The Advanced Study Program in Science
Challenging, motivating and inspiring our best science students.

Joanne Blanchfield, Elizabeth McGraw, Robyn Evans, Michael Bulmer, Ricarda Thier, Helen Byers, Paula Myatt, Susan Hamilton.

History
Began in 2001 in response to student feedback and observations that our brightest students often experienced:

- Boredom
- Isolation
- Limited exposure to research science as a possible career

What does ASP provide?
Cohort bonding
Seminars
Special coursework
Research projects from 2nd year
Undergraduate research conference

What is ASP?
- A three year program of enhanced learning activities targeted at:
  - High achieving, highly motivated science students with an interest in research.
  - It is NOT an accelerated program.
  - It IS a cohesive series of additional activities centered around three coded subjects, one in each year.

Program structure

<table>
<thead>
<tr>
<th>BIOL1017 Pass/Fail</th>
<th>BIOL2017 Pass/Fail</th>
<th>BIOL3017 Marked</th>
</tr>
</thead>
</table>

Each includes all program activities for a year

Recruitment
- OP1-3 students (equates to the top 3.55% of school leavers or equivalent) who apply for BSc (or allied degree) at UQ received an invitation to APPLY for ASP.
- Eligible applicants are interviewed and 40-50 are chosen the week before semester 1.
Two additional opportunities

• Small intake at the end of 1st semester to replace those that withdraw.
• Another small intake at the beginning of 2nd Year to replace those that withdraw or are recommended not to continue due to poor grades.
• Process is the same – application and interview.

BIOL1017 Perspectives in Science

Week 1: 2 day camp (Moreton Bay)
Sem. 1: Lunch time seminars with very senior research scientists.
Sem 2: Course for credit graded Pass/Fail:

Weekly Modules: discussion sessions, laboratory experiments, reflective diary, group presentations. A range of topics covered: Human sexuality and development, Energy for the future, Schizophrenia.

Undergraduate research Conference (session chairs)

Year 2 Perspectives in Research Science

Week 1: 2 day camp (Lamington National Park)
Sem 1: Fortnightly seminars with young research scientists
Sem 2: Course for credit graded Pass/Fail:

Join a research group, attend lab meetings etc. Immerse into the research culture and gain understand of how research is carried out in a team. Undertake mentoring through group leaders and senior members. Conduct a simple research project.

Undergraduate research Conference: Present research results as a poster or oral presentation at the annual research conference.

Year 3 Further Perspectives in Research Science

Casual dinner with previous class.

Research seminars: must attend 10 seminars of choice from across UQ.

Genuine research project: Develop authentic research skills and participate in an active research group.

Undergraduate Research Conference: Present a poster or oral presentation.

“Graduation” dinner (evening of conference) Celebration of achievements. Recognition of efforts by family, friends and mentors.

Cohort bonding (camps, BBQs, pizza at the pub night, 3rd year dinner)
"What a day! I was so proud of everyone! It went so well!"
Second Year BSc student, October 2003

A process of evaluation

Yearly surveys, interviews, focus groups

Data collection on students after they leave ASPinS

Program changes each year based on student suggestions and feedback. Students feel they have ownership of the program and can make a difference to its success.

Outcomes for 1st year students

"ASPinS has been fantastic. I believe this course is just what a science degree needs - exciting science with ambitious friends. A great experience all round!"
David McAnelly

"I liked the fact that we got exposed to a range of areas in science. Most of us don't know where exactly we want to go in science and this program has really helped.”
George Davies

Outcomes for 2nd year students

Outcomes for 3rd year students

"If it hadn’t been for the Advanced Study Program in Science from year 1, I probably would have left uni!"
Third year student, 2005, GPA 6.7

"I would just like to say thank you for providing such a great program - without ASP it is unlikely that I would have decided to undertake honours.”
Third year student, 2006

BIOL2017 (2006) survey results

<table>
<thead>
<tr>
<th>Rating</th>
<th>Overall experience</th>
<th>Relevance to educational goals</th>
<th>Relevance to career goals</th>
<th>Social network</th>
<th>Research experience</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-5 (5=best)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Score from 1-5 with 5 being best</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>OUTCOMES</th>
<th>ADVANCED STUDY</th>
<th>OP1-3 STUDENTS IN TOTAL COHORT</th>
<th>TOTAL BSc COHORT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number graduating 3 years later*</td>
<td>22</td>
<td>18</td>
<td>22</td>
</tr>
<tr>
<td>Number (%) proceeding to Honours in the year following graduation</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MBBS (Medicine)</td>
<td>19</td>
<td>15</td>
<td>10</td>
</tr>
<tr>
<td>Left university with BSc</td>
<td>2</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>Not graduated (includes dual degree students)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*365
Outcomes for academics

"I can't tell you how rejuvenating it is to interact with such bright and keen group of students"

Assoc. Prof. Gimme Walter

"I would be delighted to help with mentoring any advanced study students at any level any time. You will be glad to know a former ASP student that did honours with me has a coauthored paper in nature from her work, while another has two papers submitted from her honours. Both students have been accepted at Melb Uni for PhDs."

Prof. Hugh Possingham

Elitist? Unashamedly.

40 students/cohort
Strict minimal mark requirements
2nd year entry opportunity
Recognition on academic transcript

Attrition?
Yes....and we are okay with that
- Need to focus on other coursework
- Research is not for them
- Work and social commitments
- Dual degree students

"I'm glad that ASP gave me a chance to experience the lab environment, and see that research was not my field of choice (as opposed to finishing my degree and finding this out through Honours). I'm now looking into doing PR and marketing in a scientific field."

Third Year Student 2007

UQ BACs Faculty contacts
Program administrator
Robyn Evans
robynevans@uq.edu.au

1st year coordinator
Michael Bulmer
m.bulmer@uq.edu.au

2nd year coordinator
Elizabeth McGraw
e.mcgraw@uq.edu.au

3rd year coordinator
Joanne Blanchfield
j.blanchfield@uq.edu.au