



FACULTY OF SCIENCE
SCHOOL OF BIOTECHNOLOGY AND BIOMOLECULAR SCIENCES

BABS3301
BIOMOLECULAR SCIENCE LABORATORY PROJECT

Course Outline

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Faculty of Science - Course Outline

1. Information about the Course

NB: Some of this information is available on the [UNSW Handbook](#)¹

Year of Delivery	2019
Course Code	BABS3301
Course Name	Biomolecular Science Laboratory Project (Advanced)
Academic Unit	School of Biotechnology and Biomolecular Sciences
Level of Course	Third year undergraduate
Units of Credit	6UOC
Session(s) Offered	T1, T2, and T3
Assumed Knowledge, Prerequisites or Co - requisites	This course is restricted to Science students enrolled in Biotechnology, Biochemistry, Genetics, Molecular Biology or Microbiology Plans. Pre-requisites are that students have completed at least 48 UC. Enrolment in this course is by invitation and is based on academic performance, typically a WAM of 75+.
Hours per Week	Regular arrangement: ~7 face to face plus up to 7 either face to face or preparation on your own Arrangement under COVID-19 restrictions: Depending ng on the restrictions, projects shall be done remotely and through virtual meetings. This should be discussed with the supervisor and can be subject to change depending on the wet lab vs dry lab load of the project
Number of Weeks	One session, ~11 weeks
Commencement Date	As agreed by individual project supervisor. Typically, Week 1 or early Week 2 of the Trimester.

Summary of Course Structure (for details see 'Course Schedule')

3. Course Details

Course Description ² (Handbook Entry)	This course is designed to introduce students to research methodology, and to stimulate critical and lateral thinking in the context of problem solving. The course involves directed reading, laboratory work and use of internet resources. Students work on a research project under the supervision of a member of the academic staff.	
Course Aims ³	This course aims to introduce students to research activities that are relevant for a scientific career in the general field of biomolecular sciences or biotechnology. This includes written and oral communication, practical and technical skills, equipment use, research methodology, and safe workplace practices. It also aims to demonstrate these to students within the scope of a larger research group and allows them to see where their project fits as part of a broad goal.	
Student Learning Outcomes ⁴	<p>On successful completion of this course students will be able to:</p> <ul style="list-style-type: none"> x Write a scientific document, in the form of a mini review or a scientific report, which will be of suitable standard for publication in a peer-reviewed journal. x Develop and undertake a scientific research project, including experimental design and interpretation of results. x Present their results to their peers 	
Graduate Attributes Developed in this Course ⁵		
Science Graduate Attributes ⁵	Select the level of FOCUS 0 = NO FOCUS 1 = MINIMAL 2 = MINOR 3 = MAJOR	

Major Topics (Syllabus Outline)	N/A
Relationship to Other Courses within the Program	N/A

4. Rationale and Strategies Underpinning the Course

Teaching Strategies	<p>This is an apprenticeship approach to learning. There will be an initial discussion Health and Safety prior to commencement of laboratory work but the focus will be on working with research students/scientists on a research project. The laboratory-based (wet or virtual) work aims to immerse students in the research culture and provide invaluable experience in the practical skills and scientific thinking of a scientist.</p> <p>Record keeping is an important part of any research project and being a scientist. As well as recording and storing results, students will be guided in keeping good and accurate laboratory notes, either as a hard copy or an electronic record.</p> <p>As communication is an essential skill for scientists, the literature report (or project report) and talk provide students experience in developing professional oral and written communication.</p>
Rationale for learning and teaching in this course ^{6,7}	<p>This course is designed to provide a challenging, yet enjoyable, experience for high achieving students completing majors within the school. It aims to give them a comprehensive view of the research environment that includes safe work practices, competent laboratory skills and mastery of techniques, collegial interaction, scientific thinking and effective communication. This is done through immersion in a laboratory group environment with direct one-on-one supervision by a project supervisor.</p>

⁶[Reflecting on your teaching](#)

Course Schedule

If this information is available on the [Online Handbook](#)⁷ and the [UNSW Timetable](#)⁸.

Week	Activity Topics & Lecturers	Assignment and Submission dates (see also 'Assessment Tasks & Feedback')
Weeks 1 & 2	Meet with project supervisor Course overview and H&S and Green lab training (Time and location TBA, depending on individual timetables). Commence practical work (supervised by supervisor or appropriately experienced/trained person) Meet with course Convenor	Students will meet regularly (at least fortnightly) with their supervisor (and/or delegated PG research student/postdoc) to discuss the project.
Week 3	Practical work (supervised by supervisor or appropriately experienced/trained person)	
Week 4	"	
Week 5	"	
Week 6 *	"	Semi-formal meeting with supervisor to discuss the project and provide feedback on progress. Delegated PG research student/postdoc may be invited to attend.
Week 7	"	
Week 8	"	
Week 9	[Virtual] Oral Presentation on Project	Oral presentation. Presentation will be to the course coordinator, and other students and project supervisors in the course.
Week 10	"	
Week 11	"	Hand in lab books, reflective diary and mini literature review or scientific report to supervisor for marking on final day of Week 11. Electronic submission where appropriate.

6. Assessment Tasks and Feedback ¹⁰

Task	Knowledge & abilities assessed	Assessment Criteria [subject to change]	% of total mark	of(1343(t).4.9 (he)-
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Oral report of research project	<p>Presentation of 15 minutes (+5 minutes for questions) must include background, material and methods, results and discussion of the research project.</p> <p>Ability to communicate clearly with the audience that includes the course convenor, BABS3301 students, project supervisors and interested laboratory members or students.</p>	<p>Clear structure of presentation (/5)</p> <p>Level of communication through spoken word and interaction with audience (/5)</p> <p>High-level use of supportive media (e.g. PowerPoint) (/5)</p> <p>Clear and deep understanding of project during questions time (/15)</p> <p>Note: a hard copy of any slides should be provided to the course coordinator and supervisor.</p>	30%	Week 9	Course Coordinator, project supervisor, and other students enrolled in the course. The final mark would be a [weighted] average of all.	Within 1 week of submission
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Supervisor's mark for performance in the lab

Performance of laboratory work, input to experimental design and interpretation, and intellectual contribution to the project, and quality of reporting/laboratory book documentation.

Safe and competent laboratory practices. (/5)

Efficient time management.

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7. Additional Resources and Support

Text Books	N/A
Course Manual	N/A
Required Readings	Consult project supervisor
Additional Readings	Consult project supervisor
Recommended Internet Sites	The UNSW library and OHS websites.
Societies	Consult project supervisor for guidance on which society to join
Computer Laboratories or Study Spaces	The school computer resources in BiBS and G08 are available and additional study space may be provided by the supervisor.

8. Required Equipment, Training and Enabling Skills

Equipment Required	Closed shoes and a laboratory coat are needed at all times in the laboratories. Other equipment will be needed depending on the laboratory and it is the responsibility of the project supervisor to supply.
Enabling Skills Training Required to Complete this Course	Online OHS and Green lab training. Laboratory induction.

10. Administration Matters

Expectations of Students	Students are expected to attend an early discussion on academic writing and introduction to the course. Throughout session they are to liaise with their project supervisor / immediate laboratory supervisor to ensure the project is tracking sufficiently. Laboratory work should consist of approximately 60 hours work throughout session.
Assignment Submissions	All written work should be submitted through the assignment drop-box outside the BABS Student Office with the school coversheet, and an electronic copy emailed to the Course convenor and project supervisor.

Occupational Health and 12

Information on relevant Occupational Health and Safety policies and expectations at UNSW can be found at <http://www.ohs.unsw.edu.au/>. The School Health and Safety manager is Theresa Kahwati. He can be contacted via email t.kahwati@unsw.edu.au or telephone 9385 1578.

Prior to commencement of laboratory work the student needs to undertake online training of the Green Lab and OHS courses via Moodle. This will be arranged by the project supervisor (or if not possible by the course coordinator). The student also need to undergo laboratory induction of the individual laboratory and shared areas that she/he will work in. The following two forms

Student Complaint Procedure ¹⁴	School Contact	Faculty Contact	University Contact
	A/Prof Noel Whitaker (Director of Teaching, BABS) n.whitaker@unsw.edu.au 9385 2041	A/Prof Janelle Wheat Deputy Dean (Education) j.wheat@unsw.edu.au Noal witaker or Dr Gavin Edwards Associate Dean (Academic Programs) g.edwards@unsw.edu.au Tel: 9385 8063	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 ⁹ Tel: 9385 5418

¹⁵ [University Counselling and Psychological Services](#)

