Undergraduate Students’ Research Experiences:

Bridging the gap between teaching and research in a research-intensive university.

Report 2010

Kirsten Farrand-Zimbardi
Nicole van der Burg
Paula Myatt

A project jointly funded by a University of Queensland Strategic Teaching and Learning Grant and the Faculties of Science, Social and Behavioural Sciences, and Engineering, Architecture and Information Technology.
The following report includes an Executive Summary and detailed descriptions of Undergraduate Research Experiences (UREs) from a University of Queensland Strategic Teaching and Learning project entitled Undergraduate Students’ Research Experiences: Bridging the gap between teaching and research in a research-intensive university. In addition to receiving a UQ Strategic T&L Grant, this project also received strategic funding through the Faculties of Science, Social and Behavioural Sciences, and Engineering, Architecture and Information Technology. The full project team included: Dr Kirsten Farrand-Zimbardi, Dr Paula Myatt, Professor Peter Adams, Professor Julie Duck, Professor Caroline Crosthwaite, Professor Lesley Lluka, Dr Joanne Blanchfield and Dr Margaret Wegener. The chief investigators of this project were Dr Kirsten Farrand-Zimbardi, Faculty of Science, and Dr Paula Myatt, Teaching and Educational Development Institute (TEDI). The chief investigators wish to acknowledge the considerable contribution of Ms Nicole van der Burg in managing this project and in analysing the data gathered.
Contents

1. Executive Summary .................................................................................................................. 1

2. Detailed description of Undergraduate Research Experiences ............................................. 5
   2.1 Faculty of Arts ....................................................................................................................... 5
   2.2 Faculty of Business, Economics and Law ............................................................................ 11
   2.3 Faculty of Engineering, Architecture and Information Technology ............................. 15
   2.4 Faculty of Health Sciences ................................................................................................ 31
   2.5 Faculty of Natural Resources, Agriculture and Veterinary Science ............................. 37
   2.6 Faculty of Science ............................................................................................................. 45
   2.7 Faculty of Social and Behavioural Sciences ..................................................................... 63

3. Appendices ............................................................................................................................... 83
   3.1 Appendix A: Interview form ............................................................................................... 83
   3.2 Appendix B: Complete list of all the UREs identified in this study ................................. 85
   3.3 Appendix C: Interview protocol ......................................................................................... 113

When citing this report cite as:
1. Executive Summary

Undergraduate research experiences (UREs) provide students with an opportunity to engage in forms of experiential learning which are closely aligned to disciplinary practice, and have been identified as one of ten key educational activities which have a large impact on student learning outcomes (Kuh, 2008). In recent years UREs have been especially prevalent in the sciences, but there is growing evidence of the wide use of forms of undergraduate research across a variety of disciplines. In 2009 an extensive set of case studies, demonstrating the use of UREs as an educationally enriching activity in nearly all disciplines, was produced by the UK Higher Education Academy (Healey and Jenkins, 2009). This large database of models provides an indication of the diversity of ways undergraduate students can be involved in research across a broad range of disciplines, across many countries and institutions.

In Australia there has also been an increased focus on integrating research and teaching through UREs (Brew, 2010). At The University of Queensland (UQ) this increased focus has been acknowledged through the UQ Teaching and Learning Enhancement Plan (2008-2010), through research examining student perceptions of UREs (Myatt and Farrand, 2010) and through the support of projects such as this one, which aims to investigate the breadth of UREs available to students at UQ, and the benefits these UREs provide to students. As a research-intensive university, it is vital that UQ effectively integrates research and teaching to benefit student outcomes.

This report, Undergraduate Students’ Research Experiences: Bridging the gap between teaching and research in a research-intensive university, details the findings of a UQ study examining the diversity of UREs available across the institution, and the perceived benefits students are thought to derive from participating in these UREs.

The study investigated the following specific research questions:

1. What URE activities are currently available across UQ, what are their specific characteristics and are there discipline-specific differences?
2. What specific student learning outcomes are believed to be achieved through URE activities, what characteristics are responsible for these outcomes and what evidence do we have to support these claims?

Within this study, we focussed on URE models through which undergraduate students were able to actively interact with the research of their discipline, gaining disciplinary knowledge and/or an understanding of the research processes during the experience. This relatively broad URE definition is based on similar extensive studies conducted internationally (Healey and Jenkins, 2009), and was used to avoid the possible exclusion of models which might otherwise highlight key disciplinary differences in UREs. The framework developed by Healey (2005) illustrates this inclusive definition of URE models (see Appendix A).

To identify as many activities as possible which would be classified as an URE under our broad definition, we conducted several searches of the UQ website, contacted Schools, communicated with Associate Deans (Academic) and spoke with individual academics. In total, the study identified 135 activities characterised as UREs available at UQ, across 28 Schools within the institution (representing 78% of Schools), ranging from archaeology to dentistry, from science to social work and from engineering to journalism (see Appendix B for a complete list describing each of the UREs identified). From this database of URE activities, 68 academics who were closely involved in the organisation and/or design of undergraduate research activities participated in group interviews, representing 24 disciplinary Schools (and 77 UREs) from across the University’s seven faculties (see...
Appendix C for the interview agenda). The information provided during these interviews was used to develop descriptions of each URE (approximately one page each) detailing the target student cohort, the aims of the URE, the activities that students undertake as part of the URE including relevant assessment items, and the benefits that our study participants believed students gained through their participation in the URE. A complete set of these descriptions has been included in this report, organised by Faculty and School. All of the procedures undertaken during this study were approved by The University of Queensland Behavioural and Social Sciences Ethical Review Committee (Reference 2009000817), and all of the participants provided informed consent for their participation in the study. In addition to this 2010 report, a second version of the descriptions has been developed using informal language to encourage prospective and current students interested in gaining research experience through engagement in UREs. These descriptions will be used to develop a UQ website promoting UREs to students.

Table 1 below provides a brief summary of the data collected during this project, illustrating the distribution of undergraduate research experiences identified across the Faculties, and some of the key characteristics of those URE models. The most common model identified during this investigation embedded the URE activities in courses, as opposed to extracurricular programs, which were available to all students within a degree, rather than an elitist or special group. Across the disciplines, the most common feature was the requirement for students to engage with the research literature in their field. Interestingly, a substantial number of URE models incorporated features which allowed students to engage in other high impact learning activities (Kuh, 2008) such as collaborative projects, community-based activities or internships.

We identified a large set of perceived student outcomes across the varied URE models. These anticipated outcomes (generic graduate attributes), attained by students during participation in these UREs, appeared to be independent of the discipline itself. Most of the student benefits (generic graduate attributes) described by participants were similar to “skills” reported previously in the literature (Hunter et al., 2007), including increased skills in written communication, analysing literature and research methodologies. In some disciplines, student outcomes were described based on graduate destinations into professional careers. For example, the disciplines of psychology and dentistry emphasised key graduate outcomes from UREs as relating to skills in effective critique, and therefore appropriate use, of research literature in professional practice.

This research project has identified and characterised a diverse range of URE models available within a large, research-intensive university. It was interesting to note that in most cases, the UREs were available to all students rather than an elite or specialist cohort. This leads us to believe that across an extensive range of disciplinary contexts, there are many ways to incorporate the essential features of UREs which will achieve high levels of engagement of large cohorts of students, and may help to address some of the issues which are thought to currently restrict the availability of research experiences to undergraduate students (Lopatto, 2009; Brew, 2010). In addition, the benefits students gain from this wide array of URE models are well aligned with the benefits students and academics report from more traditional one-on-one mentoring URE models (Hunter et al., 2007; Lopatto, 2009). Further research needs to be undertaken on these URE models which are well established at UQ, to gain a greater understanding of the specific links between URE model characteristics and the outcomes and benefits students gain from these UREs to highlight, within disciplines, examples of effective best practice.
Table 1 Summary of the data illustrating the distribution of UREs identified across the Faculties, and some of the key characteristics of those models.

<table>
<thead>
<tr>
<th>Faculty</th>
<th>Number of UREs identified</th>
<th>URE Model Characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arts</td>
<td>8</td>
<td>Involves students in the research process from early on in their program with courses which focus on intimately integrating teaching and research.</td>
</tr>
<tr>
<td>BEL</td>
<td>7</td>
<td>Focuses on understanding the theory in class then, through student initiative, practicing research often through extracurricular activities.</td>
</tr>
<tr>
<td>EAIT</td>
<td>23</td>
<td>Utilises project based learning to provide students with industry-relevant skills in creativity and design.</td>
</tr>
<tr>
<td>Health</td>
<td>15</td>
<td>Provides an emphasis on the importance of evidence-based literature and ongoing research during professional practice.</td>
</tr>
<tr>
<td>NRAVS</td>
<td>17</td>
<td>Provides opportunities which offer practical skills and encourage students to continue into research higher degrees.</td>
</tr>
<tr>
<td>SBS</td>
<td>38</td>
<td>Engages students in the research process and methodologies which prepare them for research higher degrees and enable graduates to critically evaluate primary research in their chosen career path.</td>
</tr>
<tr>
<td>Science</td>
<td>27</td>
<td>Provides opportunities for students to participate in real-world research and gain advanced technical skills whilst facilitating student initiative and creativity in scientific thinking.</td>
</tr>
</tbody>
</table>

References


The following pages provide detailed descriptions of each URE model characterised during this project, organised by Faculty and then by School.
2. Detailed description of Undergraduate Research Experiences

2.1 Faculty of Arts

### School of History, Philosophy, Religion and Classics

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>HIST3612</td>
<td>Researching History</td>
</tr>
<tr>
<td>HIST3613</td>
<td>Historical Project</td>
</tr>
<tr>
<td>PHIL3300</td>
<td>Special Topics in Philosophy A</td>
</tr>
<tr>
<td>RELN3000</td>
<td>The Future of Religion: An Advanced Study of Contemporary Issues</td>
</tr>
</tbody>
</table>

### School of Music

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>MUSC4410</td>
<td>Musicological Research Methods</td>
</tr>
</tbody>
</table>
Researching History
HIST3612

School of History, Philosophy, Religion and Classics

Target students
HIST3612 is a two-unit, third year course for students undertaking a major in History.

Aims
This course aims to help students gain a deeper appreciation of the process undertaken by History researchers. The structure of the course enables the student to draw links between research and writing in various modes of historical discourse.

Student activities
HIST3612 breaks down the research process into major stages and focuses students’ attention on the different styles of writing used in research in their field. Each week, students attend a two-hour contact session which takes the form of a lecture, library session, essay workshop, discussion or a series of student presentations. Students from the same History major work in small groups to determine an overarching research topic, then each student works individually to develop and pursue their own specific research question. Students begin the course with a lecture on writing skills, and during weeks one to four complete the bulk of their information retrieval during library sessions. During this time, students also individually present their research proposal to the cohort and course coordinator, receiving early critical feedback on their research progress. Then, every two weeks students complete a short and precise essay on their chosen research question, and then attend a workshop in which they receive critical feedback on their essay from two peers and the course coordinator. This sequence is completed four times over the semester, each fortnight emphasising writing in the correct genre and style for a different type of essay. In this way, students gain an in-depth understanding of the contextual, historiographical, biographical and narrative genres, as well as the important differences between these genres. Finally, HIST3612 provides students with the opportunity to re-assemble the research information presented throughout the semester in an optional, conclusive group presentation to the class at the end of semester.

Assessment
The majority of the assessment in HIST3612 is based on the four essay marks, but also includes attendance, the research proposal presentation and an annotated bibliography.

Benefits for students
Students are able to refine and broaden their skills in information retrieval, reading and advanced writing in a research setting. Being able to choose their own research question allows students the flexibility to become more creative with their research, and gain an understanding of how to approach research problems and research design in their specific field of interest. Students also gain practical experience in writing in a range of genres, as well as valuable feedback and experience from both sides of the peer-review process. The structure of this course also encourages students to reflect on their progress throughout the semester.
Historical Project
HIST3613

School of History, Philosophy, Religion and Classics

Target students
HIST3613 is designed as one of the three third year capstone courses for students undertaking a major in history within the Bachelor of Arts. Note that students completing a single History major only need to enrol in two of these capstone courses, whereas students completing a double major in History must enrol in all three capstone courses.

Aims
HIST3613 is designed as a two-unit, specialist course to prepare students for careers after their undergraduate degrees. The main objective of HIST3613 is for students to develop a historical project, which explores key issues in historical interpretation, through the use of literary resources.

Student activities
HIST3613 is not an essay-based course, which differentiates it from the other two capstone courses provided for History majors. There is a great deal of flexibility in HIST3613, as students undertake a research project which communicates a topic of historical importance to their selected audience. For example, in one of the previous projects the student produced a website which required the audience to participate in historically accurate war re-enactments, thus providing the audience with relevant information of historical events in an interactive manner. In contrast, another past project involved the student producing a documentary on the involvement of UQ and the Forgan Smith Building in World War II. Thus, HIST3613 provides students with the freedom to choose their communication medium, and then focuses them on incorporating their historical research findings into that form of communication in an appropriate way.

Assessment
The assessment component of HIST3613 is comprised of the project proposal, student participation in the project, and their communication of the research findings in a relevant, and often innovative, form.

Benefits for students
The self directed learning approach benefits students as it prepares them to work independently with minimal supervision, strengthening their individual research skills as well as their self discipline, which will serve as valuable tools in later studies and professional endeavours. As the course is not exclusively run on campus and it is common for students to seek resources off campus, students often gain exposure to networks outside of the university environment directly relevant to their field of study. This exposure also helps students to gain confidence in their research skills and the usefulness of these skills outside of the academic environment. Ultimately, this course aims to ignite students’ interest in research in history.
Special Topics in Philosophy
PHIL3300

School of History, Philosophy, Religion and Classics

Target students
This course is particularly well suited to students who are interested in undertaking Honours in philosophy, or finding out firsthand what a full research project in philosophy involves. Students who enrol in PHIL3300 typically have a special interest in a topic of Philosophy and wish to explore this further through a research project. Enrolment is restricted to students who wish to investigate an area of philosophy which is aligned with an available academic staff member’s research area. As a result, enrollment is around 15 students each semester. Students are strongly advised not to pursue PHIL3300 if their GPA is less than 5.5.

Aims
PHIL3300 offers an opportunity for individual students to undertake research in philosophy, and is aimed at further developing students’ self-directed research skills, with the ultimate goal of helping students to become independent researchers.

Student activities
The course is designed for students to delve into a particular topic in considerable depth, honing their research skills along the way. The course is essentially an apprenticeship model, as students choose their own topic and have the assistance of an academic to address their own research questions. Before enrolling in the course, students need to apply to the School, indicating which topic they want to investigate during the course. Students are only accepted if there is an academic with expertise in that area who is available to supervise the student. During the course, the supervision and learning vary greatly from one student to another, depending of the student’s background and research skill development. By the end of the course, all students will have produced papers to the equivalent of 5000 words, often this consists of two smaller 2500 word pieces rather than a single large 5000-word piece.

Assessment
The assessment component of PHIL3300 is made up of the research paper or papers, to the equivalent of 5000 words.

Benefits for students
The main benefits of PHIL3300 are that students develop their self-directed research skills, and gain the experience to make an informed choice about going on to Honours in philosophy. Additionally, students get to participate in a research apprenticeship program, where they get to explore their own interests with the guidance of an experienced academic. Not only do students gain valuable skills through this experience, but they also develop expertise in an area of philosophy in which they have a particular interest.
Special Topics in Philosophy  
PHIL3300  

School of History, Philosophy, Religion and Classics  

Target students  
This two-unit course is particularly well suited to students who are interested in undertaking Honours in philosophy, or finding out firsthand what a full research project in philosophy involves. Students who enrol in PHIL3300 typically have a special interest in a topic of Philosophy and wish to explore this further through a research project. Enrolment is restricted to students who wish to investigate an area of philosophy which is aligned with an available academic staff member’s research area. As a result, enrollment is around 15 students each semester. Students are strongly advised not to pursue PHIL3300 if their GPA is less than 5.5.

Aims  
PHIL3300 offers an opportunity for individual students to undertake research in philosophy, and is aimed at further developing students’ self-directed research skills, with the ultimate goal of helping students to become independent researchers.

Student activities  
The course is designed for students to delve into a particular topic in considerable depth, honing their research skills along the way. The course is essentially an apprenticeship model, as students choose their own topic and have the assistance of an academic to address their own research questions. Before enrolling in the course, students need to apply to the School, indicating which topic they want to investigate during the course. Students are only accepted if there is an academic with expertise in that area who is available to supervise the student. During the course, the supervision and learning vary greatly from one student to another, depending of the student’s background and research skill development. By the end of the course, all students will have produced papers to the equivalent of 5000 words, often this consists of two smaller 2500 word pieces rather than a single large 5000-word piece.

Assessment  
The assessment component of PHIL3300 is made up of the research paper or papers, to the equivalent of 5000 words.

Benefits for students  
The main benefits of PHIL3300 are that students develop their self-directed research skills, and gain the experience to make an informed choice about going on to Honours in philosophy. Additionally, students get to participate in a research apprenticeship program, where they get to explore their own interests with the guidance of an experienced academic. Not only do students gain valuable skills through this experience, but they also develop expertise in an area of philosophy in which they have a particular interest.
Musicological Research Methods
MUSC4410

School of Music

Target students
MUSC4410 is a two-unit course within the honours program for Music. Students come from either a Bachelor of Music background, or a Bachelor of Arts with Music major background. Students from the BA must complete the extended major in Music and seek Head of School approval to enrol in this course. Usually the students enrolled in MUSC4410 have a diverse range of disciplinary backgrounds and research interests, including performance studies, historical musicology, social sciences, music education and allied health in music therapy.

Aims
MUSC4410 aims to provide students with a guided introduction to the skills and methods of musicological research, through seminar participation and individual supervision.

Student activities
The course is generally designed to introduce students to the skills they will need to conduct a musicological research project in the second semester (MUSC4420) and/or to complete an Honours thesis (MUSC4450/MUSC4500). Students begin the course with introductory seminars exploring various types of academic research across a broad spectrum of musical studies, including key points in the history of research in the discipline, to help students gain an understanding of current research areas in musicology. Toward the later part of semester, students have a choice of several modules in which to conduct small research projects, in the areas of the academics who team teach the course. At this stage, the course includes flexible delivery, components, commonly with one-on-one meetings, in an effort to increase student engagement with individual musical specialisations. At the beginning of the semester, students complete various tasks relating to academic writing, accurate referencing and citation, literature reviews and correctly handling databases. Later, students complete two large assignments related to the research modules, which answer specific questions regarding technical components of the research field from a range of sources.

Assessment
The assessment component of MUSC4410 is comprised of a variety of assignments, used as milestones to scaffold students through the basic skills needed to conduct a research project. Two major assessments for the course are assignments in academic prose, although not necessarily an essay, based on the research modules.

Benefits for students
The main benefit of MUSC4410 is that students come out of the course with improved academic writing and referencing skills, as well as the ability to gauge broad research directions and questions within the field. Past students have also reported that working with the lecturers on a specialised topic is useful in developing their awareness of the field and their ability to engage with the field. Overall, this course provides students with a basic foundation in the research skills of their discipline, in preparation for a larger scale research project in MUSC4420 the following semester or in completion of their Honours projects.
### School of Law

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>LAWS5183</td>
<td>Research Project A</td>
</tr>
<tr>
<td>Mooting</td>
<td>Mooting</td>
</tr>
<tr>
<td>UQLSAC</td>
<td>UQ Law Society Advocacy Competitions</td>
</tr>
</tbody>
</table>
Research Project A  
LAWS5183

School of Law

Target students
Law students who are interested in research are invited to apply for acceptance into the Research Project. Applicants are expected to have completed at least 32 units of approved study, and must have a GPA of at least 5.7. The course is restricted to an intake of 15 students per year.

Aims
The main objective of the Research Project is to give high academically achieving students the opportunity to extend their research skills, and to give these students the opportunity to undertake a subject which is purely research.

Student activities
Students are expected to attend a minimum of three meetings with their supervisor to discuss their research topic, but there is no upper limit on the number of meetings that can take place, this is a matter left for each supervisor to decide upon.

The majority of the students will engage with the traditional legal model by undertaking library-based research to support their hypothesis. Students must prepare an initial literature review a few weeks after commencing the research project. This is flexible but should be around ten pages in length. The final report the student must submit is to be 8000 words in length, and of a publishable quality. It is not uncommon for students’ work to be published in a journal after the Research Project.

Assessment
The course assessment consists of the literary review and the final report. The literature review is marked by the student’s supervisor, and the final report is marked by an expert in the area for each individual research topic. Marks are deducted for participation however if students do not attend the required three meetings with their supervisor.

Benefits for students
The advanced level of legal research students undertake in this course is unique amongst the other undergraduate courses available through the law degree. Students have the opportunity to have an extended intellectual conversation that they may not otherwise get, so students get to push the boundaries of their learning. The library-based research is also invaluable, as it is an essential skill for all lawyers. Additionally, around half of the enrolled students have the privilege of seeing their work published after they have completed their projects.
Mooting

School of Law

Target students
Students who are interested in taking a practical approach to their Law degree, and in undertaking an extensive, intense and very prestigious activity, are invited to apply for acceptance into the mooting program. The selection process undertaken by a panel of law school academics, is based on each student’s academic record, CV and their performance in a trial moot. The mooting team is usually comprised of four or five students.

Aims
Mooting is aimed at equipping selected students with research and advocacy skills, which in turn will actively prepare them for their professional advances. Mooting is also centred on giving students the opportunity to explore areas of law in a far greater depth than that covered in their standard law degree lectures.

Student activities
The program has been likened to a law-equivalent of the Honours program in other degrees. Students within the mooting program are expected to prepare diligently for the competitions in which the University participates, which include the Phillip Jessup International Law Moot, the largest mooting competition in the world. Prior to moot, students spend several months researching and writing a memorial for each side, which are around 10,000 words each. During a mooting competition, students participate in mock trials, for which students hone their skills in being able to orally present the memorials succinctly in the 40 minutes allocated to each student pair.

The mooting teams within the University of Queensland have a reputation for success, and participate in a number of national and international moots each year.

Assessment
For those students who undertake the more intense, international competitions, mooting is treated as a normal two-unit elective Law course, and is graded one to seven as per usual. As a result of the substantial amount of research students undertake in preparation for each moot, the academic workload of these students can be reduced to accommodate the mooting load.

Benefits for students
Mooting carries a level of prestige, so it reflects favourably upon students when mooting is listed on their CV. Not only does this demonstrate that the student participates in extra-curricular activities, but also that students have gained invaluable research skills in the intense preparation process for moots. Communication skills are also developed throughout the mooting program, as students must present their research in a succinct way and answer questions under pressure. Aside from the academic benefits, students also have the opportunity to form professional connections with potential employers during the mooting competitions. Moots are often sponsored or judged by leading legal professionals, and it is not uncommon for students to be offered clerk positions whilst they are still studying, which can kick start their career after graduation.
**University of Queensland Law Society Advocacy Competitions (UQLSAC)**

**School of Law**

**Target students**
The competitions are open to all undergraduate students enrolled in the Bachelor of Law, with several different competitions available to students at different levels of their degree. Students who wish to be involved in these competitions must be prepared to work hard and under pressure. In some of the senior competitions, specific advanced level elective courses are recommended as preparation for participation.

**Aims**
The competitions are designed to test student’s oral persuasiveness, quickness of wit and knowledge of the law, as well as develop each student’s practical legal skills, which makes these competitions a unique opportunity for undergraduate law students. In most cases, the competition topics are specifically designed to extend students’ knowledge of an important, but often misunderstood, field of law.

**Student activities**
There are three to four competitions available within the UQLS, recommended for students at different levels in their degree progress. The Faculty Moot Competition is available to all undergraduate Law students, and is managed by the UQLS. Students in teams of two are instructed to prepare for, and present, an appeal to a panel of judges. First year cases are usually drawn from topics that have been covered in first year courses, and students present and defend their researched arguments to academics and senior students. In the more advanced years, the final rounds are very intense and are conducted in front of Supreme Court Judges.

The Senior Moot is recommended for more advanced level students, however junior level students have successfully participated. The more difficult competitions require students to engage in research of complex areas of law in which the feasible arguments are not initially obvious. The material that students research for these topics extends both the breadth and the depth of their legal knowledge far beyond the standard level covered in courses.

The final competition offered is the Witness Examination Competition (Trial Court), where students are provided with witness statements which they are required to question. This competition involves the human element, where students are required to cross-examine witnesses, who are played by senior students. It is highly recommended that students have completed the elective course on the use of evidence in law before participating.

**Benefits for students**
The main benefit of the competitions is that students develop practical legal skills, by gaining experience in researching a case, and then presenting and defending their position to an expert. As these competitions are known to require students to be dedicated and communicate effectively and are extra-curricular, they are valuable additions to students’ curriculum vitae and greatly enhance graduate competitiveness. The competitions also involve independent research, which provides students with an opportunity to enrich their research skills and explore topics which may not have been covered in their previous study. Apart from the academic benefits, students are also offered networking opportunities through the competitions, as the competitions are judged and sponsored by some of the top legal firms in Brisbane. Overall, the competitions provide students with a range of benefits in terms of academic achievement, as well as personal and professional growth.
### 2.3 Faculty of Engineering, Architecture and Information Technology

#### Faculty of Engineering

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>SCIE1010</td>
<td>Faculty of Engineering</td>
</tr>
</tbody>
</table>

#### School of Architecture

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>ARCH3100</td>
<td>Architectural Design 5</td>
</tr>
<tr>
<td>ARCH3200</td>
<td>Architectural design 6</td>
</tr>
</tbody>
</table>

#### School of Chemical Engineering

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHEE3305</td>
<td>Biomaterials: Materials in Medicine</td>
</tr>
<tr>
<td>CHEE4001</td>
<td>Process Engineering Design Project</td>
</tr>
</tbody>
</table>

#### School of Civil Engineering

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>CIVL4511</td>
<td>Civil Design</td>
</tr>
<tr>
<td>CIVL4560</td>
<td>Project (Civil)</td>
</tr>
<tr>
<td>CIVL4580/</td>
<td>Research Thesis (Civil)</td>
</tr>
<tr>
<td>CIVL4582</td>
<td></td>
</tr>
</tbody>
</table>

#### School of Information Technology and Electrical Engineering

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGG4011</td>
<td>Professional Engineering Project</td>
</tr>
<tr>
<td>ENGG4801/</td>
<td>Thesis Project (Engineering)</td>
</tr>
<tr>
<td>ENGG4802</td>
<td></td>
</tr>
<tr>
<td>IENV3500</td>
<td>Studio III Information Environments</td>
</tr>
</tbody>
</table>

#### School of Mechanical and Mining Engineering

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>MECH4500/MECH4501</td>
<td>Engineering Thesis (Mechanical)</td>
</tr>
<tr>
<td>MECH4552</td>
<td>Major Design project (Mechanical)</td>
</tr>
<tr>
<td>MINE4122/MINE4123</td>
<td>Mining Research Project I/ Mining Research Project II</td>
</tr>
<tr>
<td>MINE4124/MINE4125</td>
<td>Hard Rock Mine Design &amp; Feasibility/ Coal Mine Design and Feasibility</td>
</tr>
</tbody>
</table>
Introduction to Research Practices: The Big Issues  
SCIE1010

Faculty of Engineering, Architecture and Information Technology

Target students
SCIE1010 is available to first year students enrolled in an engineering or science degree. As there is a quota of 60 students for this course, students usually require a GPA above 5.5 to gain entry, and all students must apply to enrol through the Associate Academic Dean for the EAIT Faculty. In the past, students enrolling in SCIE1010 usually come from a mathematics, engineering or bioscience background.

Aims
The aim of SCIE1010 is to introduce bright young scholars to the research environment early on in their undergraduate degrees, with the hope of inspiring an interest in research. SCIE1010 teaches students new to the research world the processes involved with research, and what paths are open to researchers within UQ.

Student activities
Throughout semester students learn about the typical roles of researchers, as well as some UQ projects through the guest lecturers and 10 hours work with a UQ research group. The university lecturers are passionate about their projects and their excitement about the content is infectious. Students are also given laboratory tours and participate in workshops on the research issues, including intellectual property and commercialisation, grant process and research ethics. As part of the ongoing assessment, students are required to make a journal blog entry after each workshop. At the end of semester, students submit a conference paper and participate in a conference. The conference is open to the families of students as well as researchers and is run in the same format as a professional conference. The event is catered and gives students an opportunity to showcase their work.

Assessment
The assessment component of SCIE1010 is comprised of Blog Entries (28%), a Research Centre Overview (12%), an Annotated Bibliography (20%) and the Conference Project (40%).

Benefits for students
The students enrolled in SCIE1010 are bright, passionate and of a high caliber academically, and have an interest in pursuing research throughout their undergraduate degrees. SCIE1010 provides these students an early glimpse into the research environment, and can help students gain entry into more advanced research experience courses such as the prestigious Advanced Studies Program in Science and UQ Summer Research Scholarships Program. The conference is also a fantastic opportunity for students to showcase their work, and develop skills in communicating their research area effectively to a range of audiences.
Architectural Design 5
ARCH3100

School of Architecture

Target students
ARCH3100 is a four-unit course, restricted to third year students undertaking a degree in Architecture or Architectural Design. Before enrolment, these students must have completed ARCH2200, or the equivalents AR229 and AR299. Study abroad students are permitted to apply to enroll, but must seek Head of School approval.

Aims
The aim of ARCH3100 is to develop students’ ability to undertake research into a suburban or city area and apply this information in creative design of detached houses and multiple houses. Students are expected to integrate information from a variety of sources to develop a housing design in the context of a case study suburb.

Student activities
Students are taught through a combination of lecture content and studio project work. Throughout the semester, students undertake set exercises and independent investigations of a case study suburb and its social space and housing types, and apply relevant design techniques and procedures in the development of a portfolio focused on a house design, which must meet the council requirements, the building code and Australian standards. To achieve this, students engage in parallel research experiences which involve mapping to develop an understanding of the city and what forces brought about the construction of the current built form. Specifically, students examine the subdivision patterns and housing types of the case study suburb, and are required to critically evaluate the effectiveness of the current practices and housing outcomes.

Assessment
The assessment component of ARCH3100 is comprised of the design projects conducted in the studio throughout the semester, and the design portfolio which is submitted at the conclusion of the course. Students are also given the opportunity to submit their projects three times throughout the course to gain valuable feedback on their progress and portfolio content.

Benefits for students
During ARCH3100 students gain the necessary skills to proactively investigate important aspects of an urban area and use this evidence to inform their housing design. This provides students with the skills to make sound judgments about the architectural design of houses and increases their confidence in their ability to undertake the types of project work they are likely to encounter as professionals. This course also provides students with the knowledge and research skills necessary to engage in more complex designs in subsequent courses such as ARCH3200.
Architectural Design 6
ARCH3200

School of Architecture

Target students
ARCH3100 is a four-unit course, restricted to Architecture or Architectural Design students. Before enrolment, students must have completed ARCH3100, or the equivalents AR319, AR339 or AT309. Study abroad students are permitted to apply to enrol, but must seek Head of School approval.

Aims
The course aims to provide students with experience in the design of a medium-sized University building, in the context of the external areas and landscape associated with the building. By the end of the course students are expected to be able to analyse and resolve relatively complex briefing demands and integrate these into realistic design strategies. Students will also need to provide evidence of research leading to a critical understanding of precedents for the chosen building design.

Student activities
Each week students enrolled in ARCH3200 undertake two full days of contact hours in the studio. This includes general lectures on the expectations of the project progress, the relevant content material and useful design strategies, guest lectures from industry professionals and independent project work under the supervision of tutors. In particular, the industry professionals provide candid outlines of their work and how they approach projects, as well as their trials and the competitive nature of the industry. Throughout the semester, the majority of the students’ work within the architecture design studios is focused on their projects. The project consists of designing a building for a site on the St Lucia campus, usually a general-purpose building incorporating lecture theatres and different sized tutorial rooms.

Assessment
The assessment component of ARCH3200 is comprised of the design project conducted in the studio throughout the semester, culminating in a design portfolio which is submitted at the conclusion of the course.

Benefits for students
Students undertaking ARCH3200 are typically in their final semester of their undergraduate degree in architecture, and the course effectively prepares students for the 10 months of industry work they must complete the following year before returning to university to study at a Masters level. The lectures delivered by the industry professionals throughout the semester provide students with valuable insights into the nature and challenges they will face in the architecture industry and the scope of typical industry-level design projects.

Students also have access to their own area within the design studios, which helps students to develop an independent work ethic and a sense of accomplishment and confidence in their ability to tackle a complex design project. Within this setting there is a large amount of interaction between students as they work on parallel projects, which allows the students to form learning communities that mimic the real-life industry environment.
Biomaterials – Biomaterials in Medicine
CHEE3305

School of Chemical Engineering

Target students
CHEE3005 is a compulsory, two-unit course for students undertaking a degree in material, chemical or biological engineering, but can be taken as an elective by most students in an engineering or science degree. Thus, a mix of students from varying disciplines enrol in this course each semester, including students with biotechnology, biology, and chemistry backgrounds.

Aims
The main objectives of CHEE3005 are centred on students developing a good understanding of the science relating to the materials used within the medical industry, as well as the rigorous regulatory processes involved in developing new medical devices. In addition, it is hoped that students will come away from CHEE3005 with a greater appreciation of the need for teamwork, multidisciplinary cooperation and excellent communication skills required for success in the field of biomaterials engineering.

Student activities
The lecture content within the course covers the topic of materials in medicine, ranging from large orthopaedic devices such as artificial hips, to pacemakers and contact lenses. Recent advances in biotechnology are also covered, including examples of tissue engineering and cell-based regenerative medicine. Students are introduced to a range of uses of materials engineering in biomedical science through contacts with local research institutes (e.g., Australian Institute for Biotechnology and Nanotechnology) and industry.

This course has a large assessment focus on group work. At the start of the semester students are placed in groups of five and provided with a review paper on a specific topic relevant to biomaterials. Students are then able to focus in on a specific topic, from the perspective of utilising a well-characterised material in a novel application, or a clinical device in need of an innovative material. Students must produce a scoping report, allowing them to gain feedback on their progress, before diving deeper into the relevant research literature for their final presentation and report. Through this process, the entire cohort gains a deeper level of knowledge about a broad range of applications in materials engineering, than could be covered by a traditional lecture format.

Assessment
The assessment component of CHEE3305 is comprised of two quizzes throughout the semester, the group presentation and report, and an end of semester examination.

Benefits for students
The main benefit of CHEE3305 is that students gain insight into the use of materials engineering in the medical device industry during their undergraduate degree. This can assist in clarifying decisions for further study, and career paths in research and industry available to them after graduation. Students also develop their research and communication skills through their involvement in their group project, as well as a greater depth of knowledge in particular areas of biomaterials.

Previous students have reported they gained a better understanding of the importance of face-to-face communication skills in their field. Guest lecturers address this point with students throughout the semester, and as a result students learn the opinions of industry professionals and potential future employers. Students also benefit from the mixing of students from assorted cohorts within CHEE3305, as each student from each discipline brings their own knowledge and skills. Students therefore have access to a wider range of backgrounds and thus resources. Ultimately, this course provides students with a very honest glimpse of the medical device industry, including exposure to the laborious amounts of regulatory paperwork, as well as some of the exciting science and engineering that is being investigated in this field.
Process Engineering Design Project  
CHEE4001

School of Chemical Engineering

Target students
CHEE4001 is a final year four-unit course for Chemical Engineering students who have completed CHEE3006 (or 1E306). The course is designed as a capstone course.

Aims
CHEE4001 aims to draw together all the material that students have learnt throughout their undergraduate degree, and provide students guidance in integrating and applying this knowledge to arrive at a viable solution to a complex, open-ended design project problem. One of the course aims is for students to learn to work in a team setting, and develop their individual judgment skills to make compromises suitable for complex, open-ended problems.

Student activities
Students participate in groups of five to design a chemical plant, which involves aspects of electrical engineering, mechanical engineering and civil engineering in addition to key areas of chemical engineering including reactional chemistry. Students have a lecture approximately once per fortnight, which is used to guide students through the design project. During lectures, the course coordinator conveys their expectations of students in terms of progress within their projects, and helps students set boundaries to successfully complete project milestones. The design is intended to be submitted in stages throughout the semester allowing for feedback, academic development and less stress approaching the end of semester. After each submission students participate in meetings to discuss what is working with their design and what can be improved, at each point revising all of the previous work. Students are also invited to participate in consultation meetings with industry professionals, which are offered on a weekly basis.

Assessment
The students are assessed on their design submissions throughout semester, and a final team report, submitted at the conclusion of the course.

Benefits for students
The main benefit for students is that they gain experience in working on a complex, real-life project in a group setting. This experience is invaluable as it prepares students for professional work after their degree. After completing CHEE4001, students will have new expectations of what they can be asked to do, and new confidence in their own abilities to integrate and apply the expertise gained throughout their degree. Students also benefit from the consultation meetings with industry-based professionals, who offer students valuable insights into their design projects from an industry perspective, as well as introducing students to members of the industry to develop their professional network.
Civil Design
CIVL4511

School of Civil Engineering

Target students
CIVL4511 is a four-unit course offered in Semester 1 to both civil engineering and architecture students as a capstone course in design. This course is taken with the companion course CIVL4512, which runs in second semester, to form a full year design capstone experience. CIVL4511 and CIVL4512 can be taken in any order, however engineering students must have completed CIVL2360, CIVL3210, CIVL 3140, CIVL3350 and CIVL3420 prior to enrolment in either CIVL4511 or CIVL4512.

Aims
CIVL4511 aims to integrate students’ knowledge attained from elementary level design courses where they have designed small, separate structures, in a full building design project. This course aims to challenge students to integrate their civil design skills and use research skills to make sound judgments, in addition to helping students gain independence in project management whilst collaborating in multidisciplinary teams.

Student activities
Throughout this course, students work in multidisciplinary groups to develop a design for a complex problem relevant to their industry, for example, designing one of the towers for the Brisbane airport. Students receive one lecture every week on material relevant to building design, such as, design efficiency and load, risk assessment, hydraulics, geomechanics, interdisciplinary design and computer modelling in advanced design. Some of these lectures are delivered by industry professionals working in the field of civil engineering. The lectures are followed by three-hour tutorials during which students work on their design project. During the project, students are not provided with the materials to construct their design. Rather, the students are guided in asking the necessary questions to research and decide upon the materials to use in their design, and to evaluate these decisions throughout the project.

Assessment
There are three main elements to the assessment in CIVL4511, all based on key milestones for design projects. Firstly students complete a concept design, then a computer simulation of their proposed design, and finally documentation in a format that would be submitted to a client as a presentation of their design.

Benefits for students
The main benefit of CIVL4511 is the course gives students insight and experience in conducting a design project which mimics a real-life industry project. Students complete projects of a larger scale than they have before, serving the dual purpose of integrating design concepts and preparing students for the level of complexity in projects they can expect after graduation. The documentation required from students in CIVL4511 also allows student to gain experience in communicating complex research and design evidence and decisions to clients. Furthermore, the interaction between engineering and architecture students is also beneficial, as there is typically conflict between students from these two disciplines around project management. Introducing students to this conflict during their degree serves the purpose of teaching students how to deal with the tension in a constructive and positive manner, leading to more effective social and team skills for multidisciplinary industry projects.
Project (CIVL4560) and Thesis (CIVL4580/CIVL4582)

School of Civil Engineering

Target students
CIVL4580 and CIVL4582 comprise a four-unit course offered to fourth year civil engineering students who are interested in undertaking a significant research project and have a GPA above 4.8. Students beginning the course in Semester 1 enrol in CIVL4580, while students beginning the course in Semester 2 enrol in CIVL4582. In contrast, CIVL4560 is a two-unit course offered to fourth year civil and environmental engineering students who are not eligible to enrol in CIVL4580 or CIVL4582. There is no GPA limitation for CIVL4560. Students enrolling in any of these courses should have an interest in project design and research.

Aims
These courses aim to provide students with a short research experience, appropriate to either a two-unit (CIVL4560) or four-unit (CIVL4580/CIVL82) course workload. As a set of matching courses, they are designed to engage a large number of civil engineering students in the research process, to varying levels depending on the academic achievement and graduate interests of the students.

Student activities
Students enrolled in all three courses follow essentially the same path and have similarly structured assessment, however the scope of the project and assessment tasks are adjusted so that students undertaking CIVL4580 or CIVL4582 have twice the workload of students undertaking CIVL4560. There are no formal lectures within CIVL4560, CIVL4580 and CIVL4582, as all of the courses are based on a student-directed model, designed to allow students the flexibility to undertake a small research project in an area of their choice, under the guidance of a supervising academic. At the beginning of semester, academics advertise a number of topics online and students choose a topic and arrange an interview with their chosen academic to negotiate a research project. Students undertaking projects in the same area then pair up and work together to conduct their projects and collect data. Students then write up their thesis reports individually. Past projects have included experimental investigations such as analysing different types of concrete and steel structures, analytical investigations where the focus is on numerical analysis of large databases of information, and extensive literary reviews.

In CIVL4580 and CIVL4582, students also present their project outcomes to their peers, industry collaborators and the academics at a large event designed for students to showcase their projects in a seminar environment. Several students will also have the opportunity to attend and present at student presentation evenings for the Institution of Engineers.

Assessment
The final report in CIVL4560, and final thesis in CIVL4580 and CIVL4582, forms the majority of the assessment in each of these courses. A copy of each thesis is also kept at the UQ library. Additional assessment includes research participation during the semester, and workshop participation and assignments (such as a work plan and literature review) which assist students in developing their research skills. In addition in CIVL4580 and CIVL4582, students’ seminar presentations and attendance contribute to the course assessment.

Benefits for students
All of these courses provide students with the opportunity to gain experience in conducting a research project in their field of interest, thereby helping students to gain the level of skills and expertise in an area of civil engineering research relevant to their career goals. In addition, the diversity of project areas available and the student-directed nature of the courses allows students to develop independence, time and project management skills, as well as close mentoring relationships with academics. In some cases in CIVL4580 and CIVL4582, students are awarded prizes for their projects by industry affiliates, and in a notable number of cases the theses of students have been turned into research papers, or provided a substantial contribution to a research paper. These courses help students to understand the research process in their discipline, and in many cases, understand the excitement and enthusiasm that comes with getting results and contributing to the knowledge of their discipline.
Professional Engineering Project
ENGG4011

School of Information Technology and Electrical Engineering

Target students
ENGG4001 is a six-unit course offered to students in the first semester of the final year Bachelor of Engineering. To enrol in this course, students must be undertaking either the Professional Engineering Placement Scholarship (PEPS) program or the Cooperative Education for Enterprise Development (CEED) Placement Program.

Aims
This course provides students the opportunity to gain experience in conducting a research project in an industry setting, and thus aims to develop students’ research skills in the context of a real workplace, as well as helping students to develop their professional networks.

Student activities
Students commence ENGG4011 in the vacation period preceding Semester 1 by familiarising themselves with their placement company, for example the safety inductions and workshops for their company. After this period, students return to UQ during Orientation Week for several skill-building workshops, including time and project management skills, and report writing skills. Students then return to their companies for the whole semester, working on their research project under the guidance of both an industry mentor and a UQ-based mentor. This research project must be relevant to the company, and demonstrate the rigour required of a research project and often will include design and individual investigations. Students submit a review of their project halfway through the semester, and then a final project and presentation at the conclusion of the course. Students are also asked to reflect on the similarities and differences between their placement learning experience and their learning within their undergraduate degree at UQ.

Assessment
The assessment component of ENGG4011 is comprised of the student’s project proposal, risk assessment, project presentation, project report and an annotated bibliography.

Benefits for students
ENGG4001 is also positioned to provide students with the research skills and experience in project management they will need in their more advanced design courses. Within the context of an industry workplace, students also have the opportunity to develop their initiative and complex problem solving skills, under the guidance of their industry and UQ supervisors. In addition to developing their professional networks at their host company, students also gain insights into the industry roles and projects they can expect upon graduation.
Thesis Project
ENGG4801/ENGG4802

School of Information Technology and Electrical Engineering

Target students
These courses comprise four units and are provided to final year Bachelor of Engineering students specialising in electrical engineering. The Thesis Project runs over two semesters, each course is worth two units. Students are able enrol in the courses in either order, as ENGG4801 is only offered in Semester One and ENGG4802 is offered in Semester Two. The typical intake is approximately 100 students each semester.

Aims
The Thesis Project is designed to integrate students’ knowledge from the entire bachelor degree, and to give students experience in completing an individual project under the guidance of a supervisor. This allows students to choose the area in which they will develop extensive expertise, and challenges students to develop a range of skills in research, including literature analysis and time management.

Student activities
ENGG4801 and ENGG4802 are final year thesis courses, during which most students work individually under the guidance of a supervisor to produce a thesis. Students are offered the opportunity to work in pairs, but this is rare and students are always assessed individually. Thesis topics are released a few months before the course commences, which allows students the opportunity to begin thinking about possible projects early, and approaching potential supervisors. Most students have chosen a project by the first week of semester.

By week four, students are expected to be well into their projects and have progressed sufficiently to submit a project proposal of ten pages, detailing exactly what they plan to do and how they will conduct the project. Fundamentally, the thesis project is about creating something, so student projects can range from purely software-based to purely hardware-based designs. Most projects include an experimental stage where students evaluate the implementation of their project, however in cases such as energy distribution, students often complete simulations to gain the evidence needed to support the validity of their project.

On completion of the project, in addition to writing their thesis, students present their projects in a conference setting, organised by the University. The conference is run as a personal-relations and networking opportunity for students, and guests include UQ academics as well as industrial collaborators associated with the University.

Assessment
The assessment component of ENGG4801 and ENGG4802 is comprised of a literature review (10%), proposal presentation (15%), the conference demonstration (25%), and the final thesis (50%). Together these assessment items comprise the overall mark for the two semesters.

Benefits for students
The thesis project work instills a sense of accomplishment in the students, paired with a sense of ownership towards the work, as students gain experience in conducting an in-depth investigation in a field of their interest. As previous course material is integrated into a real-life setting through the thesis, these courses also assist students in synthesising and consolidating their learning before graduation.

The conference is also a fantastic opportunity for students, as they are able to present the final outcomes of their project to industry professionals, making connections within the field they wish to pursue after graduation whilst demonstrating their achievements and expertise. It is also a great experience in terms of conference preparation and presentation, as it introduces undergraduate students to the research and conference environment. Thus, the Thesis Project gives students a great jumping off point to pursue careers within research, or in industry within their particular field of interest.
Studio III Information Environments
IENV3500

School of Information Technology and Electrical Engineering

Target students
IENV3500 is a four-unit course offered within the multi-media design degree. The course is designed as a capstone course, and runs for one semester, with an average intake of 40 students.

Aims
As IENV3500 is designed as a capstone course, the course aims to integrate multi-media design knowledge learnt throughout the degree and integrate it into an applied setting. Projects undertaken within this course are expected to take a user-centred approach, focusing on research around how users interact with multi-media.

Student activities
IENV3500 is a project-based course with the majority of student time spent in the studio, but also includes industry guest lectures, to help students make industry connections and see the industry research opportunities available to graduates. Students are encouraged to design their own research project, but are also provided with a list of available projects, some of which are in collaboration with industry partners. The options for projects are very flexible, and past projects have included survey design, focus groups, 3D modelling work, corporate videos and corporate logo redesign. Before the student commences their project, they must develop a design proposal and a project management plan, which is provided with critique to ensure the student has developed a proposed project of appropriate scope. Students also need to undertake background research around their chosen project, to identify previous approaches to similar projects, and to inform the student’s design decisions. At the end of the project, students showcase their work to guests from industry, academics and their peers, in an exhibition.

Assessment
Assessment in IENV3500 is comprised of several milestones throughout the project, designed to help students identify challenges and find suitable strategies for bringing the project to completion, within the typical constraints of a client-driven industry. Specifically, assessment includes the design proposal and a project management plan, regular critique sessions and project re-scoping, the project outcomes and a reflective report.

Benefits for students
During IENV3500, students learn how to accurately manage and produce an industry level project. Importantly, many students will not achieve everything they first propose in their project plan, and will learn through the regular critique sessions how to scope projects appropriately, which is an invaluable skill needed for success in the multi-media design industry. Throughout this course, there are also several opportunities for students to make connections within the industry and gain experience working with clients, which further strengthens their employability. Overall, students gain expertise in the previous research in their field of interest, and confidence in being able to successfully conduct an independent research project.
Target students
MECH4500 and MECH4501 are targeted at final year mechanical engineering students looking to undertake an extended research project. These courses comprise four units and run over two semesters, where each course is worth two units. Students are able enrol in the courses in either order, as MECH4500 is only offered in Semester One and MECH4501 is offered in Semester Two.

Aims
These courses aim to integrate the knowledge students have gained from their undergraduate degrees into a research project setting. These Thesis Project courses allow students the opportunity to take ownership of an extensive project and develop expertise an area of their interest, whilst working collaboratively with an academic supervisor, and in some cases an industry supervisor.

Student activities
The types of projects chosen by students are varied, however, most thesis topics are research based and associated with the research area of one of the academic staff members. Students can also engage in industry-based projects if they wish, with the assistance of both an industry supervisor and a UQ supervisor. Many projects are based on a design or on a research investigation, although some projects have centred on a critical review or a specific area.

Once the topic of the thesis has been negotiated with their supervisor, students begin to develop ideas and proposals for their thesis. In order to motivate students to complete this planning process early on in the semester, a seminar is held in week six, during which students present their project plan to their peers, as well as industry professionals and academics. During this seminar day, students undertaking the second semester of their Thesis Project present their project outcomes. As an additional milestone to keep students’ progress on track across the two courses, students must also submit their interim report, which includes the literature review for their project by the end of their first semester. The courses culminate with the final thesis at the end of the second semester.

Assessment
The assessment component of MECH4500 and MECH4501 is comprised of the proposal seminar presentation in week six of the first semester, the interim report at the end of the first semester, project execution throughout the year, and the final presentation and thesis.

Benefits for students
A particular benefit of the Engineering Thesis is that the best thesis projects are given to companies within the industry to peruse and provide feedback. This feedback is invaluable to students, and is usually of a high quality. In addition there is an industry prize for the best thesis each year, which provides the student with excellent exposure and builds their curriculum vitae. The competition for this prize also improves the caliber of the entire cohort and challenges students to achieve their best. During these courses, students gain an excellent insight into the research environment. This insight can lead to an interest in research, which can motivate students to pursue postgraduate studies or enter into a research organisation after graduation. In addition to the collegial relationships students are able to build with their supervisor throughout the year, students also gain a sense of achievement in completing an individual research project and developing their expertise in their field of interest.
Major Design Project
MECH4552

School of Mechanical and Mining Engineering

Target students
MECH4552 is aimed at senior Mechanical and Mechanical & Space Engineering students and should not be taken without a number of prerequisite courses, namely MECH3100. The course is worth four units of academic credit, and runs for two semesters. The student enrolment is typically around 25 students.

Aims
The course is designed as a capstone course, and is an in-depth project-based application of subject matter from a wide range of preceding courses. ENGG4552 aims to give students experience in managing a large multidisciplinary project to the standard expected of professional consulting engineers, in the context of a small team. It is therefore essential that students work cohesively as a team and develop the collaborative skills throughout the course needed to complete their projects to the expected standard.

Student activities
The overarching task required of students in MECH4552 is to design a project within a group to rigorous standards. These projects are sponsored by industry groups or internal research projects within UQ, and the scope of the project depends on the sponsor. In most cases, the scope of the project includes conceptual design, through to building and testing of the design. In addition to this, students must individually study and research relevant materials as required to complete their assigned designs.

Students must also present three talks throughout the semester. The first talk is completed within the first month of the course, during which students outline their preliminary design review, and discuss the concepts they plan to use in their design approach. During the second presentation, students provide a critical design review, as a final preparatory step before they commence the manufacturing stage of their project. The focus in this stage of the project is ensuring the project is economically sound, and to outline any problems that could occur. For the final presentation, students communicate their results and the outcomes of their projects. After this final presentation, students submit their individual review documents.

Assessment
The assessment component of MECH4552 is comprised of a group report, the three oral presentations, and an individual review paper.

Benefits for students
Within MECH4552, students learn to develop their own theories, or modify existing theories, synthesising a large range of knowledge gained in previous courses and bringing this to bear in an applied setting. The main benefit of MECH4552 is that students gain experience in managing, and bringing to completion, a major design project to the high standard required in the industry. This course is one of the first times students will be able to see their designs actually built and tested. From this experience, students can determine if this is the type of work they wish to pursue professionally, and in some cases the design project experience has encouraged students to pursue a research higher degree. During MECH4552, students also develop their public speaking skills, and become confident speaking to their peers and industry professionals about the project they are working on. In particular, across the course of MECH4552, most students develop their ability to take complex engineering concepts and calculations, and present these appropriately to their peers. This will be a huge advantage when students graduate and enter into the professional engineering industry, as communication is integral in managing projects successfully. As such, this course provides students with the hands-on experience and industry-relevant skills to improve their employability.
Mining Research Project I and II
MINE4122 and MINE4123

School of Mechanical and Mining Engineering

Target students
MINE4122 and MINE4123 are compulsory, two-unit courses for fourth year mining engineering students, offered in Semester One and Two, respectively. These courses are directed, and concurrently taught, through a joint venture between four Australian universities called Mining Education Australia.

Aims
MINE4122 and MINE4123 aim to teach students how to prepare a project or thesis topic, and give students an opportunity to experience a research environment prior to graduation. The main aim of MINE4122 is to help students develop their expertise in their chosen research topic and their research proposal, while MINE4123 focuses students on conducting their research project and communicating their findings.

Student activities
Throughout MINE4122 and MINE4123, students are allocated to work under the supervision of a UQ academic. During MINE4122, students are introduced to the basic project management and research skills they will need to become familiar with the research literature and design their research project. This begins with students identifying a topic, either during their vocation work on a mining site, or through liaising with one of the UQ research institutes. Thus some of the projects are laboratory oriented, while others may be field oriented. Then students develop a research plan, which has to be submitted for course assessment and approved to ensure project viability. Students are provided with a workshop to develop their library skills and required to develop an annotated bibliography of ten key references. Throughout the semester, students also attend a seminar from an outside expert every three weeks, and then complete an appraisal of that seminar, which includes reading further literature on the seminar topic. In all, the main portion of students’ work in MINE4122 is centred on developing a literature review of their chosen research topic.

Although students are closely guided by their supervisors in MINE4122, in MINE4123 students are expected to work more independently as they conduct their research project. Students are provided with workshops to develop their written and oral communication skills in preparation for presenting a 15 minute seminar style talk to their peers about their research project in week nine of the semester, and submitting their project thesis in week 10. Following examination of their thesis, students are required to make the corrections stipulated by their examiner before they can successfully complete MINE4123. In addition, after the examiner’s copy is returned to students, the students submit their project as a conference paper in a professional society format.

Assessment
The assessment component of MINE4122 is comprised of the research plan, the seminar appraisal and the literature review. In MINE4123, the assessment is comprised of the oral presentation, the thesis submitted for examination, and completion of the thesis corrections and conference paper.

Benefits for students
As MINE4122 and MINE4123 are part of the Mining Education Australia initiative, these courses are closely monitored for quality by a large team of coordinators across Australia. They are also well funded by mining industry partners, which results in exceptional levels of resources, professional networks, and research projects being provided to the students who undertake MIN4122 and MINE4123. During these courses, students gain invaluable experience within the research environment, learning how to formulate and design a project or thesis topic. Students also have the opportunities to develop strategies to tackle problems and improve efficiency, becoming more independent as they develop their research skills throughout the year. In addition, students gain experience in communicating their research findings in a range of genres. These are all vital skills if students wish to pursue postgraduate research, but will also lead to an increase in students’ employability after graduation.
Hard Rock Mine Design & Feasibility and Coal Mine Design & Feasibility
MINE4124 and MINE4125

School of Mechanical and Mining Engineering

Target students
Students who have an interest in the mining industry enrol in MINE4124 and/or MINE4125. MINE4124 and MINE4125 are sister courses (each contributing two units), meaning they have the same course design format but focus on different content relevant to the different mining methods.

Aims
These courses provide a project-based learning approach to actively involve students in the research process and allow them to gain experience in applying their knowledge to real-life problems. The main objective of these courses is to give students the opportunity to conduct a hard rock (MINE4124) or coal mine (MINE4125) design and feasibility study. As these courses are capstone courses, they are aimed at integrating the knowledge students gained from the first three years of their degree. It is also expected that students will come out of the courses with more developed teamwork skills.

Student activities
At the commencement of the courses, students are given workbooks with weekly activities and allocated into groups for their project. Once in groups, students are given a deposit, and asked to do a pre-feasibility study on their allocated deposit. From that point onward, the student groups are expected to meet the project checkpoints detailed in their workbooks in order to cover all required steps for the study. The students are provided with real industry projects, as a means of introducing them to the types of projects and problems they will encounter once they gain employment in the industry. Near the end of semester, students present their project to the cohort, which exposes all students to a large range of content, and approaches to the project, that often expand students’ repertoire and prompt groups to make modifications to their project before the final report submission.

Students also attend two interviews with their course coordinator at strategic points during the semester. These meetings are designed to determine if students are completing their assignments correctly, and efficiently achieving their milestones, as well as providing a mechanism to iron out any problems that have arisen with the functioning of the group.

Assessment
Students have many assessment items throughout the semester, which act as a means of introducing students to the content necessary at each stage of their project, and to verify the project progress during semester. The two major assessment items are the presentation to the cohort late in semester, and a final report at the end of semester.

Benefits for students
These courses are coordinated, not just by a UQ academic, but by a group of coordinators from around Australia. For students this means input from a range of Australian academics with a range of industry perspectives, which results in the design of project topics that are pertinent in the industry they will enter the following year. Owing to the project-based focus of these courses, students are able to develop confidence in the application of their knowledge to a specific problem that has real industry significance. This translates into greater industry confidence, which is a huge advantage for undergraduate students. The students learn how to correctly apply and integrate their knowledge from the past three years of study, as well as developing their own critical evaluation skills, and being exposed to a range of approaches to project design and execution.

Students also benefit from the interviews with their course coordinator throughout the semester as any problems within their groups can be fixed early in the course, rather than becoming an insurmountable problem late in semester. This inevitably leads students to develop better communication skills, as well as improving group function and outcomes.
### School of Dentistry

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>DENT4599</td>
<td>On course honours in the School of Dentistry</td>
</tr>
</tbody>
</table>

### School of Medicine

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>MEDI2006</td>
<td>Systematic Preparation for Clinical Practice</td>
</tr>
</tbody>
</table>

### School of Pharmacy

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHRM3026, 3031, 3046, 3037, 3047, 4015 and 4025</td>
<td>On -course honours in the School of Pharmacy</td>
</tr>
<tr>
<td>PHRM4020</td>
<td>Molecules to Medicine</td>
</tr>
</tbody>
</table>
Bachelor of Dentistry, On-Course Honours
DENT4599/ DENT5599

School of Dentistry

Target students
The on-course Honours component of dentistry runs over the fourth and fifth years of the Bachelor of Dentistry degree course. Students must have a GPA of greater than 5.5, and have found a willing supervisor to be accepted into the on-course Honours program.

Aims
These courses aim to provide students with the opportunity, within the time frame of the undergraduate degree, to undertake a research project and gain the experience of being a constructive part of an active research community in dentistry. For some students, this experience has ignited an interest in dentistry research.

Student activities
During the fourth year course, students must develop a proposed research project and gain approval from the research committee. Much of this time is spent in negotiations, planning a project that will fit within the short time frame and around students' other courses. The actual research can begin as soon as the student has gained approval, and all data collection is expected to be completed within DENT4599. During this time, students are also required to gain an in-depth understanding of the previous research in their area, through the development of a literature review.
During the fifth year course, students need to analyse their data and communicate their findings. By the middle of the year, students present their project progress to the School of Dentistry and invited guests to gain critical feedback. The final report submission takes the form of a journal article, where students are required to select the journal, and submit the instructions for authors for that journal along with their report. This system has been developed to aid students in submitting their work for journal publication, and further the research output of the School of Dentistry.

Assessment
In DENT4599 students are required to develop a research proposal outlining the research plan and budget, and a literature review on previous findings relevant to the topic.
The fifth year assessment involves the oral presentation mid-year, and the final report at the end of the year, which is graded by an external examiner against set criteria including formatting according to the instructions for authors for their target journal.

Benefits for students
These courses provide students with experience of the entire research process, in an area of their interest. Students conduct their research, analyse their data and then communicate their findings to critical experts in their field in oral and written formats. Students are not only exposed to the process and requirements for research, but also get hands on experience and gain a large amount of confidence and pride in their ability to make a contribution to new knowledge in dentistry. Ultimately, this experience is expected to help students use new research findings more effectively when they enter professional practice.
Systematic Preparation for Clinical Practice
MEDI2006

School of Medicine

Target students
MEDI2006 is a sixteen-unit, compulsory course for second year medical students. This is an overarching course covering the whole of the second year medical degree.

Aims
Overall, the medical program is responsible for developing students’ expert knowledge, clinical skills and clinical reasoning within an overarching framework of disease principles, treatment and epidemiology. However, it is within this second year of the medical program specifically, that students are most explicitly focused on the evidence base that has led to the modern medical practices they are learning.

Student activities
Within MEDI2006 there are two main aspects which expose students to research, and require students to use evidence in their clinical reasoning. Firstly, there is a focus on evidence-based practice within MEDI2006 and students are encouraged to question whether or not there is sufficient evidence to support the medical interventions taught in the course. Secondly, students are actively involved in critiquing primary research through involvement in problem-based learning exercises. These small group sessions, chaired by a tutor, encourage discussion and critical thinking about research and its application to clinical problems. The advantage of these group sessions is that they provide students with an opportunity to actively evaluate the quality of research, rather than taking it at face value.

Assessment
MEDI2006 is assessed through a variety of tasks including exams, demonstration of competency in key clinical skills, submission of a video of a patient interview and students’ notes on patient interviews and examinations throughout the year in the form of a portfolio. Students will also complete an Evidence-Based Medicine Assignment involving critical analysis of a recently published article.

Benefits for students
MEDI2006 provides a number of opportunities for students to develop an understanding of research and research principles. In order to practice evidence-based practice after graduation, it is seen as essential to provide students in MEDI2006 with knowledge of the research pertaining to their field, and experience in use of research findings in a critical fashion.
Bachelor of Pharmacy, On-Course Honours
PHRM3026, PHRM3031, PHRM3046, PHRM3037, PHRM3047, PHRM4015, PHRM4025

School of Pharmacy

Target students
The pharmacy on-course Honours program encompasses seven courses across the final two years of the Bachelor of Pharmacy degree. These courses run concurrently with analogous courses in the pass degree, however students within the Honours stream undertake a research project with a supervisor in the final two years of the degree. Admission to these courses is dependent upon GPA and the number of projects offered.

Aims
This collection of courses aims to provide students with the opportunity during their undergraduate degree to be actively involved in research in the field of pharmacy.

Student activities
If selected for entry into the Honours stream, students work with an academic supervisor on a research project throughout the final two years of the degree. During third year, students focus on reviewing the literature and developing a research project under their supervisor’s guidance, which they communicate both orally and as a written proposal. In the fourth year, students participate in the equivalent of eight weeks of full-time research and then communicate their research findings in the form of a journal article and an oral presentation.

Throughout the on-course Honours program, students also participate in a journal club at which fourth year students each present a critical review of a relevant journal article.

The on-course Honours courses parallel the theoretical component of pass level courses. However, the students undertaking on-course Honours submit research-based assessments in lieu of certain assessments required for the pass level courses.

Assessment
In third year, students are required to attend Journal Club and submit a written critique of two journal articles in semester 1 (PHRM3026, PHRM3046). Students also take a course that is focused on clinical research methods and data interpretation (PHRM3031) which contains an assignment and written exam. In semester 2 they prepare a literature review and research proposal for their project, which is assessed through oral presentation and written assignment (PHRM3037, PHRM3047). In fourth year, they present a critical review of a journal article at Journal Club and present an oral summary of the results of their research project to the School of Pharmacy (PHRM4025), and write up their findings in the form of a research article following the instructions for authors for a journal of their choice (PHRM4015).

Benefits for students
The pharmacy on-course Honours program allows students to undertake their own research project, whilst gaining the qualifications to increase their career choices. Across two years, this series of courses enables students to think critically about the research of others and realise their own ability to conduct a research project of significance. It is also possible that this experience will ignite an interest for research. Students gain authorship if their paper (or a paper containing the data) is subsequently submitted for publication in a peer-reviewed journal by the supervisor. Students are also encouraged to attend a relevant national research conference to present their research findings as an oral presentation or as a poster.
Molecules to Medicine
PHRM4020

School of Pharmacy

Target students
PHRM4020 is a four-unit, year-long course for Bachelor of Pharmacy students not involved in the on-course Honours stream.

Aims
PHRM4020 is an overarching course, providing students with an opportunity to integrate information from the three prior years of pharmacy, to develop an in-depth appreciation of the process of drug development, from design, to formulation testing, to evaluation for registration on the Australian market. Students will gain hands-on experience in developing a new drug for the market.

Student activities
The course combines lectures, problem-based learning and practical components to introduce students to the intricacies of drug design. The course involves a laboratory-based drug development assignment, which enables students to carry out their own project in drug formulation.

The lecture component of the course is divided into learning about drug discovery, delivery systems and manufacturing processes. The lecture component of the course only runs in first semester and is designed to give students a solid grounding in the relevant information for the drug development project.

Another major component of the course is weekly problem-based learning meetings. In these classes students meet with a small group to address a clinical problem and discuss how this may affect patient outcomes and research direction.

The laboratory-based project in PHRM4020 involves developing a delivery formulation, for a drug, to target a certain area of the body. Students use existing literature to inform their design decisions and to lay the foundation for the formulation. Labs are available from 9am-4pm one day per week throughout first and second semester to encourage independent learning. Students work in small groups to create a sample of their proposed formulation of the drug.

Assessment
The laboratory-based component is assessed through an oral presentation of results and a research report.

Benefits for students
PHRM4020 seeks to lead students through the process of drug discovery and design, both through lectures and a student-driven project in drug formulation research. Students gain experience in the pitfalls and excitement of developing a new compound, and in the process, gain skills in oral communication that will be essential for their professional practice after graduation. This project gives students insight into the meticulous process by which drugs are designed, developed in the laboratory, and evaluated for registration on the market. Finally, the PBL section of the course encourages students to apply knowledge learned in the lectures and practical sections, and think laterally about clinical and research problems in pharmacy.
### 2.5 Faculty of Natural Resources, Agriculture and Veterinary Science

#### School of Animal Studies

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>ANIM3601</td>
<td>Special Topic I &amp; Special Topic II</td>
</tr>
<tr>
<td>ANIM3602</td>
<td></td>
</tr>
</tbody>
</table>

#### School of Integrative Systems

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENVM3521</td>
<td>Industrial Placement (Natural &amp; Rural Systems)</td>
</tr>
<tr>
<td>LPWM2008</td>
<td>Cultural Heritage Management</td>
</tr>
</tbody>
</table>

#### School of Land, Crop and Food Sciences

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>AGRC3007</td>
<td>Research Methodology for Biophysical Sciences</td>
</tr>
<tr>
<td>AGRC3602</td>
<td>Special Topic II</td>
</tr>
</tbody>
</table>

#### School of Veterinary Science

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>VETS5017</td>
<td>Research Veterinary Elective</td>
</tr>
</tbody>
</table>
Special Topic I and Special Topic II  
ANIM3601 and ANIM3602

School of Animal Studies

Target students  
ANIM3601 and ANIM3602 are both two-unit courses. These courses are typically taken by third year Applied Science and Agricultural Science students who have an interest in research.

Aims  
At the time of this investigation, the courses were aiming to provide students with a ‘jumping off point’ for Honours, by allowing them to explore areas of study for prospective Honours projects, and to prepare them with the technical skills they would require for their Honours year. This course was evolving at the time of this investigation, and there were plans to make the course more structured to facilitate the administration of Honours projects early, and reduce several of the key problems past students faced during their Honours year.

Student activities  
This course allows students to develop their knowledge and skills in a particular area, so the learning objectives and assessment vary with each student. These are developed in a meeting between the student and their supervising academic and documented in a learning contract. In most cases the supervising academic will be the person who plans to take the student for the Honours year. Future plans include students participating in structured classes in areas such as occupational health and safety, animal ethics and data handling and processing, in order to reduce some of the administrative problems past students faced while undertaking Honours.

Assessment  
The assessment requirements and criteria are negotiated during meetings between the student and their supervisor, and are entered in the learning contract. Usually students complete two major assignments during each of these courses.

Benefits for students  
In these courses, students gain a head start to Honours by working on a small project, under the supervision of their future Honours supervisor. In many cases students are able to develop research proposals and gain an in-depth knowledge of the current research in their area of interest. In addition, students often gain the technical skills they will need for subsequent work in that area. Future plans include a scholarship scheme to help students undertake additional work in preparation for their Honours year.
Industrial Placement (Natural and Rural Systems)
ENVM3521

School of Integrative Systems

Target students
ENVM3521 is a four-unit course, compulsory for students enrolled in the Bachelor of Environmental Management, but also open to students enrolled in the Bachelor of Agricultural Science. Students must have completed 34 units before enrolling in this course.

Aims
The main objective of ENVM3521 is to provide students with a ‘real life’ experience in an organisation, so that students gain a clearer understanding of the workplaces in which they will be trying to gain employment after graduation.

Student activities
Within this course students will undertake an uninterrupted period of 16 weeks of experience in an organisation involved in the management of natural and rural resources, including protected areas, wildlife, production enterprises and service industries. Each student develops a research project in conjunction with their supervisor at the placement organisation and their academic supervisor from the School of Integrative Systems at UQ. This ensures that each project has a meaningful outcome for the organisation, and the degree of research rigor required for the course. During the placement, students are expected to devote the majority of their time to their research project, but also to spend some time assisting in the general functioning of their organisation. Through this blend of research and work, students gain experience in the application of research in the workplace, as well as invaluable experience in interacting and communicating effectively in a work environment, including how to conduct themselves in a work setting, how to write emails and be diplomatic and learning how to develop an effective resume.

Assessment
This course is assessed continuously throughout by means of assignments, supervisor reports and presentations. The assessment begins in Semester 1 with the student documenting the organisation of their placement position and broad research direction, and finishes with a 10-15 minute oral, presented in Orientation Week of the following year, which summarises the Industrial Placement experience and final project.

Benefits for students
ENVM3521 assists in the final development of students’ research skills, by giving students experience in using their research skills in a workplace. Students also gain self-efficacy by producing an outcome that is useful to their host organisation, within a defined short timeframe. Students also gain experience in presenting their finished work to their organisation and fellow students at the end of the course. The added benefits of ENVM3521 are the relationships forged between the student and the placement organisations, with many students gaining employment as a result of the experience and contacts they gained during the course. Past students have also successfully used the outcome materials/reports they developed during ENVM3521 as evidence of the standard of their work in interviews.
Cultural Heritage Management
LPWM2008

School of Integrative Systems

Target students
LPWM2008 is a two-unit undergraduate course typically undertaken by students who desire to pursue careers as park rangers or environmental managers. This course is not designed for training for postgraduate work, but rather uses a research experience to help students gain an understanding of the type of community liaison work they will need as environmental managers or park rangers.

Aims
This course aims to introduce students to cultural heritage issues and different epistemologies, with a focus on local Aboriginal communities. The course covers the cultural aspects of environmental management, including topics such as site management, fire management, the traditional use of parks and natural resources, and interpretation planning.

Student activities
Students within this course participate in the current research projects of the course coordinator, with a focus on an Aboriginal site in the Darling Downs area. This site has been opened up in recent years as a reconciliation site for the general public, for example school groups and local groups. The students are involved in several aspects of the research process including understanding the relevant research literature, collecting and analysing data, and presentation of the outcomes to academic and public audiences. Throughout this process, the students are working with the indigenous people, and learning to communicate effectively and respectfully with the traditional owners of the land. This course changes to some degree each year as the coordinator’s research evolves, but in general, students may be involved in designing posters, leaflets, games, interpretation plans and a website for the area.

Assessment
This course is assessed continuously throughout the semester by means of workbook exercises and an assignment.

Benefits for students
In LPWM2008 students gain real life experience with the types of situations they will likely need to negotiate during their careers, and practice in using their research skills to find evidence-based solutions. In addition, this course provides students with opportunities to challenge their perceptions of another culture, whilst gaining the skills to successfully work with a culture using very different epistemologies to their own. In short, this course strives “to encourage them [students] to think outside the square” when it comes to environmental management, cultural heritage and Aboriginal communities.
Research Methodology for Biophysical Sciences
AGRC3007

School of Land, Crop and Food Sciences

Target students
AGRC3007 is a third year course delivered in first semester, primarily for undergraduate students undertaking study in the area of food science and technology, although it is also open to students from other fields in the agricultural and environmental sciences. AGRC3007 has an average enrolment of 20 students per semester, but classes are also combined with the postgraduate equivalent course, AGRC6630. AGRC3007 is mostly St Lucia based, but is also open to students who commute from the Gatton campus.

Aims
AGRC3007 functions mainly as a supporting course for FOOD courses, and aims to help students develop their research skills, including research planning, literary reviews, compiling annotated bibliographies and allowing the students to formally present their data. These skills are developed through a small-scale project, deliverable in a one-year timeframe. Within these projects an emphasis is put on the research process.

Student activities
The philosophy of this course surrounds the scientific method of investigation. Within each student's small-scale project, the focus is on developing hypotheses, the planning and conducting of experiments, and refining these hypotheses after results have been obtained. FOOD students are given research topics by their supervisors from their FOOD based research projects (FOOD4611, FOOD4612). AGRC students develop small group projects in an area of interest, and usually four to five students work under the supervision of each supervisor.

Assessment
This course has continuous assessment throughout the semester beginning and ending with students writing a research abstract for their project.

Benefits for students
After AGRC3007, students will have gained the necessary research skills to complete their research projects, so supervision is easier and students ultimately achieve higher academic results. An additional benefit of this course is that undergraduates and postgraduates are together in common lectures and tutorials, creating a ‘research community’ which has been greatly appreciated by students in the past. Also, the continuous assessment style throughout the semester demonstrates to students how their understanding of research changes over time.
Special Topic II
AGRC3602

School of Land, Crop and Food Sciences

Target students
AGRC3602 is an elective course available to students at the Gatton Campus in all three semesters. The course is run as an ‘umbrella course’, where students complete self-directed study in an area of interest, and therefore, a high degree of student motivation is necessary for academic success.

Aims
The main focus of AGRC3602 is for students to develop expertise and/or gain hands-on experience in their particular area of interest, so the course content is flexible and dependant on each student’s interests.

Student activities
To participate in this course, students select an area in which they want to develop more expertise, and then forge a ‘learning contract’ with a supervisor involved in this area of study. This contract serves the dual purpose of providing structure for the students as well as keeping track of which academic is responsible for each student. In general, students undertake a small research project, or one to two in-depth literature reviews in their area of interest. Over the last two years, there have also been students who have undertaken work in AGRC3602 to satisfy the requirements of courses which are no longer offered, but which are seen as necessary for the students’ future success during their degrees and after graduation.

Assessment
The assessment requirements and criteria are negotiated during meetings between the student and their supervisor, and are entered in the learning contract. Each learning contract must also undergo critical review by the Head of School before being approved. In some cases, students may undertake a small research project in an area of interest. Assessment would be a literature review and project report.

Benefits for students
AGRC3602 allows students to control the benefits they gain in terms of expertise and experience, and has therefore been used to serve a large number of purposes. This course has been used in the past as a way of completing course work from courses that have been discontinued, or as a way of gaining early approval for a potential Honours project. For example, a student may use this course as a way of doing preliminary study and research into a topic which they see as a viable Honours project. Overall, students have been seen to develop a far greater level of ‘disciplinary expertise’ in their areas of interest as a result of their in-depth study into that topic in AGRC3602.
Research Veterinary Elective
VETS5017

School of Veterinary Science

Target students
VETS5017 is a two-unit course offered at the Gatton campus for fifth year veterinary science students. As students will be taking VETS5017 alongside their clinical practical work in the final year, and VETS5017 runs for the whole year, students are advised to block out time during the summer and winter breaks to conduct the majority of their data collection or laboratory work.

Aims
The aim of this course is to provide students with the opportunity to conduct a small research project in an authentic research setting, thereby helping students to gain experience in defining a research issue, undertaking research techniques, undertaking appropriate analysis of data and drawing defensible conclusions.

Student activities
Students decide on a topic of interest in veterinary science, and then find a supervisor within their area of study. To do this, students are encouraged to use the UQ website research pages and are emailed a list of available projects just before enrolment. Most students work with researchers from the School of Veterinary Science, however some students do find links through UQ researchers to projects with external organisations such as Australia Zoo, Queensland Primary Industries and Fisheries, and Queensland Health. There is a large diversity of topics chosen by students each year, however each student is generally expected to engage in developing a project, preparing a short research proposal, literature review, undertaking the research, writing it up in the style of a journal article and then giving a short presentation to the School.

Assessment
The course is assessed mainly through the submission of a report detailing the research project and findings in the style of a journal article. Students are also assessed on their research proposal, preliminary literature review, their professional and technical performance during the project work, and their final presentation to the School.

Benefits for students
The course is beneficial for students as it promotes different ways of thinking about current research problems, research literature and the analysis of data. For example, students realise that published methods are sometimes flawed or missing key elements, and begin to question peer-reviewed papers with a more critical and informed eye. In addition, students also learn the up’s and down’s, frustrations and insights, and general politics and functioning of the research world. Past students have enjoyed the ownership they can take in their project, and pride in their work at the conclusion of the course, which is encouraging and can lead to a real interest in the research world. All in all, students learn how to make their way in the world of research, and also acquire skills relevant to the effective use of research findings throughout the process.
2.6 Faculty of Science

### Faculty of Science

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>iGEM</td>
<td>International Genetically Engineered Machine</td>
</tr>
<tr>
<td>SCIE1017 + 2017 + 3017</td>
<td>Advanced Studies Program in Science (ASPinS)</td>
</tr>
</tbody>
</table>

### Centre for Marine Studies

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>MARS2005</td>
<td>Australia’s Marine Environment</td>
</tr>
</tbody>
</table>

### School of Biological Sciences

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>ZOOL3002</td>
<td>Animal Behaviour</td>
</tr>
</tbody>
</table>

### School of Biomedical Sciences

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL1040</td>
<td>LabTutor (in BIOL1040)</td>
</tr>
<tr>
<td>BIOM2011</td>
<td>Integrative Cell &amp; Tissue Biology</td>
</tr>
<tr>
<td>SCIE3012</td>
<td>Introduction to Research</td>
</tr>
<tr>
<td>SCIE3044</td>
<td>Vacation Project</td>
</tr>
<tr>
<td>USSER NETWORK</td>
<td>USSER NETWORK</td>
</tr>
</tbody>
</table>

### School of Chemistry and Molecular Biosciences

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL3020/BIOL3220</td>
<td>Molecular Techniques in Ecology &amp; Evolution</td>
</tr>
<tr>
<td>CASPIE</td>
<td>Centre for Authentic Practice in Science Education (in CHEM1020 + CHEM2054)</td>
</tr>
<tr>
<td>ZOOL3006</td>
<td>Fish Biology</td>
</tr>
</tbody>
</table>

### School of Geography, Planning and Environmental Management

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>PLAN2000</td>
<td>Integrated Planning Projects 2</td>
</tr>
<tr>
<td>PLAN3000</td>
<td>Integrated Planning Projects 3</td>
</tr>
<tr>
<td>PLAN4000</td>
<td>Group Project</td>
</tr>
</tbody>
</table>

### School of Mathematics and Physics

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>SCIE1000</td>
<td>Theory &amp; Practice in Science</td>
</tr>
</tbody>
</table>
International Genetically Engineered Machines (iGEM) Competition

School of Biomedical Sciences

Target students
The iGEM competition was established as an international program several years ago, thus, the iGEM program itself is made up of teams of undergraduate students from all over the world, and from a range of disciplines. UQ joined the iGEM competition in 2009 with ten biomedical science students and one engineering student working in two teams under the supervision of an academic in the School of Biomedical Science. In coming years it is hoped that the extra-curricular program will become popular for UQ students across engineering, sciences, arts and business, as it has at other universities.

Aims
iGEM provides students with the opportunity to take complete ownership of an internationally-recognised research project in genetic engineering, from initial funding and laboratory setup, through to research question development, method development and communication at an international conference.

Student activities
Within iGEM, students work in a molecular biology laboratory in their home institution on a research project to incorporate genes a biological organism (usually bacteria) to develop a novel, genetically-modified, biological machine. Students present their project progress at an international conference competition run out of MIT in the USA, and successful organisms are added to an international database for dissemination to researchers throughout the world. Teams range from 2, to up to 30 undergraduate students, and all work associated with the research project must be conducted solely by the students. Although supervisors help students attain the skills in molecular biology techniques to conduct their projects and provide ongoing guidance, the students are responsible for all aspects of the project from designing the project to obtaining the necessary funding, equipment and reagents to complete the project and travel to the conference to present their work. In 2009, the two UQ teams worked on projects to develop a bacterium that could extract mercury from water, and to alter the bacteria used to seed clouds to produce rain in cold climates, to survive in the warmth of the Australian climate.

Benefits for students
Through participation in iGEM, students make huge gains in tackling the responsibilities associated with conceptualising, funding, conducting and presenting their own research project in genetic engineering. In addition to the experience and skills in each of these processes that students gain along the way, students also develop a strong sense of their own achievements and the impact of their project findings. This provides students with confidence in their ability to undertake an advanced research project, and provides students with international exposure and important connections with potential international collaborators. In addition, as iGEM is a competition, the opportunity for prizes at the annual conference, and to contribute to the international database of genetically-engineered machines, provides students with an exceptional chance to build their curriculum vitae, kick start their career in scientific research and increase their employability in the future. In 2009, the UQ team won a bronze medal at the international competition, demonstrating their hard work and dedication, and the outstanding caliber of the current UQ iGEM team.
Advanced Studies Program in Science (ASPinS)
SCIE1017: Perspectives in Science
SCIE2017: Perspectives in Science Research
SCIE3017: Further Perspectives in Science Research

Faculty of Science

Target students
The Advanced Studies Program in Science (ASPinS) is available to students who have excelled academically and have an interest in scientific research. ASPinS extends across the three years of a science program through a series of vertically integrated courses (SCIE1017, SCIE2017 and SCIE3017), which each have a quota of 40 students. First year science students with high university entry scores (usually OP1-4), who gain a high GPA (usually above 6.0) in their first semester are invited to apply for entry into ASPinS through enrolment in SCIE1017. Once in the program, students are not locked into completing all three courses, therefore each year, places also become available for suitable second and third year science students to apply to join ASPinS. Students must also maintain a high GPA to remain in the program each year.

Aims
ASPinS aims to recruit high achieving students and integrate them into the scientific research community. Overall, the program aims to fuel the interests of these students in scientific research, beginning in SCIE1017 by introducing them to the breadth of scientific endeavour, the integrated nature of scientific disciplines and the importance of the scientific process and critical thinking. Then in SCIE2017 and SCIE3017 the main objectives are for students to solidify their deepening knowledge of the research process and community by undertaking research projects with two active research groups at UQ.

Student activities
SCIE1017 starts by building a sense of community amongst the students through a camp at one of the remote UQ research stations. SCIE1017 is then broken into a series of modules each centred on a key research theme, for example water, or climate change. For the first part of the module, students will have lectures from several speakers from diverse disciplines who research in the field of the module topic. For example in the water module, an engineer and a social sociologist speak about water purifying in Queensland from the perspective of their field. For the second part of the module, students participate in module related activities, such as visiting a bore for the water module. The third part of the module involves students working in small groups to undertake a literature review on the module topic and provide a class presentation.

In SCIE2017 and SCIE3017, the main focus for students is to find a research group to undertake a project with for the duration of the year. The research group and project for SCIE3017 must differ from SCIE2017. Once enrolled in each course, students are responsible for finding their own mentor, and discussing with their mentor possible research projects. After their supervisor has agreed to their proposal, students can begin work in the laboratory, and for each course, students must complete at least one hundred hours of work on the research project throughout the year. In many cases students undertake the majority of laboratory work during the breaks between semesters, as this often allows them larger blocks of uninterrupted time to complete more complex experimental protocols and data collection. Students are also provided with lectures in SCIE2017 to scaffold their introduction to research with their research group.

In each course, students are expected to attend a series of research seminars to broaden their understanding of current research in a variety of fields. In SCIE1017, students are invited to participate in lunchtime seminars, held on Wednesdays throughout the year. These seminars introduce students to UQ researchers who speak about their own research projects and interests, as well as their career paths. In SCIE2017, students participate in a series of weekly seminars from UQ researchers throughout the first
semester, while in SCIE3017, students are free to choose the research seminars they attend, for example their School seminar series, but must attend at least ten seminars throughout the year.

Each year culminates with an ASPinS conference which draws all of the students from all year levels together in a showcase of the research projects the senior students have conducted throughout the year. SCIE1017 students are responsible for organising a leading researcher to provide the plenary seminar for the conference. SCIE2017 students present posters communicating their research projects, and the SCIE3017 students provide seminar presentations on their research projects.

**Assessment**

During SCIE1017, students are assessed on their participation throughout the course, their symposium proposal and article reviews. The assessment component of SCIE2017 is comprised of a literature review, research project and the poster presentation at the ASPinS conference. In previous years SCIE3017 was graded as pass or fail, but this has changed in 2009 so that students receive a final course grade on the standard UQ 7 to 1 scale. The assessment in SCIE3017 includes the student’s performance in the research laboratory, diary entries on the ten research seminars they attended, the abstract submitted for the ASPinS conference and their presentation at the conference, as well as a final report on their research project.

**Benefits for students**

The Advanced Study Program in Science (ASPinS) facilitates the entry of high achieving students into the scientific community, offering students opportunities to become part of a scholarly community of like-minded peers from early in their science degree. Through the seminars, research projects and annual conference, students also develop a broad understanding of current scientific research and a rich network of connections with several research groups. Through the extensive research projects undertaken during SCIE2017 and SCIE3017, students are also able to gain experience and develop their skills in research projects in their specific fields of interest. This provides students with the insight, experience and networks to make informed decisions about undertaking Honours and research higher degree programs. As ASPinS is a prestigious program for select students, it also helps students to build their curriculum vitae and increase their employability.

In particular, previous students have also commented on how much they appreciated the annual conference, as it provides a range of important experiences that are not generally available to undergraduate students. This is especially the case for the first year students, who are responsible for organising the plenary speaker for the conference, including choosing the speaker, writing to their speaker with a proposal, and organising their flights and accommodation. This is a great opportunity for first year students to demonstrate their interest and motivation, and is looked upon favourably by future supervisors and employers.
Australia’s Marine Environment
MARS2005

Centre for Marine Studies

Target students
Most of the students who enroll in MARS2005 are international students and study abroad students. As a result, the students come from a broad demographic range including Europe, South America, Asia, the USA and Canada, and have diverse backgrounds. Domestic students undertaking particular programs may need to apply for approval from their Faculty before being admitted to MARS2005. The two-unit course is offered in Semesters One and Two.

Aims
The main aim of MARS2005 is to teach students from diverse backgrounds how to access scientific literature and data, form a hypothesis and communicate in the scientific style. Students are engaged in research through field trips to areas of marine sites, although they also gain knowledge of core content though lectures. This course aims to prepare students with the key research skills to interpret marine systems.

Student activities
Students participate in lectures, as well as two field trips, where they work in small groups on short research projects. Before the first field trip, students must complete one library-based assignment on their favourite organism to evaluate their research skills. There is a focus on correct referencing citation and styles within this assignment to ensure that students are accessing the appropriate literature in preparation for the later research projects.

Early in semester, the students undertake their first field trip for three days at the Moreton Bay Research Station on North Stradbroke Island. The first day of the field trip is spent introducing students to the shore environments they will investigate, and examining the marine systems of the area. The second day is spent introducing students to the process of doing a small research project with a limited data set, and developing a project concept in research groups with the assistance of a tutor. The final day is spent gathering data and preparing this data for inclusion in a short scientific paper.

The second field trip to Heron Island takes place later in semester, and is longer and more intensive. The first two days are spent exploring the environment and becoming familiar with the marine organisms and habitats of the island, and key relevant scientific concepts. After this introduction, students undertake another research project similar in style to the project from Stradbroke Island, but on a slightly larger scale.

Assessment
The assessment component of MARS2005 consists of the initial literature review, the research reports from both field trip projects, as well as a final examination at the conclusion of the course.

Benefits for students
The research projects undertaken during the field trips provide this diverse cohort of students with a unique opportunity to explore Australian marine ecologies - a focus especially appreciated by international and study abroad students. Students gain an understanding of the value of using research literature and hands-on experience in designing, conducting and communicating a small research project. In addition, students have the opportunity to experience the unique research environments provided at UQ’s highly regarded marine research stations.
Animal Behaviour  
ZOOL3002 (BIOL3207 in 2010)  

School of Biological Sciences  

Target students  
ZOOL3002 is a third year, two-unit course offered in Semester One to science students. These students will have an interest in research in the field of animal behaviour. The course typically has approximately 80-100 students enrolled each year.  

Aims  
Overall, the aim of ZOOL3002 is to give undergraduate students, a general understanding of patterns of invertebrate and vertebrate animal behaviour, the physiological bases of behaviour, the development of behaviour and how patterns of behaviour evolve, and an introduction to the research approaches used in this field via a mini-Honours-style research experience.  

Student activities  
The practical component of ZOOL3002 is comprised of a group research project within a flexible delivery format. Students are provided with a list of general topics from which they can choose, as well as provided with the opportunity to develop their own research question. Students then form groups of three to four students to formulate their aims and hypotheses, and produce a group research proposal. Before embarking on the project, each group must complete a risk assessment for their project. Throughout the research project, all students are expected to comply with the appropriate Animal Ethics guidelines, and are responsible for independently collecting and analysing their data. To support students throughout the semester, each group has a tutor available for meetings once a week, and students are encouraged to use this opportunity as much as possible. At the completion of the research project, each group presents their project and findings to the class, and each student submits a final research report either individually or as a group assignment.  

Assessment  
The assessment component of ZOOL3002 is comprised of a group proposal and presentation, an individual or group research report and an end of semester examination which is based on lecture material.  

Benefits for students  
As the emphasis of the practical component of ZOOL3002 is on students working together in small groups to conduct a small independent research project investigating an aspect of vertebrate or invertebrate behaviour, students are able to develop their collaborative skills as well as gain experience and confidence in conducting a research project. In particular, previous students have indicated through surveys, that ZOOL3002 has helped them to feel less intimidated by the prospect of a research project by the end of the course, than they did before commencing the course. In addition, the large amount of input students have into the research approach and data collection has resulted in students taking ownership of their projects, which is clearly evident in the final assessment items at the end of semester. As such, ZOOL3002 provides students with excellent preparation for an Honours project and further research higher degree studies.
Cells to Organisms
BIOL1040

School of Biomedical Sciences

Target students
BIOL1040 is a two-unit course offered in both Semesters One and Two, to cater for the large number of students from a diverse range programs who require a foundation in biology. In Semester One, most students are enrolled in professional programs including Human Movement Studies, Pharmacy, Dentistry and the accelerated Bachelors of Medicine, Surgery and Science (BSc/MBBS) programs. The second semester intake is mainly comprised of students undertaking a Bachelor of Science, or a science-based double degree, or a related named program such as the Bachelor of Biomedical Science.

Aims
The primary aim of BIOL1040 is to facilitate students’ transition from high school level biology into tertiary studies, providing students with a solid foundation in biology applicable to a range of more advanced studies. BIOL1040 also aims to help students appreciate the processes of inquiry used to produce the knowledge they are gaining, as well as excite students about scientific research by engaging them in a community of scholars to discuss current biological research.

Student activities
Within BIOL1040, there are two major activities conducted throughout semester that engage students in the research process and current research findings, the inquiry style practical classes, and the BioHorizons eConference.

Students participate in six practical classes throughout the semester, which are integrated with the knowledge from their concurrent lectures. Each fortnight, students are provided with background readings related to the lecture content, and then must complete a short online test on this material before the practical. During the practical classes, students are presented with a new case study for which they must conduct an experiment. For the majority of these practicals, students then undertake a second set of experiments for which they must develop their own hypothesis and/or design their own protocol to test the hypothesis. During each practical class, the background reading, case study, hypothesis, methods and results are integrated in an online system called LabTutor (ADInstruments). Within 48 hours after each practical class, students must download this information and integrate it with their answers to a series of discussion questions, and submit this document as a final report.

The BioHorizons eConference begins with a plenary lecture provided by an internationally renowned researcher outside of the usual class schedule. Previous speakers have included Professor Ian Frazer from the Diamantina Institute and Professor Mandyam Srinivasan of the Queensland Brain Institute. Students are then provided with a CD of approximately ten interviews with different researchers on current hot topics in biological research. Students must choose their topic and work in groups of three to produce a series of PowerPoint slides and a report on two primary articles and one secondary article related to the topic. Students then participate in an online discussion between groups in response to each other’s slides and reports. A team of tutors guide students in the development of their slides and reports, facilitate and moderate the online discussion, and assess all three tasks. Within each group of three, student also assess their peers and themselves for their contributions to the slides and report.

Assessment
As part of the eConference, students are assessed on their slides, reports and online discussion, and for their practicals, on their pre-tests and reports, as well as several core competencies which are examined within the practical classes. The final item of assessment for BIOL1040 is the end of semester examination.

Benefits for students
BIOL1040 provides students with an interactive introduction to the scientific way of thinking, within the context of developing a foundation of knowledge in biological science. The course scaffolds students through the process of scientific inquiry in their practicals, and the communication of current research findings in the eConference, with many small milestones which facilitate students’ transition from high school to university. This provides students with a foundation of key skills needed to interpret and work with scientific research findings in future courses. Students also state that they have found BIOL1040 useful in helping to understand how to structure a scientific experiment, which is invaluable for future research projects.
Integrative Cell & Tissue Biology
BIOM2011

School of Biomedical Science

Target students
BIOM2011 is a two-unit course designed for second year undergraduate science students, who have completed BIOL1040 and are interested in majoring in biomedical science. Most of the students who enrol in BIOM2011 are undertaking a Bachelor of Science, Bachelor of Biomedical Science, or the accelerated Bachelor of Medicine, Surgery and Science (BSc/MBBS) programs.

Aims
BIOM2011 aims to help students develop an understanding of how cells associate and interact to fulfil their normal functions in tissues and organs of the human body, whilst gaining experience in undertaking experimental research. Specifically, the practical component of BIOM2011 is based on an inquiry design, and aims to provide students with the opportunity to think and work like scientists. This extends students’ skills from BIOL1040 in developing research questions, designing and conducting experiments, and introduces students to statistically analysing data, interpreting results in the context of scientific literature, and writing scientific proposals and reports. BIOM2011 also aims to provide students with the experience in conducting a research project over several weeks, in preparation for the semester long research projects in BIOM2012.

Student activities
The practicals in BIOM2011 consist of two projects, each with three 3 hour classes. The first project focuses students on cardiovascular physiology, specifically the structure, function and communication between cardiomyocytes, using the toad heart as the experimental model. The second practical project focuses on skeletal muscle physiology, where students are the subjects for their own experiments using electromyography (EMG) recordings. At the beginning of each project, students form small groups (of 2-4 students for the first project, 4-6 students for the second project), and work through a series of skill building exercises to familiarise themselves with the experimental paradigm and techniques. Each group then develops their own specific hypothesis and experimental methods, and submit these along with an outline of the relevant physiological mechanisms as a research proposal. Students are then guided through the analysis of their preliminary data in the subsequent class. Students are provided with feedback on the research proposals before conducting their experiments in the final class of each project module, analysing their data, and writing up the project in the form of a scientific journal article.

Assessment
During each project, students are assessed on their research proposal and final report. Each of the assessment items are linked, so that feedback on each assessment is directly relevant to subsequent assessments. In addition, students must pass an end of semester examination to successfully complete BIOM2011.

Benefits for students
BIOM2011 aids students in their progression toward a major in biomedical science by developing the skills in scientific inquiry gained in BIOL1040, and preparing students for more advanced scientific inquiry projects in BIOM2012. As students have a greater degree of ownership of their experimental design as they progress through these three courses, students are also able to develop independence in planning, executing and communicating their research projects. In many cases, students encounter unexpected results during their BIOM2011 research projects, and have been seen to develop a greater appreciation for the role of scientific inquiry in the creation of new knowledge in their field. The scaffolding and assessment in BIOM2011 also provides students with experience in using various techniques to validate, analyse, communicate and interpret their experimental data. As students are also required to integrate primary scientific literature into the formulation of their hypothesis and interpretation of their project findings, they gain a deep level of knowledge in two fields of biomedical science and skills in working with scientific literature.
Introduction to Research
SCIE3012

School of Biomedical Science

Target students
SCIE3012 is a two-unit course available to all third year science students with an interest in research. Students must have completed 24 units of study before they are able to enrol in SCIE3012, so undergraduate students usually enrol in their final semester of third year.

Aims
The course provides generic skills and knowledge relevant to all areas of scientific research across a range of disciplines. SCIE3012 also allows students the opportunity to use their own initiative to identify a suitable research group to work with, and project to work on for the semester. Overall, this course aims to provide students with the experience to make informed choices about undertaking an Honours research project the following year.

Student activities
Within the first three weeks of semester, students are introduced to the expectations of the course and prompted to find a supervisor and project for the semester. Students then complete approximately 100 hours of work on their research project, in most cases individually, although some students work in small groups on a related set of projects. Throughout the semester, students participate in workshops to develop their understanding of key issues in scientific research, including research ethics and communication of their research project.

Assessment
The assessment component of SCIE3012 consists of an individual project report, project performance, record keeping, poster presentation and workshop participation.

Benefits for students
SCIE3012 provides students with an invaluable opportunity to experience scientific research before the Honours year, which serves the dual purpose of acting as a transition into Honours year and helping students to make informed choices about pursuing a research-based career path. Students gain research and academic independence as part of the course, as the projects are run independently and students must find their own supervisors and projects. The workshops in SCIE3012 help students develop effective communication skills and provide students with a broad foundation across a range of important issues in scientific research.
Vacation Project
SCIE3044

Faculty of Science, administered by School of Biomedical Sciences in 2009

Target students
SCIE3044 is a two-unit course open to all science undergraduate students, but approval must be sought from the Associate Dean (Academic) of the Faculty of Science prior to enrolling into the course. The average enrolment is 60 to 100 students. Most students enrol in SCIE3044 in the summer semester between second and third year or at the end of the third year of their program. Students from external tertiary institutions are also able to participate in SCIE3044, provided the Associate Dean approves their prior course work as adequate.

Aims
SCIE3044 aims to provide students with experience working on a research project full time for a significant period. SCIE3044 also aims to facilitate student entry into research by providing a list of available projects and supervisors each year.

Student activities
Late in Semester Two, students are provided with an information session on the application process and expectations of SCIE3044. The list of available projects and supervisors are released to the students, and the students need to interview with potential supervisors to negotiate the details of the project before submitting their application for approval to the Associate Dean (Academic) of the Faculty of Science. Students then conduct their project, including write up of the final report, under the guidance of their supervisor over a six-week period during the Summer Semester.

Assessment
Students are assessed by their supervisor during their research project, on their laboratory notebook and on their final research report submitted at the conclusion of the course.

Benefits for students
SCIE3044 provides students the opportunity to experience scientific research before the Honours year, which serves the dual purpose of acting as an introduction into Honours year, and helping students make informed choices about pursuing a research-based career path. During their intensive immersion in the research environment, students develop key research skills and an appreciation of the procedures and protocols associated with research. Students also have valuable opportunities to develop their networks and their expertise in the research field of their interest. A scholarship is also available to students applying to enrol in SCIE3044; scholarship selection is primarily determined by the student's GPA and the support of a supervisor willing to offer a suitable project. This scholarship helps to compensate for any external work commitments that students are unable to maintain as a direct result of the six-week full time load required in SCIE3044, and provides students with an additional award to build their curriculum vitae.
Undergraduate Science Students’ Experience in Research (USSER) Network

Faculty of Science, administered by the School of Biomedical Science

Target students
The USSER Network is an extracurricular program available to all undergraduate science students undertaking any of the science-based degrees, but is primarily targeted to first year students. The model is open to all undergraduate science students, from those who think they might be interested in a research-based career, to those who are just curious about the research being conducted within their institution.

Aims
The primary aims of the USSER Network are to increase the frequency and quality of interactions between undergraduate science students and UQ researchers, to help students understand what a career in research entails, and the specific research being conducted by scientists at UQ. Ultimately this extracurricular program aims to help students realise the excitement and impact of scientific research, and to help undergraduate science students gain research experiences.

Student activities
There are three components to the USSER Network: “Meet the Researcher” lunches, “Laboratories Unwrapped” tours, and Research Team Placements.

Meet the Research Team Lunches: Several researchers, from junior and senior levels, meet with groups of undergraduate students for two to three lunches each semester. These lunches take a round robin ‘speed dating’ format, where 3-5 students and a researcher have a 10-15 minute conversations about research and career paths. Once time is up, the researcher moves to the next table to meet with a second and third group of students. At the end, each researcher provides a short biography for the entire group, and students are able to mingle with the researchers they have common interests with for the remainder of the lunch. The design has been chosen to foster conversations amongst small groups, and thus provide numerous, personalised interactions between the researchers and undergraduate students.

Laboratories Unwrapped Tours: Each year students are invited to participate in two to three tours of research facilities on the St Lucia campus including the Australian Institute of Biotechnology and Nanotechnology and the Centre for Microscopy and Microanalysis, and the Queensland Brain Institute. The Laboratories Unwrapped Tours help students to see the daily functions of research laboratories by showing students through laboratories in action.

Research Team Placements: Research Team Placements provide students with the opportunity to gain insights into the daily workings of a research team, through a ‘work experience’ based model. The placements expose students to the research culture, however, the exact nature of each placement is negotiated on an individual basis. Placements range from students being invited to research team meetings and journal clubs, to students actively participating in current research projects in the laboratory and field. The USSER Network advertises a database of placement opportunities and provides students with workshops to identify researchers they would like to gain experience working with, and help students to gain volunteer positions with those research groups. Students apply and are interviewed by the research team leader. At the end of the interview, the researcher and student sign a contract detailing the exact nature of the placement (time commitment, student roles, training requirements for occupational health and safety) to ensure there are no misunderstandings of expectations within this very flexible scheme.

Assessment
As the science curriculum is already very time-intensive for students, the USSER Network was designed to be informal and flexible with no course credit, and thus no assessment.

Benefits for students
Evaluations from past students who have participated in the USSER Network program indicate that the events help students to understand what research is really all about, to realise the diversity of research conducted at UQ, and to make connections with UQ researchers. In addition, students have reported that the USSER Network events have been very useful for providing them with information about the research experience opportunities available to undergraduate science students at UQ. In several instances, participation in the USSER Network has facilitated the entry of students into more advanced undergraduate research experience courses such as the Advanced Studies Program in Science and SCIE3044/SCIE3012 Introduction to Research.
Molecular Techniques in Ecology & Evolution
BIOL3020 (BIOL3220 in 2010)

School of Biological Sciences

Target students
This two-unit course is open to all students undertaking a degree in science. Usually students enrol in this course aiming to fast track their degree over the Summer Semester and gain laboratory skills in preparation for Honours year. The average enrolment is 30 to 40 students.

Aims
BIOL3220 aims to give students experience working in a molecular biology laboratory, allowing them to gain a broad range of technical skills and an understanding of the way various molecular tools are used in biological research. BIOL3220 also aims to challenge the widely held student belief that molecular biology is overly complex and impenetrable.

Student activities
The course is run as an intensive three week course, offered exclusively in Summer Semester with a full time workload. In the first week, the entire cohort has classes together, learning molecular protocols and concepts through practical classes, lectures and research seminars (which are provided by guest researchers from industry and government). In the second week, students form groups of five to eight and work with particular academics on their own research project. At the end of this week the student groups provide an oral presentation of their project to the course cohort and participating academics. In the third week, each group completes and submits a report, along with the laboratory notebooks they have maintained throughout the three weeks. Throughout the course, students are often exposed to the real problems in optimising molecular techniques that plague scientists in this field, gaining invaluable experience in problem solving advanced molecular protocols and a deeper appreciation of how molecular research is actually done.

Assessment
The assessment component of BIOL3220 is comprised of quizzes, the oral presentation at the end of the second week, the research report submitted at the end of the final week, and the laboratory notebook in which students record the details of all of the experiments they run throughout the course.

Benefits for students
One of the biggest impacts of BIOL3220 is that after the course students have much more confidence in their own skills and abilities as scientists, which carries far beyond the end of their course into their future studies. The students who have been shown to get the most out of BIOL3220 are not the students with stellar academic results, but the students who have average academic records, as these students seem to gain the most in their confidence and self-efficacy during the course, through trouble shooting their protocols. In general, the structure of the course and small cohort size means that students are not given the luxury of hiding among their peers in the practical classes, so their hands-on participation is inevitable. As a result, students have reported that they tend to learn a great deal more in this course than many of their previous science courses. Students also enjoy the intensity of the course, which allows them to experience research as full time work and to complete the course in a very short time frame. The guest lecturers incorporated into the course through the research seminars expose students to several of the different types of research fields available, which students respond well to and enjoy. Overall, BIOL3220 is responsible for helping students to become skills-equipped laboratory scientists.
CASPiE
(CHEM1020 + CHEM2054)

School of Chemistry and Molecular Biology

Target students
The Centre for Authentic Science Practice in Education (CASPiE) at Purdue University (USA) developed a model for undergraduate chemistry practicals that has been adapted for the UQ context. All students enrolled in CHEM1020 are able to elect to take the CASPiE modules in place of the traditional CHEM1020 practicals, and the CASPiE model forms the basis of a practical option in CHEM2054. CASPiE practicals are therefore available to first and second year undergraduate students from a wide range of programs in science, health sciences and engineering.

Aims
As the name suggests, the main aim of this model developed by the Centre for Authentic Science Practice in Education is to provide undergraduate students with an authentic research experience from early in their program. Specifically, the CASPiE model is designed to provide students with an opportunity to design experiments and collect data that will contribute to the current research of a local or international research academic. By the conclusion of a CASPiE experience, students are expected to have become familiar with the processes involved in undertaking a small research project, and gain self-efficacy in their ability to contribute to current research in their discipline.

Student activities
Within CHEM1020, students who undertake the CASPiE route also complete two of the conventional practical classes which sandwich a six-week block of research-focused practicals, broken into two phases. The skill-building phase is where students are introduced to the techniques and previous research relevant to the research project and build skills in planning within their groups. During the second phase, students identify their own research question, conduct their experiments, and collect and analyse their data. Throughout the six-week CASPiE block, students work in groups of three under the supervision of a tutor. Students are also supported with additional tutor-led peer-assisted study sessions, which focus students on the processes and skills required to successfully complete a research project such as maintaining a laboratory notebook and indentifying patterns in their data. Students are also invited to participate in NING, an online, networking system, where individuals can upload files and photos, and communicate with one another on a discussion forum. The academics who designed the CASPiE research modules are also members of this forum and are willing to answer questions providing the students with a sense of participating in a research group. The CASPiE practicals finish with students communicating their project findings back to the research fellow in the genre of a scientific abstract.

Assessment
The assessment component within CHEM1020 related to the CASPiE practicals is based on the laboratory notebook and the scientific abstract.

Benefits for students
Through the CASPiE model, students develop good relationships with their tutors, who take more of an advisory role in the practical classes and peer-assisted study sessions, than the marking role assigned to tutors in the traditional CHEM1020 practical classes. In addition, the use of these peer-assisted study sessions and the online networking system helps students to see themselves as part of a community of scholars. Focus group based evidence has revealed that the students undertaking CASPiE seem much more engaged than students taking the traditional CHEM1020 practical stream, and have asked their tutors if they can spend additional time working through experiments after the allocated six-week block of classes was completed. As a result of CASPiE, students have reported substantial gains in their research skills and understanding, for example realising that there is not simply a single correct answer in research. Students also develop their communication skills as they work in group situations, and learn how to identify and solve experimental problems within a research context. By linking the practicals to the current work of a research fellow in the CASPiE model, students are also able to see the relevance of their work to current research, and gain confidence in their ability to contribute to the development of knowledge in their discipline.
Fish Biology
ZOOL3006

School of Chemistry and Molecular Biology

Target students
ZOOL3006 is a two-unit course designed for third year science students with an interest in research within the area of marine studies.

Aims
ZOOL3006 aims to provide students an opportunity to gain experience in conducting a field-based research project in fish biology, with a specific focus in integrating and applying their knowledge of fish diversity, ecology and behaviour with conservation and fisheries management in the context of a local site.

Student activities
For the practical component of ZOOL3006, students first develop their skills in fish identification, measurement and anatomy through a series of hands-on activities in the Fish Pit and interactive laboratories on special topics in fish biology. These experiences lead students into the major field project in which they work in groups to investigate the fish diversity of local aquatic environments through a series of independent practical excursions under the guidance of a tutor. During the field project, students collect data on the fish communities of the Brisbane River, ranging from the freshwater reaches right down to the river mouth. All students are expected to comply with the appropriate Animal Ethics guidelines throughout the semester.

Assessment
The assessment component of ZOOL3006 includes a laboratory notebook of observatory notes, and a small group research report following the field project as well as a report on swim bladders and a final examination.

Benefits for students
Students are able to develop the research skills required for field-based projects in marine science through hands on experience in a guided setting, and then gain experience applying these skills to a real field site. The format of this course is engaging for students and develops their skills in conducting quality research in an ethical manner. Through the invaluable practical experience that students gain in ZOOL3006, this course builds students’ confidence in their ability to conduct an independent small group project under the supervision of a tutor, and as such, is a valuable course for students wishing to engage in research in the future. In general, ZOOL3006 provides an excellent foundation for all students who have an interest in the current research in fish biology.
Integrated Planning Projects 2  
PLAN2000

School of Geography, Planning and Environmental Management

Target students
The target students for PLAN2000 are in their second year of study of a planning program and have completed PLAN1000 or GN160. The two-unit course is offered in Semester Two.

Aims
PLAN2000 is designed to provide students with the opportunity to integrate subject material covered in the second year of study, through the application of this information to a local planning project, centred on a small residential area or a small centre. The course also aims to mimic the teamwork aspect of projects in the planning profession through group work.

Student activities
Throughout the semester students undertake their group local planning project, which is modelled after a local plan of Brisbane City Council. As teamwork is an extremely important professional skill in planning, students are also introduced to the instruments and processes for determining each person’s strengths and weaknesses through a half day workshop, and groups are formed which match students based on their skill sets. During the project work, students incorporate the skills they have learnt in courses preceding PLAN2000, for example urban design, and participate in sessions with planners from the local government to expand upon these skills. Overall, the purpose of the classes in PLAN200 is to help students look at their project from a critical perspective and to incorporate various sources of evidence and perspectives that are not immediately obvious. Ideally within these projects, students will use statistics from the Australian Bureau of Statistics coupled with website information and local knowledge. Students are also encouraged to walk through their sites to further develop their understanding of the area.

Assessment
Students are assessed through their practical projects at two stages. The first stage is producing a vision, during which students must detail the various components they are incorporating into their plans for the local area. The second stage is producing an actual plan to implement the vision, which includes routine planning practices such as zoning and performance controls.

Benefits for students
PLAN2000 provides an essential foundation experience for students wishing to pursue a career in the Planning industry, as the course replicates several important aspects of working as a planner. Local planners also give educational sessions throughout the course, so students are provided with the opportunity to meet with professionals within the Planning workforce. Industry professionals have commented that the project work from students within PLAN2000 is of a professional standard, and students have won prizes for their work in past years.
Integrated Planning Projects 3
PLAN3000

School of Geography, Planning and Environmental Management

Target students
The two-unit course is designed for third year Planning students as well as students from the School of Business undertaking a Bachelor of Business Management (Real Estate and Development). Usually the course cohort consists of approximately equal numbers of students from each program, with recent cohort sizes of approximately 100 students. Planning students must have completed PLAN1000 and PLAN2000 before enrolling in PLAN3000.

Aims
PLAN3000 aims to build on the skills and knowledge students have gained in PLAN1000 and PLAN2000, and provide students with experience working with people in various sectors within the Planning industry, such as Business Management. The course is designed to replicate a real-life planning experience, with a multi-disciplinary team working on a large complex planning project. The project brief changes each year and is aligned with current projects being undertaken by local government agencies and businesses.

Student activities
PLAN3000 uses a problem-based learning model, where small inter-disciplinary groups of students (usually three planning students and three business students) work collaboratively on a large project which allows them to interact with various sectors of the planning industry. In recent years, projects have been based on complex planning problems faced by Delfin Land Lease and the Brisbane City Council. Students are presented with a problem and must use their collective research capabilities to collect evidence to further their understanding of the complex issues underlying the problem, and develop a suitably informed planning solution. Throughout this process, students must use a variety of resources, including information available from their industry partners and expert advice from professionals within the public sector. Further, students must also prepare the documentation to convince key stakeholder groups of their planning solution.

Assessment
The assessment component of PLAN300 comprises a series of small milestones which scaffold student progress throughout their projects, including blogs, participation in workshops, a site audit assignment, the project oral presentation and final report, as well as a peer review of their contribution to the group project.

Benefits for students
The main benefit of PLAN3000 is that students gain experience in conducting a complex planning project of industry relevance in a multi-disciplinary group, and interact with key members of the industry during their project investigations. This provides students with an experience that mimics the types of projects they will encounter in the industry, and helps students to develop networks with industry members and clearer insights into their profession. All of the students in this course also gain insights into the process used by other disciplinary experts, who they will come to rely on professionally after graduation. The Bachelor of Business Management students see planning skills they would not normally encounter, such as computer programming to produce 3D images of the project. Planning students also learn that a project is not as simple as it originally seems, and that various analyses must occur within a plan, for example risk, cost and benefit analyses. These benefits are a direct result of integrating both groups of students into the same course. Student feedback has indicated that students enjoy the challenge of working with people they are unfamiliar with, both students from another discipline and industry representatives.
Group Project
PLAN4000

School of Geography, Planning and Environmental Management

Target students
PLAN4000 is a two-unit course designed for fourth year Planning students, and is a compulsory course for students with a GPA less than 5.5, although students with a GPA above 5.5 are also welcome to enroll. The last enrolment was 90 students, an increase on previous years.

Aims
PLAN4000 reinforces the general focus of the Planning degree, which is to produce professional planners. The course is designed to integrate the material students have gained throughout their degree, and to increase student confidence in policy-focused urban planning and group work, and thus increase graduate employability.

Student activities
Throughout PLAN4000, students work in small groups on a project relating to a real site and client. These clients are usually community groups, local government agencies, or land developers, and previous sites have included Springfield Lakes, Woolloongabba, Ipswich and Maroochydore. The research students undertake in PLAN4000 involves gathering evidence from a range of primary and secondary sources, often sources from local authority groups, to understand the needs of the client and the constraints of the site for the projects. Students then need to integrate this information with their knowledge from previous courses to develop a set of policy recommendations for development of the site.

Assessment
The assessment component of PLAN4000 is comprised of an assignment, an oral presentation and a project report.

Benefits for students
Within this course students reinforce their ability to work in groups, a crucial skill within the planning industry. The ability to work creatively and with large-scale problems is reinforced. Students are given the opportunity to work in a real world environment with real world constraints, but are encouraged to take the opportunity to produce interesting and innovative planning projects within these constraints.
Theory & Practice in Science
SCIE1000

School of Mathematics and Physics

Target students
SCIE1000 is a two-unit course offered in Semester One to all science students, and is recommended for all first year students enrolled in the Bachelor of Science or a related program. The typical enrolment is between 500 and 600 students.

Aims
The course aims to provide students with an introduction to the broad range of analytical, mathematical and computational tools employed by scientists, as well as the philosophies of scientific investigation and the various other skills involved in science.

Student activities
SCIE1000 engages students in exploration of a number of key contemporary issues in science, including climate change, population dynamics, human genome analysis, epidemics and motion. Students will also be introduced to some basic debates in the philosophy of science, which reinforce students’ skills in quantitative and scientific reasoning, and help students to gain an appreciation of some of the philosophical assumptions that underlie science. Through interactive lectures and tutorials, students investigate the different ways that scientists handle and explore scientific data and research. UQ based and international researchers are introduced and their research is discussed in class, giving students the opportunity to see the concepts and approaches used in current scientific research in a range of contexts.

Assessment
The assessment component of SCIE1000 is comprised of practical exercises, a written assignment and an examination.

Benefits for students
SCIE1000 provides a beneficial foundation for first year science students, as it teaches the students a variety of ways of thinking about science that are relevant to understanding well established scientific concepts and current research questions. Students learn to see the importance of mathematics and computing in a diverse range of scientific fields, and final results indicate that many students complete SCIE1000 with a firm grasp of a variety of links between mathematics, computing, analysis and the processes of scientific research and knowledge building.
## Faculty of Social and Behavioural Sciences

**Course Code** | **Course Name**
--- | ---
SOSC3900 | Research Experience

### School of Journalism and Communication

**Course Code** | **Course Name**
--- | ---
COMU3000 | Communication Research Project
JOUR3290 | Journalism and Mass Communication Research

### School of Political Science and International studies

**Course Code** | **Course Name**
--- | ---
POLS2703 | Principles of Research
POLS3801 | Internship

### School of Psychology

**Course Code** | **Course Name**
--- | ---
PSYC2010 | Psychological Research Methodology II
PSYC2063 | Psychological Approaches to Complex Problems
PSYC3034 | Topics in Applied Psychology
PSYC3042 | Psychological Research: Interpretation & Evaluation
PSYC3222 | Psychophysiology: Methods & Applications
PSYC4091 | Group-Supervised Thesis

### School of Social Science

**Course Code** | **Course Name**
--- | ---
ANTH2098 | Aboriginal Heritage: Anthropological and Archaeological Perspectives
ARCA1000 | Discovering Archaeology
ARCA1001 | Doing Archaeology
ARCA2118 | Cultural Heritage Management
ARCA3001 | Advanced Research in Archaeology
SOCY2339 | Introducing Quantitative Research
SOCY3039 | Applied Quantitative Research
SWSP3302 | Research in Social Work and Human Services Practice
Research Experience
SOSC3900

School of Social Science

Target students
SOSC3900 is a two-unit, exclusive course limited to students in the third year of the Dean’s Scholars program. Each semester only 18 students are admitted to the course.

Aims
SOSC3900 aims to give the student a comprehensive introduction to research in their area, through practical experience with an expert in the Faculty of Social and Behavioural Sciences (SBS). The course is open to any Dean’s Scholar in SBS, and as the faculty incorporates several disciplines including education, psychology, journalism, social and political science, the range of experiences are extremely diverse.

Student activities
Researchers in SBS looking for help from students in this course advertise their project details online. Once the student has found a project, their role may include collecting data, designing research instruments or helping with data analysis, depending on the stage of the project they are working on. Five times per semester student forums are held, during which the entire SOSC3900 cohort meet to discuss their research experience. Towards the end of the course, students are required to give an oral presentation on their experience. The diversity of the SBS faculty means each student not only gains experience of research from their own discipline through the practical experience, but also from a wide range of disciplines via the forums. Additionally, students also have to learn to communicate their approach and findings with ‘non-experts’ in their field, an invaluable part of research communication.

Assessment
The major assessment for SOSC3900 is a 3000-word reflective report, which is evaluated by the researcher paired with the student. There is no grade given for this course to prevent discrepancies between markers, instead it is assessed as a pass/fail mark.

Benefits for students
SOSC3900 presents students with an opportunity to experience research in their field first hand. It may be particularly useful to students contemplating doing an Honours year and may aid in determining what to do after undergraduate studies.
Communication Research Project
COMU3000

School of Journalism & Communication

Target students
COMU3000 is a third year course for Bachelor of Communications students. The course requires that COMU2030 be taken as a prerequisite as students are expected to have already gained a solid grounding in the methods of journalism/communications research.

Aims
COMU3000 aims to provide an opportunity for students to carry out a research project in a small group, supervised and guided by the course coordinator. This allows students to experience the potential benefits and difficulties of working as a research team.

Student activities
The course cohort is divided into groups of five for the duration of the semester. It is anticipated that students will draw on the information gained in JOUR3290 to develop the research proposal in the first few weeks. In recent years there has been a strong interest in research around newer forms of media, such as social networking sites, although many projects also investigate more traditional forms of communication for perceptions of politics, or perceptions of journalism, or questions around gender or race.

The contact time of this course involves workshops of two hours each week during which the course coordinator assists students in developing a research plan or working through their data analysis. In addition, each group is expected to meet at least once per week and must document the contributions of each group member to the discussions and project progress. This strategy allows the course coordinator to remain in an informed position with regards to progress of the research project, and to provide the appropriate guidance when necessary.

Assessment
The initial piece of assessment for COMU3000 is the group research proposal. Within the semester students prepare a ten-minute group presentation plus five minutes for questions based on their proposal, using five PowerPoint slides. The final assessment takes the form of a research report of the project.

Benefits for students
In COMU3000 students are able to apply their previous learning in research methodologies to design, execute and write up their own research. The course is structured in a way that allows students creativity and independence in their work, whilst helping students to develop the strategies to work successfully in a research team.
Journalism and Mass Communication Research
JOUR3290

School of Journalism & Communication

Target students
JOUR3290 is a two-unit, third year course, compulsory for students undertaking a Bachelor of Journalism and Communication.

Aims
JOUR3290 aims to introduce students to the types of research that are ongoing in the field of communication. The course exists because of the low profile and lack of exposure research receives in this field. The course aims to teach students how to write a proposal and literature review in preparation for a research project.

Student activities
Students are introduced to different research methods on a week-by-week basis. Although each introduction is brief, it is anticipated that students will use the course assignments to explore one of these methods further.

Assessment
There are two assignments in this course. Students are asked to write two research proposals - one for a qualitative research project and the other for a quantitative research project. By writing these research proposals, students are able to demonstrate that they are aware of what research is, and the significance it plays in their field of study.

Benefits for students
This course offers students a basic introduction to the wide range of concepts within the research of communication. The assignments demand a deep understanding of the motives and complexities of research. The applicability of the course in journalism has been debated by past students, who do not see research as a vital part of their journalism studies. However, it is exactly this misconception that JOUR3290 attempts to dispel, providing students with exposure to research performed by others so that they are ready for the inevitability of dealing with this in their careers.
Internship
POLS2703

School of Political Science and International Studies

Target students
POLS2703 is a compulsory two-unit course for second year Bachelor of Social Science (BSocSci) students.

Aims
POLS2703 aims to deliver an introduction to research approaches in social sciences. Overall the course aims to provide students with the tools to critique the research of others effectively, and to determine what constitutes an appropriate methodological approach for each research question.

Student activities
POLS2703 covers research methodology extensively, students learn about epistemology and ontology as well as the various different research paradigms such as positivist research, interpretative research, and critical social science. Further into semester, students also learn about the assumptions behind statistical analysis, and the assumptions behind interpretative, qualitative analysis. Students are also introduced to the ethics and politics of conducting research.

Throughout this course, students develop and exercise their critical capabilities through the constructive critique of previous research. Every week a few students present critiques of papers to their peers to stimulate debates on key research issues. These class debates play a fundamental role in this course as they are designed to encourage students to think about what research is in the social sciences, and what types of research should be informing the decision making of governments and the public.

Assessment
The course is primarily assessed through two essays in which students critique the methodologies of research papers. The first essay is a research classification essay where students classify a particular piece of academic research based on the ontology, epistemology, research methodology, methods and paradigm. In the second essay, students are required to extend their classification further into an in-depth critique of the research method.

Benefits for students
The strong focus on debating about research methodologies ensures students become critical consumers of research. Although students do not actually undertake any research of their own within this course, POLS2703 does foster an appreciation for sound research and an enthusiasm for developing the skills needed to accurately interpret research findings. All too often decisions are made, whether on a government or personal level, based on research which is taken as gospel without being adequately critiqued. POLS2703 aims to allow students to discover a critical eye for research and focus in on significant research of importance.
Internship
POLS3801

School of Political Science and International Studies

Target students
This course is a two-unit, third year course for the political sciences major. Students taking this course are required to have a GPA greater than or equal to 5, have previously passed six political science courses, and have already completed two years of full time study.

Aims
The internship in political science aims to provide students with an experience of research in an organisation external to academia. The coordinator has a database of approximately 30-40 government and non-government organisations willing to take POLS3801 students for the internship, including Queensland parliament, the Department of Housing, the Red Cross, the United Nations Associations and others.

Student activities
Students are allocated to an organisation based on preferences submitted with their course enrolment. Within the organisation, students undertake a research project culminating in a 6,000 word essay, upon which the assessment is based. The research project is developed with the external organisation, and as such is of direct interest to the assigned organisation. The method enables students to contribute meaningfully to their host organisation, as well as completing required assessment for course credit. The research project, and indeed the final outcome, is flexible and can be negotiated with the course coordinator.

Assessment
The aim of the assessment is to ensure there is a focus on a research project during their time spent at the organisation. The essay provides the student with the opportunity to describe the approach they chose to tackle the assigned problem. Additionally, students are required to keep a logbook of their time at the organisation. This course is graded as a pass/fail course due to the variation in project intensities and complexities.

Benefits for students
POLS3801 not only allows students to experience work in a political organisation, but also emphasises the importance of core research skills within politics. As students ultimately undertake their own research project within an organisation that has a vested interest in the outcome, POLS3801 fosters mutually beneficial relationships between the University, the student and the political organisation. By the end of the semester students return with increased confidence in their abilities to conduct research and contribute meaningfully to a organisation external to the University.
Psychological Research Methodology II
PSYC2010

School of Psychology

Target students

PSYC2010 is a two-unit, second year course in psychology research methods, which is compulsory for Bachelor of Psychological Science students, and for students planning to undertake a major in psychology in a Bachelor of Arts or Science degree. Many other students also take PSYC2010 as an elective. The course runs in all semesters: 1st, 2nd and summer semesters, and builds on the statistical knowledge learnt in the first year course, PSYC1040.

Aims

PSYC2010 teaches students how to analyse data using statistical techniques. The course aims to reinforce statistical techniques taught in first year as well as introduce novel statistical tests. Overall, the course provides students with a solid foundation in the use of statistics in psychology research, a deep understanding of the rationale and mechanics behind statistical methods, and the conviction to know when and how to apply a statistical test.

Student activities

PSYC2010 is taught in a very traditional manner. Students attend two hours of lectures per week on the theory behind statistical methods, and two hours of tutorials per week during which students have the opportunity to apply the theory to data sets, practicing their data analysis in a workbook. Much of PSYC2010 focuses on statistical functions and as such, students learn how to complete statistical tests without software aids.

Assessment

PSYC2010 includes a mid-semester and end-of-semester exam, both of multiple-choice format requiring hand calculations of statistical tests. In addition, students complete an assignment during semester which involves completing a one-way ANOVA calculation for the data provided.

Benefits for students

This course is a core research methods course which builds on the knowledge students gained in PSYC1040 and provides students with the solid understanding of the statistical methods they will need in more advanced courses, and in critically interpreting research during their careers in psychology. A full understanding of statistical methods and their applications allows for the production of high quality research, but also allows for the ability to comprehend the strengths and limitations of the research of others. Students are also exposed to the research questions and data of their course coordinators, and through the practical application of their statistical analysis skills, students gain experience in the use of statistical methods in current research.
Psychological Approaches to Complex Problems
PSYC2063

School of Psychology

Target students
PSYC2063 is a two-unit, second year course restricted to Bachelor of Psychology students.

Aims
PSYC2063 aims to provide students with an understanding of how research progresses when addressing complex questions in psychology. The course provides students with experience in tackling the convoluted nature of analysing real data, introducing students to the SPSS statistical software package and some of the more practical and unorthodox research methods and variables to consider during data analysis.

Student activities
The lecture component of PSYC2063 involves a two-hour block each week. These lectures step through areas of psychology research that can become complicated by pre-existing relationships within the data, such as crime, sex, self-esteem, the internet and parents. During lectures, students work with the lecturer to develop a research question of interest on the topic of the lecture. Each week students collect data to answer this research question and submit this for analysis during the tutorials. The tutorials are structured to encourage students to debate in order to refine the research questions and determine which statistical methods might provide answers, and how to dissect out confounding variables within the data set to gain clarity in the results. In this way, students undertake 9-10 cooperative projects throughout the semester during which they pose questions, collect data, and analyse that data in depth to gain insight into complex research areas in psychology.

Assessment
Students are assessed on their contributions of data for the tutorials, and their submission of a research proposal detailing a research question, methods for collecting data from existing sources, and methods for interrogating the data to answer their research question. In addition, students complete mid-semester and end of semester exams.

Benefits for students
During this course, students not only gain an understanding of a broad range of complex research problems in psychology, but also hand-on experience in tackling those problems through systematic cycles of data collection, analysis, interpretation and refinement. In PSYC2063, students learn to think critically and creatively about complex problems, work with puzzling findings and control for confounding variables, using a variety of statistical approaches. Students also gain skills in identifying existing data which may answer their research question. As the students in this course are usually going on to do senior research projects and Honours, PSYC2063 provides essential experience in how to use statistical tests to investigate complex data sets, and resolve issues in the data that they will collect in future research endeavors.
Topics in Applied Psychology
PSYC3034

School of Psychology

Target students
PSYC3034 is a two-unit course restricted to third year Bachelor of Psychology students.

Aims
This course aims to provide students with knowledge of a broad range of areas in applied psychology, including organisational, environmental, health and peace psychology. Students gain experience in a specific area of applied research, and in critical analysis and research design.

Student activities
PSYC3034 is taught in a lecture and practical format. Each week students are introduced to a new area of applied psychology by a guest lecturer who is currently working in, and researching, that area. In addition, students are required to participate in a whole course research project in which they each recruit three participants to complete a questionnaire. The teaching team analyses the large data set and each student chooses a smaller, specific area of focus for their own research question, writing up their report in the style of a journal article. The students then critique the design of the first project in their second assessment, and suggest changes to the research design to further investigate their research question.

Assessment
The report and research design critique form the intra-semester assessment. The final piece of assessment is a standard theory exam at the end of semester.

Benefits for students
PSYC3034 allows students to participate in real research, collecting data from participants, choosing a narrow research question which can be addressed by the available data, communicating their findings and critiquing their approach to develop new knowledge in applied psychology. Thus PSYC3034 develops students’ creativity, provides students with skills in critiquing and improving research designs to address their research questions, and furthers the development of their report writing skills. As the major project is based on the course coordinator’s current research, students are also excited in PSYC3034 by the novelty of the research they get to be involved in, and contribute to, which helps them to develop a critical awareness of what actually happens within psychological research. This course also provides students with valuable skills in problematising their research questions in terms of the current literature in the field, which is particularly useful for the majority of students who will go onto to do Honours in psychology.
Psychological Research: Interpretation & Evaluation
PSYC3042

School of Psychology

Target students
This is a two-unit, third year course, compulsory for the Bachelor of Psychological Science program. BA or BSc students majoring in psychology can choose to take this course as an elective. The course is targeted to students intending to continue on to Honours as a fourth year of study, and currently has a quota of around 240.

Aims
Psychological research aims to introduce the students to the methods of research used in psychology. Upon completion of the course it is expected students will have developed a sound ability to critically analyse research designs, and evaluate the validity of conclusions drawn from a research project.

Student activities
The course is delivered with four hours per week of lectures and tutorials. Students learn how to critically evaluate journal articles in the field of psychology. They will be taught how to judge an article on its methodology and conclusions, and to suggest improvements to the experimental design to improve the validity of conclusions drawn from the results. Although students do not undertake any actual research in this course, the knowledge gained will form the basis for research in the fourth year of study.

Assessment
PSYC3042 is assessed through assignments, tutorial work and a final exam.

Benefits for students
Although this course is designed for those progressing to an Honours year based in research, the scope is far broader than that. An appreciation and understanding of research design and methodology is imperative even to those not interested in conducting research. The application of research to a clinical situation depends on the applicator's assessment, this course will equip the student with the techniques needed to judge the validity of research papers and their impact on the profession.
Psychophysiology: Methods and Applications
PSYC3222

School of Psychology

Target students
PSYC3222 is a two-unit, third year level course open to all psychology students, and those interested in psychology. There are no prerequisites for taking this course.

Aims
PSYC3222 aims to give students a working knowledge of psychophysiological research methods and the ability to critically evaluate the advantages and disadvantages of particular methodological approaches.

Student activities
This course uses lectures to introduce students to the processes and assumptions underlying psychophysiological measures such as lie detection and biofeedback therapy. Each week students are introduced to a new physiological measure used in psychology such as heart rate, skin conductance, muscle movement and brain activity. They are then taught to use the technique to gather data from their practical partner. Students are able to choose when to perform each of the experiments, via an online roster. Within each experimental session (usually one hour), students connect all of the equipment to their partner, run through the experimental protocol, collect all of the data, observations and notes into their lab notebook, and analyse the data.

Assessment
This course is graded on a final exam on psychophysiological theory and students’ completion of the experimental lab notebook. In addition, students are required to design a research project using one of the psychophysiological techniques, and to write this up as a research proposal supported by an introduction based on current research literature.

Benefits for students
PSYC3222 provides students with an understanding of, and proficiency in performing, a broad range of psychophysiological techniques. The course structure not only allows students to develop the skills and networks that will help them successfully transition into Honours in psychophysiological research the following year, but to also develop a research proposal which grounds them in the current literature and inspires them to continue in psychophysiological research.
Group Supervised Thesis
PSYC4091

School of Psychology

Target students
This two-unit course is for fourth year Bachelor of Psychological Science students with a GPA below 5. The course is available only to students in the Bachelor of Psychological Science, whose GPA after three years of study does not exceed the criteria for honours (which was 5.0 for students enrolled prior to 2010, and 5.5 for students enrolled from 2010 onwards).

Aims
PSYC4091 aims to provide students in the Bachelor of Psychological Science pass stream an opportunity to undertake research in their fourth year of study, and provide them with the skills in critical analysis of research required for their profession.

Student activities
In this course students work within small teams on a common research project, in the process developing an individual thesis. The project is designed by the course coordinator, and in the past it has involved collecting and analysing results from a large web-based survey. The student chooses a group of variables within the survey to focus on for their thesis, with the other variables distributed between others in the group. Throughout the course students are led through the process of scientific writing by the course coordinator and two tutors from the School of Psychology. Whilst writing, students learn concepts and practices essential for a career in the industry, especially the critical analysis of journal articles.

Assessment
The final assessable thesis is written in the style of an American Psychological Association manuscript.

Benefits for students
It is a requirement of the professional body to have a four-year degree before practicing psychology. However, this excludes a number of students who may not have reached the academic standard required to undertake the traditional Honours course. Therefore this helps to provide students in the pass stream with a pathway to pursue a career in psychology. Finally, and perhaps more importantly, this course teaches the exact thinking processes needed to be successful as a psychologist. Even if research is not the student’s primary interest, the ability to assess’ and analyse the research of others is essential before implementing new ideas into the profession.
Aboriginal Heritage: Anthropological and Archeological Perspectives

ANTH2098

School of Social Science

Target students
ANTH2098 is a second year course for students in the anthropology or archeology major. This course has a student quota of 45.

Aims
The course aims to develop students' skills in community engagement, with a specific focus on working with cultural heritage developments. Through integration of anthropology and archeology, students will be able to see the place of cultural heritage in the wider archaeological and anthropological discourse. Specifically, students will learn how to work with real evidence collection and analysis, write cultural heritage reports, and relate effectively with Aboriginal communities throughout this process.

Student activities
ANTH2098 consists of three contact hours per week of discussion classes, which use practical exercises to make students critically evaluate literature, videos and case studies from the point of view of a cultural heritage manager. There is a strong focus on Aboriginal cultural and political heritage. In particular, this course introduces students to indigenous epistemologies, and perspectives on developments, and includes native speakers to highlight contrasts between Indigenous and European ways of knowing and definitions of heritage value.

ANTH2098 culminates in a field trip to visit one of the Aboriginal communities currently involved with the course coordinator's research. Students are presented with a realistic hypothetical development for that area, and need to collect evidence from various sources including the Aboriginal community. Students are then required to write a report that would be submitted back to the Aboriginal community, and used to meet legislative requirements in the development of a cultural heritage management plan.

Assessment
In addition to the field trip report, students are assessed for this course through an essay and a tutorial logbook.

Benefits for students
The field trip in ANTH2098 in particular, is an opportunity for students to learn about how developments impact Aboriginal heritage, and how to negotiate successfully through this complex area when there are several, passionate and often conflicting, stakeholders. Additionally, the teaching format immerses students in the community, and requires them to analyse real artefacts and critically evaluate primary and secondary sources, rather than learn about cultural theory in a lecture theatre. As approximately half of the students in this course will go on to become cultural heritage managers, students gain experience in the types of investigative projects they will undertake in their careers, whilst developing the ability to recognise, and successfully negotiate, the political frameworks in which those projects will exist.
Discovering Archaeology
ARCA1000

School of Social Science

Target students
ARCA1000 is a two-unit, first year course for Bachelor of Arts students, and others that may have an interest in archaeology. ARCA1000 is a feeder course for the archaeology major and runs in Semesters 1 & 2 with enrolments of 50 - 100 students.

Aims
ARCA1000 acts as an introduction to archaeological research. It aims to cover all aspects of archaeology in relation to how contemporary archaeology continues to inform about the past.

Student activities
ARCA1000 is taught in three hours of lectures per week, with a focus on the research aspects of archaeology. Although this course lacks a practical component, it links with ARCA1001, a practically oriented course taught in second semester. ARCA1000 provides the basis of knowledge needed to complete the practically oriented research courses throughout the archaeology major.

Assessment
This course is assessed by use of an essay question, and mid-semester and end-of-semester exams.

Benefits for students
Research, whether literature- or practical-based, permeates every aspect of archaeology. Many archaeologists now work in a consultancy role, mitigating developmental impact on cultural heritage. An understanding of the techniques and tools used to conduct research in archaeology is one of the cornerstones of a successful career, and is thus the fundamental basis for providing this course to students.
Doing Archaeology
ARCS1001

School of Social Science

Target students
ARCS1001 is a two-unit, second semester course for first year Bachelor of Arts students planning to undertake a major in archaeology. ARCS1001 is the complementary course to the first semester, first year course, Discovering Archaeology (ARCS1000).

Aims
The course aims to build on theoretical research knowledge gained in ARCS1000 by introducing students to an archaeological site. Students gain practical experience in processing site materials and analysing literature surrounding their discoveries.

Student activities
In ARCS1001, the majority of work for students involves analysing an archaeological site. The site is designed by the course coordinator and is manufactured to represent a real archaeological site that students may encounter within their careers. Students gain practical experience in working on this site and examining a variety of specimens.

Assessment
ARCS1001 is assessed through the writing of a literature review by mid-semester, and a technical report on their findings of the site by the end of semester. The literature review involves the student selecting an archaeological research report, and performing a thorough search of the literature to determine how effective the report is. The course culminates in the writing of a technical report on the site, which allows the student to work through the material provided and amalgamate the findings to draw conclusions as to what was happening on this particular site.

Benefits for students
This course can be viewed as a “dry-run” through archaeological research. In later courses students may have the opportunity to work on actual archaeological sites, and this course allows them to gain experience in the techniques they may encounter. Additionally, when working on a site it is important to have a clear knowledge of the common literature surrounding the work. The literature review and report critique demonstrate to students the importance of this in archaeological research.
Cultural Heritage Management
ARCA2118

School of Social Science

Target students
ARCA2118 is a second year course for students in the anthropology or archeology major.

Aims
The course aims to teach students about the investigation and management of cultural heritage sites, through cases involving the Aboriginal community. ARCA2118 also aims to help students to be able to see the place of cultural heritage in the wider archaeological and anthropological discourse. Specifically, students will learn how to identify culturally significant sites, collect, document and analyse artefacts, and develop a plan for the development of cultural heritage sites which integrates the conflicting needs of stakeholders.

Student activities
There are three contact hours per week in this course, presented as a lecture, a problem-based learning exercise or a fieldwork practical. The course includes lectures to reinforce concepts learnt in the field, but centres around a cultural heritage site development so that the research project is presented in a particularly realistic way.

Each week, students complete a short research exercise, beginning with learning how to distinguish what is significant about a site. The course raises questions about what constitutes cultural significance and what constitutes a heritage site. The practical section of the course allows students to explore real fieldwork on cultural heritage sites by presenting each step of a site assessment in a practical manner, from methods of site identification and validation, to collection and assessment of evidence from the site.

Finally, students undertake an extended problem-based learning case where they are presented with a hypothetical cultural heritage dilemma that represents a clash between the cultural and social needs of a community. In the first week, students investigate a site where artefacts have been scattered across a real landscape by the course coordinator. Then students meet some of the Aboriginal community who tell stories of the significance of the area. In the third week, a council member presents students with the required development of the site. Then in groups, students develop and present a report that mitigates the impact of the development for the best possible outcome.

Assessment
Students are assessed for this course through a tutorial logbook, as well as the report and group presentation

Benefits for students
By working through the methods and techniques used in archeological investigation of cultural heritage sites in several small research projects, students learn how to identify cultural heritage sites and comprehensively assess their significance. Through the larger problem-based learning case, students also gain experience in integrating the diverse needs of passionate stakeholders in plans for development of a cultural heritage site.
Advanced Research in Archaeology
ARCA3001

School of Social Sciences

Target students
ARCA3001 is a two-unit course restricted to students in the archaeology double major. It is anticipated that the majority of students taking this course will proceed to Honours level study the following year. Students must have taken ARCA1000 and ARCA1001, and it is recommended that students have taken ARCA3000. The course has a student quota of 22.

Aims
ARCA3001 aims to aid students in developing their own research project and in doing so, develop an advanced understanding of research and research processes.

Student activities
In this course students will develop their own research project under the guidance of a staff member in the School of Archaeology. The research question will be addressed individually, rather than proceeding through a prescribed process, as may have been the case in earlier studies.

Assessment
The course is assessed by means of a written research proposal and the presentation of a seminar/poster to communicate the research they have conducted to others in the course.

Benefits for students
Many of the students in this course continue their research to Honours level. Students may use ARCA3001 as a stepping stone or even a taster for what the Honours year may entail. Additionally, the design and management of an individual research project allows students to develop skills highly desirable to many employers. Finally, the communication aspects of the course (the written proposal and seminar) provide an introduction to the forms of communication students will encounter over and over again throughout their careers.
Introducing Quantitative Research
SOCY2339

School of Social Science

Target students
SOCY2339 is a two-unit, second year course for students taking a sociology or criminology major in the Bachelor of Arts, and a core course in the Bachelor of Social Science. There are around 170 students in this course.

Aims
The aim of SOCY2339 is to introduce students to the statistical tools used to analyse the data that is generated in social science research. This course introduces the foundational statistical methods used to analyse large data sets by taking students, step by step, using real data from a national survey.

Student activities
The course is based around data chosen by the course coordinator, which is often published freely on the internet. First, the students learn how to critically assess the methodology behind the data collection to judge its suitability for a research question. Second, they are introduced to statistical software used to generate meaning from the data set, and the methods involved in attaining those results. The software runs on syntax, so students also gain a basic understanding of computer code. Students investigate the differences between descriptive and inferential statistics, and their respective uses.

The course is presented with two hours of lectures, one hour of practical work, and a set of homework exercises per week. The practical takes the form of computer labs in which students gain practice in using statistical software. Each week in the practical class, students are given a set list of problems/questions to work through with the data set.

Assessment
Final assessment takes the form of two assignments and a multiple-choice exam.

Benefits for students
Overall, students are expected to leave the course with a good understanding of basic statistical methods, such as the t-test, and the ability to use this knowledge to judge the statistical methodology of others when reading research literature.
Target students
SOCY3039 is a two-unit, third year course for BA students in the criminology or sociology major. Students taking this course must have passed SOCY2339 as a pre-requisite. It is anticipated that this course will allow students to culminate their knowledge of the field from prior courses and display that integrated knowledge in the assessment pieces.

Aims
The course aims to develop students’ confidence in using statistics to interpret data sets. Students will develop skills in quantitative data analysis and the use of specialist data analysis software. Overall, the course aims to provide students with the skills needed to fully address a research question in their area, from inception to conclusion.

Student activities
Students are provided with a data set by the lecturer and are required to pose a research question and operationalise it based on variables within the data set. The students are encouraged to use the lab activities to discuss problems with peers. The course centres on writing a research paper which requires students to perform a review of the current literature surrounding their research question, develop a hypothesis, analyse the data set and interpret results, and then draw conclusions from the results.

Assessment
The course culminates in the writing of a report in the form of a journal article to disseminate the results of students’ research throughout the semester. This assessment is the main focus of the course and is completed individually, with each student developing their own research question to focus the data analysis.

Benefits for students
SOCY3039 is important because it engages students in the processes of developing a research project from start to end. Students achieve a comprehensive knowledge of what is needed to develop questions and hypotheses and explore these questions deeply in a statistically correct manner. Finally, students are given the opportunity to communicate their findings in the normal form of research communication, the journal article. Ultimately, engaging in this process helps students to develop a deep understanding of the research process, and subsequent confidence in their ability to evaluate the research of others.
Research in Social Work and Human Services Practice
SWSP3302

School of Social Work and Human Services

Target students
Research in Social Work and Human Services Practice is a compulsory third year course for social work students.

Aims
This two-unit course aims to equip students with the skills and knowledge needed to evaluate research in clinical practice. It also aims to give students a deep insight into research design and data analysis.

Student activities
The data analysed in this course is collected from the students’ experience of field placement during first semester. Data is aggregated each year and used to demonstrate the statistical tools needed to draw accurate conclusions. In the workshops associated with this course students learn how to use software tools to analyse the data they have generated. Students also learn how to judge the quality of research generated by others through the critique of journal articles.

Assessment
The assignments in this course are small qualitative projects that are designed for students to address real issues they have come up against on the field placement. For example, students may have noticed deficiencies in the organisation they worked in with regards to the current protocols or procedures in place. SWSP3301 demonstrates to students that change is only possible when the need for change is supported by research. The assignments in the course provide students with the tools required to effect that change through the presentation of empirical evidence.

Benefits for students
There is an increasing need for evidence-based practice in all occupations and this course provides the tools needed to successfully effect change. Students in SWSP3301 learn how to accurately gather, analyse and present data, a useful skill for a clinical career. In addition, the majority of social work research higher degree students are people who have experienced the shortfalls of clinical practice and have come back to study to effect improvement in their areas of interest.
## Appendices

### 3.1 Appendix A: Interview form

Undergraduate Students' Research Experiences: Bridging the gap between teaching and research in a research intensive university. *(Funded by DVCA, Faculties of Science, SBS & EAIT)*

Chief Investigators
- Kirsten Farrand, SBMS
- Paula Myatt, TEDi

<table>
<thead>
<tr>
<th>Name of URE activity:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Representative Co-ordinator:</td>
</tr>
<tr>
<td>Brief Description:</td>
</tr>
<tr>
<td>Year Established</td>
</tr>
<tr>
<td>Student Profile (who are the target students)</td>
</tr>
<tr>
<td>No. of Students enrolled/involved in 2009</td>
</tr>
<tr>
<td>Student selection: Quota and/or GPA limitations</td>
</tr>
</tbody>
</table>

Please indicate within the following tables\(^a, b\) which option applies to the majority of students within your URE activity:

<table>
<thead>
<tr>
<th>(1) Activities</th>
<th>Not at all (1)</th>
<th>Rarely (2)</th>
<th>Sometimes</th>
<th>Often (4)</th>
<th>Always (5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Collect data</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Analyse data</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Maintain research notebook</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Computer modelling</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Critique work of students</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Discuss readings in class</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Work on problem sets</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Read primary literature</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. Use textbook</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. Have lectures</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11. Present to campus audience</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12. Present to disciplinary audience (conference)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>(2) Characteristics</th>
<th>Not at all (1)</th>
<th>Rarely (2)</th>
<th>Sometimes</th>
<th>Often (4)</th>
<th>Always (5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Course</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Extracurricular</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. All students</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Elite (or special) students</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Work in small groups</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Work individually</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Project designed by instructor/supervisor</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Project designed by student</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. Findings new to student</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. Findings new to discipline</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>


3.2 Appendix B: Index of all the UREs
Where “∗” indicates that the course has been extended and included in section 2.

3.2 (i) Faculty of Arts

School of English, Media Studies and Art History

Research Methods (ENGL3000)

A two-unit course including seminars and practical training in designing a large research project in art history, Australian studies, literature, drama, communication, media or cultural studies, writing, women’s studies; undertaking research using electronic databases, print, manuscript and archive sources; textual analysis and criticism.

School of English, Media Studies and Art History

Women, Ethnicity & Identity: Issues of Race & Representation in Gender Research (GEND3002)

A two-unit interdisciplinary course that aims to engage students with current debates in women’s studies around the complexities of identity, ethnicity and race and the issues these raise in the context of gender research. Central to this course is discussion of the multiple ways in which identity and gender interact and impact upon research methodologies, processes and results. Of particular interest in this course are issues of Indigeneity and whiteness and the course includes in-depth reflection on the politics of race, relationships and representation in gender research.

School of English, Media Studies and Art History

Information Management & Research Methods (HUMN3000)

A two-unit course where students will research topics of the researcher, research methods and sources, and ethical frameworks for research. As part of the assessment, students will design a research project that may be used as the basis for their special study.

School of History, Philosophy, Religion and Classics

Researching History (HIST3612)*

A two-unit course that discusses historical research methods and practices. The course will examine a range of approaches to the researching and writing of history and will promote a critical understanding of how these are applied in practice. This course may not run if there are fewer than 20 enrolments.
School of History, Philosophy, Religion and Classics

Historical Project (HIST3613)*

A two-unit course where students develop historical projects in a range of chosen formats (written, visual, oral, digital) that explore key issues in historical interpretation via readings and discussion sessions. Internships and group work are offered as alternatives.

School of History, Philosophy, Religion and Classics

Special Topics in Philosophy A (PHIL3300)*

A two-unit course where students complete at least two papers or the equivalent of. The course consists of supervised work in a selected field of philosophical inquiry of interest to the student. The content of the the project is negotiated between the student and their supervisor. It is the student's responsibility to find a member of staff who is prepared to supervise the project.

School of History, Philosophy, Religion and Classics

The Future of Religion: An Advanced Study of Contemporary Issues (RELN3000)*

A two-unit course where students will be given the opportunity to explore at an advanced level the various issues that religious traditions and spiritual movements are currently interested in, and to become familiar with the scholarly approaches related to these issues. Students will do so by completing seminar, essay and discussion components.

School of Music

Musicological Research Methods (MUSC4410)*

A two-unit course that provides students with a guided introduction to the skills and methods of musicological research through individual supervision and seminar participation.
3.2 (ii) Faculty of Business, Economics and Law

School of Business

Applied Market Research (MKTG3505)

A two-unit course. The course provides the student with an understanding of the role of marketing research in MIS and a set of skills in designing and undertaking marketing research, and in conceiving and implementing successful marketing programs.

School of Law

Aurora Native Title Internship (Aurora Native Title Internship)

A program which introduces students to career opportunities in the area of native title and Indigenous affairs. UQ law students will use their legal knowledge to provide assistance to under-resourced native title and indigenous policy organisations and the Department of Public Prosecutions over summer. Students can expect to deal with areas of law as diverse as constitutional law to local government regulations.

School of Law

Human Trafficking Working Group (Human Trafficking Working Group)

A non-credited project that was offered to a group of 16 students who collaborated under supervision with The University of British Columbia. The project investigated the phenomenon of trafficking in persons and of the exploitation of foreign workers in the sex industry and other forms of forced labour in Australia and Canada, providing the students with a real research experience.

School of Law

Research Project A (LAWS5183)*

A two-unit course which provides an opportunity for undergraduate Law students to pursue, in some depth, an area of special interest under supervision. The student must complete 26 hours of contact time per week.

School of Law

Mooting (Mooting)*

An accelerated learning program available to equip our students with the research and advocacy skills to prepare them for their professional lives. The Law School has entered teams in national and international moot competitions for many years along with coaching from academic staff.
The principal purpose of the Centre, launched on 26 February 2009, is to engage with Community Legal Centres (CLCs) and the legal profession for the benefit of the community, law students, and the legal profession through involvement in the delivery of pro bono legal services in Queensland. The central activities of Centre are as follows: administration and co-ordination of the Law School’s Clinical Legal Education Programme; and development and management of a Pro Bono Roster for student involvement in the pro bono activities of the CLCs and law firms.

A set of three types of competitions available to undergraduate law students. The senior moot competition, where two member teams must prepare for an appeal from a real or fictional case. Teams normally have at least one week to complete the legal research. Final rounds usually proceed before Supreme Court judges. A similar competition runs for first year students with cases drawn from topics of courses but takes place in a less threatening environment. The third is a Witness Examination Competition (Trial Court), the student is provided with witness statements and an opportunity to question each. This competition is a test of an advocate’s oral persuasiveness, quickness of wit and knowledge of the law of evidence. The fourth is a faculty mooting competition open to all students (not just undergraduates).
3.2 (iii) Faculty of Engineering, Architecture and Information Technology

**Faculty of Engineering**

Faculty of Engineering (SCIE1010)*

A two-unit course which provides students with an introduction to research through seminars with ‘hot’ UQ researchers and short placements with UQ research teams.

**School of Architecture**

Architectural Design 5 (ARCH3100)*

A four-unit course for architecture students comprising studio based projects, seminars and critiques. The ARCH3100 Architectural Design studio places emphasis on observation of reflection on, and ‘judged’ response to, the formulation of ideas and propositions in architecture. Through studio project work students investigate the city and its social space, housing types and useful design techniques and procedures, beginning with parallel research exercises that will investigate the patterns and social spaces of the city and inner-suburbs. This work will involve compiling maps to develop an understanding of the calibration of the city and the forces that are brought to bear in the determination of built form. Other themes informing the semester’s work include the notion of type and concepts of density. These parallel research exercises will inform a Small Urban Space, detaches and multiple housing workshop. Project work undertaken in tutorial groups, workshops and individually will accumulate progressively and will be presented as a portfolio for assessment at the conclusion of the semester.

**School of Architecture**

Architectural Design 6 (ARCH3200)*

A four-unit studio-based course course restricted to architecture students who will explore the design of a medium-sized University building, associated external areas and landscape. During the semester there will be a single design project, encompassing the various stages of an architectural project from brief development and typological analysis tested in explorations and evaluations of alternative master plans, through sketch and scheme design to detailed explorations of key parts of the building in a final design submission. Students will demonstrate an ability to analyse and resolve relatively complex briefing demands and integrate these into realistic design strategies. Evidence of research leading to a critical understanding of precedents for the chosen building type will be expected.

**School of Chemical Engineering**

Biomaterials: Materials in Medicine (CHEE3305)*

A two-unit course which Introduces students to biomaterials science, artificial organs, prosthetic devices, regulatory testing and evaluation of new biomaterials. This includes polymeric, ceramic, metallic and composite biomaterials.
School of Chemical Engineering

Process Engineering Design Project (CHEE4001)*

A four-unit course including the integration of major aspects of chemical and environmental engineering into the design of a production facility. Process and control system synthesis, detailed engineering design, capital and operating cost estimation, hazard and risk analysis, operating procedures and environmental impact. Team work is a crucial element of this course.

School of Chemical Engineering

Individual Inquiry A (Chemical Engineering) (CHEE4006/ CHEE4007)

A two-unit course in which students partake in a self-directed learning experience supervised by an academic staff member. Students arrange a topic with their supervisor and prepare an outline of their proposed work, which must be accepted by the course coordinator prior to the start of the semester.

School of Civil Engineering

Civil Design (CIVL4511)*

A four-unit course including advanced civil engineering design projects; philosophy of design and selection of systems; risk assessment; integrated design featuring structures, hydraulics, geomechanics and transport engineering; interdisciplinary design; computer modelling in advanced design; interdisciplinary design. Students commencing the course in Semester One enrol in CIVL4511 for Semester One and Semester Two; students commencing in Semester Two enrol in CIVL4512 for Semester Two and the following Semester One.

School of Civil Engineering

Project (Civil) (CIVL4560)*

A two-unit course in which civil and environmental engineering students undertake a study or small research project in small groups or individually. Students submit individual project reports.

School of Civil Engineering

Research Thesis (Civil) (CIVL4580/ CIVL4582)*

A four-unit course where students complete a substantial research thesis on a topic in civil engineering. Literature review; research planning, library information skills course; seminar. (Students commencing in Semester One enrol in CIVL4580 for Semester One and Semester Two; students commencing in Semester Two enrol in CIVL4582 for Semester Two and the following Semester One.)
School of Information Technology and Electrical Engineering

Special Topics in Computer Science 2A (COMP2000)

A two-unit course which includes specialist lectures/projects on topical issues in computer science to be given by visiting lecturers or staff members nominated by the Head of School. For details, consult Head of School.

School of Information Technology and Electrical Engineering

Professional Information Technology Project (CSSE3007)

A six-unit course comprising a major investigation or research project or a significant design task in industry that integrates technical, commercial and other factors. This will include an assessment of the risks associated with the project including the conduct of the project.

School of Information Technology and Electrical Engineering

Professional Engineering Project (ENGG4011)*

A six-unit course. [Available only to BE students undertaking PEPS or CEED programs.] A major investigation or research project or a significant design task in industry that integrates technical, commercial and other factors. This will include an assessment of the risks associated with the project including the conduct of the project. Projects must be approved prior to enrolment.

School of Information Technology and Electrical Engineering

Thesis Project (Engineering) (ENGG4801/ ENGG4802)*

A four-unit course. [Restricted to Final Year BE students.] A thesis to be completed on a subject selected by or approved by Head of School. Detailed statements on requirements supplied. Students commencing thesis in Semester One enrol in ENGG4801 for Semester One and Semester Two; students commencing in Semester Two enrol in ENGG4802 for Semester Two and the following Semester One.

School of Information Technology and Electrical Engineering

Studio III Information Environments (IENV3500)*

A four-unit course comprising studio-based projects of intermediate and advanced scale and complexity, including seminars and critiques. Exploration of integration of all major information environment determinants. Final project will require comprehensive design resolution including preliminary technical documentation. Involves both group and individual work. The focus of this studio is Information Environments.
**School of Information Technology and Electrical Engineering**

Mechatronic System Design Project II (METR3800)

A two-unit technical course where small teams of students undertake design, implementation, testing, evaluation and presentation of mechatronic systems of intermediate size and complexity. Organisation: project team must follow standard procedures – milestones, reporting, project meetings, interacting with client.

**School of Information Technology and Electrical Engineering**

Thesis/Design Project (ITEE) (METR4900/ METR4901)

A four-unit thesis/design project on a topic in mechatronic engineering. Students commencing in Semester One enrol in METR4900 for Semester One and Semester Two; students commencing in Semester Two enrol in METR4901 for Semester Two and the following Semester One.

**School of Mechanical and Mining Engineering**

Engineering Thesis (Mechanical) (MECH4500/ MECH4501)*

A four-unit thesis project on an approved topic that integrates engineering skills acquired through the engineering program. Detailed description available from the Mechanical Engineering office. Students commencing course in Semester One enrol in MECH4500 for Semester One and Semester Two; students commencing in Semester Two enrol in MECH4501 for Semester Two and the following Semester One.

**School of Mechanical and Mining Engineering**

Major Design Project (Mechanical) (MECH4552)*

A four-unit course that acts as a capstone course for senior students of Mechanical and Mechanical & Space Engineering, and requires in-depth project-based application of subject matter from a wide range of preceding courses. In addition to this, students have to independently study and research relevant material as required to complete their assigned designs. The course has a high content of documentation and formal public presentation, and the demonstration of team work and collaborative skills are essential for satisfactory completion. Completed design reports are evaluated in the context of the standards expected of professional consulting engineers. Students are expected to formulate the technical specifications for their projects through a process of negotiation with the coordinator, and to complete the designs with a high level of scientific and engineering rigor. Students are responsible for managing the projects, and for coordinating the workload within their group.
School of Mechanical and Mining Engineering

Mining Research Project I (MINE4122)*

A two-unit course where students will complete preparatory work on a topic approved by the supervisor and based on field study and/or research. Students are required to undertake library skills training, prepare a progress report and present a seminar on the project or thesis topic. Students may also be required to attend special seminars and lectures.

School of Mechanical and Mining Engineering

Mining Research Project II (MINE4123)*

A two-unit course where students will complete work begun in MINE4122 on a topic approved by the supervisor and based on field study and/or research. Students are required to submit a thesis or project document that draws together the essential elements of Mining Research Project I and II and present a seminar on the project or thesis topic. Students may also be required to present a seminar.

School of Mechanical and Mining Engineering

Hard Rock Mine Design & Feasibility (MINE4124)*

A two-unit course where students develop a pre-feasibility study for a metalliferous mining project. Activities include: assessment of reserves, method selection, layout and optimisation of surface and underground operations, geotechnical design, ventilation design, project risk assessment, mine scheduling, equipment selection, cost estimation, economics / finance and sustainability. Usage of mine design and optimisation software packages.

School of Mechanical and Mining Engineering

Coal Mine Design and Feasibility (MINE4125)*

A two-unit course where students develop a pre-feasibility study for a coal mining project. Activities include: assessment of reserves, method selection, layout and optimisation of surface and underground operations, geotechnical design, ventilation design, project risk assessment, mine scheduling, equipment selection, cost estimation, economics / finance and sustainability. Usage of mine design and optimisation software packages.

School of Mechanical and Mining Engineering

Metallurgical Plant Design (MINE4201)

A four-unit course including integration of technical, economic, environmental, safety and social considerations into the detailed design of metallurgical production plants.
3.2 (iv) Faculty of Health

**School of Dentistry**

On course honours in the School of Dentistry (DENT4599/5599)*

On course honours for dentistry consists of two year-long courses each worth 2-units. The first course runs over year 4 where students prepare a research protocol under supervision, critical review of literature relevant to the research project and introduction to materials & methods for honours research. Permission required from Head of School before commencement. Following this in fifth year, DENT5599 allows students to conduct a research investigation, materials & methods, critical analysis of findings for honours research under supervision. Presentation of results in written & oral form. Final written report to be in the form of a journal article suitable for publication.

**School of Dentistry**

Applied Dental Biomaterials Research Program (n/a)

The Applied Dental Biomaterials Research Program investigates the application of biomaterials and technologies as related to clinical dentistry including advanced materials research, biomimetic materials, polymer foams, osteogenesis and bone research.

**School of Dentistry**

Efficient Effective Endodontics Research Program (n/a)

The EEE (“Triple E”) research program falls within the “Dental Biomaterials and Advanced Technologies” research theme of the School, and is focused on the goal of achieving quality biological and mechanical outcomes in endodontic treatment, using improved methods and novel technologies.

**School of Human Movement Studies**

Research Skills (HMST3846)

A two-unit course that provides an overview of the conduct of research in the field of human movement studies, principles of study design and analysis, critical review and interpretation of research. Practical skills will be developed in quantitative and qualitative analysis, and in the presentation of research findings.

**School of Human Movement Studies**

Individual Research Project B (HMST3925)

A two-unit course that allows students to undertake an individual research project in an area of Human Movement Studies. Requires permission of the Head of School and academic supervision. Minimum of 120 hours practical work (including written report).
School of Medicine

Systematic Preparation for Clinical Practice (MEDI2006)*

A sixteen-unit course where students will explore the anatomy, physiology and patho-physiology of human disease’s based on 37 cases which illustrate common and/or important principles. Students also study (i) the clinical manifestations of disease and how abnormalities can be detected from the history, examination or by investigations; (ii) the principles, rationale and empirical evidence for the treatment of human disease; (iii) the epidemiology of human disease; (iv) the ethical and legal basis for medical interactions and intervention.

School of Medicine

Critical Appraisal of Published Material (MEDI3008)

A one-unit course. The Community Health Appraisal critically engages with a health issue at the intersection of health consumer, health professional, the broader health system and the community. Students apply grounded research methods and critical literature review skills to investigate the health issue. Please note that this course has a Semester Two enrolment only.

School of Medicine

Medicine (Honours) (MEDI3012)

A three-unit course where students are required to undertake an Honours Research project (25%) and the core content for the Medicine (pass stream) rotation (MEDI3007). The honours project will constitute a literature review, research question and oral presentation of research plan, methodology and data collection and finally a completed thesis.

School of Pharmacy

Dosage Form Design B (PHRM3020)

A four-unit course of specialised drug delivery systems; extemporaneous formulation, compounding and quality control; physicochemical incompatibilities. Pharmaceutical microbiology relating to principles and practice of pharmacy.

School of Pharmacy

Dosage Form Design B: Honours (PHRM3025)

On-course honours 1. A four-unit course of pharmaceutical microbiology relating to principles and practice of pharmacy. Topics include specialised drug delivery systems; extemporaneous formulation, compounding and quality control; physicochemical incompatibilities. Students must develop a research plan for their project and Journal Club.
School of Pharmacy

On-course honours in the School of Pharmacy (PHRM3025 + 3045 + 4015 + 4025)*

The UQ Bachelor of Pharmacy degree includes an optional on-course honours component which is completed in the 3rd and 4th years of study. Assessments grades from various courses count towards this. The on-course honours program allows students to undertake a research project under the guidance of an experienced researcher. Projects may be in any area of research that is currently being conducted within the School of Pharmacy.

School of Pharmacy

Drug Discovery B (PHRM3040)

A one-unit course where students must design strategies and structure activity relationships of drugs used in treatment or prophylaxis of infections and in treatment of cardiovascular, renal and respiratory diseases, and in oncology. This includes pharmaceutical chemistry aspects of biotechnology products. Students must present their Research Plan.

School of Pharmacy

Drug Discovery B: Honours (PHRM3045)

On-course honours 2. A one-unit course where students must design strategies & structure activity relationships of drugs used in treatment or prophylaxis of infections & in treatment of cardiovascular, renal & respiratory diseases & in oncology. This includes pharmaceutical chemistry aspects of biotechnology products. Students must present their Research Plan.

School of Pharmacy

Biological Fate of Drugs B (PHRM3050)

A two-unit course where students learn about optimal drug dosage regimen design and mechanisms of toxicology. Disposition of drugs and factors affecting pharmacokinetic and pharmacodynamic variability.

School of Pharmacy

Quality Use of Medicines C: Honours (PHRM4015)

On-course honours 3. An eight-unit course that aims to build on knowledge and skills introduced earlier in the program and further develop these for contribution to ensuring the optimal use of medicines. New knowledge is acquired through evaluating evidence for drug use in all aspects of pharmacy and is then integrated to develop the skills to identify and resolve drug-related problems in consumers. Students will perform a research study with an academic supervisor.
School of Pharmacy

Molecules to Medicine (PHRM4020)*

A four-unit course where students will delve into the advanced study of drug design, drug dosage forms and drug development processes, culminating in the development of skills and understanding of how drugs are developed, evaluated and registered on the Australian market. Students must complete a medicines development assignment (MDA), involving an oral presentation and a written report. They must also carry out a lab-based formulation development project (research).

School of Pharmacy

Molecules to Medicine: Honours (PHRM4025)

On-course honours 4. A four-unit course where students will delve into the advanced study of drug design, drug dosage forms and drug development processes, culminating in the development of skills and understanding of how drugs are developed, evaluated and registered on the Australian market. Students must complete Journal club presentations and research study presentation.

School of Pharmacy

Social & Professional Aspects of Pharmacy C (PHRM4030)

A four-unit course where students learn the development of basic management skills, ethics and quality assurance related to pharmacy practice, encompassing aspects of community and hospital pharmacy. Interaction with professional organisations.
School of Animal Studies

Special Topic I (ANIM3601)*

A two-unit course where students conduct directed work under the supervision of a member of the academic staff. Topic must be approved by the Head of School (or nominee).

School of Animal Studies

Special Topic II (ANIM3602)*

A two-unit course where students conduct directed work under the supervision of a member of the academic staff. Topic must be approved by the Head of School (or nominee).

School of Animal Studies

Research Project (ANIM4611)

A four-unit course in which students design, implement and complete a presentation on a supervised research project relevant to student's course of study. The course places emphasis on defining the research issue, establishing an appropriate methodology, applying acceptable methods and analysis, and drawing defensible conclusions. Students commencing in Semester One must enrol in ANIM4611 for both Semester One and Two. Students commencing in Semester Two must enrol in ANIM4612 for both Semester Two and Semester One of following year.

School of Animal Studies

Research Project (ANIM4612)

A four-unit course in which students design, implement and complete a presentation on a supervised research project relevant to student's course of study. The course places emphasis on defining the research issue, establishing an appropriate methodology, applying acceptable methods and analysis, and drawing defensible conclusions. Students commencing in Semester One must enrol in ANIM4611 for both Semester One and Two. Students commencing in Semester Two must enrol in ANIM4612 for both Semester Two and Semester One of following year.

School of Integrative Systems

Industrial Placement (Natural & Rural Systems) (ENVM3521)*

A four-unit course in which students will undertake a period of 16 weeks of continuous, structured, course-related experience in organisations involved in management of natural and rural resources, including protected areas, wildlife, production enterprises and service industries.
School of Integrative Systems

Research, Development and Extension Methodologies (ENVM3522)

A two-unit course where students examine the broad philosophies, paradigms and methodologies encompassing the whole process of research, development and extension in natural and agrifood systems and rural communities. The course provides examples of the field application of various methodologies and it challenges students to develop their own research proposals.

School of Integrative Systems

Cultural Heritage Management (LPWM2008)*

A two-unit course where students analyse cultural heritage in legislative, practical and ethical frameworks. This course includes cultural aspects of environmental management, including site management, fire management, traditional use of parks and natural resources, and interpretation planning. Review of cultural landscapes concept within a broad conservation framework.

School of Integrative Systems

Contemporary Case Studies (LPWM4001)

A four-unit course where students participate in a group case study requiring problem solving on a contemporary issue facing managers of natural and rural systems. Emphasis is placed on defining the problems, establishing an appropriate approach, applying methods and analysis, and defending conclusions within a major project. Students must enrol in LPWM4001 for both semesters.

School of Integrative Systems

Research Project (Integrative systems) (LPWM4611)

A four-unit course in which students design, implement and complete a presentation on a supervised research project relevant to the student's course of study. The course places emphasis on defining the research issue, establishing an appropriate methodology, applying acceptable methods and analysis, and drawing defensible conclusions. Students commencing in Semester One must enrol in LPWM4611 for both semesters. Students commencing in Semester Two must enrol in LPWM4612.

School of Integrative Systems

Research Project (Integrative systems) (LPWM4612)

A four-unit course in which students design, implement and complete a presentation on a supervised research project relevant to the student's course of study. The course places emphasis on defining the research issue, establishing an appropriate methodology, applying acceptable methods and analysis, and drawing defensible conclusions. Students commencing in Semester One must enrol in LPWM4611 for both semesters. Students commencing in Semester Two must enrol in LPWM4612.
School of Land, Crop and Food Sciences

Research Methodology for Biophysical Sciences (AGRC3007)*

A two-unit course. A framework of principles and methods for defining research issues, implementing research projects, and communicating research findings and outcomes in both oral and written formats. Provides an overview of contemporary issues in agricultural and food science in Australia and around the world.

School of Land, Crop and Food Sciences

Special Topic II (AGRC3602)*

A two-unit course available in all three semesters at Gatton Campus. Timing and assessment is negotiated and specified to create a personal learning contract between the academic supervisor and student. The course is taught by a self-directed study mode so students must be motivated.

School of Land, Crop and Food Sciences

Research Project (Agriculture) (AGRC4611)

A four-unit course in which students must conduct and interpret an experiment, produce a conference abstract, present their project at a seminar and produce a journal paper from research. Students commencing in Semester One must enrol in AGRC4611 for both Semester One and Two. Students commencing in Semester Two must enrol in AGRC4612.

School of Land, Crop and Food Sciences

Research Project (Agriculture) (AGRC4612)

A four-unit course in which students must conduct and interpret an experiment, produce a conference abstract, present their project at a seminar and produce a journal paper from research. Students commencing in Semester One must enrol in AGRC4611 for both Semester One and Two. Students commencing in Semester Two must enrol in AGRC4612.

School of Veterinary Science

Research Veterinary Elective (VETS5017)*

A two-unit course. Implementation and presentation of a research project in an area of veterinary science, with emphasis on defining the research issue, undertaking research techniques, undertaking appropriate analysis of data and drawing defensible conclusions.
3.2 (vi) Faculty of Science

**Faculty of Science**

International Genetically Engineered Machine (iGEM)*

A Biological, student team-based research project. Teams are self-funded to genetically engineer an organism to function in a novel way.

**Faculty of Science**

Perspectives in Science (ASPinS) (SCIE1017)*(ASPinS)

A two-unit first year course restricted to ASPinS students. Introduces the breadth of scientific endeavour, the integrated nature of scientific disciplines, and the importance of scientific process and critical thinking. Students will learn more about the associated scientific research, integrate expert knowledge, and build on their own new university knowledge and experiences.

**Faculty of Science**

Perspectives in Science Research (ASPinS) (SCIE2017)*(ASPinS)

A two-unit second year course restricted to ASPinS students. Students will be immersed in a research group and laboratory situation, in order to gain a perspective on scientific research. Students learn generic skills and knowledge relevant to biological research, applying them and presenting their findings to peers.

**Faculty of Science**

Further Perspectives in Science Research (ASPinS) (SCIE3017)*(ASPinS)

A two-unit third year course restricted to ASPinS students, where a study is carried out under the direction of a supervisor approved by the Director of Studies.

**Centre for Marine Studies**

Australia's Marine Environment (MARS2005)*

A two-unit course exploring the significance of Australia's marine systems and their importance in the global scene. Covers diversity of environments, both pristine and altered, sites of conservation significance, endangered plants and animals and jurisdictional responsibilities. Field trips are not compulsory but highly recommended. Approximate field fees - $250 for North Stradbroke Island and $600 for Heron Island Research Station (incl GST).
School of Biomedical Sciences

LabTutor (in BIOL1040) (BIOL1040)*

An inquiry-based practical curriculum embedded into a two-unit biology course which provides students with several opportunities to design and conduct experiments.

School of Biomedical Sciences

Biostatistics & Experimental Design (BIOL2006)

A two-unit course which introduces students to the process of biological research in fields ranging from ecology to genetics. In addition to lectures, students will get hands-on experience including generating ideas and hypotheses, through to designing experiments, analysing real data-sets, critiquing published studies and communicating results.

School of Biomedical Sciences

Outback Ecology Field Studies (BIOL3016)

A two-unit field course: six days camping at Idalia National Park in Western Queensland, studying the ecology of the arid zone. This course is held between semesters one and two but students may enrol in either semester. Additional costs for field trip. Quota of 80 (in total). All enquiries for permission to enrol to be addressed to biologyadmin@uq.edu.au. Preference is given to third year students who have completed BIOL2010 and/or BIOL2015. Second year students will be considered if there are places available.

School of Biomedical Sciences

Integrative Cell & Tissue Biology (BIOM2011)*

A two-unit course with a practical component based on inquiry students who are able to choose their own type of project within a given physiology topic. Projects run for six weeks consisting of three classes. Assessment includes a proposal and a report. Emphasis is on designing their own experiment.
School of Biomedical Sciences

Coral Reef Field Ecology (MARS3004)

A two-unit course exploring the multidisciplinary study of the biology and ecology of coral reef ecosystems. Invertebrate and vertebrate ecology and behaviour. Introduction to coral reef research. Group and small group projects. The field course is in the week before the mid-semester break, based at Heron Island Research Station - see School of Integrative Biology for details. Additional cost for field trip.

School of Biomedical Sciences

Introduction to Research (SCIE3012)*

Two-unit course providing students with generic skills & knowledge relevant to all areas of science across a range of disciplines & will allow students the opportunity to apply those skills to a research project in their discipline of interest. Students must find their own researcher, keep a laboratory book up to date, present their findings after 100 hours of research in a poster and the written report.

School of Biomedical Sciences

Vacation Project (SCIE3044)*

A two-unit course taken within the vacation semester where students choose a laboratory they wish to gain experience in. Hands on work, a taste of real research commitment, development and presentation.

School of Biomedical Sciences

USSER NETWORK (USSER NETWORK)*

A formative experience which exposes, introduces and engages undergraduate students into the world of research. Includes “Meet the Researcher” lunches, “Laboratories Unwrapped” tours, Placement workshops and Placement opportunity positions.

School of Chemistry and Molecular Biosciences

Molecular Cell Biology (BIOL3006)

A two-unit course with an emphasis on research approaches, practical techniques, using problem-based learning within cell architecture, interactions, differentiation, nuclear structure and function and protein trafficking and their related diseases.
School of Chemistry and Molecular Biosciences

Molecular Techniques in Ecology & Evolution (BIOL3020/BIOL3220)*

A two-unit course providing students with the opportunity to apply molecular and phylogenetic skills learned through this course to design and carry out elements of their very own.

School of Chemistry and Molecular Biosciences

Centre for Authentic Practice in Science Education (in CHEM1020 + CHEM2054) (CASPIE)*

An authentic research experience embedded into a two-unit chemistry course which provides the student with an opportunity to identify research questions, design experiments and collect data for a researcher.

School of Biomedical Sciences & School of Chemistry and Molecular Biosciences

Fish Biology (ZOOL3006)*

A two-unit course which integrates fish biology with applications to conservation and fisheries management. Topics include: fish diversity, sensory ecology, behaviour (e.g., shoaling, foraging and habitat use), functional morphology, reproduction, larval life and population dynamics. Includes illustrative case studies.

School of Geography, Planning and Environmental Management

Research Topic (GEOS3400)

A two-unit course of advanced coursework, field trip and/or research projects in particular specialised aspects offered by staff members in their fields of interest. A research topic approval form must be submitted before enrolment can be completed. Contact School for details.

School of Geography, Planning and Environmental Management

Integrated Planning Projects 1 (PLAN1000)

A two-unit course of practical work on simple analytical and planning problems designed to integrate relevant course material.

School of Geography, Planning and Environmental Management

Integrated Planning Projects 2 (PLAN2000)*

A two-unit course of practical work on advanced analytical and/or planning problems designed to integrate subject material covered in the second year program, generally involving projects such as residential areas, small centres, site and local planning.
School of Geography, Planning and Environmental Management

Integrated Planning Projects 3 (PLAN3000)*

A two-unit course of practical work on complex planning problems designed to integrate subject material covered in third year of program; generally involves projects dealing with metropolitan, regional or city centre planning issues.

School of Geography, Planning and Environmental Management

Group Project (PLAN4000)*

A two-unit course integrating program and course material through major real-life projects conducted in groups, usually involving preparation of development control plan or strategic plan in conjunction with planning authority or community group.

School of Geography, Planning and Environmental Management

Research Project (Planning) (PLAN4003)

A two-unit course of a planning study or research topic providing an opportunity to specialise in a particular aspect of planning.

School of Geography, Planning and Environmental Management

Research Topic (Planning) (PLAN4010)

A two-unit course of advanced coursework, field study or research project to complement the planning specialisations. A research topic approval form must be submitted before enrolment can be completed. Contact School for details.

School of Mathematics and Physics

Applied Mathematical Analysis (MATH2100)

A two-unit course which will build on foundations that students have obtained in earlier courses: differential and integral calculus, linear algebra, vector analysis, and especially differential equations. In particular students must have a sound working knowledge of all the material listed in the course summary for MATH2000.

School of Mathematics and Physics

Theory & Practice in Science (SCIE1000)*

Two-unit course which provides students with an introduction to the broad range of analytical, mathematical and computational tools employed by scientists.
3.2 (vii) Faculty of Social and Behavioural Science

Faculty of Social and Behavioural Sciences

Research Experience (SOSC3900)*

A 2 unit course. Provides a selected group of students with the opportunity to participate in current research and seminars with social science researchers in SBS Faculty. (lim 20)

School of Journalism and Communication

Communication Research Project (COMU3000)*

A two-unit course which integrates and applies the skills and knowledge that students have developed in their specialist area of communication, through group or individual projects requiring students to identify significant research questions in the field, and to plan, implement and evaluate the data pertaining to the research study.

School of Journalism and Communication

Journalism and Mass Communication Research (JOUR3290)*

A two-unit course where students will develop basic communication research skills and knowledge. Emphasis is placed on the development of skills in conducting research, data analysis, report writing and critically evaluating research.

School of Political Science and International Studies

Principles of Research (POLS2703)*

A two-unit course. Provides an introduction to the varied approaches to social science research, comparing different theoretical perspectives on the research process and their methodological implications. The overall aims are to develop the ability to make informed methodological choices and critically interpret published social research.

School of Political Science and International Studies

Internship (POLS3801)*

A two-unit course. The Internship is based on a mutually agreed partnership between the student and an external organisation. The student agrees to carry out a research project on a topic/issue of direct interest to the external organisation. In return, the external organisation agrees to provide the support necessary for the project to be completed within a definite timeframe.
School of Psychology

Psychological Research Methodology II (PSYC2010)*

A two-unit course which builds on the first year PSYC1040 course. Topics covered include design and measurement issues, methods for analysing psychological data, procedures involved in the reporting of psychological research, and issues concerned with the interpretation of such research.

School of Psychology

Psychological Approaches to Complex Problems (PSYC2063)*

A two-unit course that aims to teach students new ways to address and solve complex research problems in psychology. The course will focus on the study of amorphous social problems and will provide students with hands-on experience in hypothesis formation, data collection, and statistical analysis.

School of Psychology

Psychological Research Methodology III (PSYC3010)

A two-unit course which builds on the second year course PSYC2010. Students learn to expand from one-variable to multi-variable research and the issues of these designs in psychological research. Students also gain experience in computer-based analysis.

School of Psychology

Principles of Psychological Assessment (PSYC3020)

A two-unit course emphasising the importance of appropriate and accurate measurements to the fundamentals of research and practice in psychology. Students are introduced to the psychometric knowledge used when conducting research.

School of Psychology

Topics in Applied Psychology (PSYC3034)*

A two-unit course providing coverage of advanced topics in the application of psychological theory to real-world settings. Emphasis is on the application of theories in social, organisational, and clinical psychology to practical issues of everyday life.
School of Psychology

Psychological Research: Interpretation & Evaluation (PSYC3042)*

A two-unit course which focuses on the nature of psychological research over the domains of the discipline, the design and conduct of research studies, factors affecting the validity of causal inferences drawn from empirical relationships and finally, techniques to enhance the interpretability of results, and the sensitivity, construct validity and generality of research studies.

School of Psychology

Psychophysiology: Methods & Applications (PSYC3222)*

A two-unit course which discusses controversial topics underpinned by psycho physiological principles. Students are encouraged to make informed decisions about particular measures used in research.

School of Psychology

Psychological Research Methodology IV (PSYC4050)

A two-unit advanced course in the methodology of research focusing on multivariate analysis using the SPSS computer package. The course is both theoretical and applied.

School of Psychology

Individual Research Thesis (PSYC4070)

A two-unit honours course. The individual research thesis is the largest single component of the Honours program. It is a year-long course and is intended to demonstrate the capability of students to conceive and carry out original, high level research. The individual research thesis, which is supervised by a member of the academic staff, is assessed on a number of grounds. These relate to the student's command of the chosen topic from initial conception of the problem, through its resolution via appropriate research strategies, to clear presentation and insightful interpretation of what has been discovered.

School of Psychology

Group-Supervised Thesis (PSYC4091)*

A six-unit course in which students will work in teams of four to five members, focusing on different aspects of a common research project, to create an independent research thesis. Participation in all steps involved in research, including the formulation of research questions, study design, data collection, and data analysis, will be required. The research question must be developed within the constraints offered by the common group project.
School of Psychology

Psychological Research Methodology I (PSYC1040)

A two-unit course which introduces students to the theory and practice of research and report writing in psychology. Lectures include methodologies, techniques, designs and analysing research data while tutorials involve students in conducting an experiment.

School of Social Science

Aboriginal Heritage: Anthropological and Archaeological Perspectives (ANTH2098)*

A two-unit course that provides students with the opportunity to work in anthropology and/or archaeology. This course introduces cultural and political issues in Aboriginal heritage, provides training in the practicalities of Aboriginal heritage management, speakers supply indigenous perspectives, and a field trip for practical exercises.

School of Social Science

Advanced Research Topics in Anthropology (ANTH3140)

A two-unit course which reviews and analyses topical issues in anthropological approaches to a wide range of issues, with a particular focus on indigeneity, environmental studies and relations with other disciplines.

School of Social Science

Discovering Archaeology (ARCA1000)*

A two-unit course which introduces students to archaeologists, sites, artefacts, concepts and methods to demonstrate how contemporary archaeology informs us about the ancient human past.

School of Social Science

Doing Archaeology (ARCA1001)*

A two-unit course teaching the contemporary archaeological methods with a practical application. Australian and international case studies. Emphasises group problem solving in the lab.
**School of Social Science**

Historical Archaeology in Practice (ARCA2100)

A two-unit course that develops the practical skills and theoretical knowledge base required of beginning practitioners in historical archaeological heritage management. It is structured around practicals and problem solving exercises taken from real-world case studies and includes guest speakers from industry and regulatory authorities.

---

**School of Social Science**

Cultural Heritage Management (ARCA2118)*

A two-unit course which will introduce the basic definitions of cultural heritage, but focuses mainly on the management of Aboriginal archaeological sites and heritage places. Students will be introduced to site survey and assessment procedures, and will use problem-based learning techniques to implement different survey designs under a range of different conditions. Real-life hypothetical ‘fieldwork’ will provide students with an opportunity to practice cultural heritage management.

---

**School of Social Science**

Advanced Research in Archaeology (ARCA3001)*

Provides higher-level archaeology students with intensive research into topical areas of the discipline. Seminar mode involving individual and group problem-based learning, literature analysis, and peer interaction.

---

**School of Social Science**

Science in Archaeology (ARCS2000)

A two-unit course which provides an introduction to the application of scientific methods to archaeological research. Topics include dating, remote sensing and materials analysis.

---

**School of Social Science**


A two-unit course that explores practices involving the systematic location and recovery of human remains and other crime scene materials. Students will gain experience in search techniques, excavation and recovery, and analysis and conservation of material evidence that are vital in criminal investigations.
School of Social Science

Field Archaeology (ARCS3010)

A two-unit course involving intensive training in all major components of archaeological research from field research design to writing of a report. Field excavation project at TARDIS site on campus.

School of Social Science

Environmental Archaeology (ARCS3040)

A two-unit course that examines methods of earth sciences to understand regional contexts and formation processes of archaeological sites. Develops understanding of palaeoenvironment and climate reconstruction, geomorphology, sediments and soils, stratigraphy, faunal studies and human ecology.

School of Social Science

Introducing Qualitative Research (SOCY2049)

A two-unit course. Aims to introduce students to the art of qualitative research. Students will have the ability to design and implement their own qualitative research projects, and to make well-informed intellectual, ethical and practical decisions about appropriate courses of action in all stages of the research process.

School of Social Science

Introducing Quantitative Research (SOCY2339)*

A two-unit course which provides an introduction to quantitative methods in the social sciences. It emphasises how social scientists use simple quantitative techniques to investigate research questions coming from social science theory, prior research and applied problems. The course focuses on the link between theory and research in social science, the logic of quantitative empirical analysis, and techniques for describing quantitative data and drawing inferences (generalizations) about larger populations. The course also introduces Stata statistical software for simple quantitative analysis.

School of Social Science

Applied Quantitative Research (SOCY3039)*

A two-unit course. Teaches important quantitative data analysis techniques to equip students to undertake their own research and to assess the research of others. Ideal for those planning to take honours.
School of Social Science

Qualitative Researching (SOSC1003)

A two-unit course studying qualitative research to equip students with introductory skills to design and process in social scientific research. Students will engage with the craft of research through reading published accounts of qualitative fieldwork, engaging with qualitative fieldwork issues and developing their skills in asking research questions in one of these substantive areas.

School of Social Science

Research, Planning and Design (SOSC3201)

A two-unit course where students learn to harness skills learned in second year and extend them to an intermediate level of applied research methods and their application in a variety of contexts. Students develop skills in proposal writing, project planning, and reporting to various audiences.

School of Social Science

Project (SOSC3211)

A two-unit course which integrates and applies skills and knowledge developed in core courses, and majors, through applied research projects requiring students to identify research problems related to their major, and to plan, implement and evaluate a research project to address the problem.

School of Social Work and Human Services

Working with Teams and Groups (HSER2022)

A two-unit course which provides a basic understanding of the ways in which group and teamwork processes may be applied to enhance social outcomes for people. It provides a basic understanding of the ways in which group and teamwork processes may be applied to enhance social outcomes for people.
### 3.3 Appendix C: Interview protocol

<table>
<thead>
<tr>
<th>Time</th>
<th>Speaker/s</th>
<th>Script</th>
</tr>
</thead>
<tbody>
<tr>
<td>10min</td>
<td>Project leader</td>
<td><strong>1. Introduction</strong></td>
</tr>
<tr>
<td></td>
<td>Interviewer</td>
<td>1.a Welcome and introduction of moderator and investigator</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>1.b. Objective</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td>The objective of this research is to identify the undergraduate research</td>
</tr>
<tr>
<td></td>
<td></td>
<td>experience programs available at UQ, characteristics and benefits</td>
</tr>
<tr>
<td></td>
<td></td>
<td>students gain from participating. Benefits for participants.</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>1.c. Process</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Project:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Identifying URE activities via website and contacting School office.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>List edited and approved by Associate Dean (Academic). Conducting this</td>
</tr>
<tr>
<td></td>
<td></td>
<td>series of focus groups of 8-10 URE coordinators from each UQ Faculty.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>We will then be conducting follow-up interviews with some participants</td>
</tr>
<tr>
<td></td>
<td></td>
<td>to further inform our research</td>
</tr>
<tr>
<td>3min</td>
<td>Interview</td>
<td><strong>Group Interviews</strong></td>
</tr>
<tr>
<td></td>
<td>Facilitator</td>
<td>Focus groups will run for 2 hours. During which, we will be asking</td>
</tr>
<tr>
<td></td>
<td></td>
<td>participants to fill out a data collection sheet to give us greater</td>
</tr>
<tr>
<td></td>
<td></td>
<td>information about the characteristics of their URE activity.</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>This focus group discussion will examine:</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td>1) How co-ordinators would describe their particular URE:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>a) Perceived benefits of their particular URE, providing some examples;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2) Benefits to students:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>a) How a URE helped a student in research-based courses and careers;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>b) How UREs support student academic achievement, professional,</td>
</tr>
<tr>
<td></td>
<td></td>
<td>personal, disciplinary expertise (way of thinking)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>c) Data to support these perceived benefits;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3) Working together</td>
</tr>
<tr>
<td></td>
<td></td>
<td>a) How UREs fit together, including similarities, gaps and overlaps;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>b) How co-ordinators across Faculties could work together more</td>
</tr>
<tr>
<td></td>
<td></td>
<td>effective; and</td>
</tr>
<tr>
<td></td>
<td></td>
<td>c) How can this project assist your URE and your Faculty's work in this</td>
</tr>
<tr>
<td></td>
<td></td>
<td>area.</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Ethical approval conditions</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Participation in the research is voluntary.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- This 2 hour interview will be audio recorded.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Participants will have the opportunity to read the audio transcript.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Participants may be contacted to clarify transcription content.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Participants may be contacted to participate in the second phase</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(individual interviews).</td>
</tr>
<tr>
<td></td>
<td></td>
<td>We respect your right to privacy. Our Privacy Policy and its processes</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ensure that any information that is obtained in connection with this</td>
</tr>
<tr>
<td></td>
<td></td>
<td>study and that could be identified as relating to you will remain</td>
</tr>
<tr>
<td></td>
<td></td>
<td>confidential and will be disclosed only with your permission.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Information provided will be disseminated (published) in grouped,</td>
</tr>
<tr>
<td></td>
<td></td>
<td>unidentified form.</td>
</tr>
</tbody>
</table>
Please sign consent form if you are willing to participate, and have not done so already.

1d. **Rules** – honest opinions, one at a time, lots of ground to cover, OK to have different opinions

<table>
<thead>
<tr>
<th>Time</th>
<th>Role</th>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>10min</td>
<td>Project leader</td>
<td><strong>Defining Undergraduate Research – Characteristics</strong></td>
</tr>
<tr>
<td></td>
<td>Interviewer</td>
<td>- Introduction of participants - name, school, name of URE - briefly</td>
</tr>
<tr>
<td></td>
<td></td>
<td>[MAX: 1min each]</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Explain snapshots/notes page/data collection sheet [2mins]</td>
</tr>
<tr>
<td>27min</td>
<td>Interview Facilitator</td>
<td><strong>Characteristics and activities</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Can we ask each participant to discuss the characteristics of their URE in more detail.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>What do the students actually do? [MAX: 5min each]</td>
</tr>
<tr>
<td>5min</td>
<td>Lunch</td>
<td></td>
</tr>
<tr>
<td>10min</td>
<td>Project leader</td>
<td>Describe each of the rows in the tables on the Interview form.</td>
</tr>
<tr>
<td></td>
<td>Interviewer</td>
<td></td>
</tr>
<tr>
<td>35min</td>
<td>Interview Facilitator</td>
<td><strong>Benefits students gain</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td>- What benefits do students gain from participating in your URE activity?</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- How a URE helped a student in research-based courses and careers;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- How UREs support student academic achievement, professional, personal, disciplinary expertise (way of thinking)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Can you provide some examples?</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- What data do you have to support these perceived benefits?</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Looking here for data/evaluations but also anecdotal evidence, stories, impressions.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Which characteristics of the URE activity help students to gain these benefits</td>
</tr>
<tr>
<td>15min</td>
<td>Interview Facilitator</td>
<td><strong>Working together (Wish list) – open discussion</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td>- How do you think UREs in your Faculty fit together?</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Esp. student progression within your program.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- In both characteristics and benefits:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- What are the similarities?</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Where do you think the gaps are?</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Where do you think the overlaps are?</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- How could coordinators across your Faculty and other Faculties work together more effectively?</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- This project plans to produce online repository of information about URE activities</td>
</tr>
<tr>
<td>5min</td>
<td>Project leader</td>
<td><strong>Conclusion</strong></td>
</tr>
<tr>
<td></td>
<td>Interviewer</td>
<td>- Close with our future plans of the project for the data we have obtained through this meeting and our plans for other faculties.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Thank you for your participation.</td>
</tr>
</tbody>
</table>