



UNIVERSITY
OF TASMANIA

School of Chemistry

Faculty of Science, Engineering and Technology

KRA337: Chemistry Research Project

Unit Outline, 2009

Unit Coordinator: Michael Gardiner

(Room 301 Ph: 6226 2404; michael.gardiner@utas.edu.au)

Associate Coordinator: Greg Dicoski

(Room 403 Ph: 6226 2166; greg.dicoski@utas.edu.au)

This unit outline is available on the web at
<http://www.utas.edu.au/chem/chem3.htm>

Updated: 20/02/09

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Unit summary

Unit code	KRA337
Unit title	Chemistry Research Project
Unit description	This unit comprises a one-semester research project in chemistry for advanced students. This unit will only be offered to students who are currently enrolled in a Chemistry major and then only with the approval of the Head of School. Once approved, students should speak to academic staff and discuss suggestions for suitable projects before the start of semester. The unit will involve the equivalent of 6 hours per week for 13 weeks spent in planning and conducting a research project in an area negotiated between the student and the supervising academic staff.
Special notes	Arrangements for enrolment in Semester 3 and 1 must be completed in December 2008. For intended Semester 2 enrolment, this must be completed in June 2009, and follow the arrangements outlined below
Teaching staff	See page 7
Campus & mode	Hobart and Launceston, internal
Unit weight	12.5%
Teaching pattern	Semester 3 (Monday 5 January to Friday 20 February 2009) OR Semester 1 OR Semester 2
Corequisites	Currently enrolled in a chemistry major (BSc, BEnvSci and BBiotech)
Mutual exclusions	None
Assessment	Research plan 10%, research performance 30%, written report 60%



Nexus: journal of undergraduate science, engineering, and technology is published annually and contains the work of undergraduates. This unit contains assignments that are suitable for submission to the journal. For more information, ask your lecturer, and see <http://www.utas.edu.au/scieng/nexus>.

Learning outcomes

On completion of this unit, you should be able to:

- Develop and write a research proposal
- Undertake a research project and guide it to completion
- Write a report on the research project undertaken

Details of arrangements

This unit is offered in Semesters 1, 2 and 3.

Before Semester 3 or 1 Project:

- **Student** to discuss with relevant academic staff concerning possible projects before the end of November 2007.
- **Student** to submit title of proposed project, name of Research Supervisor(s) and brief academic record to Head of School by Friday December 5 2008.
- **Head of School** to advise student on eligibility for enrolment before Christmas.

Before Semester 2 project:

- **Student** to discuss with relevant academic staff concerning possible projects during Semester 1 2008.
- **Student** to submit title of proposed project, name of Research Supervisor(s) and brief academic record to Head of School by Friday 29 May 2009.
- **Head of School** to advise student on eligibility for enrolment by the end of June.

During project:

- **Student** to attend meetings as arranged by the Coordinator and Research Supervisor(s). There will be a meeting in the first week of Semester, which will include instruction and discussion on safety issues.
- **Student** to undertake a *Research Program* in consultation with a Research Supervisor(s). Laboratory work must not be conducted “after hours”, i.e. 6 pm – 8 am on weekdays, and not at all on weekends or public holidays. Laboratory work can only be conducted when there is an experienced researcher present, i.e. Honours student or above. The risk assessment procedure of the School of Chemistry is to be followed throughout the project.
- **Student** to complete *Research Plan* by 5.00 pm on Thursday 22 January 2008 (for summer semester projects) or by 5.00 pm on Friday of the 4th week of semester (for semester 1 and 2 projects).
- **Student** to complete a *Written Report* by 5.00 pm on Monday 23 February 2008 (for summer semester projects) or by 5.00 pm on the first Monday of the end-of-semester examination period (for Semester 1 and 2 projects).

Assessment details

Research plan

Weighting: 10%

Assessed by Research Supervisor(s), (moderated by Coordinators).

Written Report

Weighting: 60%

Assessed by two academic staff members (one in-field and one out-of-field) independent of the Research Supervisor(s) and Coordinators, noting: presentation, including English expression and adherence to Nexus guidelines (20%), analysis and interpretation (20%), and overall understanding of subject (20%).

Research Performance

Weighting: 30%

Assessed by Research Supervisor(s), with moderation by Coordinators, noting attendance, communication, time management skills, data collection, experimental design, initiative, laboratory safety and risk assessment procedure compliance.

How your final result is determined

From time to time, it may be necessary to re-scale marks to allow for what is determined to be either a relatively tough or easy assessment task compared with previous years. The procedure for this is governed by the Faculty policy available on the web (see link below). Final grades are determined in accordance with Faculty policy, which is also available on the web (see link below). The Faculty's Teaching & Learning Operational Guide No 3 will be followed in relation to withdrawals after census dates. All policies are located at <http://fcms.its.utas.edu.au/scieng/scieng/policies.asp>.

Submission of Research Plan and Written report

A signed cover sheet is required for both the Research Plan and the Written Report (see the statement on plagiarism in this handout). The cover sheets are available from www.utas.edu.au/plagiarism).

The **Research Plan** should describe the project *background*, clarify the *aims* of the Research Program and the *approach* that is to be followed. The Plan is to be up to two pages. Expanding on these;

A short discussion of the *background* to the research field aids the reader to understand the significance and context of the project. This allows you to lead into a description of the innovative concept to be pursued and/or the current limitations to the application or fundamental knowledge base. This may or may not involve referring the previous work by your Research Supervisor(s) or published literature.

The background description should serve to clarify the problem that the Research Program will address, which in turn helps to define the project *aims* that are then typically listed in bullet point form.

Outline the *approach* in terms of the experimental design/activities to be followed

in achieving the aims of the Research Program, including the methods to be used (instrumentation, techniques, etc). Be conscious of your listed aims in outlining the approach, as you need to describe how each of them will be tackled.

The **Written Report** is to be in the format required for Research Papers in the UTAS journal *Nexus*, <http://www.utas.edu.au/scieng/nexus/submit.html>. Refer for details of page layout etc. Thus, the report will contain an abstract, introduction, methods/materials, results and discussion and/or conclusion. Papers should be between 1500-3000 words including references (but excluding abstract), and should be no more than 11 A4 pages in total. Appendices including lab diary, spectra and other attachments that are needed by the examiners to confirm your conclusions should be added as appendices (these are not counted in the 11 page limit). Three original copies of the report should be submitted for marking. Only a single (original) copy of the appendices is required.

You are permitted to obtain a single round of verbal comments/suggestions from your Research Supervisor(s) based on a draft of your Written Report. Of course, you are permitted to discuss the content of your Written Report with your Research Supervisor(s) prior to this in an on-going manner as this will relate to working towards your goal of completing a coherent body of research effort throughout the project.

An electronic version of your Written Report (word file: excluding spectra, lab diary, risk assessments, other attachments etc) must be submitted along with the full hard copy of the report for the purpose of examining with the plagiarism detection software *TurnItIn* (<http://www.utas.edu.au/tl/supporting/academicintegrity/software.html>). The University uses *TurnItIn* as one of its tools to manage academic integrity. This software uses text matching to compare submitted work to internet, textbook, journal article and locally maintained databases containing previously submitted laboratory reports. Your submitted works will be included in this reference database (for five years) in two forms—the original document and in an “electronic fingerprint” form. It is a condition of this arrangement that the original author’s permission is required before an original document within the database can be viewed by a person other than the author and the lecturer(s) involved with the unit.

Electronic submission of your report for *TurnItIn* originality analysis is via MyLO. You are permitted to submit one *draft report*, for which you can view the *originality report* that is generated. The draft report is not assessed. You will not have access to the originality report generated from your final submission.

Requests for extensions

Applications for extensions due to extenuating circumstances (such as a medical condition) are required **before the due date of the work** and should be made known to the Coordinator or Research Supervisor(s) as soon as practicable. Students without a medical certificate for absence will be assumed to have scored zero for the material not completed.

Penalties

A penalty of 10% of the actual mark will be imposed for each **working day** that submitted material is late. For example, if a student submits a report 3 days late and the work is assessed at 70% (without penalty), the mark would then be adjusted to $70 - (3 \times 0.1 \times 70) = 49\%$

Plagiarism

Plagiarism is a form of cheating. It is taking and using someone else's thoughts, writings or inventions and representing them as your own; for example, using an author's words without putting them in quotation marks and citing the source, using an author's ideas without proper acknowledgment and citation, copying another student's work.

If you have any doubts about how to refer to the work of others in your assignments, please consult your lecturer or tutor for relevant referencing guidelines, and the academic integrity resources on the web at

<http://www.utas.edu.au/tl/supporting/academicintegrity/index.html>.

The intentional copying of someone else's work as one's own is a serious offence punishable by penalties that may range from a fine or deduction/cancellation of marks and, in the most serious of cases, to exclusion from a unit, a course or the University.

Details of penalties that can be imposed are available in the Ordinance of Student Discipline – Part 3 Academic Misconduct, see

<http://www.utas.edu.au/universitycouncil/legislation/>

The University reserves the right to submit assignments to plagiarism detection software, and might then retain a copy of the assignment on its database for the purpose of future plagiarism checking.

For further information on this statement and general referencing guidelines, see <http://www.utas.edu.au/plagiarism/>

Review of results and appeals

All students may have their results reviewed in accordance with the Faculty policy available on the web at

http://fcms.its.utas.edu.au/files/policies/Operational_guide6.pdf.

Unit evaluation and student feedback

The School of Chemistry is an active participant in the Student Evaluation of Teaching and Learning (SETL) program and the overall unit will be evaluated towards the end of semester. As well as SETLs, you should not hesitate to approach the Unit Coordinator or Research Supervisor(s) concerned if you have any problems during the year. Any difficulties may also be raised with the Chemistry Club (or the postgraduate representative), which arranges regular meetings between student representatives and the Head of the School.

Learning expectations and strategies

Expectations

The University is committed to high standards of professional conduct in all activities, and holds its commitment and responsibilities to its students as being of paramount importance. Likewise, it holds expectations about the responsibilities students have as they pursue their studies within the special environment the University offers.

The University's Code of Conduct for Teaching and Learning states:

Students are expected to participate actively and positively in the teaching/learning environment. They must attend classes when and as required, strive to maintain steady progress within the subject or unit framework, comply with workload expectations, and submit required work on time.

Further information and assistance

If you are experiencing difficulties with your studies or material to be submitted, have personal or life planning issues, disability or illness which may affect your course of study, you are advised to raise these with your Research Supervisor(s) or Coordinator in the first instance.

There is a range of University-wide support services available to you including Student Services, International Services and Learning Development. Please refer to the *Current Students* homepage at: <http://www.utas.edu.au/students/>

Should you require assistance in accessing the Library visit their website for more information at <http://www.utas.edu.au/library/>

The University aims to ensure that your time here is enjoyable and rewarding. However if you have a concern or complaint that is affecting your study, the University has created a web page (<http://www.utas.edu.au/tl/students/>) to offer you guidance on solving these problems. Most issues can be resolved informally and therefore you are encouraged to discuss the matter with the person involved as a first step. The web page deals primarily with complaints concerning assessment and academic progress; however advice on who to contact concerning complaints about non-academic issues is also included.

Electronic resources

School of Chemistry home page:

<http://fcms.its.utas.edu.au/scieng/chem/>

School of Chemistry safety page:

<http://www.utas.edu.au/chem/chemsafety.htm>

School of Chemistry student resources page:

<http://www.utas.edu.au/chem/reshome.htm>

University Handbook entry for KRA337:

<http://www.utas.edu.au/units/KRA337>

University's Student Complaints website:

http://www.admin.utas.edu.au/ac_serv/complaints_info.html

Staff contacts and responsibilities

General enquiries should be directed to the Coordinator. Students are welcome to discuss particular problems with the Head of School, Prof Brian Yates. There is also a "suggestion box" in the foyer of the chemistry building for constructive, confidential comments.

The following is a listing of all staff members associated with KRA337 showing their contact details and any specific responsibilities:

Coordinator:

Dr Michael Gardiner: room: 301 tel: 6226-2404 e-mail: Michael.Gardiner@utas.edu.au

Associate Coordinator:

Greg Dicoski: room: 403 tel: 6226-2166, e-mail: Greg.Dicoski@utas.edu.au

Research Supervisor(s):

Most staff will consider supervising a project student, pending periods of personal leave over the summer semester etc. Please consult with individual staff members about possible projects.