edu.au</a></td>
</tr>
<tr>
<td>Consultation mode and times</td>
<td>Email for appointment</td>
</tr>
</tbody>
</table>

Student Support and Advice
For general enquiries please contact StudentHub 41:

Location: 41.138B
Telephone: 61 2 4221 3492
Email: smah-students@uow.edu.au
Student Consultation and Communication

University staff receive many emails each day. In order to enable them to respond to your emails appropriately and in a timely fashion, students are asked to observe basic requirements of professional communication:

*Please ensure that you include your full name and student number and identify your practical class or tutorial group in your email so that staff know who they are communicating with and can follow-up personally where appropriate.*

Consider what the communication is about
- Is your question addressed elsewhere (e.g. in the subject outline or, on the eLearning site)?
- Is it something that is better discussed in person or by telephone? This may be the case if your query requires a lengthy response or a dialogue in order to address. If so, see consultation times above and/or schedule an appointment.
- Are you addressing your request to the most appropriate person?

Specific email subject title to enable easy identification of issue
- Identify the subject code of the subject you are enquiring about (as staff may be involved in more than one subject) put this in the email subject heading. Add a brief, specific query reference after the subject code where appropriate.

Professional courtesy
- Address the staff member appropriately by name (and formal title if you do not yet know them).
- Use full words (avoid ‘text-speak’ abbreviations), correct grammar and correct spelling.
- Be respectful and courteous.
- Allow 3 – 4 working days for a response before following up. If the matter is legitimately urgent, you may wish to try telephoning the staff member (and leaving a voicemail message if necessary) or inquiring at the School Office.
Table of Contents

Section A: General Information ............................................................................................................... 4
  Subject Learning Outcomes .................................................................................................................. 4
  Subject Description ............................................................................................................................... 4
  eLearning Space .................................................................................................................................. 4
  Lecture, Tutorial, Laboratory Times .................................................................................................. 4
  Readings, References and Materials .................................................................................................... 4
    Textbooks ........................................................................................................................................ 4
    Prescribed Readings (includes eReadings) ......................................................................................... 4
    Materials ......................................................................................................................................... 4
    Recommended Readings .................................................................................................................... 5
  Recent Changes to this Subject ........................................................................................................... 5
  Ethical Objection to the Use of Animal and Animal Products .......................................................... 5
  Laboratory Safety Guidelines ............................................................................................................ 5
  List of Topics Covered ........................................................................................................................ 5

Section B: Assessment ............................................................................................................................... 6
  Assessment Summary ............................................................................................................................ 6
  Details of Assessment Tasks ................................................................................................................ 6
  Minimum Requirements for a Pass in this Subject .............................................................................. 7
    Minimum Student Attendance and Participation .............................................................................. 7
  Scaling ............................................................................................................................................... 7
  Late Submission ................................................................................................................................. 7
    Late Submission Penalty ................................................................................................................... 7
  System of Referencing Used for Written Work ................................................................................. 8
  Use of Internet Sources ..................................................................................................................... 8
  Plagiarism ......................................................................................................................................... 8
  Submission of Assessments ............................................................................................................... 8
  Assessment Return ............................................................................................................................. 8

Section C: General Advice ....................................................................................................................... 9
  University Policies ............................................................................................................................... 9
  Student Support Services and Facilities ............................................................................................. 10
  Student Etiquette ............................................................................................................................... 10
  Version Control Table ........................................................................................................................ 10
### Section A: General Information

#### Subject Learning Outcomes

On completion of this subject, students should be able to:

<p>| | |</p>
<table>
<thead>
<tr>
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<tbody>
<tr>
<td>1.</td>
<td>Demonstrate an understanding of how to use chemical principles to explain observations related to the properties and reactivity of chemical compounds</td>
</tr>
<tr>
<td>2.</td>
<td>Synthesise chemical compounds and characterise their properties using spectroscopic methods of analysis, and/or use both traditional and modern analytical methods to analyse chemical samples</td>
</tr>
<tr>
<td>3.</td>
<td>Analyse information obtained from laboratory exercises to provide qualitative and/or quantitative information about the composition of chemical samples, or the composition, structure and properties (including reactivity) of chemical compounds</td>
</tr>
<tr>
<td>4.</td>
<td>Synthesise experimental data and/or information gathered from literature sources into concise scientific reports constructed using an appropriate word processing package (e.g. MS Word) and, where appropriate, other methods of presenting data (e.g. MS Excel) and chemical structure diagrams (e.g. ChemDraw)</td>
</tr>
</tbody>
</table>

#### Subject Description

This subject provides training in generic research skills such as data interpretation and analysis, library skills, literature evaluation, quality control and assurance, and Occupational Health and Safety. In addition, students will carry out directed studies in topics of advanced chemistry, chosen to complement their research interests, in discussion with the course Co-ordinator.

#### eLearning Space

In some instances this subject may utilise eLearning. Details will be provided before the end of Week 2 of session.

#### Lecture, Tutorial, Laboratory Times

All timetable information is subject to variation. Check latest timetabling information on the 'Current Student' webpage on UOW website or log into SOLS to view your personal timetable prior to attending classes.


Timetable information can be accessed from http://www.uow.edu.au/student/timetables/info/index.html

Key University Dates can be accessed from http://www.uow.edu.au/student/dates/index.html

#### Readings, References and Materials

**Textbooks**

The following text(s) will need to be purchased by students enrolled in this class.

Nil

**Prescribed Readings (includes eReadings)**

Texts and starting literature may be recommended by the staff advisor as appropriate to assist the initial choice of topic and gathering of information. These texts are not prescribed for this subject, and therefore students are not expected to purchase these. They are available to students through the library.

**Materials**

Nil
Recommended Readings
The following references complement the prescribed readings and textbooks:

Nil

Recent Changes to this Subject
Nil

Ethical Objection to the Use of Animal and Animal Products
In some instances, in order to achieve specific learning objectives, the use of animals, animal tissues, and or animal-derived products (such as sera) is inherent and unavoidable. Students with conscientious objections to this use should not enrol in this subject.

Students who intend to avoid a particular learning activity on the basis of conscientious objection should notify the subject coordinator in writing as soon as possible and not later than the end of Week 1 of the session. Students who do not participate in a particular learning activity are required to complete an alternative exercise (a CD-ROM is available) or attend the practical and “observe”. The material involved is examinable and the prac must be written up and completed in your workbook. For further information, refer to http://www.uow.edu.au/about/policy/UOW058708.html

Laboratory Safety Guidelines
The rules below are general rules that are required in laboratories.

- Before commencing your project you are to ensure that you understand specific procedures for the laboratory in which you work.
- You will need to fill out a risk assessment form before commencing any experiments (confer with your laboratory supervisor).
- Never use any equipment or attempt any experiment without checking the safety implications with your laboratory supervisor or experienced delegated laboratory worker.
- Undergraduate students are not permitted to work after hours unless there is appropriate approval and supervision.

List of Topics Covered
This will be negotiated between the student and the subject coordinator before the start of session
## Section B: Assessment

### Assessment Summary

<table>
<thead>
<tr>
<th>Assessment Item</th>
<th>Form of Assessment</th>
<th>Due Date</th>
<th>Return/Feedback Due Dates</th>
<th>Weighting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assessment 1</td>
<td>In-session assignments, Practical Reports and Mid-Session Quizzes</td>
<td>TBA</td>
<td>21 days after date of submission</td>
<td>60%</td>
</tr>
<tr>
<td>Assessment 2</td>
<td>Final Examination</td>
<td>TBA</td>
<td>Release of results</td>
<td>40%</td>
</tr>
</tbody>
</table>

**Total Marks** 100%

### Details of Assessment Tasks

Assessment tasks will be marked using explicit criteria that will be provided to students prior to submission.

#### Assessment 1

**In-session assignments, Practical Reports and Mid-Session Quizzes**

**Due date**

TBA – CHEM910 delivers learning outcomes tailored to the individual needs of students. Therefore a range of in-session assessment tasks will be developed at the commencement of the semester that is specific for each student. Students will be provided with details of the exact nature of all in-session assignments, including submission dates by the end of Week 2 of session.

**Weighting**

60%

**Submission**

Submit a hardcopy of your assessment to your lecturer

**Type of Collaboration**

Individual Assessment

**Subject Learning Outcomes**

1 - 4

**Marking Criteria**

Correctness of response  
Logical progression of arguments and explanations  
Shows working for calculation based problems  
Breadth and depth of knowledge

#### Assessment 2

**Final Examination**

**Due date**

TBA – Assessment due dates will be negotiated between each student and the subject coordinator or their research supervisor. Students should have submission dates confirmed by the end of Week 2 of the relevant session.

**Weighting**

40%

**Submission**

Exam papers and answers must be submitted at the conclusion of the exam.

**Type of Collaboration**

Individual Assessment

**Subject Learning Outcomes**

1 - 4

**Marking Criteria**

Correctness of response  
Logical progression of arguments and explanations  
Shows working for calculation based problems  
Breadth and depth of knowledge
Minimum Requirements for a Pass in this Subject
To receive a clear pass in this subject a total mark of 50% or more must be achieved.

Minimum Student Attendance and Participation
It is expected that students will allocate 12 hours per week to this subject, including any required class attendance, completion of prescribed readings and assessment tasks.

Absences will require the submission of an application for Academic Consideration via SOLS and the presentation of suitable documentation, for example a Medical Certificate, to Student Central as soon as practical. For further details about applying for academic consideration visit the Student Central webpage: http://www.uow.edu.au/student/central/academicconsideration/index.html

Scaling
Scaling may occur in this subject at the end of session by the Unit Assessment Committee and/or Faculty Assessment Committee (FAC). Marks will only be scaled to ensure fairness/parity of marking across groups of students. Scaling will not affect any individual student’s rank order within their cohort. For more information refer to Assessment Guidelines – Scaling: http://www.uow.edu.au/about/policy/UOW058609.html

Late Submission
Late submission of an assessment task without an approved extension of the deadline is not acceptable. If you are unable to submit an assessment due to extenuating circumstances (e.g. medical grounds or compassionate grounds), you can make an application of academic consideration. Not all circumstances qualify for academic consideration. For further details about applying for academic consideration visit the Student Central webpage: http://www.uow.edu.au/student/central/academicconsideration/index.html

Late Submission Penalty
Late submission of an assessment task without an approved extension of the deadline is not acceptable. Marks will be deducted for late submission at the rate of 10% of the total possible marks for that particular assessment task per day. This means that if a piece of work is marked out of 100, then the late penalty will be 10 marks per day (10% of 100 possible marks per day). The formula for calculating the late penalty is the total possible marks × 0.10 × number of days late. For the purposes of this policy a weekend (Saturday and Sunday) will be regarded as two days.

For example:
- Student A submits an assessment which is marked out of 100. The assessment is submitted 4 days late. This means that a late penalty of 40 marks will apply (100 × 0.10 × 4). The assessment is marked as per normal out of 100 and is given a mark of 85/100, and then the late penalty is applied. The result is that the student receives a final mark of 45/100 for the assessment (85 (original mark) – 40 marks (late penalty) = 45/100 (final mark)).
- Student B submits a report which is marked out of 20. The report is submitted three days late. This means that a late penalty of 6 marks will apply ((20 × 0.10 × 3). The report is marked as per normal out of 20 and is given a mark of 15/20, and then the late penalty is applied. The result is that the student receives a final mark of 9/20 for the report (15 (original mark) – 6 marks (late penalty) = 9/20 (final mark)).

No marks will be awarded for work submitted after the assessment has been returned to the students (except where a particular assessment task is undertaken by students at different times throughout the session, but where the assessment is based on experiments or case studies specific to a student). Notwithstanding this, students must complete all assessment tasks to a satisfactory standard and submit them, regardless of lateness or loss of marks, where submission is a condition of satisfactorily completing the subject.
System of Referencing Used for Written Work

The Vancouver referencing system (author-number system) is the preferred referencing system for this subject. Reference numbers will appear either in square brackets (e.g. [1]) or as superscripted numbers (e.g. 1)) in the appropriate place. Details of this referencing style are available at: http://public01.library.uow.edu.au/refcite/style-guides/html/

Use of Internet Sources

Students are able to use the Internet to access the most current information on relevant topics and information. Internet sources should only be used after careful critical analysis of the currency of the information, the role and standing of the sponsoring institution, reputation and credentials of the author, the clarity of the information and the extent to which the information can be supported or ratified by other authoritative sources.

Plagiarism

The full policy on Academic Integrity and Plagiarism is found in the Policy Directory on the UOW website.

"The University's Academic Integrity and Plagiarism Policy, Faculty Handbooks and subject guides clearly set out the University's expectation that students submit only their own original work for assessment and avoid plagiarising the work of others or cheating. Re-using any of your own work (either in part or in full) which you have submitted previously for assessment is not permitted without appropriate acknowledgement. Plagiarism can be detected and has led to students being expelled from the University.

The use by students of any website that provides access to essays or other assessment items (sometimes marketed as 'resources'), is extremely unwise. Students who provide an assessment item (or provide access to an assessment item) to others, either directly or indirectly (for example by uploading an assessment item to a website) are considered by the university to be intentionally or recklessly helping other students to cheat. This is considered academic misconduct and students place themselves at risk of being expelled from the University."

Submission of Assessments

Refer to the submission requirements under the details of the individual assessments. Students should ensure that they receive a receipt acknowledging submission. Students will be required to produce this in the event that an assessment task is considered to be lost. Students are also expected to keep a copy of all their submitted assessments in the event that re-submission is required.

Assessment Return

Students will be notified when they can collect or view their marked assessment. In accordance with University Policy marked assessments will usually only be held for 21 days after the declaration of marks for that assessment.
Section C: General Advice

Students should refer to the Faculty of Science, Medicine and Health website for information on policies, learning and support services and other general advice.

University Policies

Students should be familiar with the following University policies:

a. Code of Practice – Teaching and Assessment

b. Code of Practice – Research, where relevant

c. Student Charter

d. Code of Practice – Student Professional Experience, where relevant

e. Academic Integrity and Plagiarism Policy

f. Student Academic Consideration Policy

g. Course Progress Policy

h. Graduate Qualities Policy

i. Academic Complaints Policy (Coursework and Honours Students)

j. Policy and Guidelines on Non-Discriminatory Language Practice and Presentation

k. Workplace Health and Safety, where relevant

l. Intellectual Property Policy

m. IP Student Assessment of Intellectual Property Policy, where relevant

n. Policy on Ethical Objection by Students to the Use of Animal and Animal Products in Coursework Subjects, where relevant

o. Human Research Ethics Guidelines, where relevant

p. Animal Research Guidelines, where relevant

q. Student Conduct Rules and accompanying Procedures or Research Misconduct Policy for research students
Student Support Services and Facilities
Students can access information on student support services and facilities at the following link. This includes information on “Academic Support”, “Starting at University,” “Help at University” as well as information and support on “Career’s and Jobs”. http://www.uow.edu.au/student/services/index.html

Student Etiquette
Guidelines on the use of email to contact teaching staff, mobile phone use in class and information on the university guide to eLearning ‘Netiquette’ can be found at http://www.uow.edu.au/student/elearning/netiquette/index.html

Version Control Table

<table>
<thead>
<tr>
<th>Version Control</th>
<th>Release Date</th>
<th>Author/Reviewer</th>
<th>Approved By</th>
<th>Amendment</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>20151216</td>
<td>A/Prof Stephen Ralph – Subject Coordinator</td>
<td>Sonia Losinno – ADE Nominee</td>
<td>Final CHEM910 Autumn 2015 Subject Outline</td>
</tr>
</tbody>
</table>