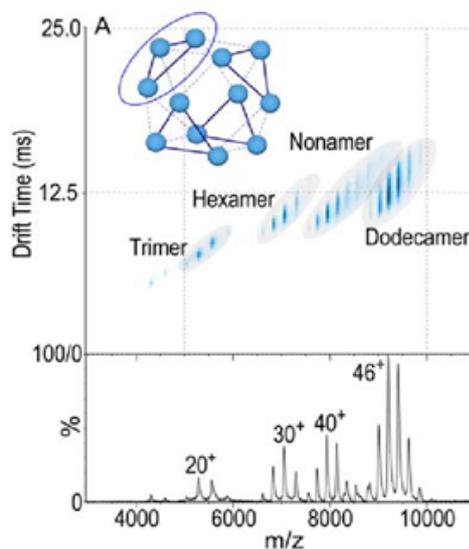
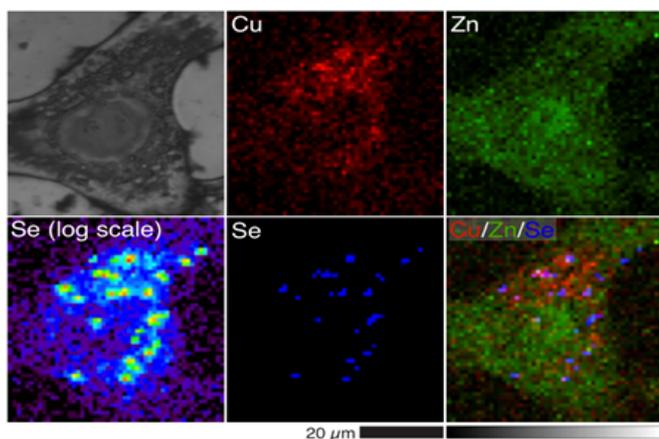
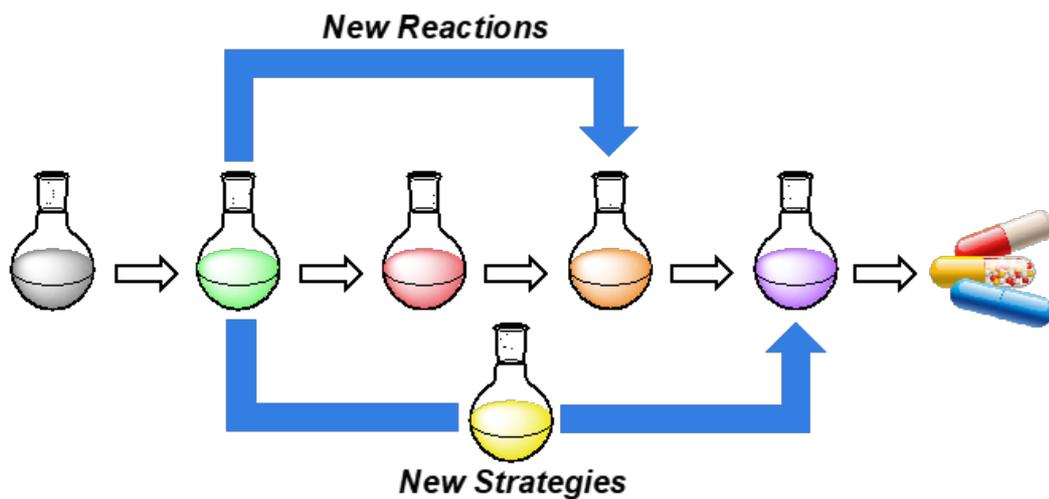


THE UNIVERSITY OF ADELAIDE

2019

CHEMISTRY HONOURS BOOKLET



THE UNIVERSITY
of ADELAIDE

WELCOME

This booklet contains information about doing Honours in Chemistry at the University of Adelaide.

Honours is an additional year of full-time study at the end of your undergraduate degree: it is a prerequisite and stepping stone to a research higher degree, and an opportunity to specialise and increase your competitiveness if you are seeking a job. It is an exciting and challenging step towards your future career. The Honours Year provides you with the opportunity to undertake a significant research project in Chemistry, and is the first year of your research career. Regardless of your career aspirations, Honours is an opportunity for personal and professional development: it will develop your abilities in clear-thinking, criticism and communication, and test your imagination, self-reliance and self-discipline.

During the Honours year, you are required to undertake a research project under the direct supervision of a member of staff. The research you do will provide you with training in various research techniques, as well as give you the experience of using modern research instrumentation and techniques. At the end of the Honours year, you will write a thesis that details your research efforts. In addition, you will attend advanced lecture courses and seminars.

Carrying out research is the defining feature of the Honours year and thus, selecting the project and your supervisor is an important decision. It is imperative that you talk to a wide range of prospective supervisors to discover what their research interests are. In addition, it is recommended that you talk to the current Honours students and the PhD students in Chemistry to find out more about Honours.

Individual staff members are eager to discuss their work and will be pleased to give you more information on projects on offer for 2019. Note that most projects can be adapted to suit a student's own interests and strengths.

In the following pages of this booklet, you will find

- further details of what the Honours year entails, and
- a web link to the research being carried out by each supervisor and their research group.

We look forward to seeing you doing Honours in Chemistry at the University of Adelaide in 2019.

Prof. Greg Metha
(Honours Coordinator)

HONOURS IN CHEMISTRY

What is Honours like?

As an Honours student you become a member of the School and a valued colleague. You will spend most of your time as part of a research group sharing the goals, triumphs, disappointments and all of the other things that are part of the adventure of scientific research. For the first time, you become responsible for the outcome of your own scientific work. Honours students also partake in all aspects of the social life of the School. You will form friendships and professional associations that will last a lifetime.

The Honours degree gives students a thorough training in scientific method and a detailed insight into the area of research that they pursue. The scientific approach to problem solving, maturity and self-discipline gained during the Honours year equips them for a wide variety of careers. Many of our students elect to continue in the research domain by enrolling in the School's PhD programs. However, the analytical and communication skills that our students acquire have led previous Honours graduates into a range of different fields and jobs in a variety of areas.

Aims

The Honours course consists of a research project and coursework. The aims of the course are:

- to provide advanced training in the principles of scientific research and in the current state of knowledge and techniques used in your chosen area of study, and
- to develop the skills required for a successful career in scientific research or related activities.

Thus, students learn to search and understand literature relevant to their chosen discipline, to formulate and assess research proposals, to design, evaluate and present scientific experiments, and to develop written and verbal communication skills.

Who is Eligible to do Honours?

Anybody who has majored in Chemistry and performed to a satisfactory level in your third year subjects (a Credit or better in Level III Chemistry subjects is normally required).

It is possible for someone who is close to a Credit average to enter the Honours year, but it is recommended that you discuss your options with the Honours Coordinator to determine your individual situation.

The Honours Year

Honours in 2019 will commence on the **28th of January**. The first week will consist of various inductions, including sessions on occupational health and safety. There will be an additional intake of Honours students into Chemistry in second semester of 2019. It is anticipated that Mid-Year Honours will commence on Monday **29th July 2019**.

During Honours, students are required to do the following:

- Undertake a major research project under the supervision of an academic staff member
- Write a thesis on the research
- Present an end of year seminar on the work carried out
- Undertake an oral examination, which will focus on the research carried out
- Attend lectures/workshops on a range of Chemistry topics
- Attend weekly research seminars

The Honours year consists of two distinct courses; two 3-unit coursework components in semester 1 and 2, and an 18-unit project component that runs across both semesters.

➤ **Coursework**

The coursework component of the Honours year will be held in the first 8 weeks of the Honours year. It is expected that students will focus on the coursework for this entire period, with no research work to be undertaken during this time. There are normally six different parts of the coursework, with selected academics presenting a wide range of topics. The ways of assessing this work are quite varied, ranging from examinations, oral presentations and essays.

➤ **Research Components**

The research components of the Honours year add up to a total of 18 units, and thus, this aspect of the program is a very important part of the year. Selecting the project and your supervisor is an important decision. In addition to reading the project descriptions (found on the web), you are strongly encouraged to talk to a wide range of prospective supervisors to discover what their research interests are, as they may have research projects for you beyond what is described here. It is also recommended that you talk to the current Honours, MPhil and PhD students in Chemistry to find out more about Honours.

➤ **Learning Outcomes**

Upon completion of the research component, students will be able to:

- Demonstrate an understanding of the close relationship between scientific research and the development of new knowledge in a global context;
- Demonstrate that current scientific knowledge is both contestable and testable by further enquiry

- Apply the concepts and theories of a range of advanced topics in chemistry to research in a particular area
- Analyse critically, evaluate and transform research findings to complete a range of activities
- Present information, articulate arguments and conclusions, in a variety of modes, to audiences in their field of research
- Comply with regulatory frameworks (including OH&S) and practising professional ethics relevant to the chemistry field
- Undertake independent supervised research and demonstrate autonomy, well-developed judgement, adaptability and responsibility as a chemistry practitioner
- Demonstrate and articulate personal attributes in preparation for employment

➤ **Role of the Supervisor**

Your research supervisor is someone with enough expertise in your field of interest to be able to advise you about techniques, literature and so on. Supervisors know from experience that student's inclinations and abilities differ, and they adjust their contribution accordingly. Your relationship with your supervisor is important. They should be someone you find easy to talk with and, most importantly, someone you feel you could work with and learn from.

➤ **Assessment**

The Honours grading system is not like the one used for undergraduate courses. It ranges from First Class (1) through Second Class Division A (2A), Second Class Division B (2B) and Third Class (3). The grade divisions are:

Honours Class	Assessment Range
First (1)	≥ 80
2A	79 - 70
2B	69 - 60
3	59 - 50

➤ **Employment and Demonstrating**

As an Honours student, you will be offered employment as a casual demonstrator in the First Year Laboratory classes. This is normally a 3 hour (plus marking) commitment per week during the teaching periods. The standard rate for demonstrating/marketing is \$46.63 (in 2019). Further details will be provided at the start of Honours.

Honours students are expected to demonstrate and previous Honours students have found it to be a rewarding and enriching experience that adds valuable and highly sought after skills to your portfolio.

The Application Process

There are two steps to applying to join the Honours program, both have the same deadline – **26th October 2018**.

Step 1 – all applicants must fill out the online form titled “Expression of Interest Form” at

<https://sciences.adelaide.edu.au/study/honours/apply-for-honours>

This form provides the Faculty of Sciences with all your information and allows them to keep you informed of the process. This form can be filled in at any time – the sooner the better!

AND

Step 2 – all applicants must submit the Chemistry Honours “Nomination of Supervisor Preference” form (attached at the end of this booklet) to the Chemistry Honours Coordinator. This form requires you to nominate your preferences for supervision, and will take precedence over any information entered into the online form above (no need to list supervisor preferences into the faculty online form).

When deciding your preferences, you should ensure that you talk to a number of possible supervisors to obtain a clear idea of what their research interests are. Individual staff members are eager to discuss their work and will be pleased to give you more information on projects on offer for 2019. Note that most projects can be adapted to suit a student's own interests, strengths and skills.

Allocation of Supervisors

Allocation of supervisors is carried out by the Honours Coordinator and ratified by the other Chemistry academics. Every effort will be made to accommodate your first preference of supervisor, but it should be remembered that allocations depend on space, resources and supervisor availability. Accordingly, it is essential that you include FOUR preferences of supervisor on your application form.

Furthermore, it is possible for students to be jointly supervised by two academics, whereby the research project will involve work in an area of mutual interest to both academics. If you are interested in this type of joint research project, it would be helpful if you indicated this on the Chemistry Honours supervisor nomination form.

You will be informed of the outcome of your Expression of Interest via an email in December (after examination results are confirmed). Allocation of supervisors will occur shortly afterwards and you will be informed about your supervisor by email from the Honours Coordinator.

Mid-Year Enrolments

Students who are considering starting in semester 2, 2019 are able to apply at the same time as the standard Honours Year, but allocation to a supervisor will be made towards the end of Semester 1, 2019.

Late Applications

Chemistry is happy to take late applications for Honours and will accept students up to and including the first week of the Honours year. Students are reminded that it may be difficult to assign them to the supervisor they prefer as initial allocations will be made in December. If you are considering a late application, you are strongly encouraged to contact the Honours coordinator so that we can discuss your options.

Department of Chemistry
School of Physical Sciences
Academic Staff Contact Details

Head of Chemistry: Professor Hugh Harris

Professor Andrew D. Abell

Office Badger Room G19
Tel 8313 5652
Email andrew.abell@adelaide.edu.au

Assoc. Professor Stephen G. Bell

Office Badger Room G22
Tel 8313 4822
Email stephen.bell@adelaide.edu.au

Dr Witold Bloch

Office Badger Room 230
Tel 8313 5039
Email witold.bloch@adelaide.edu.au

Professor Christian J. Doonan

Office Badger Room 104
Tel 8313 5770
Email christian.doonan@adelaide.edu.au

Dr Thomas Fallon

Office Badger Room 232
Tel 8313 5960
Email thomas.fallon@adelaide.edu.au

Assoc. Professor Jonathan H. George

Office Badger Room 103
Tel 8313 5494
Email jonathan.george@adelaide.edu.au

Professor Hugh H. Harris

Office Badger Room 231
Tel 8313 5060
Email hugh.harris@adelaide.edu.au

Assoc. Professor David M. Huang

Office Badger Room 105a
Tel 8313 5580
Email david.huang@adelaide.edu.au

Assoc. Professor Tak W. Kee

Office Badger Room G20
Tel 8313 5314
Email tak.kee@adelaide.edu.au

Professor Gregory F. Metha

Office Badger Room 235
Tel 8313 5943
Email greg.metha@adelaide.edu.au

Dr Chris Newton

Office Badger Room 221
Tel 8313 5308
Email christopher.newton@adelaide.edu.au

Assoc. Professor Tara L. Pukala

Office Badger Room 222
Tel 8313 5497
Email tara.pukala@adelaide.edu.au

Professor Simon M. Pyke

Office Badger Room 234
Tel 8313 5358
Email simon.pyke@adelaide.edu.au

Professor Christopher J. Sumby

Office Badger Room 105
Tel 8313 7406
Email christopher.sumby@adelaide.edu.au

In addition to the above academic staff, it is possible to carry out research with the researchers listed below, who are only able to supervise research projects in collaboration with one of the above academic staff members. It is also feasible to have other University of Adelaide academics co-supervise Honours projects in Chemistry, at the discretion of the Head of Department.

Professor Heike Ebendorff-Heidepriem

Office The Braggs Room 183
Tel 8313 4380
Email heike.ebendorff@adelaide.edu.au

Emeritus Professor Richard Keene

Office Johnson Room G01a
Tel 8313 1025
Email richard.keene@adelaide.edu.au

Assoc. Professor Natalie Williamson

Office Badger Room 223
Tel 8313 5496
Email natalie.wiliamson@adelaide.edu

Project Descriptions

A hard copy of project descriptions is available from the Course Coordinator. For an overview of the types of projects offered by each academic, students are directed to the School Research webpage:

physsci.adelaide.edu.au/research

Nomination of Supervisor Preference -Honours Chemistry 2019

Please return to Prof. Greg Metha – Badger Laboratories Room 235 – deadline 26/10/2018

Student Name:

You must list **FOUR** supervisors in order of preference **AND** a general preferred area of research: Energy & Environment, Functional Materials, Medicinal & Biological Chemistry, or Molecular Photoscience & Ion Chemistry.

The general area of research is to help guide the Honours committee in selecting you a project if you cannot receive one of your preferences.

If you are interested in a joint project (*i.e.* two Chemistry academics as supervisor), please indicate that by placing identical numbers for each supervisor.

My choice of supervisor(s) is as follows:

Nominate FOUR supervisors in order of preference AND a research area of preference
1
2
3
4
Research area of preference

If you have no preference, please strike out the numbers beside the names.