MEMBERS OF THE BOARD OF STUDIES OF SCIENCE

The first meeting of the Board of Studies of Science will be held on Tuesday 6 May 2008 at 2.15 pm in the ECOnS Conference Room.

Any member of the Faculty of Life and Physical Sciences or the Faculty of Natural and Agricultural Sciences may attend the meeting as an observer, with speaking rights only, by prior arrangement with the Chair. A full copy of this Agenda (including attachments) is sent to all school secretaries for consultation by Faculty members.

Parts I and II of the Agenda are to be taken en bloc by motion of the Chair. Part III is for discussion. A member may request the removal of an item from Parts I or II to Part III.

Imelda Ooi
Administrative Officer, Faculty of Life and Physical Sciences
Secretary of the Board of Studies of Science  Email: imelda.ooi@uwa.edu.au

MEMBERS OF THE BOARD OF STUDIES OF SCIENCE

<table>
<thead>
<tr>
<th>Name</th>
<th>Position</th>
</tr>
</thead>
<tbody>
<tr>
<td>Professor George Stewart (Chair)</td>
<td>Dean, LPS</td>
</tr>
<tr>
<td>Professor Lyn Abbott</td>
<td>Interim Dean, FNAS</td>
</tr>
<tr>
<td>Professor Robert Grove</td>
<td>Deputy Dean, LPS</td>
</tr>
<tr>
<td>Associate Professor Geoff Hammond</td>
<td>Associate Dean, Teaching and Learning, LPS</td>
</tr>
<tr>
<td>Dr Patrick Finnegan</td>
<td>Associate Dean, Teaching and Learning, FNAS</td>
</tr>
<tr>
<td>Dr Jane Emberson</td>
<td>Academic Student Adviser, LPS</td>
</tr>
<tr>
<td>Ms Jenny Gamble</td>
<td>Faculty Manager, LPS</td>
</tr>
<tr>
<td>Ms Marjan Heilbroel</td>
<td>Senior Faculty Administrative Officer, FNAS</td>
</tr>
<tr>
<td>Mrs Vickie Falcetta</td>
<td>Faculty Administrative Officer, FNAS</td>
</tr>
<tr>
<td>Ms Imelda Ooi</td>
<td>Administrative Officer, LPS</td>
</tr>
</tbody>
</table>

Programme Co-ordinators

<table>
<thead>
<tr>
<th>Name</th>
<th>Programme</th>
</tr>
</thead>
<tbody>
<tr>
<td>Associate Professor Nick Milne</td>
<td>Anatomical Sciences</td>
</tr>
<tr>
<td>Associate Professor Michael Wise</td>
<td>Bioinformatics</td>
</tr>
<tr>
<td>Dr Phil Oates</td>
<td>Biomedical Science</td>
</tr>
<tr>
<td>Dr Ralph James</td>
<td>Biophysical Science</td>
</tr>
<tr>
<td>Professor Kingsley Dixon</td>
<td>Conservation Biology</td>
</tr>
<tr>
<td>Associate Professor Annette George</td>
<td>Earth Science</td>
</tr>
<tr>
<td>Dr Karl-Heinz Wywol</td>
<td>Environmental Science</td>
</tr>
<tr>
<td>Professor Bruce Elliott</td>
<td>Exercise &amp; Health</td>
</tr>
<tr>
<td>Associate Professor Lawrie Abraham</td>
<td>Genetics</td>
</tr>
<tr>
<td>Associate Professor Annette George</td>
<td>Geochemistry</td>
</tr>
<tr>
<td>Professor Colin Raston</td>
<td>Geology</td>
</tr>
<tr>
<td>Dr Luis Filgueira</td>
<td>Green Chemistry</td>
</tr>
<tr>
<td>Dr Brenton Knott</td>
<td>International</td>
</tr>
<tr>
<td>Dr Rob Tuckey</td>
<td>Marine Science</td>
</tr>
<tr>
<td>Dr Allan McKinley</td>
<td>Molecular Biology &amp; Biotechnology</td>
</tr>
<tr>
<td>Professor Don Robertson</td>
<td>Nanotechnology</td>
</tr>
<tr>
<td>Associate Professor Ian McArthur</td>
<td>Neurosciences</td>
</tr>
<tr>
<td>Dr David Van Valkenburg and Dr Michael Weinborn</td>
<td>Psychology</td>
</tr>
<tr>
<td>Dr Nancy Longnecker</td>
<td>Science Communication</td>
</tr>
<tr>
<td>Professor Grady Venville</td>
<td>Science Education</td>
</tr>
<tr>
<td>Associate Professor Jingbo Wang</td>
<td>Scientific Computation</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Heads of School

<table>
<thead>
<tr>
<th>Name</th>
<th>Department</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dr Ben White</td>
<td>Agricultural and Resource Economics</td>
</tr>
<tr>
<td>Professor Lin Schmitt</td>
<td>Anatomy &amp; Human Biology</td>
</tr>
<tr>
<td>Professor Graeme Martin</td>
<td>Animal Biology</td>
</tr>
<tr>
<td>Professor Geoff Stewart</td>
<td>Biomedical, Biomolecular and Chemical Sciences</td>
</tr>
<tr>
<td>Professor Peter Cawood</td>
<td>Earth and Geographical Sciences</td>
</tr>
<tr>
<td>Professor Bruce Elliott</td>
<td>Sport Science, Exercise and Health</td>
</tr>
<tr>
<td>Associate Professor Ian McArthur</td>
<td>Physics</td>
</tr>
<tr>
<td>Professor Hans Lambers</td>
<td>Plant Biology</td>
</tr>
<tr>
<td>Associate Professor David Morrison</td>
<td>Psychology</td>
</tr>
</tbody>
</table>

Other Faculties/Schools

<table>
<thead>
<tr>
<th>Name</th>
<th>Department</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dr Greg Acciaioli</td>
<td>Faculty of Arts, Humanities and Social Sciences</td>
</tr>
<tr>
<td>A/Professor Les Jennings</td>
<td>School of Mathematics and Statistics</td>
</tr>
<tr>
<td>Dr Richard Alcock</td>
<td>Faculty of Medicine &amp; Dentistry</td>
</tr>
<tr>
<td>Dr Rachael Moorin</td>
<td>Faculty of Medicine &amp; Dentistry</td>
</tr>
</tbody>
</table>

Others

<table>
<thead>
<tr>
<th>Name</th>
<th>Department</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mr Cameron Ritchie</td>
<td>Science Union - President</td>
</tr>
<tr>
<td>Ms Matilda Oke</td>
<td>Science Union – Education Officer</td>
</tr>
</tbody>
</table>
AGENDA

PART I
ITEMS FOR COMMUNICATION TO BE DEALT WITH EN BLOC

1. There are no items.

PART II
ITEMS FOR DECISION TO BE DEALT WITH EN BLOC

2. PROPOSED CHANGE OF UNIT NAMES FOR HMES2270 AND HMES3385 Ref:

The School of Sport Science, Exercise and Health requests to modify the names of the following units (Attachment A refers):

<table>
<thead>
<tr>
<th>Current</th>
<th>Proposed</th>
</tr>
</thead>
<tbody>
<tr>
<td>HMES2270 Psychosocial Aspects of HMES</td>
<td>HMES2270 Psychosocial Aspects of Exercise Science</td>
</tr>
<tr>
<td>HMES3385 Human Movement and Disability</td>
<td>HMES3385 Exercise Science and Disability</td>
</tr>
</tbody>
</table>

*The Chair recommends that the modification in the unit titles for HMES2270 and HMES3385 be approved.*

PART III
ITEMS FOR DISCUSSION AND DECISION

3. PROPOSED CHANGES TO PSYCHOLOGY PROGRAMS

The Head of the School of Psychology has advised that following on from changes to the Psychology major sequence in 2007 and in response to the School’s recent professional Australian Psychology Accreditation Council accreditation review, the School is proposing a number of changes to its programs for 2009 as follows.

(a) BSc (Psychology) Hons/Graduate Diploma in Science (Psychology) Ref:

In response to Recommendation 4 from the Australian Psychology Accreditation Council, recommending “… full accreditation subject to the inclusion of core material on psychological assessment and evidence-based intervention, and on both professional and research ethics …” the School has advised that the units that cover the core material required for accreditation namely, PSYC7412 and PSYCH7413, are currently offered as electives. In order to meet the School’s commitment to teach the core material to all its honours students, the School is proposing to change the structure of its honours program for 2009 as follows:

<table>
<thead>
<tr>
<th>Semester 1</th>
<th>Semester 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>PSYC7421 – Psychology Honours Research Project Part 1 (12 points)</td>
<td>PSYC7422 – Psychology Honours Research Project Part 2 (18 points)</td>
</tr>
<tr>
<td>PSYC7416 – Psychological Approaches to Understanding</td>
<td></td>
</tr>
<tr>
<td>PSYC7418 Psychological Methods 1: Analysis of Complex Data OR</td>
<td>PSYC7419 Psychological Methods 2: Specialist Research Methods</td>
</tr>
<tr>
<td>PSYC7412 Psychology as a Profession I: Assessment of Individuals and Systems OR</td>
<td>PSYC7413 Psychology as a Profession II: Effecting Change</td>
</tr>
</tbody>
</table>

The proposed structure will also necessitate the following:

(i) suppression of PSYC7417 Psychological Approaches to Understanding 2: Self and Society (currently offered as a core unit);

(ii) renaming of PSYC7416 Psychological Approaches to Understanding 1: Brain and Cognition to “Psychological Approaches to Understanding” to reflect the fact that its content will be more diverse, covering elements of both PSYC7416 and PSYC7417; and

(iii) increasing the value of the honours research project from 24 points to 30 points. Currently, the research project comprises PSYC7421 Psychology Honours Research Project Part 1 (12 points) and PSYC7422 Psychology Honours Research Project Part 2 (12 points). The School is proposing that
PSYC7422 be increased to 18 points in order to better recognize the high quality and associated time commitment of students for this unit.

A covering letter from the Head of the School of Psychology, proposed changes to the Rules for the BSc (Psychology) Hons, an amended handbook entry for PSYC7421/7422, and a new handbook entry for PSYC7416 are attached (Attachment B).

(b) Bachelor of Psychology Ref:

Recommendation 5 from the Australian Psychology Accreditation Council states: “that the degree of Bachelor of Psychology be conditionally accredited to the end of 2008 only, to allow for the AOU to plan its alteration or disestablishment, after which it should either be altered in structure to involve direct entry at first year …… or disestablished” the School is proposing that the Bachelor of Psychology, along with its core units, PSYC7461 Psychological Research in Applied Settings (Part 1) and PSYC7460 Psychological Research in Applied Settings (Part 2), be listed as not available in 2009, as it feels that direct entry at first year is not likely to be considered in light of the Course Structures Review currently underway.

4. PROPOSED INTRODUCTION OF COMBINED COURSE – BACHELOR OF SCIENCE/MASTER OF TEACHING (PRIMARY) REF:

The Faculty of Education has proposed to introduce the combined Bachelor of Science/Master of Teaching (Primary) in 2009. This is a new initiative as it combines a bachelors degree with a Masters. Currently at UWA, there is one other such combination i.e. MBBS/PhD. The proposed course will comprise a total of 246 – 258 points, with 114 – 126 for the science component and 132 points for the education component and will take 5.125 years to 5.375 years to complete. The course will include 15 weeks of school experience.

The Academic Student Adviser, Dr Jane Emberson, advises that the science component for the new combined course remains the same as for the combined Bachelor of Science/Bachelor of Education.

The checklist, course rules and an overview of the program are attached (Attachment C).

5. PROPOSED INTRODUCTION OF NEW UNIT – 3ALG: RINGS, FIELDS AND MATRIX ALGEBRAS REF:

The School of Mathematics and Statistics wishes to introduce a new unit – 3ALG: Rings, Fields and Matrix Algebras. The rationale for the new unit is to complement the current unit MATH3335 3P5: Groups and Symmetry, and to provide adequate background for further studies in algebra. The proposed unit offers a coherent introduction to the theory of rings, including abstract algebra, matrix algebra and number theory and will have the same prerequisites as 3P5: Groups and Symmetry i.e. MATH2020: Multivariable Calculus & Linear Algebra. The unit does not use material from any existing Level 1 to Level 3 units. The School advises that with the introduction of this new unit, MATH3380 3GG: Graphs and Geometry with Applications to Networks and Computer Vision, will be discontinued.

The checklist and the lecture outline for the proposed new unit are attached (Attachment D).

6. APPLIED STATISTICS MAJOR TO BE MADE AVAILABLE IN THE BSc AND STREAMLINING OF HONOURS STRUCTURE IN THE BSc, BCM AND BA REF:

(a) Applied Statistics major in the BSc

The School of Mathematics and Statistics wishes to request that the Applied Statistics major, previously available in the BSc (Mathematical and Statistical Science) programme which was withdrawn at the end of 2007, be made available in the BSc and that its Rules be the same as for the other degrees namely, BCM, Bachelor of Computer Science and BA. The School feels that Applied Statistics graduates are currently in high demand all over the scientifically advanced world and is closely aligned to biological/human/medicine sciences. As such, the School highly recommends that the Applied Statistics major be done with another biological or human science major within the BSc.

As there are currently four mathematics majors namely, Applied Mathematics, Pure Mathematics, Mathematical Sciences and Mathematical Statistics within the BSc, the Chair suggests that one of these majors be dropped to make way for the Applied Statistics major. The Head of the School of Mathematics and
Statistics advises that the School does not wish to drop any of the existing majors as it feels that they are all relevant and useful majors for students in the BSc.

The covering letter from the Head of the School of Mathematics and Statistics and draft Rules for the Applied Statistics major are attached (Attachment E).

(b) Honours in Mathematics and Statistics in the BSc REF:

For equity reasons, the School of Mathematics and Statistics wishes to keep the Rules for honours in Mathematics and Statistics in the BSc similar to that offered in the BCM and BA honours degrees. This means that BSc students will now have the option of picking four coursework units from Groups A to C in Table 9.2.8Ao – Mathematics and Statistics Honours options, as outlined in Attachment F. For the Applied Statistics stream, the School has incorporated Rule 9.2.8A.29(2), permitting students to substitute two other units in the University, for units offered in the School.

7. CHANGES TO UNIT OFFERINGS & MAJOR SEQUENCE IN COMPUTER SCIENCE

The School of Computer Science & Software Engineering is requesting changes to the unit offerings and major sequence in computer science in the Bachelor of Science course. Members will recall that the three BSc majors previously offered in this area — computer science, information technology applications and information technology systems — were replaced from the start of this year with a single major in computer science. This was intended to cover the range of alternatives that were to be offered in computer science courses in FECM (BCS, BCM) under four specific majors (computation, systems, web technologies, entertainment technologies). The changes now proposed reflect changes in the School’s offerings and BCS majors.

(a) Deletion of Units

The School proposes to delete the following units, currently listed as recognised science units and as options in the computer science major sequence:—
- CITS1211 Foundations of Computer Science
- CITS2210 Object-oriented Programming
- CITS3213 Concurrent Systems
- CITS3240 Databases

(b) Addition of Existing Units to List of Recognised Science Units

The School requests that the following existing units be added to the list of recognised units for the Bachelor of Science (50110) (Science Rule 9.2.2.3, Table 9.2.2a):—
- CITS1220 Software Engineering (level 1)
- CITS3201 Human–Computer Interaction (level 3)
- CITS4211 Artificial Intelligence (level 3)
- CITS4220 Software Quality & Measurement (level 3)

CITS1220 is listed as desirable prior study for CITS2220 Software Engineering Design, which is a recognised science unit and an option at level 2 of the BSc (Bioinformatics). CITS3201 was a recognised science unit up to the end of 2007, but was omitted from the 2008 list. CITS4211 is already included as an option in level 3 of the computer science major, but has been omitted from the list of recognised science units. See under (d) below for comments on content. Unit descriptions, from the 2008 UWA Handbook, are attached (Attachment G).

(c) Addition of New Units to List of Recognised Science Units

The School is proposing three new units and wishes to add them to the list of recognised units for the Bachelor of Science (50110) (Science Rule 9.2.2.3, Table 9.2.2a):—
- CITS2232 Databases (level 2, replacing CITS3240);
- CITS3242 Programming Paradigms (level 3)
- CITS4243 Advanced Databases (level 3, to be available in 2010)

Unit proposals are attached (Attachment H). The School summarises the content of these units as follows:—
- CITS2232: data modelling and the theory and practice of database design, implementation and use.
- CITS3242: compares concepts and principles behind the four main programming paradigms: imperative, object-oriented, functional and logical.
- CITS4243: modern database technologies as integral parts of decision support systems and business intelligence tools.

**(d) Addition of Units to BSc Major Sequence in Computer Science**

The School requests that the following units be added to the list of options for the BSc Major in computer science (Science Rule 9.2.6.14, Table 9.2.6(22) Computer Science Major Sequence Options):-

**Level 1**
- CITS1005 Computing for Scientists & Engineers
- CITS1220 Software Engineering
  (CITS1211 Foundations of Computer Science deleted)

**Level 2**
- CITS2232 Databases
  (CITS2210 Object-oriented Programming deleted)

**Level 3**
- CITS3201 Human–Computer Interaction
- CITS3220 Software Requirements and Project Management
- CITS3241 Robotics
- CITS3242 Programming Paradigms;
- CITS4220 Software Quality and Measurement
- CITS4243 Advanced Databases (to be available in 2010)
  (CITS3213 Concurrent Systems and CITS3240 Databases deleted)

CITS1005 is already a recognised science unit but not currently an option in the major sequence. Both this and CITS1220 are options in the computer science major sequences in the BCM course. Students will still be limited to one choice from the options at this level, in addition to the core unit CITS1200 Java Programming.

Of the existing units at level 3, CITS3201 was an option in all three of the computer science/IT majors offered up to the end of 2007, CITS3220 was an option in both the IT majors, and CITS3241 was an option in the IT Applications major; only CITS4220 was not formerly included. All these four units are core units in one or other of the current majors offered in the Bachelor of Computer Science: CITS3201 in the web technologies major, CITS3241 in the entertainment technologies major, and CITS3201, 3220 and 4220 in the software management major (recently introduced in that course for 2009). CITS3242 is a new unit in the computation major, and CITS4243 a new unit in the systems and web technologies majors.

Prof. Mark Reynolds (Chair of the School’s Teaching & Learning Committee) comments further, on behalf of the School, that—
- CITS3201 ‘addresses fundamental issues in the use and usability of software and computing tools’;
- CITS3241 ‘should be relevant to BSc students interested in using or working on intelligent autonomous robotic tools’;
- CITS1220, 3201 and 4220 ‘all address issues which should be relevant to any BSc students who are using or developing software related to their scientific interests’.

**(e) Change of Unit Title**

CITS2231 Graphics: title to be changed from Introduction to Graphics.

**(f) Consequential Changes to Other Programs and Courses**

The School further proposes the following replacements for units to be deleted:—

- CITS 1231 Web Technologies to replace CITS1211 as an option in the Bachelor of Education/Bachelor of Science course (Rule 11.1.29.5a(ii) and Group A of Table 11.1.29c B.Ed/BSc Science Options);
- CITS2232 Databases to replace CITS2210 as an option at level 2 of the computational biology major sequence of the BSc (Bioinformatics) (Rule 9.2.7A2.1, Table 9.2.7A2(2) Bioinformatics Options Group E);
- CITS3242 Programming Paradigms and CITS4243 Advanced Databases to replace CITS3213 and 3240 respectively in the computational biology major of the BSc (Bioinformatics) (Rule 9.2.7A2.1, Table 9.2.7A2(3) Bioinformatics Majors Group I).

8. **NEXT MEETING**

The next meeting of the Board of Studies of Science is scheduled to take place on **TUESDAY 3 JUNE 2008** at 2.15pm in the ECONS Conference Room.
8 April 2008

Ms Jenny Gamble
School Manager
Faculty of Life and Physical Sciences
M011

Dear Jenny

Re: Change of Unit Names

The School of Sport Science, Exercise and Health would like to modify the names of the following two units:

HMES2270 Psychosocial Aspects of HMES
HMES3385 Human Movement and Disability

to

HMES2270 Psychosocial Aspects of Exercise Science
HMES3385 Exercise Science and Disability

Thank you for your consideration of this request.

Yours sincerely

Bruce Elliott, Professor
Head of School
14 April 2008

Professor George Stewart
Dean
Faculty of Life and Physical Sciences
M011

Dear George

Changes to the BSc (Psychology) Hons, Graduate Diploma in Science (Psychology) and BA (Hons) in Psychology.

Following on from changes made to the Psychology major sequence and in response to a recent professional (APAC) accreditation review, the School of Psychology proposes a number of changes to its Honours and equivalent programs for 2009.

Relevant recommendations of the APAC review are

Recommendation 4: that the fourth (honours) year leading to the degrees of Bachelor of Arts (Honours) or Bachelor of Science (Psychology) (Honours) be CONDITIONALLY ACCREDITED – with full accreditation subject to the inclusion of core material on psychological assessment and evidence-based intervention, and on both professional and research ethics into the fourth year curriculum in order to fully satisfy Standard 3.2.

Our response to this recommendation is embedded in 4 below

Recommendation 5: that the degree of Bachelor of Psychology be CONDITIONALLY ACCREDITED to the end of 2008 only, to allow for the AOU to plan its alteration or disestablishment, after which it should either be:

- altered in structure to involve direct entry at first year and a change to the nature of the fourth year to allow satisfaction of the Standards necessary for the honours degree:
- have its nomenclature changed; or
- be disestablished.

Our response to this recommendation is that, since direct entry at first year is not likely to be considered in the environment of the current review of courses, the Bachelor of Psychology be suppressed at this time. Should we wish in the future to initiate an alternate 4th year program distinct from honours, we will consider our options once the outcome of the course review is known.
We propose four changes to our 4th year programs:

1) The suppression of the Bachelor of Psychology for 2009

2) Consequent changes to the entry requirements for the Honours program

3) A change to the points value and assessment of the Honours empirical research project

4) Changes to the range and choice of coursework units consequent to recommendation 4 of the APAC review.

1) We request the suppression of the Bachelor of Psychology program in line with recommendation 5 above, along with its core units PSYC7460 and 7461.

2) Completion of a 4th year in Psychology is required in order to register to work as a Psychologist, and so demand for our programs has always exceeded our capacity. In past years entry to the School of Psychology's honours programs has required grades somewhat higher than the Faculty average of 65%. This allowed us to restrict Honours enrolments in light of the BPsych imposing competing demands on research supervision. With the suppression of the BPsych we are in a position to supervise more students than those who meet our currently very high requirements, however we would like to retain the benefits of a quota to help us to manage the size of the cohort as we predict that a cut-off of 65% is likely to result in enrolments that exceed our capacity to provide quality supervision in some years. As a guide to the consequences of this, we implemented a selection to quota this year when the BPsych was withdrawn at short notice following the APAC review, and were able to offer places to students whose average was 67% or better, with 4 students missing out who would have met the Faculty's 65% cut off.

We request the following rule to describe the entry requirements for the various Honours programs in Psychology

**Prerequisites**

9.2.8A.46 Students must have completed—

(a) a major sequence in Psychology, as defined under Rule 9.2.6.34A, with an average mark of at least 65 per cent in the Level 3 units (48 points). Applicants will be selected on the basis of this average mark and places will be subject to a quota, which will normally be 70-80 places across Faculties but may vary in response to staff availability.

or
(b) equivalent as recognised by the Faculty.

3) A review of the workload associated with completion of the Honours empirical project suggests that our students are devoting more than half of their Honours year to their project and their research commitment is equal in time to that shown by students in other schools in the Faculty where the thesis is worth 30 or 36 points. Our APAC reviewers also noted informally that our students seemed to be working unusually hard. We recognize the importance of the Honours empirical thesis as the capstone experience of the undergraduate years, and do not wish to diminish its quality. A brief survey of staff has revealed that in the past three years at least 24 publications have resulted from Honours theses, which further attests to the quality of our Honours research experience. It has also come to our attention that the learning objectives for this unit include oral and written communication, and that, although our students do undertake a major oral presentation of their research, this is not currently assessed. In order to meet best practice guidelines by matching our assessments more closely to the learning objectives, and in order to better recognize the high quality and associated time commitment of our students, we propose to increase the value of the Honours Research Project to 30 points (by increasing the value of PSYC7422 Psychology Honours Research Project Part 2 to 18 points) and to introduce a formal assessment of the major presentation that students are currently required to make in second semester. An amended handbook entry is attached.

4) Our APAC reviewers noted that the core material required at recommendation 4 is in fact offered within our Honours program, but that both of the units that cover it (PSYC7412 and 7413) are currently electives. In order to meet our commitment to teach this core material to all Honours students, and to restructure the program within the constraints of the remaining 18 points of coursework, we propose that the structure of the Honours program from 2009 be changed to:

<table>
<thead>
<tr>
<th>Semester 1</th>
<th>Semester 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>PSYC7421 – Psychology Honours Research Project Part 1 (12 points)</td>
<td>PSYC7422 – Psychology Honours Research Project Part 2 (18 points)</td>
</tr>
<tr>
<td>PSYC7416 – Psychological approaches to understanding (6 points)</td>
<td></td>
</tr>
<tr>
<td>PSYC7418 Research methods 1 OR</td>
<td>PSYC7419 Research methods 2</td>
</tr>
<tr>
<td>PSYC7412 Psychology as a profession 1 OR</td>
<td>PSYC7413 Psychology as a profession 2</td>
</tr>
</tbody>
</table>
This will require the suppression of the unit PSYC7417, and a change to the name and handbook entry for PSYC7416 to reflect the fact that its content will be more diverse, covering elements of both PSYC7416 and 7417 without major changes in the learning objectives which are largely content-independent. A new handbook entry is attached.

Since APAC accreditation guidelines require that all students learn some advanced theoretical psychology (PSYC7416), some research methods (PSYC7418 or 7419) and some professional skills (PSYC7412 or 7413) in their 4th year, as well as completing a substantial independent research project, we are confident that this structure will allow us to meet their requirements with minimal change to the units which are currently very well regarded by staff and students alike.

In summary, we request suppression of the Bachelor of Psychology course (10140) and the units PSYC7417, PSYC7460 and PSYC7461 for 2009, and changes to the points value of the Honours Empirical Research Project and the structure of the Honours program. We request that the 12 point version of the unit PSYC7422 be retained for 1 year to facilitate enrolment for several part-time students who will have completed 24 points of coursework this year. For these students completion of either PSYC7416 (in 2009) or PSYC7417 (in 2008) would meet their requirement to complete an advanced theoretical Honours unit.

The implementation of these changes for the Rules is attached. We have also taken the opportunity to make changes to reflect the fact that the Honours Research Project is not, and never has been, available for commencement in July, although the current handbook appears to suggest that this is the case.

Yours faithfully

[Signature]

David Morrison
Psychology Honours (MJ-PSYCH)

Prerequisites

9.2.8A.46 Students must have completed—

(a) a major sequence in Psychology, as defined under Rule 9.2.6.34A, with an average mark of at least 65 per cent in the Level 3 units (48 points). Applicants will be selected on the basis of this average mark and places will be subject to a quota, which will normally be 70 places across Faculties but may be varied in response to staff availability.

or

(b) equivalent as recognised by the Faculty.

Programme Structure

9.2.8A.47 The programme comprises—

(a) all units in Table 9.2.8Av (Psychology Honours Core Units)—36 points

and

(b) one unit from Table 9.2.8Aw (Psychology Research Methods Honours Options)—6 points

and

(c) one unit from Table 9.2.8Awx (Psychology as a Profession Honours Options)—6 points

All units have a value of six points unless otherwise stated.

Table 9.2.8Av (Psychology Honours Core Units)—

<table>
<thead>
<tr>
<th>S1</th>
<th>PSYC7416</th>
<th>Psychological Approaches to Understanding</th>
</tr>
</thead>
<tbody>
<tr>
<td>S1</td>
<td>PSYC7421</td>
<td>Psychology Honours Research Project Part 1 (12 points)</td>
</tr>
<tr>
<td>S2</td>
<td>PSYC7422</td>
<td>Psychology Honours Research Project Part 2 (18 points)</td>
</tr>
</tbody>
</table>

All units have a value of six points unless otherwise stated.

Table 9.2.8Aw (Psychology Research Methods Honours Options)—

<table>
<thead>
<tr>
<th>S1</th>
<th>PSYC7418</th>
<th>Psychological Methods 1: Analysis of Complex Data</th>
</tr>
</thead>
<tbody>
<tr>
<td>S2</td>
<td>PSYC7419</td>
<td>Psychological Methods 2: Specialist Research Methods</td>
</tr>
</tbody>
</table>
All units have a value of six points unless otherwise stated.

Table 9.2.8Ax (Psychology as a Profession Honours Options)—

<table>
<thead>
<tr>
<th></th>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>S1</td>
<td>PSYC7412</td>
<td>Psychology as a Profession 1: Assessment of Individuals &amp; Systems</td>
</tr>
<tr>
<td>S2</td>
<td>PSYC7413</td>
<td>Psychology as a Profession 2: Effecting Change</td>
</tr>
</tbody>
</table>
PSYC7421 Psychology Honours Research Project Part 1 [UG]
PSYC7422 Psychology Honours Research Project Part 2 [UG]

The availability of units in Semester 1, 2, etc. was correct at the time of going to press but may be subject to change. For the most up-to-date information click on the Timetable link below.

**Credit:** 30 points (Parts 1 and 2)  
**Availability:** Semester 1 and Semester 2  
(See Timetable)

**Outcomes:** Students are able to formulate a testable hypothesis in an area of psychology; design and conduct an experimental evaluation of the hypothesis; and report the findings in both oral and written presentations.

**Content:** This unit is taken over two successive semesters and parts 1 and 2 must be completed to fulfil the requirements of the unit. This unit must be commenced in semester 1 and completed in semester 2. Students are required to carry out an individual research project under supervision. The unit is examined by thesis and can only be taken by students who are enrolled in the honours programme.

**Assessment:** This comprises a thesis (90 per cent) which includes a literature review, data collection and analysis and thesis preparation, and an oral presentation of the thesis findings (10 per cent) which takes place in second seemster

Supplementary assessment is not available in this unit.

**Unit Co-ordinator(s):** TBA  
**Location:** UWA (Crawley)  
**Mode:** on-campus

**Unit Rules:**  
**Prerequisites:** enrolment in the honours programme in Psychology  
**Contact hours**—200 hrs
PSYC7416 Psychological Approaches to Understanding [UG]

The availability of units in Semester 1, 2, etc. was correct at the time of going to press but may be subject to change. For the most up-to-date information click on the Timetable link below.

Credit: 6 points  Availability: not available in 2008 (See Timetable)
Old unit code: 140.416

Outcomes: Students are able to evaluate a variety of theoretical and empirical approaches to some of the major issues relating to modern psychology. Students know how to apply and evaluate these approaches within the broad context of psychology and appreciate the ways in which the science and practice of psychology is influenced by social, historical, professional, and cultural contexts.

Content: This unit will use a combination of lectures and debates to encourage students to place a variety of psychological practices and phenomena into their theoretical, historical and social contexts. Classes early in the semester will provide guidance on the broad issues that underpin psychological thinking and practice in the twenty first century, for example students may be asked to consider philosophical perspectives on the relationship between mind and body or cultural perspectives on mental illness. In the later weeks of semester the unit will explore these issues more deeply in the context of particular debates in modern psychology, for example the nature of human intelligence, the understanding of racial prejudice or the value of introspection for understanding the mind. The issues included in the unit may vary from year to year as new debates become prominent in the field or visiting academics are available to share their expertise.

Assessment: This unit will be assessed by two pieces of written work, one based on the early part of the syllabus and one on a current debate. There will be no examination for this unit. Supplementary assessment is not available in this unit.

Unit Co-ordinator(s): Dr Vance Locke
Location: UWA (Crawley)
Mode: on-campus

Unit Rules:
Prerequisites: enrolment in the honours programme in Psychology
Contact hours: 2 hours per week
PROPOSALS FOR A NEW COMBINED COURSE LEADING TO TWO DEGREES
This proforma is to be used only where the proposed course is a combination of two existing approved courses.

CORE QUESTIONS FOR CHECKLISTS USED BY FACULTIES

All faculties should use the questions below in their checklists. Faculties may add other questions as they see fit.

1. **Course Details**

   (1) Please provide the following information:

   (a) Combination proposed;
      **Bachelor of Science / Master of Teaching (Primary)**

   (b) the proposed abbreviated form of the course or programme name (see
      http://www.secretariat.uwa.edu.au/page/59472 for policy on Degree Abbreviations);
      BA / MTeach (Prim)

   (c) the proposed annual intake to the course (in student numbers);
      5

   (d) (i) total number of points required for completion:
      Bachelor of Science – 1114-126 points
      Master of Teaching (Primary) – 132 points

      (ii) number of points in each component:
      Unit values vary from 6 points for most units to 18 points for the final practicum.

   (e) expected completion time for full-time student taking standard load;
      5.125 – 5.375 years

   (f) (i) delivery mode (ie. Internal, external, multi-mode, online-only).
      Internal
      (ii) are any units taught by any kind of non face-to-face instruction?
      One unit may include an online component

      (Note: Where a course is delivered less than 75% face-to-face (ie more than 25% by distance learning or
      similar), there may be implications for international student visas. Please contact the International Centre
      for more information.)

   (g) is any part of the course taught away from the Crawley campus?
      **School Experience will be conducted under the supervision of experienced mentor teachers in primary
      schools.**

   (h) is any part of the course delivered by or taught in collaboration with another organisation?
      If yes, please state the name and address of the other organisation.
      **School Experience will be completed in primary schools associated with the
      Department of Education and Training, 151 Royal Street, East Perth WA 6004;
      Association of Independent Schools of Western Australia, 3/41 Walters Drive, Osborne Park
      WA 6017; and
      Catholic Education Office. 50 Ruislip Street, LEEDERVILLE WA 6007**

   (i) is honours available in this course? If yes, please explain how students undertake honours study.
      Is study towards honours open to international students?
      **Students may exit the program on completion of the Bachelor of Science component to enrol
      in an honours program. They may re-enrol in the combined course on completion of the
      honours year.**

   (2) Please give a succinct summary of the academic objectives of the proposed new combination.
      The course structure allows for substantial discipline knowledge and at least two years of direct
      teacher preparation. Two key characteristics of the course will ensure entrants graduate as
      excellent classroom practitioners:
      - A core of case-based clinical supervision in the critical areas of literacy and numeracy
      - A strong partnership with a small number of excellent schools who will enter a five year
      partnership to offer practical support for the school's programs in the areas of learning
      difficulties and gifted education in return for their contribution to the school practicum
      component of the program.
(3) Please indicate whether the proposal is the outcome of a school, course or other review, or a request from individual students.  
The proposal is the result of internal planning

(4) Does this course complement any major research activities and/or centres?  ✓Yes  ☐ No  
(If yes, please elaborate)  
The Faculty has an established research program in primary literacy and numeracy education

2. Demand

Notes:
(i) The Chair of the Admissions Committee and the Manager, Admissions Centre are available to offer advice on estimating student numbers. (Please note that decisions on any quotas applicable to this course will be made by the Working Party on Admission and Quota Policy.) 
It is estimated that approximately 8 students will enrol each year.

(ii) For new undergraduate courses to be listed in the TISC guide, they need to be approved by Academic Council by May at the latest. Please advise the Executive Officer, Admissions Committee, as early as possible of proposed new undergraduate courses.  
Advised 8 April, 2009

(1) Estimate the annual number of sufficiently qualified applications expected for this course. 
Please state the number of Australian and international student admissions separately.  
25 Australian students overall, approximately 5 in Science. The course may attract some international students from countries which require or encourage teacher to have a masters degree

(2) What is the expected impact on applications for admission to other courses? Please provide separate figures for Australian and international students. 
It is anticipated that by offering a BA or BSc MTeach program, UWA can expect to recruit a new cohort of students not currently entering teaching programs in other universities

3. Employment Outcomes

What do you believe will be the principal employment destinations for graduates and on what basis have you estimated this? 
Western Australian independent and government schools. 
Consultation with the representatives from both the independent sector and government sectors has indicated schools will be keen to recruit UWA graduates.

4. Consultation

(1) Please provide details of consultations you have had with various groups and individuals during the development of this proposal, including the following:

(a) other schools of the University which may have an interest in the course, including relevant academic staff;  
Discussions are being held with LPS to determine the criteria for the Science component of the combined course.

(b) students and graduates;

(c) employers and/or employer groups, and professional bodies;  
The Association of Independent schools, Western Australia Department of Education and Training

(d) other universities in WA which offer courses in similar fields;

(e) leading universities in Australia and overseas which offer courses in similar fields;

(2) Have you given consideration to the alternative of introducing a new programme/major within an existing course or existing combination? Please elaborate.  
The Graduate School of Education does not presently offer a course to train primary teachers

(3) If the proposal is similar to offerings in other institutions in WA, have you considered whether there is scope for a co-operative/collaborative approach? Please elaborate.  
The other WA institutions do not offer a BA or BSc MTeach program
5. **Cross Creditting:**

Please detail the cross-crediting arrangements that have been agreed for this combined course:

6. **Fees**

**Note:** Courses must not be offered or advertised in any way to international students until after they have been registered through the International Centre with CRICOS. Please ensure that you consult with the Director, International Centre about the suitability of a course for international students and any conditions that may be required.

(1)(a) Is the course to be registered on CRICOS as available to international fee-paying students on Student Visas?
   YES
   NO

(1)(b) what fee per annum is proposed for international fee-paying students?
   The Faculty is negotiating this with the International Centre.

(2)(a) (Postgraduate coursework degrees/diplomas/certificates only) Is the course to be registered with DEST as available on a fee-paying basis to local students?
   NO – It is anticipated that this will be a Commonwealth Supported program.

(2)(b) If so, what fee is proposed? Please state: fee per annum, the total number of points and the fee per point.

(2)(c) Please comment on consultations you have had with other institutions, both national and local, in determining that fee.

6. **Explanation of how the proposed course fits with the University’s and the Faculty’s Strategic and Operational Priorities Plans**

An explanation as to how the proposed course fits with the University’s and the Faculty’s Strategic and Operational Priorities Plans must be attached to this checklist. The maximum length of the explanation is one A4 page.

See attached document.

7. **Information Flow**

(1) Please confirm by ticking the boxes and entering the date of action, that you have forwarded a copy of this proposal, either in hard copy, or electronically, to:

- **External to the Faculty**
  - The Deans of all faculties which resource schools responsible for teaching units in the course.

  **Faculty of Life and Physical Sciences**
  - Date 9/4/08

  **Faculty of ______________________________**
  - Date __________________

- The Head and relevant academic staff of any school which will be teaching in the course.

  **School of ______________________________**
  - Date __________________

  **School of ______________________________**
  - Date __________________

  **School of ______________________________**
  - Date __________________

- The Head and relevant academic staff of any school which is not involved in the course, but which teaches in a cognate area.

  **School of ______________________________**
  - Date __________________

C3
School of ____________________________
Date ____________________________

School of ____________________________
Date ____________________________

The Librarian
Date 9/4/08

Where the course proposed involves indigenous issues, the Dean of the School of Indigenous Studies
Date 9/4/08

Where the course proposed is postgraduate and includes 66.6% or more research, the Pro Vice-Chancellor (Research and Research Training)
Date 9/4/08

Executive Officer, Admissions Committee (for new undergraduate courses only)
Date 9/4/08

Where the course proposed is to be available to international students, the Director, International Centre
Date 9/4/08

Internal to the Faculty

The Head and relevant academic staff of any school which will be teaching in the course:

School of ____________________________
Date ____________________________

School of ____________________________
Date ____________________________

School of ____________________________
Date ____________________________

The Head and relevant academic staff of any school which is not involved in the course, but which teaches in a cognate area.

School of ____________________________
Date ____________________________

School of ____________________________
Date ____________________________

School of ____________________________
Date ____________________________

(2) Please confirm, by ticking the box, that you have completed a Faculty Checklist for each new unit introduced as a result of this proposal.

These will be submitted with the annual review of unit descriptors.

(3) Please confirm, by ticking the box, that the proposed course rules are attached.

(4) Please confirm, by ticking the box, that you have sent a course overview to Publications.

(5) Please confirm, by ticking the box that you have consulted with Student Administration about the degree abbreviation.

8. Faculty approval

Where available, the relevant minute extract from both faculties must be attached as set out below:

Faculty of ____________________________ Date of meeting ___________ Extract attached □ Yes □ No

Faculty of ____________________________ Date of meeting ___________ Extract attached □ Yes □ No

Where a Faculty’s minute extract is not yet available, the Dean of the other Faculty is asked to sign below to indicate that his/her Faculty is satisfied with the proposal.

Signature of Dean ____________________________

Faculty of ____________________________

9. Confirmation by Dean of originating faculty

I confirm that the process leading to the proposal for the introduction of the following course:

C4
Name of course: ____________________________

has included appropriate consultation with all other faculties with a potential interest in the proposed course and that the course will not overlap significantly with any existing combined course.

Have any objections to this proposal been raised during the consultation process? □ Yes □ No (if yes, please attach details of objection and response)

Signature of Dean ____________________________
Faculty of ____________________________

10. Confirmation by Dean of the School of Indigenous Studies

Where the course proposed involves indigenous issues, the Dean of the School of Indigenous Studies must confirm the school’s support.

I confirm that the indigenous issues involved in the proposal for the following course:

Name of course: ____________________________

have been discussed with me and I confirm the support of the School of Indigenous Studies for the introduction of this course.

Signature of Dean of the School of Indigenous Studies ____________________________

11. Certification that the proposal is acceptable to the International Centre

Where it is proposed to offer the course to international students, or offshore, the Director, International Centre (or delegate) must confirm the proposal is acceptable to the International Centre

I confirm that the International Centre has been consulted on the introduction of this course/programme, and is satisfied that the fee proposed to be charged to international students is appropriate.

Name of course/programme ____________________________

Signature of Director, International Centre (or delegate) ____________________________

April 2007
[Checklist-combined-cis]
11.1.XX BACHELOR OF SCIENCE AND MASTER OF TEACHING
(PRIMARY) (XXXXX)

Note: (1) The Bachelor of Science component of this course is derived from the Bachelor of Science (50110) course.
(2) Choice of units must be approved by the Faculties.

Applicability of the General Provisions

11.XX.1 The General Provisions in 11.1.1 apply to the course except as set out in the rules which follow.

Admission

11.XX.2 To be eligible to apply for enrolment in the combined course an applicant must be qualified for entry to the course for the Bachelor of Science (50110) with a minimum score of 80 TER.

Course Structure

11.XX.3 The combined course for the degrees of Bachelor of Science and Master of Teaching (Primary) consists of units to a total value of 246 to 228 points comprising a Master of Teaching (Primary) component to the value of 132 points and a Bachelor of Science component to the value of at least 114 points and no more than 126 points.

Master of Teaching (Primary) Component

11.XX.4(1) The Master of Teaching (Primary) component consists of units to a minimum total value of 96 points and a maximum total value of 102 points.

(2) Students will not be permitted to exceed the total number of points prescribed for the component unless the Faculty permits otherwise in exceptional circumstances.

(3) The Master of Teaching (Primary) component comprises—

(a) all units in Table 11.1XXa [Bachelor of Science and Master of Teaching (Primary) — Education Core Units]—120 points

and

(b) one Curriculum I unit from Group A in Table 11.XX4b [Bachelor of Science and Master of Teaching (Primary) — Education Options]—6 points

and

(c) (i) one unit from Group B in Table 11.XXb [Bachelor of Science and Master of Teaching (Primary) — Education Options]—6 points

or

(ii) one unit from Group C in Table 11.XXb [Bachelor of Science and Master of Teaching (Primary) — Education Options]—6 points

(11) Unless the Progress Committee approves otherwise, students are not permitted to proceed to the following units until the Bachelor of Science component is complete:

EDUC8414 Assistant Teaching Practicum (18 points)
EDUC85XX School Experience IV (12 points)
EDUC8485 Teaching and Learning Perspectives (6 points); and
EDUC846X a Curriculum I unit.
Table 11.XXa—Bachelor of Science and Master of Teaching (Primary)—Education Core Units
All units have a value of six points unless otherwise stated.

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>EDUC1100</td>
<td>Education in Australia</td>
</tr>
<tr>
<td>EDUC85XX</td>
<td>Education, Development and Learning</td>
</tr>
<tr>
<td>EDUC85XX</td>
<td>Teaching Literacy I</td>
</tr>
<tr>
<td>EDUC85XX</td>
<td>Tutoring Literacy</td>
</tr>
<tr>
<td>EDUC85XX</td>
<td>Teaching Numeracy</td>
</tr>
<tr>
<td>EDUC85XX</td>
<td>Tutoring Numeracy</td>
</tr>
<tr>
<td>EDUC8485</td>
<td>Teaching and Learning Perspectives</td>
</tr>
<tr>
<td>EDUC85XX</td>
<td>Integrating Learning Areas: Science and Society and the Environment</td>
</tr>
<tr>
<td>EDUC85XX</td>
<td>Dealing with Difference and Difficulty</td>
</tr>
<tr>
<td>EDUC85XX</td>
<td>Assessment</td>
</tr>
<tr>
<td>EDUC85XX</td>
<td>Art/Technology and Enterprise/Physical Education</td>
</tr>
<tr>
<td>EDUC85XX</td>
<td>Teaching Literacy II</td>
</tr>
<tr>
<td>EDUC85XX</td>
<td>School Experience IV (12 points)</td>
</tr>
<tr>
<td>EDUC8429</td>
<td>Aboriginal Education</td>
</tr>
<tr>
<td>EDUC8615</td>
<td>Teaching and Learning with ICT</td>
</tr>
<tr>
<td>EDUC85XX</td>
<td>Specialist Placement</td>
</tr>
<tr>
<td>EDUC8414</td>
<td>Assistant Teaching Practicum (18 points)</td>
</tr>
</tbody>
</table>

Table 11.XXb—Bachelor Science and Master of Teaching (Primary)—Education Options
All units have a value of six points unless otherwise stated.

**Group A—Curriculum I Units**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>EDUC8445</td>
<td>Art Curriculum I</td>
</tr>
<tr>
<td>EDUC8460</td>
<td>English Curriculum I</td>
</tr>
<tr>
<td>EDUC8461</td>
<td>Languages Other Than English (LOTE) Curriculum I</td>
</tr>
<tr>
<td>EDUC8462</td>
<td>Mathematics Curriculum I</td>
</tr>
<tr>
<td>EDUC8464</td>
<td>Information and Communication Technology Curriculum I</td>
</tr>
<tr>
<td>EDUC8465</td>
<td>Science Curriculum I</td>
</tr>
<tr>
<td>EDUC8466</td>
<td>Society and the Environment Curriculum I</td>
</tr>
<tr>
<td>EDUC8467</td>
<td>Teaching English to Speakers of Other Languages (TESOL) Curriculum I</td>
</tr>
<tr>
<td>EDUC8468</td>
<td>Special Education Curriculum I</td>
</tr>
</tbody>
</table>

**Group B**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>EDUC85XX</td>
<td>Capstone Teaching Experience</td>
</tr>
<tr>
<td>EDUC85XX</td>
<td>Master’s Research Paper</td>
</tr>
</tbody>
</table>

**Group C**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>EDUC8610</td>
<td>Human Resource Development in Education</td>
</tr>
<tr>
<td>EDUC8612</td>
<td>Educational Leadership</td>
</tr>
<tr>
<td>EDUC8616</td>
<td>International and Comparative Education</td>
</tr>
<tr>
<td>EDUC8618</td>
<td>Information and Communication Technology in Teaching and Learning</td>
</tr>
</tbody>
</table>
Bachelor of Science Component

11.1.29.5 The Bachelor of Science component consists of units to a total value of 114 to 126 points comprising—

(a) Level 1 units to a minimum value of 36 points and a maximum value of 48 points including—

(i) at least one pair of units from each of Groups A and B in Table 11.1.29c [Bachelor of Science and Master of Teaching (Primary)—Science Options]—at least 24 points

and

(ii) one pair of units from Group C in Table 11.1.29c [Bachelor of Science and Master of Teaching (Primary)—Science Options]—12 points

and

(b) Level 2 units to a minimum value of 30 points and a maximum value of 54 points including 24 points from at least two Science subject areas as follows:

(i) units to a minimum value of 18 points leading to an approved Science major¹ as listed in 9.2.6.2 in the Science Faculties’ Rules, and chosen from Group D in Table 11.1.29c (Bachelor of Science and Master of Teaching (Primary)—Science Options)—at least 18 points

and

(ii) other approved Level 2 units to make up the required points chosen from Table 9.2.2a [Recognised Units for the Bachelor of Science (50110)] in the Science Faculties’ Rules;

and

(c) Level 3 units to a minimum value of 24 points and a maximum value of 48 points chosen from Table 9.2.2a [Recognised Units for the Bachelor of Science (50110)] in the Science Faculties’ Rules and leading to the completion of at least one of the majors listed in 9.2.6.2 of those rules. ¹

¹ The units which lead to completion of science majors are set out in the major sequences in 9.2.6 of the Science Faculties’ Rules.

Table 11.1.XXc—Bachelor of Science and Master of Teaching (Primary)—Science Options

All units have a value of six points unless otherwise stated.
Group A
CHEM1101 Inorganic and Physical Chemistry; and
CHEM1102 Organic Chemistry
CHEM1103 Biological Organic Chemistry; and
CHEM1104 Biological Inorganic and Physical Chemistry
PHYS1101 Advanced Physics A; and
PHYS1102 Advanced Physics B
PHYS1141 General Physics A; and
PHYS1142 General Physics B

Group B
ANHB1101 Human Biology I; and
ANHB1102 Human Biology II
BIOL1130 Core Concepts in Biology; and
BIOL1131 Plant and Animal Biology
HMES1101 Human Movement; and
HMES1102 Human Movement

Group C
CITS1211 Foundations of Computer Science; and
CITS1200 Java Programming
EART1105 Earth and Environment: Dynamic Planet; and
EART1104 Earth and Environment: Geological Perspectives
EART1105 Earth and Environment: Dynamic Planet; and
EART1108 Earth and Environment: Geographical Perspectives
MATH1010 Calculus and Linear Algebra; and
MATH1020 Calculus, Statistics and Probability
MATH1025 Calculus and Matrix Methods; and
STAT1510 Statistics A
MATH1040 Calculus B; and
STAT1510 Statistics A

Group D
BIOP2201 Biophysical Foundations and Processes
BIOP2202 Biomeasurement
BIOP2203 Biominerisation
CHEM2210 Structure Determination and Physical Chemistry
CHEM2211 Synthetic and Materials Chemistry
CHEM2220 Analytical and Physical Chemistry
CHEM2221 Biological and Medicinal Chemistry
MATH2030 Calculus and Matrix Methods
MATH209 Calculus and Probability
MATH2020 Multivariable Calculus and Linear Algebra
MATH2020 Applied Mathematics
MATH2300 Fundamental Concepts in Mathematics
MATH2224 Operations Research
PHYS2201 Quantum Physics
PHYS2202 The Physics of Particles
PHYS2220 Atoms, Nuclei, Particles and Galaxies
STAT2225 Statistical Science
STAT2226 Statistical Models for Data
Credit for Previously Completed Work

11.1.XX.6(1) If credit is granted towards the combined course for units passed through Continuing Education, it will be for Level 1 and 2 units only and will not exceed 24 points.

(2) If credit is granted towards the Master of Teaching (Primary) on the basis of units completed at an approved institution, it will not exceed 24 points.

(3) Credit will not be granted for previously completed teaching practicum units, or equivalent.

Failure to Pass a Teaching Practicum unit

11.1.XX.7(1) Students who do not pass a teaching practicum unit will have their case considered by a committee comprising—

(a) the Dean of the Faculty of Education;

(b) the Director of Teaching; and

(c) the Deputy Dean of the Faculty of Education.

(2) The committee will take into account all relevant information and recommend to the Faculty of Education that the student—

(a) repeat the teaching practicum;

or

(b) repeat the teaching practicum following completion of specified additional relevant work;

or

(c) not be permitted to re-enrol in the course.

(3) If the Faculty of Education permits a student to repeat a teaching practicum, it will determine whether the practicum may be repeated in the same or a subsequent year taking into consideration the student’s overall performance in the course.

1 EDUC2202 Constructions of Teachers’ Work, EDUC3303 Introduction to Teaching, EDUC8481 School Experience I, EDUC8414 Assistant Teaching Practicum

Satisfactory Progress

11.1.XX.8(1) To make satisfactory progress in a year in which a student is enrolled in a teaching practicum unit, the student must, in addition to passing units to the value of at least half the total points value of units in which they are enrolled, pass the teaching practicum unit(s) in which they are enrolled.

(2) To make satisfactory progress in a year in which a student is not enrolled in a teaching practicum unit, the student must pass units to the value of at least half the total points value of units in which they are enrolled.

1 EDUC2202 Constructions of Teachers’ Work, EDUC3303 Introduction to Teaching, EDUC8481 School Experience I, EDUC8414 Assistant Teaching Practicum

Progress Status

11.1.XX.9(1) Students who pass the teaching practicum unit(s) but do not pass units to a value of at least half the total points value of units in which they are enrolled are assigned the progress status of ‘Suspended’.

(2) Students who pass units to a value of at least half the total points value of units for which they are enrolled but who fail a teaching practicum unit are, if the Committee described in 11.1.29.7 so recommends under that Rule, assigned the progress status of ‘Excluded’.
(3) Students who do not pass units to a value of at least half the total points value of units for which they are enrolled and who fail a teaching practicum\textsuperscript{1} unit, are assigned the progress status of ‘Excluded’.

(4) University General Rule 1.2.2.10(a) applies to students who fail to make satisfactory progress in terms of 11.1.29.8(2).

(5) Students who twice fail to make satisfactory progress are assigned the progress status of ‘Excluded’.

\textsuperscript{1} EDUC85XX School Experience IV, EDUC8414 Assistant Teaching Practicum
Primary School Teacher Education

UWA and GSE Strategic Plans

Overview

Although the University of Western Australia has a long history of primary teacher preparation, the course has not been offered since 1988. The reintroduction of the course is proposed because UWA has the capacity to recruit more intellectually able primary teaching candidates than WA’s other universities at a time of sharply falling entry standards. The program that is proposed will offer a 5-year combined degree (BA or BSc / M Teach) for school leavers or a two-year M Teach program for graduate entrants. This program will target high-TER students not currently choosing primary teaching, perhaps as a consequence of the historically low entrance standards of the programs currently available in WA.

Teacher Education in Group of 8 Universities

The round of higher education mergers during the early 1980s typically involved incorporation of former teachers’ colleges into existing universities or institutes of technology. As a result, some Group of 8 universities formed large schools of education, and offered preparation for early childhood, primary and secondary teaching. Currently, the University of Melbourne enrols more than 2,300 students, Monash University enrols more than 2,500 students, and the University of Sydney enrols more than 1,800 students. In contrast, the UWA enrolment of about 250 teacher education students constitutes fewer than 4% of all teacher education in Group of 8 universities.¹

The reintroduction of the course is part of the GSE’s plan to increase the number of students and to make a significant contribution to the training of academically able, excellent classroom teachers.

Educational Standards of Entrants to Teaching

Internationally, there has been a steady decline in the attractiveness of the teaching profession to university students, and a consequent decline in the average educational standard of entrants. Although the effect is not yet as pronounced in Australia as it appears to be in the United States, the circumstances here are very serious. Nationally, the proportion of teacher education students recruited from the top and second top quintiles of school performers has halved in the last 20 years, and the proportion drawn from the second bottom quintile has doubled.² By offering a BA or BSc / MTeach program, UWA can expect to recruit a new cohort of students not currently entering programs in other universities, and make a significant contribution to the formation of next generation of school leaders and educational researchers in the State.

¹ Enrolments at Australian Institutions by Broad Field of Education, 2005, UWA (Source: UWA Executive Information System).

Bachelor of Science / Master of Teaching (Primary) (XXXXX)

Course type: undergraduate entry combined degree
Include in: Undergraduate and Postgraduate Handbook
Status: 2009
Intake periods: all
Admission requirements: A TER of 80 or higher. Applicants with qualifications from overseas institutions where English is not the medium of instruction must provide evidence of English language competency equivalent to an IELTS score of 7.5 overall with no band lower than 7.0. Applicants whose first language is not English, but who hold degrees from institutions where English is the medium of instruction, may be required to provide further evidence of English language competency.

Administration
Administered by (UWA only): Faculty of Arts and Faculty of Education
Jointly with (non-UWA only):

Course Details
Minimum credit points required: 246 to 258 points overall

Bachelor of Arts component – 114 to 126 points
Bachelor of Education component – 132 points

Short Description: The Bachelor of Science / Master of Teaching is for students who wish to qualify as a primary teacher.

Structure: comprises approximately 26 coursework units and 15 weeks of supervised teaching practice.
Standard full-time completion: 5 years
Standard part-time completion: 10 years
Attendance type: full- or part-time
Delivery mode: internal
Available to international students: Yes

Locations Offered
Locations offered: UWA (Crawley)
Domestic fee type: Commonwealth supported and/or HECS-HELP

Majors Minors
Majors available:
Minors available:

Enquiries
Contact person: Zan Blair/Sandy Heldsinger
Position: Faculty Administrative Officer/Course Co-ordinator
Phone/email: 6488 2397/2301, zan.blair@uwa.edu.au/sandy.heldsinger@uwa.edu.au
Notes:
# Proposed

## Bachelor of Arts / Master of Teaching (Primary) Combined Course

### Bachelor of Science / Master of Teaching (Primary) Combined Course

<table>
<thead>
<tr>
<th>Level</th>
<th>Semester</th>
<th>Course Title</th>
<th>Arts/Science</th>
<th>Arts/Science</th>
<th>Arts/Science</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>Education in Australia</td>
<td>6 pts</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>2</td>
<td>Education, Development and Learning</td>
<td>6 pts</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>1</td>
<td>Teaching Literacy I</td>
<td>6 pts</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td>Tutoring Literacy</td>
<td>6 pts</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>1</td>
<td>Teaching Numeracy</td>
<td>6 pts</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>2</td>
<td>Tutoring Numeracy</td>
<td>6 pts</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>1</td>
<td>Teaching and Learning Perspectives</td>
<td>6 pts</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>EDUC8485</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>2</td>
<td>Arts/Tech &amp; Eng/ PhysEd</td>
<td>6 pts</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>1</td>
<td>Aboriginal Education</td>
<td>6 pts</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>EDUC8429</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>2</td>
<td>Assessment</td>
<td>6 pts</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>EDUC8482</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Curriculum I

- Dealing with Difference and Difficulty
- Curriculum I
- 6 pts
- EDUC8462/8465/8466/8467

### Level 5 - Semester 2

- School Experience IV
- 6 pts

### Level 4 - Semester 2

- Teaching Literacy II
- 6 pts

### Level 5 - Semester 1

- Specialist Placement
- 6 pts
- EDUC8451

### Level 5 - Semester 2

- School Exp II
- 18 pts
- EDUC8482

### Capstone Experience

- Overseas teaching experience
- Rural/remote teaching experience
- Specialised teaching experience (music, art, sport)
- Major Paper
PROPOSALS FOR NEW UNITS

Core Questions for Checklists used by Faculties

All faculties must include the questions below in their checklists for new units. Faculties may add other questions as they see fit.

1. Unit Details

(1) Please provide the following information:

(a) the proposed name of the unit; (The character allowance for unit titles in Calillista is 100 for long, 40 for short and 20 for abbreviated.)

3ALG: Rings, Fields and Matrix Algebras

(b) the proposed point value of the unit (NB. By Council Resolution 110/02, all units must have a points value of 6 unless granted exemption);

6 points

(c) a very brief description, not exceeding one line in length, of the content/area of the unit;

Introduction to rings and fields and linear algebra over commutative rings

(d) the names of the degree, diploma and/or certificate courses in which you intend to offer the unit;

BSc, BCM, BA

(e) the proposed quota on intake to the unit, if any, and the nature of the constraint on intake.

No quota

(2) Please give a succinct summary of the academic objectives of the unit.

a) Familiarise students with the basic algebraic structures rings and fields

b) To introduce students to advanced linear algebra over commutative rings

(3) Please indicate whether the unit is the outcome of a school, course or other review.

Not applicable

(4) Please advise whether the unit utilises any material from existing units. If so, please provide details.

The unit does not use material from any existing 1-3rd year units. Some material will be moved from an honours unit to this unit.

(5) Please advise whether the unit is to be offered within standard semester dates. (If it is not, please attach a proposal form for a non-standard semester unit.)

Unit is to be run in Semester 2.

(6) Please advise whether lecture outline has been provided.

Lecture Outline attached.

2. Demand

(1) What are the estimated annual enrolments?

20

(2) How has the estimate in (1) been arrived at?
Students who might have enrolled in the discontinued unit MATH3380, or students who enrolled in MATH3335.

(3) From which other units are students likely to move?

MATH3380: 3GG will be discontinued and we believe students to move from there.

3. **Assessment**

(1) Please advise how many examinations there will be for the unit and how long each will last. (Note: By Academic Council R16/94 the Examinations Office administers only standard examinations of 2 hours or 3 hours).

One final 3 hour exam.

(2) If you do not propose to use more than one means of assessment for this unit (as recommended in the University’s Guidelines on Assessment (http://www.secretariat.uwa.edu.au/home/policies/assessment), please explain the reason for this.

Further assessment will be based on some of the following: assignments, tests

4. **Resource-related matters**

(1) Please advise whether all the costs of the unit (e.g. including, if appropriate, those associated with teaching at the Albany Centre such as Library/computer software resources) will be met from school resources or whether the proposal is the subject of application for other funding (e.g. University Initiatives Fund).

All costs will be met by the School of Mathematics and Statistics.

(2) Please indicate whether the school intends to suppress another unit to release resources for this one.

The School of Mathematics and Statistics plans to discontinue the unit MATH3380.

(3) Please name the staff members who are able to teach the unit.

Giudici, Li, Niemeyer, Praeger, Royle.

(4) Please confirm that you have attached a completed Library Consultation Form.

Library Consultation Form attached.

(5) Will the introduction of this unit give rise to any accommodation needs other than standard lecture theatres, tutorial rooms or laboratory space (e.g. office space, new kinds of laboratory space) which cannot be met from the School’s/Faculty’s existing space allocation? Please ensure that your understanding is consistent with that of the Dean.

If YES, please confirm that you have attached a completed Accommodation Planning Form (http://www.secretariat.uwa.edu.au/home/policies/courseunit/proposals).

The unit will require standard lecture theatres only.

(6) Will there be any ancillary student fees/charges associated with this unit? If so, please confirm that you have submitted details of these to the Dean.

(See http://www.teachingandlearning.uwa.edu.au/tl4/for_uwa_students2/policies/asfc3)

No ancillary student fees.

5. **Consultation**

Please provide details of the consultations you have had with various groups and individuals during the development of this proposal, including the following:

(a) heads of schools in cognate areas, which may have an interest in the unit content;
(b) students and graduates;
(c) employers and/or employer groups and professional bodies;
(d) other universities in WA which teach similar units;
(e) other leading universities in Australia or overseas which teach similar units.
We have consulted to students and graduates, both former and current, with staff members and outside experts. We have also considered similar courses taught at other Australian Universities.

6. **Information Flow**

Please confirm, by ticking the boxes and entering the date of action, that you have forwarded a copy of this proposal, either in hard copy or electronically, to:

- The Deans of all faculties involved, either through offering the unit in their degrees, or through resourcing your school.

<table>
<thead>
<tr>
<th>Faculty of</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engineering, Computing and Mathematics</td>
<td>28/03/2008</td>
</tr>
<tr>
<td>Life and Physical Sciences</td>
<td>28/03/2008</td>
</tr>
<tr>
<td>Arts</td>
<td>28/03/2008</td>
</tr>
</tbody>
</table>

- The Head of any school which teaches in a cognate area (specify below).

<table>
<thead>
<tr>
<th>School of</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- The Librarian  □ Date  28/03/2008

7. **Confirmation by Head of School**

I confirm that the process leading to the proposal for the introduction of **3ALG: Rings, Fields and Matrix Algebras** has included appropriate consultation with all other schools, both internal and external to the faculty, with a potential interest in the proposed unit and that the proposed unit will not overlap significantly with any existing unit.

Have any objections to this proposal been raised during the consultation process?

□ Yes  □ No

*(If yes, please attach details of objection and response)*

Signature of Head

School of

University Secretariat
June 2005
(New_Unit_Checklist)
8. RATIONALE FOR A NEW UNIT

It is proposed to offer a Unit, called 3ALG: Rings, Fields and Matrix Algebra which will complement the current unit 3PB: Groups and Symmetry.

Our third year units were revised two years ago with the introduction of the Graphs and Geometry unit 3GG, designed to assist prospective Discrete Mathematics majors. With the introduction of 3GG, the ring theory unit 3P7 was required to be upgraded to a fourth year unit. These changes have not been in the best interests of the students, since the combinatorics units 3CC and 3GG, while introducing students to interesting areas of mathematics, have not provided adequate background for further studies in algebra, and in particular for post-graduate studies in mainstream mathematics like number theory, algebraic geometry and non-commutative algebra. Moreover, the two staff closest to the area of 3GG (Pentilla and Bamberg) have left the university.

This proposed new algebra unit offers a coherent introduction to the theory of rings, including both important examples in abstract algebra, matrix algebra, and number theory. The unit in particular covers normal forms for matrices over an arbitrary field, important results for many applications.

We recommend, with the introduction of this new unit, that 3GG be not offered in future.

9. PHILOSOPHY OF THE UNIT

3ALG could be presented in either Semester 1 or Semester 2 and would differ slightly in each semester according to the preparation of the students. But in either case, there would be about 33 one-hour lectures and 6 workshops (not necessarily consecutive) with major emphasis on each of commutative ring theory, fields and matrix algebras. It should be presented as a coherent theory, beginning with well known examples, proceeding by abstraction and generalisation, and culminating in major structure theories.

Each section would begin with an analysis of the underlying theoretic properties of the major examples, the integers, number fields and polynomial rings in the commutative case, and matrix and endomorphism rings. Obvious application to number theory and group theory have a place here. The lectures on each section would culminate in a major theorem in the section.

10. COURSE OUTLINE

The lecture allocations are merely nominal. Some topics may be omitted without loss, but it is not likely that more could be added. ‘Lectures’ includes tutorials or workshops.

1. Definition and historical background of Rings. The main examples: number systems, polynomial rings, matrix rings. (2 lectures)
2. Homomorphisms, subrings, left and right ideals, modules, factor rings. (3 lectures)
3. Concepts in commutative ring theory: integral domains, factorisation, Euclidean domains, principal ideal domains, prime and maximal ideals. (6 lectures)
5. Chain conditions on ideals (2 lectures)
6. Division rings (2 lectures)
7. Linear transformations over a commutative ring (2 lectures)
8. Invariant subspaces of matrices over commutative rings and fields (1 lecture)
9. Canonical forms for matrices and linear transformations over a commutative ring (8 lectures)
10. Bilinear forms (1 lecture)
MATH--- 3ALG: Rings, Fields and Matrix Algebra [UG]

Credit: 6 points Availability: Semester 1 or Semester 2 (See Timetable)

Outcomes: Students are able to extend their knowledge of mathematical concepts and techniques and adapt known solutions to different situations; understand and appreciate the power and beauty of mathematical abstraction; communicate effectively with others; present mathematical results in a logical and coherent fashion; and undertake continuous learning, aware that an understanding of fundamentals is necessary for effective application.

Content: The theme of this unit is the structure of rings and fields and the theory of linear algebra over commutative rings. Apart from the mathematical interest of rings, they have important applications to number theory, algebra, analysis and geometry.

Assessment: This comprises an end-of-semester examination and in-semester tests or assignments. All assessment tasks require students to apply their knowledge of the unit content to solve previously unseen problems. Credit is given for clarity and correctness of presentation as well as for actual results.

Supplementary assessment is not available in this unit except in the case of a bachelor's degree student who has obtained a mark of 45 to 49 and is currently enrolled in this unit, and it is the only remaining unit that the student must pass in order to complete the course.

Location: UWA (Crawley)
Mode: on-campus

Unit Rules:
Prerequisites: ??
Contact hours—39 (lectures: 33 hrs; tutorials: 6 hrs)

Unit Web Page: http://www.maths.uwa.edu.au/units
Note: Some unit web pages are still under construction and will be available in 2009.

Note: This unit may be taken in the honours year.

Assistance with study skills, including English language skills, is available free of charge from Student Services for all enrolled students (see http://www.studysmarter.uwa.edu.au/). Student Services location: Second Floor, South Wing, Guild Village; telephone: 6488 2423.

Books and other material wherever listed may be subject to change. Book lists relating to 'Preliminary Reading', 'Recommended Reading' and 'Textbooks' are, in most cases, available at the University Co-operative Bookshop (from early January) and appropriate administrative offices for students to consult.
Hi Imelda,

further to the actual hand book entry, the prerequisites for the unit 3Alg are the same as the prerequisites for 3P5, namely
MATH2020: Multivariable Calculus & Linear Algebra

Cheers - Alice.

PS: Would you just be able to confirm that these are indeed the prerequisites for 3P5 for 2009?
Thank you.

--
Alice C. Niemeyer   =0\____) =0\ School of Mathematics & Statistics
alice@maths.uwa.edu.au  \_\_{ \_\_ University of Western Australia
+61-8-6488 3890  .| .| .|\_\_ Nedlands, WA 6009, Australia.

### Proposals for new units - Meeting of Faculty/Faculty Board held on .................

<table>
<thead>
<tr>
<th>Unit No.</th>
<th>Unit Name</th>
<th>Points Value</th>
<th>Brief Description of Unit Content</th>
<th>Courses in which offered</th>
<th>Semester offered in</th>
<th>Faculty Rules to be amended (Specify)</th>
<th>Faculty Resolution Numbers</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH3</td>
<td>3ALG: Rings, Fields and Matrix Algebras</td>
<td>6</td>
<td>Introduction to rings and fields and linear algebra over commutative rings.</td>
<td>BSc, BCM, BA, BCompSc, BE.</td>
<td>S2</td>
<td>BSc, BCM, BA UG Handbook Table 3.2.2a, level 3 units. Page 56 Table 6.2.3c level 3 units, p119 Table 6.2.3s Table 9.2.2a level 3 units Table 9.2.8(60) Table 9.2.7A2(3) Table 6.2.4c, Group B, add this unit.</td>
<td></td>
</tr>
</tbody>
</table>

I confirm that the processes leading to the proposals for the introduction of the new units listed above have included appropriate consultation with all other schools/faculties with a potential interest in the proposed new units. I am satisfied that the proposed new units will not overlap significantly with any other faculty.

Signed ____________________________

DEAN
### Proposals for deletion of units - Meeting of Faculty/Faculty Board held on .................

<table>
<thead>
<tr>
<th>Unit No.</th>
<th>Unit Name</th>
<th>Points Value</th>
<th>Brief Description of Unit Content</th>
<th>Courses in which offered</th>
<th>Faculty Rules to be amended (Specify)</th>
<th>Faculty Resolution Numbers</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH3380</td>
<td>3GG: Graphs and Geometry with Applications to Networks and Computer Vision</td>
<td>6</td>
<td>Introduction to graph theory and modern geometry, applications to networks and computer vision. Includes walks and Path algorithms, planarity, colouring problems, affine geometry and projective geometry.</td>
<td>BSc, BCM, BA, BCompSc, BE</td>
<td>BSc, BCM, BA UG Handbook Table 3.2.2a, level 3 units. Page 56 Table 6.2.3c level 3 units, p119 Table 6.2.3s Table 9.2.2a level 3 units Table 9.2.6(60) Table 9.2.7A2(3)</td>
<td></td>
</tr>
</tbody>
</table>

I confirm that the processes leading to the proposals for the deletion of the units listed above have included appropriate consultation with all other schools/faculties with a potential interest in the units concerned. I am satisfied that the proposed deletions are not objectionable to any other faculty.

Signed ____________________________
DEAN
26 March 2008

Professor George Stewart
Dean
Faculty of Life and Physical Sciences
M011

Dear George

The School Of Mathematics and Statistics would like the Applied Statistics major available in the ordinary BSc, and for its regulations to be the same as for other degrees, notable the BCM, but also the BCompSc and BA. The regulations therefore appear the same as for the BCM with numbering changed. We currently have a minor change in these regulations before the FECM which changes STAT3400 from Group E to Group F and adds PSYC3301 to Group F. The regulation would look like the attached.

Actually it would be good if these regulations only appeared once in the handbooks, as I guess a different code would be needed if a major is different in different degrees.

Applied statistics graduates are currently in high demand all over the scientifically advanced world. These graduates are different to what we call the Mathematical Statistics graduates who are more versed in the theory of statistics and probability that under-pins Applied Statistics. An Applied Statistics graduate is more versed in how, why and on what types of data, to use various statistical tools. They should know these things in terms of higher mathematics, but may not understand the more abstract theory behind the methods. Our Applied Statistics major is aligned to biological/human/medicine sciences. Of course the same methods could be applied to financial and economic data, but we do not have the space to allow that area as part of the major. The SSAI (Statistical Society of Australia Inc) has an accreditation process for Applied Statistics graduates. This major is highly recommended to be done with another biological or human science major within the BSc.

Yours sincerely

Associate Professor Les Jennings
Head of School
APPLIED STATISTICS (MJ-MTAST)

6.2.3.9 The specific requirements for the Applied Statistics major referred to in Rule 6.2.3.3(2) are

(a) the unit in Table AAAA (Applied Statistics Major Core Units)—6 points

and

(b) one unit from Group A in Table BBBB (Applied Statistics Major Options)—6 points

and

(c)(i) the unit in Group B and one unit from Group C in Table BBBB (Applied Statistics Major Options)—12 points

or

(ii) all units in Group D in Table BBBB (Applied Statistics Major Options)—12 points

and

(d) one unit from Group E in Table BBBB (Applied Statistics Major Options)—6 points

and

(e) two units from Group E or Group F in Table BBBB (Applied Statistics Major Options)—12 points.

Table AAAA—Applied Statistics Major Core Units

All units have a value of six points unless otherwise stated.

S1 STAT3366  3S6: Applied Statistical Methods

Table BBBB—Applied Statistics Major Options

All units have a value of six points unless otherwise stated.

Group A

S1 MATH1025  Calculus and Matrix Methods
S1 MATH2030  Calculus and Matrix Methods
S1 MATH2209  Calculus and Probability

Group B

S2 STAT2225  Statistical Science

Group C

S2 MATH2020  Multivariable Calculus and Linear Algebra
S1 STAT2227  Applied Linear Modelling

Group D

S2 STAT2226  Statistical Models for Data
S1 STAT2227  Applied Linear Modelling

Group E

S1 STAT3361  3S1: Random Processes and Their Applications
S2 STAT3365  3S5: Industrial Statistics and Total Quality Management
S1, S2 STAT3368  3S8: Practicum in Statistics
S1, S2 STAT3369  3S9: Advanced Topics in Mathematical Statistics

Group F

S1 CITS3240  Databases
S2 ECON3371  Econometrics
S2 PUBH8769  Biostatistics II
S2 STAT3384  3S4: Applied Probability in Commerce and Finance
S2 STAT3400  3S0: Mathematical Statistics, Large Sample Theory
S1 PSYC3301  Psychological Research Methods: Design and Analysis
26 March 2008

Professor George Stewart
Dean
Faculty of Life and Physical Sciences
M011

Dear George

Re: Honours in Mathematics and Statistics in the BSc.

For equity reasons, we wish to keep the rules for honours in Mathematics and Statistics similar in the BSc, BCM and BA honours degrees. The BCM rules detail the course structure that we have tried to operate under with less staff, without too many special considerations.

The changes are to replace section 9.2.8A.29 with the attached programme structure or course structure. Table 9.2.8An is retained (Dissertation details), while Table 9.2.8Ao is replaced with the Table below. For the Applied Statistics major we need rule 9.2.8A.29(2), to access applied statistics units run by other sections of the university. This is likely to be used for applied mathematics units occasionally, to pick up Engineering applied mathematics units.

Yours sincerely

[Signature]

Associate Professor Les Jennings
Head of School
Programme Structure

9.2.8A.29(1) The honours course in the School of Mathematics and Statistics consists of units to a total value of 48 points comprising—

(a) a mathematics or statistics dissertation being a pair of units from Table 9.2.8An — 18 points. A Science Communication course is part of the assessment of the dissertation.

and

(b) two units from Group A in Table 9.2.8Ao (Mathematics and Statistics Honours Options) — 12 points

and

(c) two units from Group A or Group B in Table 9.2.8Ao (Mathematics and Statistics Honours Options) — 12 points

and

(d) one Level 3 or 4 unit offered in the School of Mathematics and Statistics — 6 points.

(2) With the approval of the School of Mathematics and Statistics, students may be permitted to substitute other units for units offered in the School.

[Approved exception to University General Rule 1.2.1.14A]

Table 9.2.8Ao—Mathematics and Statistics Honours Options

All units have a value of six points unless otherwise stated.

Group A

Applied Mathematics

S1, S2 MATH7421  __4A1: Financial Mathematics
S1, S2 MATH7423  __4A3: Advanced Topics in Optimisation
S1, S2 MATH7424  __4A4: Continuum Mechanics
S1, S2 MATH7425  __4A5: Mathematical Methods
S1, S2 MATH7426  __4A6: Advanced Dynamical Systems
S1, S2 MATH7429  __4A9: Topics in Applied Mathematics

Pure Mathematics

S1, S2 MATH7431  __4P1: Functional Analysis
S1, S2 MATH7432  __4P2: Algebraic Topology
S1, S2 MATH7434  __4P4: Honours Algebra I: Groups, Geometry and Combinatorics
S1, S2 MATH7435  __4P5: Honours Algebra II: Further Topics in Algebra
S1, S2 MATH7439  __4P9: Topics in Pure Mathematics

Mathematical and Applied Statistics

S1, S2 STAT7441  __4S1: Statistical Inference
S1, S2 STAT7442  __4S2: Biostatistics
S1, S2 STAT7443  __4S3: Spatial Statistics and Point Processes
S1, S2 STAT7444  __4S4: Computer Intensive Methods in Statistics
S1, S2 STAT7448  __4S8: Sample Surveys
S1, S2 STAT7449  __4S9: Topics in Probability and Statistics
<table>
<thead>
<tr>
<th>Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>S1</td>
<td>MATH3300 3PO: Introduction to Geometric Topology</td>
</tr>
<tr>
<td>S1</td>
<td>MATH3322 3A2: Numerical Analysis and Numerical Computing</td>
</tr>
<tr>
<td>S1</td>
<td>MATH3324 3A4: Control Theory</td>
</tr>
<tr>
<td>S2</td>
<td>MATH3325 3A5: Continuum Mechanics and Industrial Modelling</td>
</tr>
<tr>
<td>S2</td>
<td>MATH3327 3A7: Chaos and Dynamical Systems</td>
</tr>
<tr>
<td>S2</td>
<td>MATH3333 3P3: Linear Analysis</td>
</tr>
<tr>
<td>S1</td>
<td>MATH3335 3P5: Groups and Symmetry</td>
</tr>
<tr>
<td>S1</td>
<td>STAT3361 3S1: Random Processes and Their Applications</td>
</tr>
<tr>
<td>S2</td>
<td>STAT3364 3S4: Applied Probability in Commerce and Finance</td>
</tr>
<tr>
<td>S1</td>
<td>STAT3366 3S6: Applied Statistical Methods</td>
</tr>
<tr>
<td>S2</td>
<td>STAT3400 3S0: Mathematical Statistics, Large Sample Theory</td>
</tr>
</tbody>
</table>
ATTACHMENT 1: UWA HANDBOOK DESCRIPTIONS OF EXISTING UNITS (ABBREVIATED)

CITS1220 Software Engineering [UG]

Credit: 6 points  Availability: Semester 2

Outcomes: Students are capable object-oriented programmers. They use inheritance and polymorphism, simple data structures and a professional software development environment. They have a basic understanding of the software development process and its application to simple problems. They know the fundamentals of a design modelling language and are able to use it for well-defined problems. They gain an understanding of the software development life cycle and are aware of the importance of software engineering tasks such as requirements gathering, design and testing. The generic learning outcomes include gaining technical competence in the basics of software engineering; undertaking problem identification, formulation and solution; using a systems approach to design and test software; functioning effectively as an individual in a multi-disciplinary team; and gaining an appreciation of the need to undertake lifelong learning.

Content: This unit covers software programming, including a review of control structures, inheritance and polymorphism, data structures and fundamental algorithms. It also gives an overview of software engineering, including the use of the Unified Modelling Language, object-oriented analysis, software development life cycle and testing.

Assessment: An individual programming assignment based on laboratory classes, is designed to demonstrate the student's capacity to apply basic knowledge in problem identification, formulation and solution within the context of programming and software engineering. A group project demonstrates teamwork and problem solving within the software development life cycle. A written examination demonstrates in-depth technical competence in programming and software engineering.

Unit Rules
Prerequisites: TEE Discrete Mathematics or TEE Applicable Mathematics or TEE Calculus
Advisable prior study: CITS1200 Java Programming or equivalent experience
Contact hours—62 (lectures: 26 hrs; labs: 36 hrs)

CITS3201 Human–Computer Interaction [UG]

Credit: 6 points  Availability: not available in 2008 [will be Semester 1 in 2009]

Outcomes: The roots of human–computer interaction (HCI) are to be found in human factors and software engineering. This necessarily brings together psychology and computer science. The importance of the user is emphasised throughout this unit as integral to the design process. The unit highlights the importance of software engineering principles and other relevant areas including research methods (evaluation) and hardware and software design to scientifically acceptable criteria.

Students gain exposure to the principle concepts and technologies behind today's interactive systems. They acquire practical skills that enable them to develop interactive components using the predominant client-server model of human–computer interaction.

Content: Human factors form a basis for discussion during the first block of lectures (module 1). There is constant reference to specific and relevant HCI designs during this module.

Module 2 examines the computer and its interface input/output channels. Standard and purpose-built interface hardware is scrutinised before moving to current attitudes to HCI analysis and design in module 3. Usability and inspection with task performance models such as GOMS and evaluation techniques make up the final sections of module 3.

Module 3 introduces enabling technologies for interactive systems, with particular emphasis on the webserver based (request-response) model of human–computer interaction that is prevalent in today's society. Topics introduced include access to static and dynamic information, markup languages, the client-server model, the HTTP protocol and session management. The concepts are reinforced with practical hands-on experience developing small interactive applications using html and php.
Module 4 deals with more specific design issues such as screen dialogue styles (with pros and cons),
designing for the Web, designing interfaces for people with disabilities (alternative and augmentative
systems), multimedia, virtual reality and future perspectives for HCI designers.

**Assessment:** This comprises several individual projects (40 per cent in total) and one final two-hour
written examination (60 per cent). The projects are designed to assess different areas of the students'
ability. The examination assesses the students' understanding of the theoretical, and some practical
aspects, of specifying, implementing and evaluating user interfaces. The lectures, tutorials and practicals
are used to encourage an approach to learning that involves their active participation. This is to provide
them with skills to continue developing their knowledge and understanding of HCI once they have
completed the unit.

**Unit Rules:**
Prerequisites: one of CITS1200 Java Programming, CITS1210 C Programming, CITS1211 Foundations of
Computer Science; or CITS1005 Computing for Engineers and Scientists
Contact hours—38 (lectures: 26 hrs; tutorials: 12 hrs)

**CITS4211 Artificial Intelligence** [UG, PG]

**Credit:** 6 points  **Availability:** Semester 1

**Outcomes:** Students develop a broad understanding of the field of artificial intelligence (AI), the kinds of
problems it addresses, and the types of solutions that have been proposed. They also gain a working
knowledge of the fundamental structures and algorithms that have been developed in attempting to deal
with four or five of the major research strands of artificial intelligence, and the ability to identify problems
and formulate solutions in those areas. They acquire in-depth technical competence in a sub-area of AI
through practical work that provides the opportunity for exploration, development and comparison of
solutions, and experience working as part of a team.

**Content:** Artificial intelligence (AI) is concerned with giving computers high-level abilities such as
reasoning, learning and communicating, and makes use of algorithms that are inspired by the way humans
and other species interact with the world. While this is a difficult task, it has seen a resurgence of interest
in recent years with the provision of fast distributed hardware, the incorporation of AI algorithms in
widely-used commercial software, and the need for agents that can make sense of the ever-burgeoning
World Wide Web.

The unit considers the problem of building 'intelligent agents'. It involves the study of structures and
algorithms that allow an agent to act rationally in the world while given only partial information about the
world. Topics covered include search, two-player game algorithms, decision problems, machine learning,
reasoning and planning. The topics are supported by hands-on laboratory projects that put the theory into
practice.

**Assessment:** This comprises an examination, a team project and a research project. The examination
seeks to assess students' general understanding of the field and its fundamental algorithms, including the
ability to identify problems and formulate solutions. A team project allows students to formulate,
implement and test in-depth solutions to a problem as well as gain experience at functioning effectively as
part of a team. A research project provides the opportunity for students to explore in more depth a topic
of particular interest, and pass this on to provide other students with broad exposure to the field.

**Unit Rules:**
Prerequisites: CITS2200 Data Structures and Algorithms
Contact hours—62 (lectures: 26 hrs; labs/seminars: 36 hrs)

**CITS4220 Software Quality and Measurement** [UG]

**Credit:** 6 points  **Availability:** Semester 1

**Outcomes:** Students understand software development as a process, with its management, measurement
and improvement, as well as specific issues such as estimation, planning and quality assurance; develop
skills in validation, verification and testing, the use of ISO standards, user contact, configuration management, the design and use of metrics, reliability modelling and risk management; and gain an awareness of the human and professional issues (such as privacy) regarding the impact of new systems on organisations and society at large.

**Content**: Topics include software development paradigms and models; estimation and planning; system specification; validation, design, verification, implementation and testing; quality assurance; ISO 9001 CMMI, and SPICE standards; configuration management; process modelling; usability; complexity and process metrics, project and risk management; reliability modelling; and organisation capability measurement.

**Assessment**: There are two specific assignments. The first on project estimation is designed to demonstrate skills in system development scheduling, and the second (in two parts), in documenting procedures together with designing and implementing software quality metrics. As in industry, there are rewards for the early production of work. Students are expected to maintain a practical work folder in which they keep notes of the techniques they have developed in tutorial work and a log of software engineering papers read. There is an examination that focuses on a student's ability to explain and develop concepts covered in the unit.

**Unit Rules**

*Prerequisites*: CIT2220 Software Engineering: Design

*Contact hours*: 50 (lectures: 26 hrs; tutorials/labs: 24 hrs)

**Text**: Sommerville, I. *Software Engineering*. Addison Wesley 2007
PROPOSALS FOR NEW UNITS

Core Questions for Checklists used by Faculties

All faculties must include the questions below in their checklists for new units. Faculties may add other questions as they see fit.

1. **Unit Details**

   (1) Please provide the following information:

       (a) the proposed name of the unit; *(The character allowance for unit titles in Callista is 100 for long, 40 for short and 20 for abbreviated.)*

       PROGRAMMING PARADIGMS

       (b) the proposed point value of the unit *(NB. By Council Resolution 110/02, all units must have a points value of 6 unless granted exemption)*; 

          6

       (c) a very brief description, not exceeding one line in length, of the content/area of the unit; 

       explores and compares the main alternative paradigms for high-level programming

       (d) the names of the degree, diploma and/or certificate courses in which you intend to offer the unit; 

       BCM, BCompSci, BE, BSc, (and combinations), and DipIT, GradDipIT, MIT

       (e) the proposed quota on intake to the unit, if any, and the nature of the constraint on intake. 

       None

   (2) Please give a succinct summary of the academic objectives of the unit. **See attached Template**

   (3) Please indicate whether the unit is the outcome of a school, course or other review. **Yes**

   (4) Please advise whether the unit utilises any material from existing units. If so, please provide details. **YES, from CIT52210, 3211, 3213 which are being deleted.**

   (5) Please advise whether the unit is to be offered within standard semester dates. *(If it is not, please attach a proposal form for a non-standard semester unit.)* **YES**

   (6) Please advise whether lecture outline has been provided. **Only an overview has been provided at this stage in the attached template.**

2. **Demand**

   (1) What are the estimated annual enrolments? **40.**

   (2) How has the estimate in (1) been arrived at? **Estimates of size of 3 rd year majors.**

   (3) From which other units are students likely to move? **From deleted units, especially CIT53240 Databases and CIT52210 OOP.**

3. **Assessment**

   (1) Please advise how many examinations there will be for the unit and how long each will last. *(Note: By Academic Council R16/94 the Examinations Office administers only standard examinations of 2 hours or 3 hours). One final 2 hour exam (plus lab work, a mid-semester test, a group project)*

   (2) If you do not propose to use more than one means of assessment for this unit (as recommended in the University’s Guidelines on Assessment ([http://www.secretariat.uwa.edu.au/home/policies/assessment](http://www.secretariat.uwa.edu.au/home/policies/assessment)), please explain the reason for this.

4. **Resource-related matters**

   (1) Please advise whether all the costs of the unit *(e.g. including, if appropriate, those associated with teaching at the Albany Centre such as Library/computer software resources) will be met from school resources or whether the proposal is the subject of application for other funding *(e.g. University Initiatives Fund). Met by school.*
(2) Please indicate whether the school intends to suppress another unit to release resources for this one.
   No

(3) Please name the staff members who are able to teach the unit.
   Most staff, Eg, Davies, While,

(4) Please confirm that you have attached a completed Library Consultation Form.
   Yes

(5) Will the introduction of this unit give rise to any accommodation needs other than standard lecture theatres, tutorial rooms or laboratory space (e.g. office space, new kinds of laboratory space) which cannot be met from the School's/Faculty's existing space allocation? Please ensure that your understanding is consistent with that of the Dean. NO

If YES, please confirm that you have attached a completed Accommodation Planning Form (http://www.secretariat.uwa.edu.au/home/policies/courseunit/proposals).

(6) Will there be any ancillary student fees/charges associated with this unit? If so, please confirm that you have submitted details of these to the Dean.
   (See http://www.teachingandlearning.uwa.edu.au/it4/for_uwa_students2/policies/asf3)
   NO

5. Consultation

Please provide details of the consultations you have had with various groups and individuals during the development of this proposal, including the following:

(a) heads of schools in cognate areas, which may have an interest in the unit content;
(b) students and graduates;
(c) employers and/or employer groups and professional bodies;
(d) other universities in WA which teach similar units;
(e) other leading universities in Australia or overseas which teach similar units.

The new unit has been introduced in response to the recommendations of a school review held in November 2006. The review involved consultation and input across the University and elsewhere, including staff, students, employers and staff of leading international universities.

6. Information Flow

Please confirm, by ticking the boxes and entering the date of action, that you have forwarded a copy of this proposal, either in hard copy or electronically, to:

- The Deans of all faculties involved, either through offering the unit in their degrees, or through resourcing your school.

  Faculty of ECM □ Date 25th March 2008
  Faculty of FLaPS, FNAS □ Date 25/03/08
  Faculty of □ Date

- The Head of any school which teaches in a cognate area (specify below). NA

  School of □ Date
  School of □ Date
  School of □ Date

- The Librarian □ Date 20/03/08

7. Confirmation by Head of School

I confirm that the process leading to the proposal for the introduction of

_____ Programming Paradigms ____________________________ (Name of new unit)
has included appropriate consultation with all other schools, both internal and external to the faculty, with a potential interest in the proposed unit and that the proposed unit will not overlap significantly with any existing unit.

Have any objections to this proposal been raised during the consultation process?
☐ Yes  ☑ No

(If yes, please attach details of objection and response)

Signature of Head
School of

CSSE

University Secretariat
June 2006
(New_Unit_Checklist)
## UNIT DETAILS

<table>
<thead>
<tr>
<th>Field</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unit code:</td>
<td>CIT53??</td>
</tr>
<tr>
<td>Unit title:</td>
<td>Programming Paradigms</td>
</tr>
<tr>
<td>Details of subsequent parts:</td>
<td>Part 2 unit code:</td>
</tr>
<tr>
<td></td>
<td>Part 3 unit code:</td>
</tr>
<tr>
<td></td>
<td>Part 4 unit code:</td>
</tr>
<tr>
<td>Unit sub-title:</td>
<td></td>
</tr>
<tr>
<td>Type of unit</td>
<td>Choose from list:</td>
</tr>
<tr>
<td></td>
<td>[UG] i.e undergraduate unit only</td>
</tr>
<tr>
<td></td>
<td>[PG] i.e. postgraduate unit only</td>
</tr>
<tr>
<td></td>
<td>[UG,PG] i.e undergraduate unit but also taught in postgraduate courses</td>
</tr>
<tr>
<td>Credit points:</td>
<td>6</td>
</tr>
<tr>
<td>Availability:</td>
<td>Choose from list:</td>
</tr>
<tr>
<td></td>
<td>not available in 2008</td>
</tr>
<tr>
<td></td>
<td>Semester 1</td>
</tr>
<tr>
<td></td>
<td>Semester 2</td>
</tr>
<tr>
<td></td>
<td>Semester 1, Semester 2</td>
</tr>
<tr>
<td></td>
<td>Semester 1 and Semester 2</td>
</tr>
<tr>
<td></td>
<td>Summer teaching period</td>
</tr>
<tr>
<td></td>
<td>Trimester 1</td>
</tr>
<tr>
<td></td>
<td>Trimester 2</td>
</tr>
<tr>
<td></td>
<td>Trimester 3</td>
</tr>
<tr>
<td></td>
<td>non-standard teaching period</td>
</tr>
<tr>
<td></td>
<td>offshore teaching period</td>
</tr>
<tr>
<td></td>
<td>Other (Please specify):</td>
</tr>
</tbody>
</table>

## UNIT DESCRIPTION

### Short Description: (550 character limit)

This unit explores and compares the main alternative paradigms for high-level programming. The unit considers the mainstream paradigms of imperative programming and object-oriented programming, plus important alternative modern paradigms such as functional programming, logic programming, and concurrent programming. Past and future directions in programming paradigms are also discussed.

### Outcomes:

Students have an understanding and appreciation of the principles and practices of the main alternative paradigms for programming. The unit has a significant laboratory component, and the skills acquired include the ability to construct simple programs in each of the paradigms studied.
### Content:
CITS3??? explores and compares the main alternative paradigms for high-level programming. The unit considers the mainstream paradigms of imperative programming and object-oriented programming, plus important alternative modern paradigms such as functional programming, logic programming, and concurrent programming. Past and future directions in programming paradigms are also discussed.

CITS3??? explores the motivation for each paradigm and the concepts which define it, and compares the advantages of each paradigm in the software production process, with particular emphasis on scalability, program performance, and proving the correctness of programs.

### Assessment:
Problem-solving abilities and formulation and design of problem solutions are assessed, both in the programming project and the examination, as is students' knowledge in programming. Their ability to work effectively in a team is developed in the laboratory work.

Supplementary assessment is not available in this unit except in the case of a bachelor's degree student who has obtained a mark of 45 to 49 and is currently enrolled in this unit, and it is the only remaining unit that the student must pass in order to complete the course.

### Ethical scholarship:
Is student work submitted for assessment routinely screened for plagiarism and/or other forms of academic misconduct using an electronic detection tool and prior to marking?

- [ ] Yes
- [x] No

If "Yes", from the list below, select the electronic tools used:

- [ ] Antiplagiarist (http://www.zeidmanconsulting.com)
- [ ] CodeSuite (http://www.copycatchgold.com/)
- [ ] CopyCatch Gold (http://www.edutie.com)
- [ ] EduTie (http://www.canexus.com/eye/)
- [ ] Essay Verification Engine (EVE) (http://www.plagiarism.com)
- [ ] Glatt (http://www.ithenticate.com)
- [ ] iThenticate (http://theory.stanford.edu/~aiken/moss/)
- [ ] Measure of Software Similarity (MOSS) (http://www.plagiarismchecker.com)
- [ ] PlagiarismChecker (http://www.plagiserve.com)
- [ ] PlagiServe (http://www.turnitin.com)
- [ ] Turnitin (http://plagiarism.phys.virginia.edu/Wsoftware.html)
- [ ] WCopyfind (http://www.wordcheck.com)
- [ ] WordCheck (http://www.winappslist.com/education/antiplagiarism.htm)
- [ ] Other (please specify in the box below):

### Unit co-ordinator(s):
Contact School of Computer Science and Software Engineering

### Location:
Choose from list:
- [x] UWA (Crawley)
- [ ] Albany
- [ ] Beijing
- [ ] Geraldton
- [ ] Hong Kong Baptist University
- [ ] Jakarta
- [ ] Shanghai, GSM
- [ ] Singapore
- [ ] Taylors College (Malaysia)
- [ ] University of Santo Tomas
- [ ] Other (Please specify):

### Mode of offering:
Choose from list:
- [x] on-campus
- [ ] off-campus
- [ ] online
- [ ] Other (Please specify):
<p>| UNIT RULES |
|------------|--------------------------------------------------|
| <strong>Prerequisites:</strong> | one of CITS1200 Java Programming, CITS1210 C Programming; or CITS1220 Software Engineering |
| <strong>Co-requisites:</strong> | NONE |
| <strong>Advisable Prior Study:</strong> | NONE |
| <strong>Incompatibility:</strong> | None |
| <strong>Approved quota:</strong> | NONE |
| <strong>Contact hours:</strong> | Example: Lectures: 4 hrs per week; tutorials: 2 hrs per week; 55 (lectures: 26 hrs; tutorials: 5 hrs; labs: 24 hrs) |
| <strong>Notes:</strong> | |
| <strong>Unit web page:</strong> | <a href="http://web.csse.uwa.edu.au/current/units/cits2">http://web.csse.uwa.edu.au/current/units/cits2</a>??? |</p>
<table>
<thead>
<tr>
<th>Texts:</th>
<th>TBA: see CSSE</th>
</tr>
</thead>
</table>


PROPOSALS FOR NEW UNITS

Core Questions for Checklists used by Faculties

All faculties must include the questions below in their checklists for new units. Faculties may add other questions as they see fit.

1. **Unit Details**
   
   (1) Please provide the following information:

   (a) the proposed name of the unit; *(The character allowance for unit titles in Callista is 100 for long, 40 for short and 20 for abbreviated.)*

   (b) the proposed point value of the unit *(NB. By Council Resolution 110/02, all units must have a points value of 6 unless granted exemption);* 6

   (c) a very brief description, not exceeding one line in length, of the content/area of the unit; modern database technologies as business intelligence tools

   (d) the names of the degree, diploma and/or certificate courses in which you intend to offer the unit; BCM, BCompSci, BE, BSc, (and combinations), and DipIT, GradDipIT, MIT

   (e) the proposed quota on intake to the unit, if any, and the nature of the constraint on intake.

   None

   (2) Please give a succinct summary of the academic objectives of the unit. **See attached Template**

   (3) Please indicate whether the unit is the outcome of a school, course or other review. **Yes**

   (4) Please advise whether the unit utilises any material from existing units. **If so, please provide details.**

   (5) Please advise whether the unit is to be offered within standard semester dates. *(If it is not, please attach a proposal form for a non-standard semester unit.)* **YES**

   (6) Please advise whether lecture outline has been provided. **Only an overview has been provided at this stage in the attached template.**

2. **Demand**

   (1) What are the estimated annual enrolments? **40**

   (2) How has the estimate in (1) been arrived at? **Estimates of size 3 rd year majors.**

   (3) From which other units are students likely to move? **From deleted units.**

3. **Assessment**

   (1) Please advise how many examinations there will be for the unit and how long each will last. *(Note: By Academic Council R16/94 the Examinations Office administers only standard examinations of 2 hours or 3 hours). One final 2 hour exam plus written tutorial work, a mid-semester test, a group project**

   (2) If you do not propose to use more than one means of assessment for this unit (as recommended in the University’s Guidelines on Assessment *(http://www.secretariat.uwa.edu.au/home/policies/assessment)*), please explain the reason for this.

4. **Resource-related matters**

   (1) Please advise whether all the costs of the unit (e.g. including, if appropriate, those associated with teaching at the Albany Centre such as Library/computer software resources) will be met from school resources or whether the proposal is the subject of application for other funding (e.g. University Initiatives Fund). **Met by school.**

   (2) Please indicate whether the school intends to suppress another unit to release resources for this one.
No.

(3) Please name the staff members who are able to teach the unit. 
    Most staff. Eg, Spadaccini, Datta,

(4) Please confirm that you have attached a completed Library Consultation Form. 
    Yes

(5) Will the introduction of this unit give rise to any accommodation needs other than standard lecture 
    theatres, tutorial rooms or laboratory space (e.g. office space, new kinds of laboratory space) which 
    cannot be met from the School's/Faculty's existing space allocation? Please ensure that your 
    understanding is consistent with that of the Dean. NO 
    If YES, please confirm that you have attached a completed Accommodation Planning Form 

(6) Will there be any ancillary student fees/charges associated with this unit? If so, please confirm that 
    you have submitted details of these to the Dean. 
    (See http://www.teachingandlearning.uwa.edu.au/l4/for_uwa_students2/policies/asfc3) 
    NO

5. Consultation

Please provide details of the consultations you have had with various groups and individuals during 
the development of this proposal, including the following:

(a) heads of schools in cognate areas, which may have an interest in the unit content;
(b) students and graduates;
(c) employers and/or employer groups and professional bodies;
(d) other universities in WA which teach similar units;
(e) other leading universities in Australia or overseas which teach similar units.

The new unit has been introduced in response to the recommendations of a school review 
hold in November 2006. The review involved consultation and input across the 
University and elsewhere, including staff, students, employers and staff of leading 
international universities.

6. Information Flow

Please confirm, by ticking the boxes and entering the date of action, that you have forwarded a copy 
of this proposal, either in hard copy or electronically, to:

- The Deans of all faculties involved, either through offering the unit in their degrees, or through 
  resourcing your school.

    Faculty of ___________ ECM ___________ Date ___________ 25th March 2008
    Faculty of ___________ Date ___________
    Faculty of ___________ Date ___________

- The Head of any school which teaches in a cognate area (specify below). NA

    School of ___________ Date ___________
    School of ___________ Date ___________
    School of ___________ Date ___________

- The Librarian __________________________ Date 20/03/08

7. Confirmation by Head of School

I confirm that the process leading to the proposal for the introduction of 
    ______ADVANCED DATABASES___________________________(Name of new unit)

Hq
has included appropriate consultation with all other schools, both internal and external to the faculty, with a potential interest in the proposed unit and that the proposed unit will not overlap significantly with any existing unit.

Have any objections to this proposal been raised during the consultation process?
- Yes  ☑ No

(If yes, please attach details of objection and response)

Signature of Head of CSSE

University Secretariat
June 2006
(New_Unit_Checklist)
## Unit Template Form

### UNIT DETAILS

<table>
<thead>
<tr>
<th>Unit code:</th>
<th>CIT53???</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unit title:</td>
<td>Advanced Databases</td>
</tr>
<tr>
<td>Details of subsequent parts:</td>
<td>Part 2 unit code:</td>
</tr>
<tr>
<td></td>
<td>Part 3 unit code:</td>
</tr>
<tr>
<td></td>
<td>Part 4 unit code:</td>
</tr>
<tr>
<td>Unit sub-title:</td>
<td></td>
</tr>
<tr>
<td>Type of unit</td>
<td>Choose from list:</td>
</tr>
<tr>
<td></td>
<td>[ ] UG i.e. undergraduate unit only</td>
</tr>
<tr>
<td></td>
<td>[ ] PG i.e. postgraduate unit only</td>
</tr>
<tr>
<td></td>
<td>[X] UG,PG i.e. undergraduate unit but also taught in postgraduate courses</td>
</tr>
<tr>
<td>Credit points:</td>
<td>6</td>
</tr>
<tr>
<td>Availability:</td>
<td>Choose from list:</td>
</tr>
<tr>
<td></td>
<td>[ ] not available in 2008</td>
</tr>
<tr>
<td></td>
<td>[X] Semester 1</td>
</tr>
<tr>
<td></td>
<td>[ ] Semester 2</td>
</tr>
<tr>
<td></td>
<td>[ ] Semester 1, Semester 2</td>
</tr>
<tr>
<td></td>
<td>[ ] Semester 1 and Semester 2</td>
</tr>
<tr>
<td></td>
<td>[ ] Summer teaching period</td>
</tr>
<tr>
<td></td>
<td>[ ] Trimester 1</td>
</tr>
<tr>
<td></td>
<td>[ ] Trimester 2</td>
</tr>
<tr>
<td></td>
<td>[ ] Trimester 3</td>
</tr>
<tr>
<td></td>
<td>[ ] non-standard teaching period</td>
</tr>
<tr>
<td></td>
<td>[ ] offshore teaching period</td>
</tr>
<tr>
<td></td>
<td>[X] Other (Please specify): Not available in 2009. From 2010 in semester one.</td>
</tr>
</tbody>
</table>

### UNIT DESCRIPTION

<table>
<thead>
<tr>
<th>Short Description: (550 character limit)</th>
<th>The aim of this unit is to introduce students to modern database technologies that are integral parts of decision support systems and business intelligence tools.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Outcomes:</td>
<td>To be advised shortly.</td>
</tr>
</tbody>
</table>
The aim of this unit is to introduce students to modern database technologies that are integral parts of decision support systems and business intelligence tools. The unit will start with a review of database technologies essential for understanding data warehousing, online analytical processing (OLAP) and data mining. This will be followed by a detailed study of logical and physical design of data warehouses including, star schema, snowflake schema, data marts, partitioning and materialized views. Practical issues related to data warehouse construction like data extraction from operational databases, data transformation and cleansing and datawarehouse support in modern DBMS will be covered next. The use of data warehouses will be illustrated through a study of the OLAP technology, including OLAP architectures like MOLAP and ROLAP, OLAP operations and SQL support for OLAP. The unit will conclude with a study of modern data mining methods including clustering, association rule mining and machine learning techniques.

This consists of three components: (1) a laboratory-based project—consolidates the theory covered in lectures and develops in-depth technical competence, program correctness, teamwork and communication skills by means of a group project, and encompasses the professional and ethical responsibilities of code development; (2) an examination and mid-semester test—focuses on problem identification, formulation and solution, technical ability and the application of fundamental knowledge; and (3) tutorials participation—foster all of the above outcomes by combining individual efforts with group discussion.

Is student work submitted for assessment routinely screened for plagiarism and/or other forms of academic misconduct using an electronic detection tool and prior to marking?

- □ Yes  ☒ No

If "Yes", from the list below, select the electronic tools used:

- □ Antiplagiarist (http://www.zeidmanconsulting.com)
- □ CodeSuite (http://www.copycatchgold.com/)
- □ CopyCatch Gold (http://www.edutie.com)
- □ EduTie (http://www.canexus.com/eye/)
- □ Essay Verification Engine (EVE) (http://www.plagiarism.com)
- □ Glatt (http://www.itenable.com)
- □ iThenticate (http://theory.stanford.edu/~aiken/moss/)
- □ Measure of Software Similarity (MOSS) (http://www.plagiarismchecker.com)
- □ PlagiarismChecker (http://www.plagiserve.com)
- □ PlagiServe (http://www.turnitin.com)
- □ Turnitin (http://plagiarism.phys.virginia.edu/Wsoftware.html)
- □ WCopyFind (http://www.wordcheck.com)
- □ WordCheck (http://www.winappplist.com/education/antiplagiarism.htm)
- □ Other (please specify in the box below):

Unit co-ordinator(s): Contact School of Computer Science and Software Engineering

Location:  
- ☒ UWA (Crawley)
- □ Albany
- □ Beijing
- □ Geraldton
- □ Hong Kong Baptist University
- □ Jakarta
- □ Shanghai, GSM
- □ Singapore
- □ Taylors College (Malaysia)
- □ University of Santo Tomas

Mode of offering:  
- □ Choose from list:
<table>
<thead>
<tr>
<th>UNIT RULES</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Prerequisites:</strong></td>
</tr>
<tr>
<td><strong>Co-requisites:</strong></td>
</tr>
<tr>
<td><strong>Advisable Prior Study:</strong></td>
</tr>
<tr>
<td><strong>Incompatibility:</strong></td>
</tr>
<tr>
<td><strong>Approved quota:</strong></td>
</tr>
<tr>
<td><strong>Contact hours:</strong></td>
</tr>
<tr>
<td><strong>Notes:</strong></td>
</tr>
<tr>
<td><strong>Unit web page:</strong></td>
</tr>
</tbody>
</table>
PROPOSALS FOR NEW UNITS

Core Questions for Checklists used by Faculties

All faculties must include the questions below in their checklists for new units. Faculties may add other questions as they see fit.

1. **Unit Details**

   (1) Please provide the following information:

      (a) the proposed name of the unit; *(The character allowance for unit titles in Callista is 100 for long, 40 for short and 20 for abbreviated.)*

      DATABASES

      (b) the proposed point value of the unit *(NB. By Council Resolution 110/02, all units must have a points value of 6 unless granted exemption)*

      6

      (c) a very brief description, not exceeding one line in length, of the content/area of the unit; *relational database design, and theory*

      (d) the names of the degree, diploma and/or certificate courses in which you intend to offer the unit; *BCM, BCompScI, BE, BSc, (and combinations), and DipIT, GradDipIT, MIT*

      (e) the proposed quota on intake to the unit, if any, and the nature of the constraint on intake. *None*

   (2) Please give a succinct summary of the academic objectives of the unit. See attached Template

   (3) Please indicate whether the unit is the outcome of a school, course or other review. *Yes*

   (4) Please advise whether the unit utilises any material from existing units. If so, please provide details. *YES, from CITS3240 Databases which is being deleted.*

   (5) Please advise whether the unit is to be offered within standard semester dates. *(If it is not, please attach a proposal form for a non-standard semester unit.)* *YES*

   (6) Please advise whether lecture outline has been provided. *Only an overview has been provided at this stage in the attached template.*

2. **Demand**

   (1) What are the estimated annual enrolments? *90 in 2009, then about 50 after that*

   (2) How has the estimate in (1) been arrived at? *Estimates of size of 2nd year and 3rd year.*

   (3) From which other units are students likely to move? *From deleted units, especially CITS3240 Databases and CITS2210 OOP.*

3. **Assessment**

   (1) Please advise how many examinations there will be for the unit and how long each will last. *(Note: By Academic Council R16/94 the Examinations Office administers only standard examinations of 2 hours or 3 hours.)* *One final 2 hour exam plus written tutorial work, a mid-semester test, a group project*

   (2) If you do not propose to use more than one means of assessment for this unit (as recommended in the University’s Guidelines on Assessment *(http://www.secretariat.uwa.edu.au/home/policies/assessment)*), please explain the reason for this.

4. **Resource-related matters**

   (1) Please advise whether all the costs of the unit *(e.g. including, if appropriate, those associated with teaching at the Albany Centre such as Library/computer software resources)* will be met from school resources or whether the proposal is the subject of application for other funding *(e.g. University Initiatives Fund)*. *Met by school.*
2

(2) Please indicate whether the school intends to suppress another unit to release resources for this one. Yes, CIT83240 Databases.

(3) Please name the staff members who are able to teach the unit.
   Most staff. Eg, Spadaccini, Datta,

(4) Please confirm that you have attached a completed Library Consultation Form. Yes

(5) Will the introduction of this unit give rise to any accommodation needs other than standard lecture theatres, tutorial rooms or laboratory space (e.g. office space, new kinds of laboratory space) which cannot be met from the School's/Faculty's existing space allocation? Please ensure that your understanding is consistent with that of the Dean. NO

If YES, please confirm that you have attached a completed Accommodation Planning Form (http://www.secretariat.uwa.edu.au/home/policies/courseunit/proposals).

(6) Will there be any ancillary student fees/charges associated with this unit? If so, please confirm that you have submitted details of these to the Dean.
   (See http://www.teachingandlearning.uwa.edu.au/l4/for_uwa_students2/policies/asfc3) NO

5. Consultation

Please provide details of the consultations you have had with various groups and individuals during the development of this proposal, including the following:

(a) heads of schools in cognate areas, which may have an interest in the unit content;
(b) students and graduates;
(c) employers and/or employer groups and professional bodies;
(d) other universities in WA which teach similar units;
(e) other leading universities in Australia or overseas which teach similar units.

The new unit has been introduced in response to the recommendations of a school review held in November 2006. The review involved consultation and input across the University and elsewhere, including staff, students, employers and staff of leading international universities.

6. Information Flow

Please confirm, by ticking the boxes and entering the date of action, that you have forwarded a copy of this proposal, either in hard copy or electronically, to:

- The Deans of all faculties involved, either through offering the unit in their degrees, or through resourcing your school.

  Faculty of ECM □ Date 25th March 2008

  Faculty of FLaPS □ Date 25/03/08

  Faculty of □ Date

- The Head of any school which teaches in a cognate area (specify below). NA

  School of □ Date

  School of □ Date

  School of □ Date

- The Librarian □ Date 20/03/08

7. Confirmation by Head of School

I confirm that the process leading to the proposal for the introduction of
Databases (Name of new unit)

has included appropriate consultation with all other schools, both internal and external to the faculty, with a potential interest in the proposed unit and that the proposed unit will not overlap significantly with any existing unit.

Have any objections to this proposal been raised during the consultation process?
☐ Yes ☑ No
(If yes, please attach details of objection and response)

Signature of Head
School of

CSSE

University Secretariat
June 2006
(New_Unit_Checklist)
# Unit Template Form

## UNIT DETAILS

| **Unit code:** | CITS2???
| **Unit title:** | Databases
| **Details of subsequent parts:** | Part 2 unit code:  
Part 3 unit code:  
Part 4 unit code:
| **Unit sub-title:** |
| **Type of unit** | Choose from list:  
☐ [UG] i.e. undergraduate unit only  
☐ [PG] i.e. postgraduate unit only  
☒ [UG,PG] i.e. undergraduate unit but also taught in postgraduate courses
| **Credit points:** | 6
| **Availability:** | Choose from list:  
☐ not available in 2008  
☒ Semester 1  
☐ Semester 2  
☐ Semester 1, Semester 2  
☐ Semester 1 and Semester 2  
☐ Summer teaching period  
☐ Trimester 1  
☐ Trimester 2  
☐ Trimester 3  
☐ non-standard teaching period  
☐ offshore teaching period

## UNIT DESCRIPTION

**Short Description:**  
(550 character limit)  
This unit deals with data modelling and the theory and practice of database design, implementation and use. Topics include abstract data modelling and the entity-relationship approach; relational database theory and design; concurrency; integrity and security in databases; introduction to transaction processing and distributed databases.

**Outcomes:**  
Students have an understanding and appreciation of the principles and practices of the design and implementation of a modern database system. They are able to understand the social, cultural, global and environmental responsibilities of a database designer, as well as the principles of sustainable design and development. Issues relating to professional and ethical responsibilities in database design are also addressed. Lifelong learning is promoted by considering many aspects of databases that relate to broader concepts in information technology.
| **Content:** | This unit deals with data modelling and the theory and practice of database design, implementation and use. Topics include abstract data modelling and the entity-relationship approach; relational database theory and design; concurrency; integrity and security in databases; introduction to transaction processing and distributed databases. |
| **Assessment:** | This consists of three components: (1) a laboratory-based project—consolidates the theory covered in lectures and develops in-depth technical competence, program correctness, teamwork and communication skills by means of a group project, and encompasses the professional and ethical responsibilities of code development; (2) an examination—focuses on problem identification, formulation and solution, technical ability and the application of fundamental knowledge; and (3) tutorials participation—fosters all of the above outcomes by combining individual efforts with group discussion. |
| **Ethical scholarship:** | Is student work submitted for assessment routinely screened for plagiarism and/or other forms of academic misconduct using an electronic detection tool and prior to marking?  
☐ Yes  
☒ No  
If "Yes", from the list below, select the electronic tools used:  
☐ Antiplagiarist (http://www.zeidmanconsulting.com)  
☐ CodeSuite (http://www.copycatchgold.com/)  
☐ CopyCatch Gold (http://www.edutie.com)  
☐ EduTie (http://www.canexus.com/eve/)  
☐ Essay Verification Engine (EVE) (http://www.plagiarism.com)  
☐ Glatt (http://www.jthenticate.com)  
☐ JThenticate (http://theory.stanford.edu/~aiken/moss/)  
☐ Measure of Software Similarity (MOSS) (http://www.plagiarismchecker.com)  
☐ PlagiarismChecker (http://www.plagiserve.com)  
☐ PlagiServe (http://www.turnitin.com)  
☐ Turnitin (http://plagiarism.phys.virginia.edu/Wsoftware.html)  
☐ WCopyfind (http://www.wordcheck.com)  
☐ WordCheck (http://www.winappslist.com/education/antiplagiarism.htm)  
☐ Other (please specify in the box below): |
| **Unit co-ordinator(s):** | Contact School of Computer Science and Software Engineering |
| **Location:** | Choose from list:  
☑ UWA (Crawley)  
☐ Albany  
☐ Beijing  
☐ Geraldton  
☐ Hong Kong Baptist University  
☐ Jakarta  
☐ Shanghai, GSM  
☐ Singapore  
☐ Taylors College (Malaysia)  
☐ University of Santo Tomas  
☐ Other (Please specify): |
| **Mode of offering:** | Choose from list:  
☑ on-campus  
☐ off-campus  
☐ online  
☐ Other (Please specify): |
<table>
<thead>
<tr>
<th>UNIT RULES</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Prerequisites:</strong></td>
</tr>
<tr>
<td><strong>Co-requisites:</strong></td>
</tr>
<tr>
<td><strong>Advisable Prior Study:</strong></td>
</tr>
<tr>
<td><strong>Incompatibility:</strong></td>
</tr>
<tr>
<td><strong>Approved quota:</strong></td>
</tr>
<tr>
<td><strong>Contact hours:</strong></td>
</tr>
<tr>
<td><strong>Notes:</strong></td>
</tr>
<tr>
<td><strong>Unit web page:</strong></td>
</tr>
</tbody>
</table>
|       | Ramakrishnan & Gehrke  
|       | McGraw-Hill Higher Education  
|       | ISBN 0072465638 |