Overview Comparison of the Universities, the Faculties of Science and First Year Teaching in Biology and Chemistry, Benchmarking project, 2003

University of Melbourne
Established in 1853
Current student enrolment: 39,000 students
Staffing: total staff of 4240 (2634 Academic; 1606 General)
Faculties and Divisions:
- Architecture, Building and Planning
- Arts
- Economics and Commerce
- Education
- Engineering
- Land and Food Resources
- Law
- Medicine, Dentistry and Health Sciences
- Melbourne Business School
- Music
- Science
- School of Graduate Studies
- Veterinary Science
- Victorian College of the Arts
- Melbourne University Private

University of Sydney
Established in 1850 to promote useful knowledge and to encourage the residents of New South Wales to pursue a regular course of liberal education.
Current student enrolment: 40,000 students
Staffing: total staff of 5,200 (2,300 Academic; 2,900 General)
College of Sciences and Technology
Faculties of
- Agriculture, Food and Natural Resources
- Architecture
- Engineering
- Rural Management
- Science
- Veterinary Science
College of Humanities and Social Sciences
Australian Graduate School of Management
- Arts
- Economics and Business
- Education and Social Work
- Graduate School of Government
- Law
- Sydney College of the Arts
- Sydney Conservatorium of Music
College of Health Sciences
- Dentistry
- Health Sciences
- Medicine, Nursing
- Pharmacy
Appendix 3A
Schools/Departments in the Faculty of Science
Schools
Botany, Chemistry, Earth Sciences, Physics

Departments
Genetics Information Systems Mathematics and Statistics Optometry and Vision Sciences Zoology

Entry requirements:
English, Maths Methods and two of Biology, Chemistry, Physics and Special Mathematics.
In 2003, Science required an ENTER of 80.
Biomedical Sciences ENTER of 96.5 a study score of at least 25 /50 in English (any) Chemistry and Maths Methods OR Specialist Maths and one of Physics, Biology or another Maths.

Degree programs:
As well as BSc, Melbourne offers 4 specialist degrees and 9 combined degrees.

Overall degree program:
300 credit points = degree
12.5 credit points = 1/8 year
4 x 12.5 credit points per semester = 100 credit points per year
3 years of 100 credit points per year = degree

Benchmarking - Science - Melbourne and Sydney
Schools/Units in the Faculty of Science
Schools
Biological Sciences Chemistry Geosciences Information Technologies Mathematics and Statistics Molecular and Microbial Biosciences Physics Psychology Unit

History and Philosophy of Science Unit

Entry requirements:
All Science based degrees require Maths; some degrees require other disciplines as well. Science in 2003 required a UAI of 82.20; other, restricted entry Science or combined degree Science courses have higher UAI.
B. Medical Science UAI of 93.10
B. Computer Science & Technology UAI of 94.05
B. Information Technology UAI of 97.60
B. Psychology UAI of 96.05

Degree programs:
As well as BSc, Sydney offers 14 specialist science degree and 6 combined science degree programs, together with a double Science/Engineering degree.

Overall degree program:
144 credit points = degree
First year: 4 “subjects” at 6 credit points per subject per semester = 48 credit points in year
Second year: 3 “subjects” at 8 credit points per subject per semester = 48 credit points in year
Third year: 2 “subjects” at 12 credit points per subject = 48 credit points in year
Appendix 3A

Transition

Central programs Every Faculty has a program which is either a 101 workshop series and study groups or peer or academic mentoring.

There is a central Transition Program Manager and an assistant

Faculty of Science Program

Welcome Day after selection & Faculty Day
Science 101, offered to all incoming students enrolled in a BSc or combined degree (except with engineering) and BBiomed students from 2004. Consists of 2 workshops commencing in week 2, conducted by academics and Sci Faculty admin staff. Funded by the Dean, appears on transcript (a zero points subject). Study groups are set up by admin staff in Faculty and facilitated by a trained postgraduate student.

School Program – The Biology Learning Centre and Chemistry Learning Centre are available for students to seek help from tutors or meet with peers.

Benchmarking- Science- Melbourne and Sydney

Transition

Central programs – SWOT (Sydney Welcome, Orientation and Transition). Run by the Registrar’s Unit but is a collaboration of a number of units including the Student Union; program both semesters; all students invited by mail out; staffed by Registrar’s Unit (eg student support groups), Student Union; Library etc. Lasts several weeks.

Faculty of Science Program – Student Transition Workshop and Parents’ Program. Run by the Faculty of Science; all incoming students in a BSc degree invited; take up about 30%; staffed by Faculty and with Academic Staff from discipline areas. One-day duration in February each year.

School Program – Biology has a Learning Centre where students can work together or on their own; Chemistry has nothing formalised.
## Comparison of Chemistry and Biology

<table>
<thead>
<tr>
<th></th>
<th>University of Melbourne</th>
<th>University of Sydney</th>
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<tbody>
<tr>
<td><strong>Chemistry</strong></td>
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<tr>
<td>School of Chemistry</td>
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<td>Dept Genetics</td>
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<td>Dept Botany</td>
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<td>Dept Zoology</td>
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<tr>
<td>‘Biology Unit’</td>
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<td>(for first year)</td>
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<tr>
<td><strong>Biology</strong></td>
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<tr>
<td>(for first year)</td>
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<tr>
<td><strong>No. academic staff</strong></td>
<td>22</td>
<td>31</td>
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<tr>
<td>(FTE)</td>
<td></td>
<td>(28 teaching in first year program)</td>
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<tr>
<td>4 Botany</td>
<td></td>
<td>32 (18 teach in first year program)</td>
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<tr>
<td>7 Zoology</td>
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<tr>
<td>2 Genetics</td>
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<tr>
<td>7 tutors</td>
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<tr>
<td><strong>No. research only staff</strong></td>
<td>18</td>
<td>13</td>
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<td></td>
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<td>(4.5 involved in first year)</td>
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<tr>
<td></td>
<td>11, not tutors</td>
<td>9</td>
</tr>
<tr>
<td><strong>No. admin/technical staff</strong></td>
<td>29</td>
<td>17</td>
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<tr>
<td></td>
<td>5</td>
<td>(5 involved in first year)</td>
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<tr>
<td><strong>Enrolment numbers: 2003</strong></td>
<td>1368 Semester 1</td>
<td>Yr 1  1827 in Semester 1</td>
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<tr>
<td></td>
<td>Year 1 1134 Semester 2</td>
<td>Yr 2  355</td>
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<td></td>
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<td>Yr 3  90</td>
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<td>Yr 4  18</td>
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<td></td>
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<td>Yr 1  1760 in Semester 1</td>
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<td>Yr 2  188</td>
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<td>Yr 3  105</td>
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<td>Yr 4  15</td>
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<tr>
<td><strong>First year details:</strong></td>
<td>See mapping documents Section 8: General Appendix</td>
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</tr>
<tr>
<td>Names of subjects/units of study; streams; nos students in each one</td>
<td>See mapping documents Section 8: General Appendix</td>
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<td><strong>Geographic location of first year</strong></td>
<td>Within main School Building; lectures in a variety of locations around main campus</td>
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<td></td>
<td>Tutors, technical and Admin staff, tutorial rooms, laboratories within a separate building Academics in their respective departments.</td>
<td>Offices and teaching labs separate from rest of School (10 min walk); lectures in a variety of locations around main campus</td>
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</tbody>
</table>

### Notes:
- **Generic name:**
  - School of Chemistry
  - Dept Genetics
  - Dept Botany
  - Dept Zoology
  - ‘Biology Unit’ (for first year)

### Additional Information:
- **No. academic staff (FTE):**
  - 22
  - 4 Botany
  - 7 Zoology
  - 2 Genetics
  - 7 tutors

- **No. research only staff:**
  - 18
  - 11, not tutors

- **No. admin/technical staff:**
  - 29
  - 5

- **Enrolment numbers:**
  - Year 1 1368 Semester 1
  - Year 1 1134 Semester 2
  - Yr 1 1827 in Semester 1
  - Yr 2 355
  - Yr 3 90
  - Yr 4 18

- **First year details:**
  - See mapping documents Section 8: General Appendix

- **Geographic location of first year:**
  - Within main School Building; lectures in a variety of locations around main campus
  - Tutors, technical and Admin staff, tutorial rooms, laboratories within a separate building Academics in their respective departments.
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<th>Appendix 3A</th>
<th>Benchmarking- Science- Melbourne and Sydney</th>
</tr>
</thead>
</table>
| Dedicated first year personnel       | Director FY *(also teaches Yr 2-4)  
Transition Fellow 
No tutors 
2 teaching staff 
0.5 admin  
Director FY *(also teaches 3rd yr, Hons) 
7 X 0.4 continuing tutors  
Director FY *(also teaches Yr 2-4)  
Deputy Director FY *(also teaches Yr 2-4)  
+ 3 technical + 1.5 admin  
Director FY *(not teach Yr 2-4)  
Deputy Director FY *(also teaches Yr 2-4)  
+ 3 academic staff 
4.2 technical/computer support staff 
0.8 admin staff |
| Service teaching: defined as the teaching of students enrolled in other faculties who do a compulsory chemistry or biology subject | Teach students in Institute of Land of Food Resources (278 semester 1)  
pre Vet year (21)  
pre Optometry  
Course and no. of students:  
Whole year:  
Pharmacy - 211  
Agriculture - 153  
Chem Engineering - 43  
Engineering (except Chem Eng) - 154  
At Orange – rural pharmacy - 40  
Half a year:  
Vet Science - 93  
Half a semester:  
Education - 140  
Course and no. of students:  
Whole year:  
Pharmacy 160  
Agriculture - 100  
Nursing - 350  
At Orange – rural pharmacy - 40  
Half a year: Education - 70  
Half a semester: Education - 140 |
| Mid-year enrolments                  | 52                                          | 112                                          | 40 |
| Fee paying students (2002)           | International:  
Semester 1 – 88  
Semester 2 – 144  
Local:  
Semester 1 – 52  
Semester 2 – 59  
International:  
Semester 1 – 149  
Semester 2 – 74  
Local:  
Semester 1 – 43  
Semester 2 – 18  
International:  
Semester 1 – 114  
Semester 2 – 114  
Local:  
Semester 1 – 53  
Semester 2 – 65 |
### Appendix 3A

<table>
<thead>
<tr>
<th>Bridging courses</th>
<th>None</th>
<th>None</th>
<th>7 days in February; $240 +GST 2003 Enrolment: 250 students</th>
<th>5 days in February; $210 2003 Enrolment: 140 students</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supporting talented students</td>
<td>Introduction of an advanced chemistry in 2004 By invitation.</td>
<td>Melbourne University Program for High Achieving Students (MUPHAS) Gifted students can complete first year biology while in year 12. Successful completion gives and add on to ENTER. The amount depends on where the student finishes within the class. Students can enter first year and have credit for a subject.</td>
<td>Talented Student Program (TSP) – invited by Dean Special Studies Program (SSP) – invited by School. Advanced units of study – entry by pre-requisites</td>
<td>TSP – invited by Dean Advanced units of study – entry by pre-requisites</td>
</tr>
</tbody>
</table>