Undergraduate research subjects

The following research subjects are available to appropriately qualified students enrolled in the Bachelor of Science, Bachelor of Arts and Sciences, Bachelor of Information Systems and relevant combined courses.

These subjects are available within the following science departments: Botany, Chemistry, Earth Sciences, Genetics, Information Systems, Mathematics and Statistics, Vision Sciences and Zoology.

Subject descriptions

600-311 Research Project A

Note: Students wishing to be considered for this subject must complete a 600-311 Research Project A Proposal form and submit it to the Faculty of Science Office. This form is available from the Faculty of Science Office and must be signed by the relevant Head of Department.

Credit points: 12.5

Coordinator: Associate Dean (Academic Programs)

Prerequisites: Good results in a discipline appropriate to the project and approval of the relevant Head of Department and faculty.

Contact: Distribution of time between specific tasks will be decided in negotiation with the supervisor, but an overall weekly commitment of 10 hours per week is expected *(Semester 1)*.

Description: An individual program of supervised research and study. Detailed requirements are to be negotiated with the supervisor and approved by the faculty. Each student will receive feedback on their progress through ongoing consultation with their supervisor.

Despite the differences between individual programs, each aims to provide students with the opportunities to gain expertise in project design, management and reporting. In particular, we expect students to develop skills in:

- locating and synthesising information available in scientific (and in some cases other) literature in order to establish the need for, and potential scope and context of, the research project;
- developing creative ways of solving unfamiliar problems by devising a methodological approach to address the research question being raised;
- managing the time allocated to completing specific tasks;
- collecting and analysing data (qualitative and quantitative) including an assessment of the statistical validity of the research results; and
- communicating the results in written form, requiring critical analysis, synthesis and organisation of knowledge, and the construction of a rational and lucid scientific argument.

Depending on the project, students may also find they learn other important skills such as how to take account of ethical considerations in designing a project.

Assessment: Assessment of the research project is primarily on the basis of a written report, including data presented in a variety of formats, up to the equivalent of 4000 words which is submitted at the end of semester. Some assessment variations between programs occur reflecting the differing requirements of typical projects in those programs, with each assessing the student's overall research competence demonstrated in carrying out and reporting their research project outcomes.

Botany: report (70%), 30-minute oral report during toward the end of semester (30%).

Chemistry, Earth Sciences, Information Systems, Mathematics and Statistics: report (100%).

Zoology: report (70%), research competence assessed by individual student's contribution to project design and implementation (30%).

600-312 Research Project B

Note: Students wishing to be considered for this subject must complete a 600-312 Research Project B Proposal form and submit it to the Faculty of Science Office. This form is available from the Faculty of Science Office and must be signed by the relevant Head of Department.

Credit points: 12.5

Coordinator: Associate Dean (Academic Programs)

Prerequisites: Good results in a discipline appropriate to the project and approval of the relevant Head of Department and faculty.

Contact: Distribution of time between specific tasks will be decided in negotiation with the supervisor, but an overall weekly commitment of 10 hours per week is expected. The equivalent total time commitment (i.e. 120 hours) is expected for this subject taken in the summer semester *(Semester 2, repeat Summer)*.

Description: An individual program of supervised research and study. Detailed requirements are to be negotiated with the supervisor and approved by the faculty. Each student will receive feedback on their progress through ongoing consultation with their supervisor.

Despite the differences between individual programs, each aims to provide students with the opportunities to gain expertise in project design, management and reporting. In particular, we expect students to develop skills in:

- locating and synthesising information available in scientific (and in some cases other) literature in order to establish the need for, and potential scope and context of, the research project;
- developing creative ways of solving unfamiliar problems by devising a methodological approach to address the research question being raised;
- managing the time allocated to completing specific tasks;
- collecting and analysing data (qualitative and quantitative) including an assessment of the statistical validity of the research results; and
- communicating the results in written form, requiring critical analysis, synthesis and organisation of knowledge, and the construction of a rational and lucid scientific argument.

Depending on the project, students may also find they learn other important skills such as how to take account of ethical considerations in designing a project.

Assessment: Assessment of the research project is primarily on the basis of a written report, including data presented in a variety of formats, up to the equivalent of 4000 words which is submitted at the end of semester. Some assessment variations between programs occur reflecting the differing requirements of typical projects in those programs, with each assessing the student's overall research competence demonstrated in carrying out and reporting their research project outcomes.

Botany: report (70%), 30-minute oral report during toward the end of semester (30%).

Chemistry, Earth Sciences, Genetics, Information Systems, Mathematics and Statistics, Vision Sciences: report (100%).

Zoology: report (70%), research competence assessed by individual student's contribution to project design and implementation (30%).