

SCIE292 / SCIE392 – Science Research Internships

1. Objectives

The Science Research Internship subjects aim to provide opportunities for strong students to develop and hone their practical and research skills and to gain familiarity with the laboratory or field methods in science fundamental to successful individual project work.

Through the internship subject, students with an interest in research have an opportunity to gain experience “at the bench” or “in the field” as part of their research training. They learn how research is done by working alongside a PhD student, research fellow, or academic. Because many academic staff members in Science have collaborations with researchers in industry, the internship subject could potentially be taken in an external research workplace.

The objectives of such a program differ significantly from the ‘directed studies’ research subjects that the three Schools currently offer, in which students work on a specific mini-project of their own, prepare a report and give a seminar.

2. Type of Subject

The SCIE292 Science Research Internship is a 6-credit-point, 200-level (second year) subject. The SCIE392 Science Research Internship is an 8-credit-point, 300-level (third year) subject. These subjects are in the Science schedule, and could therefore count towards the 90 credit points of Science subjects required in a BSc degree. They would not count towards the credit points required for a major.

Prerequisites

The prerequisites for SCIE292 are 48 credit points, including 24 credit points of Science Schedule subjects or equivalent with an average mark of 65% or better. The prerequisites for SCIE392 are 96 credit points, including 24 credit points of 200-level Science Schedule subjects or equivalent with an average mark of 65% or better.

Restrictions

The subject is available only to students in Science Faculty degrees (noting that some degrees may not have sufficient flexibility to allow for such an elective subject to be taken) and also to selected Study Abroad students as approved by the Associate Dean (Teaching & Learning) of Science in consultation with the School identified by the student. Students may only complete one internship for credit towards their degree.

3. Guidelines

Students who qualify, having satisfied the prerequisites, must organise the internship with their supervisor, who will be an academic staff member in the Science Faculty. The day-to-day laboratory or field work may, however, be supervised by a PhD student, a research fellow, or a collaborating researcher at an external organisation. In all cases, an academic staff supervisor is required to take overall responsibility for the student.

A *pro forma* (see Attachment) that sets out the requirements of the subject and the criteria for determining “satisfactory” performance, states the following:

- (i) For **SCIE292**, the student commits to completing **100 hours** of laboratory and/or field work (excluding travel time). For **SCIE392**, the student commits to completing **120 hours** of laboratory and/or field work (excluding travel time). This can be a regular time commitment per week, a solid block of time at greater intensity (e.g. a field trip), or in several blocks – to suit the nature of the work, the availability of the supervisor, and the flexibility of the student.

- (ii) The supervisor provides a written statement of the work that is required, including a listing of the practical skills that are expected to be mastered and an explicit statement of other specific outcomes required by the end of the subject (e.g. collation of data, preparation of materials etc.).
- (iii) The student agrees to keep a workbook, in which the following will be recorded: (a) start and finish times of each block of work, (b) details of methods used and results obtained, (c) analysis, and display of analysed results, as appropriate, (d) notes on information obtained from research publications and seminars. The workbook will be signed off at the end of each session by the direct supervisor.
- (iv) The supervisor organises an induction session to provide OH&S guidelines and training and to work through the risk assessment process with the student.
- (v) The student and academic staff supervisor timetable 3 meetings (including the direct supervisor, if different) – one to agree on the scope of work at the start, one a mid-subject progress review, and one at the end to discuss the student's performance and outcomes, as summarised in an end-of-project paper submitted by the student.
- (vi) The Head of School signs off on the Internship agreement.

4. Selection process

Academic Staff members will provide potential internship placements to the Faculty Office a couple of weeks before the start of session. These topics will be collated by the Faculty Office and advertised to students via SOLS mail and other appropriate mechanisms.

Students will apply for an internship placement by submitting the subject that they would like to complete (i.e. SCIE292 or SCIE392), the names of two academic referees who can be contacted to assess their suitability for a project, and a list of up to three placements in order of preference. This must be lodged in the Faculty Office by the deadline (about 1 week prior to session start). Students will be selected based on academic record and referee's comments and informed by email whether they have been placed in an Internship.

5. Assessment

This subject will be assessed as "satisfactory/unsatisfactory", rather than being graded. Satisfactory performance will be based on:

- (i) completing the OH&S induction and risk assessment;
- (ii) completing the requisite hours of laboratory or field work (100 hours / 120 hours) as recorded in the work book and signed off by the direct supervisor, and attending all three scheduled meetings with the supervisor(s);
- (iii) assessing details of results and methods components of six research projects (research seminars, posters, or published papers) and recording them in the work book;
- (iv) satisfactorily completing an end-of-project paper critically reflecting on outcomes in relation to research objectives set at start of internship, and using newly gained experience to assess the completeness and effectiveness of published methods in the field. This paper is to be the basis for the final meeting with the supervisor(s).

**FACULTY OF SCIENCE
UNIVERSITY OF WOLLONGONG**

SCIE292 / SCIE392 (please circle one) – Science Research Internship

1. **Name of Student:**
Student Number:
Email address:

2. **Name of Academic Supervisor:**
Email address:

- Name of Direct Supervisor:**
Email address:

3. **Title of Internship project:**

4. **Summary of work required:**

5. **List of skills expected to be developed during internship:**

6. **Laboratory and/or field work** Satisfactory completion of SCIE292 requires at least 100 hours of laboratory and/or field work (excluding travel time) to be completed. Satisfactory completion of SCIE392 requires at least 120 hours of laboratory and/or field work (excluding travel time) to be completed. Work hours are to be recorded in a workbook and signed off by the direct supervisor at the completion of each work session.

7. **Internship workbook** The following must also be recorded in the workbook: (a) details of methods used and results obtained, (b) analysis, and display of analysed results, as appropriate, (c) notes on information obtained from research publications and seminars.

8. **Research Presentations** Internship students are required to assess details of results and methods components of six research projects. These may be research seminars attended by the student, published papers allocated by the supervisor, or a mixture of both. The assessment of the work must be recorded in the workbook and signed off by the supervisor.

9. **Required readings** Booth, W.C., Colomb, G.G. and Williams, J.M. (2008). *The Craft of Research*. Chicago: Uni. of Chicago Press.

Students should review the risk management and laboratory safety guidelines available on the University's OHS webpage: <http://staff.uow.edu.au/ohs>.

Risk Management guidelines: <http://staff.uow.edu.au/ohs/managingrisk/riskmanagementprinciples/>

Laboratory Safety guidelines: <http://staff.uow.edu.au/ohs/workingsafely/labsafety/>

10. End-of-project paper

Each student must complete an end-of-project paper critically reflecting on outcomes of the training in relation to the objectives set in 4 and 5, above. This paper should assess the completeness and effectiveness of published methods in the field based on knowledge gained during the internship. This paper is to be no more than 1,500 words, must be properly cited, and will be the basis for the final meeting with the supervisor(s). It must be submitted at least 10 working days prior to the final meeting date (see 11, below).

11. Meetings

The student and academic staff supervisor must timetable 3 meetings (to include the direct supervisor, if different) – one to agree on the scope of work at the start, one a mid-subject progress review, and one at the end to discuss the student's performance and outcomes, as summarised in an end-of-project paper submitted by the student. At the first meeting, or soon after, the student will be required to complete an OH&S induction and a risk assessment for the work to be performed.

Date of this initial meeting:

Date for OH&S induction:

Proposed date of progress meeting:

Proposed date of final meeting:

12. Assessment

This subject is assessed as "satisfactory / unsatisfactory". Satisfactory performance will be based on: (a) completing an OH&S induction and risk assessment; (b) completing the requisite hours of laboratory or field work and attending all three meetings with the supervisor(s) as scheduled [see 6, 7, and 11, above]; (c) assessing at least six research projects, and recording details of results and methods in the work book [see 8, above]; (d) completing the end-of-project paper on time [see 10, above].

13. Sign-off

Student:

Academic Supervisor:

Direct Supervisor (if different):

Head of School:

Date:

Once this form is signed by the relevant Head of School, please return it to the Faculty Office (41.258).