The University of Western Australia

31st January 2012

MEMBERS OF THE BOARD OF STUDIES FOR THE BACHELOR OF SCIENCE
Senior Deputy Vice-Chancellor's Nominee as Chair (Winthrop Professor Grady Venville)
Academic Board Chair Nominee (Professor Elizabeth Geelhoed)
Dean, Faculty of Arts, Humanities and Social Sciences or Nominee (Associate Professor Andrea Gaynor)
Dean, Faculty of Engineering, Computing and Mathematics or Nominee (Professor Cara MacNish)
Dean, Faculties of Science (Life and Physical Sciences) or Nominee (Winthrop Professor Brendan Waddell)
Dean, Faculty of Medicine, Dentistry and Health Sciences or Nominee (Professor Peter Henry)
Dean, Faculties of Sciences (Natural and Agricultural Sciences) or Nominee (Ms Marjan Heibloem)
Registrar or Nominee (Mr Wayne Betts)
Guild President (Mr Matthew Mackenzie)

IN-ATTENDANCE
Senior Academic Reviewer (Winthrop Professor Ian Reid)

BOARD OF STUDIES FOR THE BACHELOR OF SCIENCE MEETING – MONDAY 6TH FEBRUARY 2012

AGENDA

This is to confirm that the first meeting of the Board of Studies for the Bachelor of Science in 2012 will be held from 10.00am to 11.30am on Monday 6th February 2012 in the Chancellor’s Room.

Part 1 of the agenda consists of items for communication. Part 2 of the agenda relates to items for decisions to be dealt with en bloc by motion by the Chair. Part 3 is for discussion. A member may request the transfer of an item from Part 1 or 2 to Part 3.

Dr Kabilan Krishnasamy
Executive Officer
Academic Policy Services

________________________________________

WELCOME

The Chair will welcome members to the first meeting of the Boards of Studies for the Bachelor of Science in 2012.

APOLOGIES

The Chair will record any apologies. Members are reminded that apologies should be forwarded to the Executive Officer prior to the meeting.

DECLARATIONS OF POTENTIAL FOR CONFLICT OR PERCEIVED CONFLICTS OF INTEREST

The Chair will invite members to declare potential for conflict or perceived conflicts of interest, if applicable, with regard to items on the agenda.
1. **MINUTES – Ref: F27160**

Confirmation of the minutes of the Board of Studies for the Bachelor of Science meeting held on 10th November 2011.

**PART 1 – ITEM(S) FOR COMMUNICATION TO BE DEALT WITH EN BLOC**

2. **THE INTERIM BOARDS OF STUDIES – Ref F27157, F27158, F27159, F27160, F27161**

Members will note that the Interim Boards of Studies were established in April 2009, as part of the University’s governance arrangements, to facilitate the implementation of the new undergraduate degrees. With the implementation of New Courses in 2012, it is timely to address the interim status of these Boards.

At its meeting held in November 2011, Academic Council approved by R230/11 the proposition that the Interim Boards of Studies be made as Boards of Studies effective immediately.

For noting.

3. **MEETING DATES IN 2012 FOR THE BOARD OF STUDIES FOR THE BACHELOR OF SCIENCE – Ref: F27160**

Members are reminded that the meeting dates for 2012 for the Board of Studies for the Bachelor of Science have been confirmed as follows:

<table>
<thead>
<tr>
<th>Meeting Date (Time: 10am – 11.30am)</th>
<th>Cut-Off Date for Agenda Items</th>
<th>Venue</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monday 6 February 2012</td>
<td>16 January 2012</td>
<td>Chancellor's Room</td>
</tr>
<tr>
<td>Monday 5 March 2012</td>
<td>20 February 2012</td>
<td>Chancellor's Room</td>
</tr>
<tr>
<td>Monday 2 April 2012</td>
<td>26 March 2012</td>
<td>Chancellor's Room</td>
</tr>
<tr>
<td>Monday 7 May 2012</td>
<td>16 April 2012</td>
<td>Chancellor's Room</td>
</tr>
<tr>
<td>Monday 4 June 2012</td>
<td>21 May 2012</td>
<td>Chancellor's Room</td>
</tr>
<tr>
<td>No meeting scheduled for July.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Monday 6 August 2012</td>
<td>16 July 2012</td>
<td>Chancellor's Room</td>
</tr>
<tr>
<td>Monday 3 September 2012</td>
<td>20 August 2012</td>
<td>Chancellor's Room</td>
</tr>
<tr>
<td>Monday 1 October 2012</td>
<td>17 September 2012</td>
<td>Chancellor's Room</td>
</tr>
<tr>
<td>Monday 5 November 2012</td>
<td>22 October 2012</td>
<td>Chancellor's Room</td>
</tr>
</tbody>
</table>

For noting.

4. **PRINCIPLES AND RULES FOR THE OPERATION OF COMMITTEES – Ref F12202**

Members will be aware that all committees of the University are expected to operate according to the principles set out in the *Principles for the Operation of Committees*.

In 2005 the Deputy Vice-Chancellor and the Executive Director (Academic Services and Registrar) commissioned a “Working Smarter Through Committees” working party in order to investigate ways of streamlining and improving committee processes without compromising collegiality.

In accordance with Recommendation 9 – That the University’s *principles and rules for the operation of committees are distributed (as part of the agenda) to all committee members and the Chair*
explicitly address these at the first meeting of each year – the principles and rules are attached along with the code of conduct. (Attachment A)

For noting.

5. UNIVERSITY POLICY ON CHANGES TO UNITS – Ref: F39827

Members are asked to note that Academic Council approved by R236/11 a revised University Policy on Changes to Units, which identifies the principles that will need to be considered when proposing a change to a unit offered at either undergraduate or postgraduate level. The revised policy replaces the following policies and aligns with the structural requirements of the New Courses:

- Policy on the Cancellation of Units (UP07/114)
- University Policy on the Cancellation of Units (UP07/106)
- Changing the Availability of Units (Policy and Procedure)
- Changing a Unit Title (Policy and Procedure)
- Non-Standard Semester Teaching


For noting.

6. UNIVERSITY POLICY ON CREATING SPECIAL UNITS – Ref: F39926

At its meeting of November 2011, Academic Council by R228/11 approved the following:

(i) that existing provision to create special units be permitted only in transitional courses that were being taught out.
(ii) that provision to fast-track, within the governance structure of New Courses, a new unit proposal for offering within a teaching period to accommodate certain teaching or urgent circumstantial-based needs be permitted from 2012.
(iii) faculties be requested to review the rules for postgraduate courses forming part of the new courses framework with a view to removing provision for substitution of units by 2013.
(iv) faculties be permitted to approve substitution of units in postgraduate degree courses that will not form part of the new courses framework, (namely those being taught out) to the extent previously permitted by University General Rule 1.2.1.14A: A faculty may permit or require a student to substitute for units up to a maximum value of 12 points in a course another unit or other units of equivalent value."


For noting.

PART 2– ITEM(S) FOR DECISION TO BE DEALT WITH EN BLOC

7. CONSTITUTION OF THE BOARD OF STUDIES FOR THE BACHELOR OF SCIENCE – REF: F28649

Members will note that Academic Council in November 2011 reviewed the interim status of the Boards of Studies and approved (by R230/11) the proposition that they be made Boards of Studies effective immediately.
Since the Board of Studies for the Bachelor of Science has been formally constituted as a University Committee, the Terms of Reference of the former Interim Board of Studies for the Bachelor of Science will need to be amended accordingly.

Attached (Attachment B) for members’ consideration is the constitution of the Board of Studies for the Bachelor of Science.

The Chair recommends that the constitution for the Board of Studies for the Bachelor of Science be endorsed and that it be forwarded to the Board of Coursework Studies for consideration.

**PART 3 – ITEMS FOR DISCUSSION AND DECISION**

8. **MAJOR IN APPLIED COMPUTING: PROPOSED STRUCTURAL CHANGES FOR OFFERING MAJOR IN 2013 – Ref: F29709**

Members are asked to consider a request from the School of Computer Science and Software Engineering which seeks a minor structural change to the Applied Computing major for offering from 2013. This change represents a requirement of the Australian Computer Society (ACS), the programme's accrediting body.

The requested change moves STAT1400 Statistics for Science to become a complementary unit, and introduces CITS1002 Programming and Systems, into the core. This strengthens the computing content of the major. The guideline that at least four units must be unique to this major sequence is not affected.

**Attachment C** comprises:
- Memorandum from the School of Computer Science and Software Engineering
- Maps of the structure of the major in Applied Computing

For discussion.

9. **HONOURS IN ABORIGINAL HEALTH AND WELLBEING – Ref: F31450**

By R59/10, the Board of Studies accepted the honours in Aboriginal Health and Wellbeing proposal submitted by the Faculty of Medicine, Dentistry and Health Sciences, subject to final acceptance of the project units. At the time of submission the following were submitted and were approved:

<table>
<thead>
<tr>
<th>Trim File</th>
<th>ID</th>
<th>Type of proposal</th>
<th>Name of proposal</th>
<th>Approval status</th>
</tr>
</thead>
<tbody>
<tr>
<td>F31450</td>
<td>1463</td>
<td>Honours</td>
<td>Honours in Aboriginal Health and Wellbeing</td>
<td>Accepted, subject to acceptance of project units</td>
</tr>
<tr>
<td>F31618</td>
<td>519</td>
<td>core</td>
<td>Research Conduct and Ethics</td>
<td>Accepted</td>
</tr>
<tr>
<td>F31736</td>
<td>703</td>
<td>core</td>
<td>Honours Research process</td>
<td>Accepted</td>
</tr>
<tr>
<td>F31739</td>
<td>707</td>
<td>core</td>
<td>Epidemiology 1</td>
<td>Accepted</td>
</tr>
<tr>
<td>F31735</td>
<td>698</td>
<td>Select any two options</td>
<td>Biostatistics 1</td>
<td>Accepted</td>
</tr>
<tr>
<td>F32550</td>
<td>1607</td>
<td>Qualitative Research Methods in Health</td>
<td>Accepted</td>
<td></td>
</tr>
<tr>
<td>F32551</td>
<td>1611</td>
<td>Clinical Epidemiology</td>
<td>Accepted</td>
<td></td>
</tr>
<tr>
<td>F40632</td>
<td>2015</td>
<td>core</td>
<td>Aboriginal Health Honours Project Part 1</td>
<td>To be considered</td>
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<tr>
<td>F40633</td>
<td>2016</td>
<td>core</td>
<td>Aboriginal Health Honours Project Part 2</td>
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<tr>
<td>F40634</td>
<td>2017</td>
<td>core</td>
<td>Aboriginal Health Honours Project Part 3</td>
<td>To be considered</td>
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<tr>
<td>F40635</td>
<td>2018</td>
<td>core</td>
<td>Aboriginal Health Honours Project Part 4</td>
<td>To be considered</td>
</tr>
</tbody>
</table>
Attached (Attachments D1 – D4) for members’ consideration is a set of the Aboriginal Health honors project units Parts 1 – 4, each with a workload of 6 points.

For consideration.

10. ENGINEERING SCIENCE MAJOR – Ref: F29710

In April 2011, the Board considered, by way of a circular, a proposal, submitted by the Faculty of Engineering, Computing and Mathematics, for changes to the Chemical Engineering pathway in the Engineering Science major.

By R20/11 the Board of Studies for the Bachelor of Science accepted the following changes:

1. That the complementary unit CHEM1001 Chemistry - Properties and Energetics be replaced with the complementary unit CHEM1002 Chemistry - Structure and Reactivity.
2. That a new Level 3 core unit Chemical Process Thermodynamics and Kinetics be introduced.
3. That the core unit Introduction to Reaction Engineering be replaced by a new Level 3 unattached elective unit entitled Unit Operations and Unit Processes.
4. That the Level 3 unit entitled Process Design and Synthesis be renamed as Process Synthesis and Design and made an unattached elective unit.

Members will also note the Faculty's clarification that the unattached electives stated in (3) and (4) are not required for completion of the major, but are required before a student can complete the Masters programme. Otherwise, the student will be required to take these electives as part of a Masters Prelim.

Although the introduction of the following two new units was accepted, in principle, the Board at that time did not have the opportunity to formally review the content of these two units:

- Level 3 core unit entitled Chemical Process Thermodynamics and Kinetics
- Level 3 unit entitled Unit Operations and Unit Processes

Attached (Attachments E1 – E4) are the following:

- Unit proposal for Level 3 core unit entitled Chemical Process Thermodynamics and Kinetics (Attachment E1)
- Unit proposal for Level 3 unit entitled Unit Operations and Unit Processes (Attachment E2)
- Approved Structure of the Engineering Science Major (approved by Academic Council in May 2011) (Attachment E3)
- Memorandum from the Faculty as background information (Attachment E4)

For consideration.
Principles for the Operation of Committees

While the committee structures provide a suitable framework, it is the members of the committees who determine whether good governance and better practice standards are actually achieved and ensure that the committee is adding value.

General:

1. **Collegiality**: The Committee system is transparent and consultative, and all staff have the opportunity to provide meaningful input into decisions that significantly affect them.

2. **Working Smart**: Committee time is used in ways which make the most efficient and effective use of staff time to deliberate on significant issues and policies.

3. **Good Conduct**: Committee members abide by a Code of Conduct that requires them to be appropriately informed and prepared before the meeting so that they can contribute to the decisions of the committee.

4. **Review**: All committees are regularly reviewed in relation to both the performance of committee business and committee members.

Functional:

5. **Policy Decisions**: Committees are, wherever possible, engaged in establishing policies and rules within which individual staff can manage and administer University business.

6. **Management Decisions**: Committees are involved in management and administrative decisions as close to the activity as is compatible with legislative requirements.

7. **Communication**: Committees are used to provide a contextual framework within which University policies are developed and decisions are made.

8. **Membership**: Committee membership ensures the broad University community, in all its diversity, is reasonably represented. However, individual committees are not constituted to represent every possible interest group and the number of members should be kept as low as practicable.

Revised on 16/02/2006
Establishment and Review of Committees:

1. Committees are to have a constitution that clearly describes the purpose and operation of the committee including membership, Chair, function, decision-making and communication lines, quorum and conduct of meetings.

2. Mechanisms for reporting the business of each committee should be made clear at the time of establishment of the committee.

3. Committees should establish a review regime addressing the frequency and nature of the review process and the allocation of responsibility for conducting and acting on the review.

Conduct of Meetings:

4. Meetings should only commence with the appropriate quorum. If the meeting is inquorate the meeting can be cancelled and business dealt with by circulation or discussion can take place in committee mode with recommendations ratified at the next meeting or by circular.

5. Meetings should be held in accordance with constitution. However, the committee should not meet simply because a meeting has been scheduled rather only when there is important business to transact. If business is limited, consideration should be given to circulating items with the Chair’s recommendation rather than to deferring items to a later meeting.

6. Items brought to the committee for a decision for noting or for communication should be relevant to the business or role of the committee. Consideration should be given to holding a joint meeting of two committees when there is an item of interest for more than one committee. When it is clear that the committee has insufficient knowledge to add value to a decision, then other means of processing the decision should be found within existing policy and legislative provisions.

7. Where decisions are to be referred to other University committees then meeting dates should be scheduled to facilitate the efficient flow of business to these committees.

8. There should be an opportunity at the start of each meeting for members to declare any potential or perceived conflict of interest in respect of any item and where appropriate to absent themselves from discussion and/or the room while the item is being considered.

9. Documentation for committees should be written precisely, accurately, clearly and succinctly. The level of formality and detail should match the purpose and readership of the document.

10. Agendas of meetings should:

   • Contain or have attached any background material necessary to enable members to make informed decisions. If items have been discussed previously a chronology of key elements of the discussion should be attached.
   • Be divided into three parts (Attachment C):

   Part 1. Items for Communication to be dealt with En Bloc - only items for communication that require no decision or discussion, but are relevant to the business of the committee or its future decision-making, or require dissemination by members to staff within their
Part 2. Items for Decision to be dealt with En Bloc - only items for decision with clear recommendations by the Chair that are likely to require no further discussion;

Part 3. Items for Discussion and Decision.

- Include an Item/Business in Progress List providing an update of actions since the last meeting, where appropriate
- At the discretion of the Chair allow items of ‘Other Business’ provided there is advance notice to the Chair and the item is not a major policy item.
- Be distributed to members at least three working days before the meeting and items perceived by the Chair to be key issues should be highlighted. Deadlines for placing formal items on the agenda should be enforced by the Chair and the Executive Officer. Rather than delay the distribution of an agenda because one item is not ready, the use of supplementary agendas should be considered.
- Be posted on the Web, with attachments where possible and available to all staff on the University’s intranet, unless issues of confidentiality preclude this.

11. Minutes of meetings should:

- Contain a summary or précis of events, in dot form wherever possible, rather than a detailed account of every contribution. In general names of individuals should not be recorded in the discussion.
- Contain all resolutions and agreements, whether reached formally through motions or through general consensus, and a clear statement of the action to be taken in relation to each item including the person responsible for the action and a timeline for completion, where appropriate.
- Be distributed to committee members within 10 working days of the close of the meeting.
- Be posted on the Web and available to all staff on the University’s intranet, unless issues of confidentiality preclude this.

Role of Members:

12. Members are required to conduct themselves in accordance with the University’s Code of Conduct and the University Committee Members’ Code of Conduct.

13. Members are required to participate actively in committee business and provide appropriate contributions to decision making for the betterment of the University as a whole.

14. University members should only nominate for committees for which they feel they are well placed and appropriately informed to contribute to the business of that committee.

15. Members who represent constituents on a committee should make every attempt to canvass the views and opinion of that group to bring back to the discussion of the committee and report committee decisions back to their constituents.

Role of Chair and Executive Officer:

16. Chairs and Executive Officers are responsible for ensuring these rules for the operation of committees are followed including the appropriate recording of decisions and actions.

17. Chairs should conduct meetings with the degree of formality appropriate to the committee. Generally, greater formality is needed with major committees, committees with a larger membership and where it is required by constitutional and statutory provisions.

18. Chairs should ensure meetings are conducted fluently so members understand the
matters at hand and have the opportunity to discuss them, and the voting processes and
resolutions are clear. Chairs should try to ensure the active participation by all members
of the committee.

19. Chairs and the Executive Officers have a responsibility to ensure the business of the
committee is either referred for a decision to the relevant committee or is communicated
effectively to relevant areas of the University.

20. Committees should make provision for delegating responsibilities to the Chair and
Executive Officer as far as possible, ensuring accountability for these delegations.

21. Chairs and Executive Officers should meet to discuss the draft agenda so both
understand the purpose and possible outcomes of the meeting.

22. Executive Officers should familiarise themselves with the workings of the University
committee system as a whole, and as much as possible work with Executive Officers of
other committees to ensure smooth transition of business through the committee system.

23. Executive Officers should work with the Chair to provide all new members with
induction briefing material and appropriately induct new members into the committee.
Where possible, this should occur well before the member’s first attendance at a meeting
of the committee. It is recommended that briefing material provided to new members
includes:

- The constitution of the committee including information on the position of the
  committee in the University committee structure (namely maps with pathways for
decisions and communication).
- The Principles and Rules of the Operation of Committees.
- The Code of Conduct of committee members.
- Committee meeting dates.
- Major items of business of the committee of the previous year.
- Commonly used acronyms and abbreviations which might be used in the conduct
  of the committee’s business.
- Effective Meetings - A Guide to Good Practice

Any enquiries relating to the rules for the operation of committees may be directed to the
Academic Secretariat.

Revised 16 February 2006
University Secretariat

University Committee Members' Code of Conduct

Code of Conduct

Membership of a University Committee is an important role and brings with it key responsibilities and obligations. The specific membership requirements for University Committees have been prepared to promote good practice and give committee members a summary of their obligations and provide guidance on ethical conduct.


1. Personal Conduct: All members of University committees are required to conduct themselves at all times in accordance with the University’s Code of Ethics and Code of Conduct. A copy is available at: http://www.hr.uwa.edu.au/publications/code_of_ethics

Members of committees are also required to:

- Understand the committee’s role and purpose within the University.
- Stay informed about relevant matters affecting the committee’s business.
- Attend all committee meetings or where attendance is not possible, submit an apology.
- Participate actively and work cooperatively with other committee members and University staff.
- Prepare for all committee meetings by reading and considering the agenda items, papers circulated and other relevant documents.
- Not improperly influence other committee members.
- Make new points succinctly without reiterating at length points already made.

2. Accountability: All members have a responsibility to ensure efficient and effective operations of the committee, avoid extravagant and wasteful use of resources and ensure actions are consistent with the role and purpose of the committee.

Members of committees are also required to:

- Participate constructively in committee activities in a lawful, ethical and justifiable manner.
- Ensure decisions are consistent with any statutory and legal requirements.
- Ensure resources, funds and staff are used effectively and economically for committee business.

3. Record Keeping and Use of Information: All documentation produced by the committee forms part of the University records and should be maintained in accordance with University’s Record Keeping Plan (http://www.archives.uwa.edu.au/rkp).

In conjunction with specific responsibilities of the Executive Officer, members of committees are also required to:

- Ensure adequate procedures are followed for documenting decisions and actions of the committee.
• Maintain confidentiality of committee business where necessary, ensuring confidential records are subject to appropriate storage and access procedures.
• Respect confidential discussions and not misuse any information obtained through membership of the committee.
• Openly declare any matters of private interest and record any issues with the potential for conflict or perceived conflict to ensure they are transparent and capable of review.
• Where appropriate, disqualify themselves from committee discussions and decisions where a conflict of interest occurs.
• Be aware of the FOI Act 1992 and that access may be sought to all records under this legislation.

Where members are unsure of their obligations or responsibilities under the University Committee Members’ Code of Conduct, the member should contact the Chair or Executive Officer of the Committee for assistance.

Revised on 16/02/2006
Board of Studies (Bachelor of Science) Constitution

This committee operates in accordance with the Principles and Rules for the Operation of Committees available at http://www.secretariat.uwa.edu.au/page/89528.

Members must act in accordance with the University Committee Members' Code of Conduct available at http://www.secretariat.uwa.edu.au/page/89528.

Role
1. The role of the Board of Studies for the Bachelor of Science is to:

(a) provide curriculum development advice to faculties and recommendations, as required, to the Board of Coursework Studies on the following:
   (i) degree-specific majors for the Bachelor of Science;
   (ii) embedding the UWA Educational Principles in degree-specific majors;
   (iii) pre-requisites, co-requisites and related matters;
   (iv) units, including broadening units;
   (v) articulation agreements;
   (vi) annual course reports, incorporating performance and quality data;

(b) deal executively with or provide advice on other matters referred to the Board of Studies for the Bachelor of Science by the Board of Coursework Studies or Academic Council.

Membership
2. (1) The Board of Studies for the Bachelor of Science comprises:
   (a) a nominee of the Senior Deputy Vice-Chancellor, as Chair;
   (b) a nominee of the Chair of the Academic Board;
   (c) the Dean of the Faculty of Arts, Humanities and Social Sciences, or nominee;
   (d) the Dean of the Faculty of Engineering, Computing and Mathematics, or nominee;
   (e) the Dean of the Faculty of Life and Physical Sciences, or nominee;
   (f) the Dean of the Faculty of Medicine, Dentistry and Health Sciences, or nominee;
   (g) the Dean of the Faculty of Natural and Agricultural Sciences, or nominee;
   (h) the Registrar, or nominee; and
   (i) the President of the Guild of Undergraduates, or nominee.

   (2) The Board may invite a person or persons to attend a meeting to provide advice on specific areas or agenda items.

Members' Absence and Nominees
3. (1) If a member or a nominee is unable to attend a meeting, an apology must be sent to the Executive Officer prior to the relevant meeting.
   (2) Unless the Chair requests or permits otherwise, a member or nominee appointed under 1(b)–(i) who is unable to attend a meeting cannot send anyone else in their stead.

Terms of Office of a member appointed as a nominee
4. The term of office of a member appointed as a nominee under 2.1(a) – (h) is up to two years.

Eligibility for a second or Subsequent Term of Office for a member appointed as a nominee
5. (1) At the end of a term of office, a member appointed as a nominee under 2.1(a) – (h) is eligible to be appointed for a second or subsequent term of office.
   (2) A member appointed as a nominee under 2.1(b) – (h) cannot serve for more than two consecutive terms.

Skills and/or Qualifications of Members
6. It is desirable that nominees appointed under 2.1(b) – (g) inclusive have a leadership role within the teaching and learning portfolio in their respective functional areas.

Quorum
7. The quorum for the Board of Studies for the Bachelor of Science is half the current membership plus one.
Decisions
8.  (1) All questions that come before the Board are decided by a majority of the members present and voting.
     (2) The Chair of the meeting has an ordinary vote and a casting vote.

Frequency of meetings
9. The Board normally meets once each month in the months of February to November with the exception of June.
Memorandum

To: W/Prof John Dell  
CC: Prof Cara MacNish  
From: W/Prof Mohammed Bennamoun  
Date: 19 January 2012  
Re: Changes to Applied Computing Major

We would like to request a change to the Applied computing major from 2013. Specifically, we would like to move STAT1400 Statistics for Science from the Applied Computing core units to be a complementary unit, and add CITS1002 Programming and Systems to the Applied Computing core units.

The reason for this request is that the recent accreditation visit from the Australian Computer Society deemed that the current major does not contain sufficient ICT (Information and Communications Technology) material in its core to qualify for professional accreditation. (See attached recommendations, specifically 3.2.1.)

To receive provisional professional accreditation for the Applied Computing major, we need to include an additional ICT unit in the major from 2013.

Substituting CITS1002 for STAT1400 meets the requirement of the ACS, and as is consistent with the academic objectives of the major. The unit STAT1400 is retained as a complementary unit. When Applied Computing is taken as a second major STAT1400 will still be a recommended elective, but given the nature of applied computing, it is likely that the first major would require a similar complementary unit (for example, SCIE1104 Science, Society and Data Analysis).

Yours sincerely,

Mohammed Bennamoun  
Professor, Head of School  
School of Computer Science and Software Engineering

Attachments (1)
3 RECOMMENDATIONS ON ACCREDITATION

The following recommendations on accreditation are made to the ACS Professional Standards Board for the programs and specialisations offered by The University of Western Australia.

3.1 Extension of current accreditation based on ACS Guidelines applying at the time of previous accreditation (2009).

3.1.1 Accreditation of the following program at the Professional level be accorded through to the end of 2014.

The Computer Science Major, judged according to the accreditation decisions made in 2009 for the Computer Science major in the Bachelor of Science degree. (It is recognised that the new Computer Science major may be interpreted to satisfy the definition of the Computer Science major in the Bachelor of Science degree as specified in the 2009 accreditation.)

The ACS notes that the Computer Science Major can be taken as part of any of the new UG degrees in Science, Arts, Commerce, Design or Philosophy (honours).

3.2 Provisional extension of current accreditation based on ACS Guidelines applying at the time of previous accreditation (2009).

3.2.1 Provisional accreditation of the following program at the Professional level be accorded through to the end of 2014.

The Applied Computing Major, judged according to the accreditation decisions made in 2009; this major is largely mapped from the Computer Science major accreditation in 2009, but with significant adjustments. This is provisional, subject to the requirement to include an additional computing unit in the major. This could be achieved by moving statistics to the complementary units. It is recognised that this may require UWA to permit the mandating of the statistics complementary unit when the Applied Computing major is taken as a second major. (If this cannot be realised, accreditation of the AC major will be granted at the Associate level.) The ACS requires formal advice that this provision has been addressed before 31 March 2012.

The ACS notes that the Computer Science Major can be taken as part of any of the new UG degrees in Science, Arts, Commerce, Design or Philosophy (honours).

3.3 Joint accreditation with Engineers Australia as detailed in this report and that of Engineers Australia.

The Master of Professional Engineering is accredited as an ICT degree at the professional level, until 2014, subject to the assumption that either the Computer Science major is taken at undergraduate level, or, for articulating students, the entry requirements as specified are applied rigorously to ensure that all aspects of the Computer Science major have been satisfied in the student's prior studies. In particular, this applies to "professional issues", including ethics, that are studied in the unit Professional Computing. For students admitted with gaps in the Computer Science major outcomes, an appropriate Master of Professional Engineering preliminary program will need to be undertaken.

ACS advises that the dual accredited degree meets the curriculum requirements for a Software Engineering degree as specified by the ACS/EA Joint Board on Software Engineering.

3.4 Ongoing development of the programs

The above accreditations include ongoing development of the programs over the accreditation period, subject to the provisions set out in the Conditions of Accreditation.
3.5 Next general review for accreditation

The next general review of programs at the University of Western Australia is scheduled to take place in the third quarter of 2014. At that time, the University should report on implementation of the recommendations made by the Panel in the present report.
<table>
<thead>
<tr>
<th>TRIM</th>
<th>Structure Rules</th>
<th>Type</th>
<th>Level</th>
<th>Unit Code</th>
<th>Name</th>
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<th>CAT B</th>
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<tr>
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<td>STAT1510 Statistics A, STAT1520 Econ. and Business Stat.</td>
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## Major in Applied Computing: proposed structural changes for offering from 2013

Changes highlighted in grey.

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(Note: Units listed in this column may be on offer pre-New Courses 2012 or/and part of New Courses 2012)
Proposed New Unit:
AHEA4XXX Aboriginal Health Honours Thesis Part 1

Please note that this unit is not yet approved.

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<tr>
<td><strong>Unit Content:</strong></td>
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<td><strong>Outcomes:</strong></td>
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<tr>
<td><strong>Assessment items:</strong></td>
</tr>
<tr>
<td><strong>Assessments tied to outcomes:</strong></td>
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</tbody>
</table>
Teaching and Learning Practices:
Regular one-on-one meetings with supervisor(s); in some cases field work and data collection.

Technologies:
Computer workstation, document delivery, statistical and other data management and analysis software

Offerings

Quota:
Yes, proposed quota.

Reason for quota:
Enrolment will be limited by the number of academic staff available to supervise students. No formal quota will be set.

How quota will be allocated:
Information not provided.

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<th>Teaching Period</th>
<th>Location</th>
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<tbody>
<tr>
<td>Semester 2</td>
<td>Crawley</td>
<td>FACE2FACE</td>
<td>5 students: Based on anticipated number of students completing the Aboriginal health and wellbeing major or other relevant undergraduate majors (e.g. Population health, Indigenous Knowledge, History and Heritage).</td>
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<tr>
<td>Semester 1</td>
<td>Crawley</td>
<td>FACE2FACE</td>
<td>5 students: Based on anticipated number of students completing the Aboriginal health and wellbeing major or other relevant undergraduate majors (e.g. Population health, Indigenous Knowledge, History and Heritage).</td>
</tr>
</tbody>
</table>

Unit rules

Prerequisites:
Units leading to a major sequence in Aboriginal Health with the requisite minimum grades.

Corequisites:
Nil.

Incompatibilities:
Nil.

Teaching Responsibilities

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<tr>
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<th>Summary</th>
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<tr>
<td>100%</td>
<td>Primary, Aboriginal &amp; Rural Health Care</td>
<td>Owning faculty.</td>
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Accommodation requirements

Summary:
Workspace (computer and desk)

Types:
Spaces currently controlled by the Faculty/School;

Further details:
No bookings will need to be made as this unit is based upon one on one meetings in the office of a supervisor on a weekly, fortnightly or as needed basis. Workspace (computer and desk) will be provided for honours students by SPARHC.

Funding

Source:
Faculty/School funds

Details:
The Honours units will be funded by income earned through the Faculty budget

Units to be rescinded to provide resources for this one:
NA

Consultations

Library: ☐ Library Form Approved

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<th>Type</th>
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<tr>
<td>Internal</td>
<td>School of Indigenous Studies</td>
<td>Consultation took place with staff in the School of Indigenous Studies when developing this unit.</td>
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<tr>
<td>Faculty</td>
<td>FMDHS</td>
<td>Consultation has occurred with other Schools offering end-on-honours in the Faculty of Medicine, Dentistry and Health Sciences.</td>
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## Committee endorsements and approvals

<table>
<thead>
<tr>
<th>Review committee</th>
<th>Status</th>
<th>Resolution</th>
<th>Date</th>
<th>Notes</th>
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<tr>
<td>Board of Studies - BSc</td>
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<tr>
<td>Board of Coursework Studies</td>
<td>Not yet endorsed</td>
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Proposed New Unit:
AHEA4XXX Aboriginal Health Honours Thesis Part 2

Please note that this unit is not yet approved.

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<td><strong>Credit points:</strong></td>
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<td><strong>Workload hours:</strong></td>
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Academic information

**Unit Content:**
Aboriginal Health Honours Part 2 is the second of four 6 point units that make up the research component of the Aboriginal Health Honours course.
The Aboriginal Health Honours Parts 1 to 4 provide students with the knowledge, skills and values required to conduct scientific research in an Aboriginal health context. They are designed to develop relevant practical research skills; lateral thinking and problem solving; literacy and communication skills; as well as professional responsibility and ethical conduct. These units will develop and consolidate the knowledge and skills acquired during undergraduate study, with particular emphasis on using those skills in a sustained and purposeful way in conducting independent research relevant to Aboriginal health.
Honours students will undertake original research via a supervised research project, a presentation of research findings and preparation of a journal-style manuscript. They will also participate in the School seminar program.
Specifically students will: implement a research plan to investigate the research question developed in the unit; collect, manage and analyse their research data using appropriate methods; interpret the results and draw conclusions using published evidence and sound scientific arguments, present a research seminar; and prepare a manuscript.

**Outcomes:**
Following successful completion of the Aboriginal Health Honours Parts 1 to 4 units students will be able to:
1. Work independently.
2. Design and justify appropriate research methods.
3. Critique and think laterally regarding the application of other research to their research project.
4. Interpret research results within a broader Aboriginal health context.
5. Implement a research strategy that is inclusive of Aboriginal peoples utilising a partnership approach.
6. Demonstrate scholarly communication of research aims, methods, results and interpretations.
7. Discuss the ethical implications associated with Aboriginal health research.
8. Effectively manage a research project.
9. Accept, interpret and respond appropriately to feedback.

**Assessment items:**
Reflective journal, thesis, research seminar, final supervisor report.

**Assessments tied to outcomes:**
Assessment in the Aboriginal Health Honours Parts 1 to 3 units will be continuing and culminate in a final Honours grade in the unit Aboriginal Health Honours Part 4
1. Work independently; assessed by supervisor feedback (formative and summative).
2. Design and justify appropriate research methods; assessed through supervisor reports, seminar reflective journal, presentation of research findings and written manuscript.
3. Critique and think laterally in the application of other research to your research; assessed through reflective journal.
4. Interpret research results within a broader Aboriginal health context; assessed through reflective journal and manuscript.
5. Implement a research strategy; assessed through supervisor report, seminar and manuscript.
6. Demonstrate scholarly communication of research aims, methods, results and interpretations; assessed through research seminar and manuscript.
7. Interpret research results within a more specific Aboriginal health context; assessed through manuscript and research seminar.
8. Discuss the ethical implications associated with their research; assessed through supervisor reports, research seminar.
9. Effectively manage a project; assessed through supervisor reports.
10. Accept, interpret and respond appropriately to feedback; assessed through supervisor reports.

### Teaching and Learning Practices:
Regular one-on-one meetings with supervisor(s); in some cases field work and data collection.

### Technologies:
Computer workstation, document delivery, statistical and other data management and analysis software

### Offerings

**Quota:** Yes, proposed quota.

**Reason for quota:** Enrolment will be limited by the number of academic staff available to supervise students. No formal quota will be set and the number of students expected to enrol is five.

**How quota will be allocated:** Information not provided.

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### Unit rules

**Prerequisites:** Nil.

**Corequisites:** Nil.

**Incompatibilities:** Nil.

### Teaching Responsibilities

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<tr>
<td>Faculty</td>
<td>FMDHS</td>
<td>Consultation has occurred with other Schools offering end-on-honours in the Faculty of Medicine, Dentistry and Health Sciences.</td>
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### Accommodation requirements

**Summary:** Workspace (computer and desk)

**Types:** Spaces currently controlled by the Faculty/School;

**Further details:** No bookings will need to be made as this unit is based upon one on one meetings in the office of a supervisor on a weekly, fortnightly or as needed basis. Workspace (computer and desk) will be provided for honours students by SPARHC.

### Funding

**Source:** Faculty/School funds

**Details:** No details provided.

### Consultations

**Library:** Library Form Approved

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Tuesday, 31 January 2012
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Unit Information

Title: Aboriginal Health Honours Thesis Part 3
Level: 4
Type: Undergraduate in honours specialisation(s)
Faculties: Medicine, Dentistry and Health Sciences
Resp. Org. Entity: Primary, Aboriginal & Rural Health Care (00870)
Contact: David Paul (david.paul@uwa.edu.au)
Proposed: 24/01/2012
Code alpha prefix: AHEA
First year of offer: 2014
Credit points: 6
Workload hours: 150

Academic information

Unit Content: Aboriginal Health Honours Part 3 is the third of four 6 point units that make up the research component of the Aboriginal Health Honours course.

The Aboriginal Health Honours Parts 1 to 4 provide students with the knowledge, skills and values required to conduct scientific research in an Aboriginal health context. They are designed to develop relevant practical research skills; lateral thinking and problem solving; literacy and communication skills; as well as professional responsibility and ethical conduct. These units will develop and consolidate the knowledge and skills acquired during undergraduate study, with particular emphasis on using those skills in a sustained and purposeful way in conducting independent research relevant to Aboriginal health.

Honours students will undertake original research via a supervised research project, a presentation of research findings and preparation of a journal-style manuscript. They will also participate in the School seminar program.

Specifically students will:
1. Implement a research plan to investigate the research question developed in the unit; collect, manage and analyse their research data using appropriate methods; interpret the results and draw conclusions using published evidence and sound scientific arguments; present a research seminar; and prepare a manuscript.
2. Students will be required to attend at least 80 per cent of the School of Primary, Aboriginal and Rural Health Care seminar program, or equivalent with approval of the Aboriginal Health Honours co-ordinator.
3. Students will maintain a reflective journal of these seminars and identify the key messages of each seminar attended and any relevance to their research.

Outcomes:
Following successful completion of the Aboriginal Health Honours Parts 1 to 4 units students will be able to:
1. Work independently.
2. Design and justify appropriate research methods.
3. Critique and think laterally regarding the application of other research to their research project.
4. Interpret research results within a broader Aboriginal health context.
5. Implement a research strategy that is inclusive of Aboriginal peoples utilising a partnership approach.
6. Demonstrate scholarly communication of research aims, methods, results and interpretations.
7. Discuss the ethical implications associated with Aboriginal health research.
8. Effectively manage a research project.
9. Accept, interpret and respond appropriately to feedback.

Assessment items:
Reflective journal, thesis, research seminar, final supervisor report.

Assessments tied to outcomes:
Assessment in the Aboriginal Health Honours Parts 1 to 3 units will be continuing and culminate in a final Honours grade in the unit Aboriginal Health Honours Part 4
1. Work independently; assessed by supervisor feedback (formative and summative).
2. Design and justify appropriate research methods; assessed through supervisor reports, seminar reflective journal, presentation of research findings and written manuscript.
3. Critique and think laterally in the application of other research to your research; assessed through reflective journal.
4. Interpret research results within a broader Aboriginal health context; assessed through reflective journal and manuscript.
5. Implement a research strategy; assessed through supervisor report, seminar and manuscript.
6. Demonstrate scholarly communication of research aims, methods, results and interpretations; assessed through research seminar and manuscript.
7. Interpret research results within a more specific Aboriginal health context; assessed through manuscript and research seminar.
8. Discuss the ethical implications associated with their research; assessed through supervisor reports, research seminar.
9. Effectively manage a project; assessed through supervisor reports.
10. Accept, interpret and respond appropriately to feedback; assessed through supervisor reports.

### Teaching and Learning Practices:
Regular one-on-one meetings with supervisor(s); in some cases field work and data collection.

### Technologies:
Computer workstation, document delivery, statistical and other data management and analysis software

### Assessment and grading

#### Supplementary Assessment Exemption requested:
Yes, proposed exemption to normal supplementary assessment rule (available to students with a mark of 45 to 49 inclusive in the unit where it is the only remaining unit to pass to complete course). Justification provided:
This unit is the third in a series of four Honours units and as such there will be no mark given and hence no supplementary assessment.

### Offerings

#### Quota:
No quota proposed.

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<tr>
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<th>Location</th>
<th>Mode</th>
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<tr>
<td>Semester 2</td>
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<td>Semester 1</td>
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<td>5 students</td>
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### Unit rules

#### Prerequisites:
Units leading to a major sequence in Aboriginal Health with the requisite minimum grades.

#### Corequisites:
Nil.

#### Incompatibilities:
Nil.

### Teaching Responsibilities

#### % Teaching Org

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<td>Primary, Aboriginal &amp; Rural Health Care</td>
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### Accommodation requirements

#### Summary:
Workspace (computer and desk)

#### Types:
Spaces currently controlled by the Faculty/School;

#### Further details:
No bookings will need to be made as this unit is based upon one on one meetings in the office of a supervisor on a weekly, fortnightly or as needed basis. Workspace (computer and desk) will be provided for honours students by SPARHC.

### Funding

#### Source:
Faculty/School funds

#### Details:
No details provided.

### Consultations

#### Library:
Library Form Approved

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<td>Consultation took place with staff in the School of Indigenous Studies when developing this unit.</td>
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<td>Consultation has occurred with other Schools offering end-on-honours in the Faculty of Medicine, Dentistry and Health Sciences.</td>
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### Committee endorsements and approvals

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Academic information

Unit Content: Aboriginal Health Honours Part 4 is the final of four 6 point units that make up the research component of the Aboriginal Health Honours course. The Aboriginal Health Honours Parts 1 to 4 provide students with the knowledge, skills and values required to conduct scientific research in an Aboriginal health context. They are designed to develop relevant practical research skills; lateral thinking and problem solving; literacy and communication skills; as well as professional responsibility and ethical conduct. These units will develop and consolidate the knowledge and skills acquired during undergraduate study, with particular emphasis on using those skills in a sustained and purposeful way in conducting independent research relevant to Aboriginal health.

Honours students will undertake original research via a supervised research project, a presentation of research findings and preparation of a journal-style manuscript. They will also participate in the School seminar program. Specifically students will: implement a research plan to investigate the research question developed in the unit; collect, manage and analyse their research data using appropriate methods; interpret the results and draw conclusions using published evidence and sound scientific arguments, present a research seminar; and prepare a manuscript.

Students will be required to attend at least 80 per cent of the School of Primary, Aboriginal and Rural Health Care seminar program, or equivalent with approval of the Aboriginal Health Honours co-ordinator. Students will maintain a reflective journal of these seminars and identify the key messages of each seminar attended and any relevance to their research.

Outcomes: Following successful completion of the Aboriginal Health Honours Parts 1 to 4 units students will be able to:
1. Work independently.
2. Design and justify appropriate research methods.
3. Critique and think laterally regarding the application of other research to their research project.
4. Interpret research results within a broader Aboriginal health context.
5. Implement a research strategy that is inclusive of Aboriginal peoples utilising a partnership approach.
6. Demonstrate scholarly communication of research aims, methods, results and interpretations.
7. Discuss the ethical implications associated with Aboriginal health research.
8. Effectively manage a research project.
9. Accept, interpret and respond appropriately to feedback.

Assessment items: Reflective journal, thesis, research seminar, final supervisor report.

Assessments tied to outcomes: Assessment in the Aboriginal Health Honours Parts 1 to 3 units will be continuing and culminate in a final Honours grade in the unit Aboriginal Health Honours Part 4
1. Work independently; assessed by supervisor feedback (formative and summative).
2. Design and justify appropriate research methods; assessed through supervisor reports, seminar reflective journal, presentation of research findings and written manuscript.
3. Critique and think laterally in the application of other research to your research; assessed through reflective journal.
4. Interpret research results within a broader Aboriginal health context; assessed through reflective journal and manuscript.
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8. Discuss the ethical implications associated with their research; assessed through supervisor reports.
9. Effectively manage a project; assessed through supervisor reports.
10. Accept, interpret and respond appropriately to feedback; assessed through supervisor reports.

### Teaching and Learning Practices:
- Regular one-on-one meetings with supervisor(s); in some cases field work and data collection.

### Technologies:
- Computer workstation, document delivery, statistical and other data management and analysis software

### Offerings

**Quota:** Yes, proposed quota.
**Reason for quota:** Enrolment will be limited by the number of academic staff available to supervise students. No formal quota will be set.
**How quota will be allocated:** Information not provided.

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<td>5 students: Based on anticipated number of completing the Aboriginal health and wellbeing major or other relevant undergraduate majors (eg. Population health, Indigenous Knowledge, History and Heritage).</td>
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<td>Crawley</td>
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<td>5 students: Based on anticipated number of completing the Aboriginal health and wellbeing major or other relevant undergraduate majors (eg. Population health, Indigenous Knowledge, History and Heritage).</td>
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### Unit rules

**Prerequisites:** Units leading to a major in Aboriginal Health with the requisite minimum grades.
**Corequisites:** Nil.
**Incompatibilities:** Nil.

### Teaching Responsibilities

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<td>Primary, Aboriginal &amp; Rural Health Care</td>
<td>Owning faculty.</td>
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### Accommodation requirements

**Summary:** Workspace (computer and desk)
**Types:** Spaces currently controlled by the Faculty/School;
**Further details:** No bookings will need to be made as this unit is based upon one on one meetings in the office of a supervisor on a weekly, fortnightly or as needed basis. Workspace (computer and desk) will be provided for honours students by SPARHC.

### Funding

**Source:** Faculty/School funds
**Details:** The Honours units will be funded by income earned through the Faculty budget.
**Units to be rescinded to provide resources for this one:** NA

### Consultations

**Library Form Approved**

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<tr>
<td>Academic Council</td>
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Proposed New Unit:
ENSC3006 Chemical Process Thermodynamics and Kinetics

Please note that this unit is not yet approved.

Unit Information

Title: Chemical Process Thermodynamics and Kinetics
Level: 3
Type: Undergraduate in major(s)
Faculty: Engineering, Computing and Mathematics
Contact: Associate Professor Hong Yang (hyang@mech.uwa.edu.au)
Proposed: 14/12/2011

Credit points: 6
Workload hours: 0

Outcomes:
On Completion of this unit students will be able to:
1. Use the equations of state for real gases to obtain thermodynamic properties.
2. Understand the interrelationship between thermodynamic properties.
3. Determine the thermodynamic properties of species in mixtures, the criteria for phase and chemical reaction equilibrium and chemical reaction equilibrium, how species distribute among phases, and extent of product syntheses in a chemical reaction.
4. Develop a good understanding of the theory and fundamental governing chemical reaction processes.
5. Appreciate the virtues of different reactor design.

Assessment items: Two Laboratory classes, two assignments and a final examination
Each of the two laboratory classes will carry 10% of the total marks. Each of the two assignments will also carry 10% of the total marks. The final 2 hour open book examination will carry 60% of the total marks.

Assessments tied to outcomes: Two formative assignments, one for the Thermodynamic aspect and another for the Kinetic and Reactor Design aspect, will be meted out to strengthen students' understanding. Two laboratory classes, one on Thermodynamic and one on Kinetic, will be arranged. Students are required to submit formal reports to deepen their understanding and to hone their professional communication skills, following IChemE stipulations.

Teaching and Learning Practices: Lectures, tutorials and laboratory classes

Technologies:

Curriculum from existing units

Unit codes: CHPR2431 Chemical Engineering Thermodynamics and CHPR3432 Chemical Kinetics and Reactor Design
Details: CHPR2431 Chemical Engineering Thermodynamics and CHPR3432 Chemical Kinetics and Reactor Design are no longer being offered

Offerings
Quota: No quota proposed.
### Teaching Period

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<tbody>
<tr>
<td>Semester 1</td>
<td>Crawley</td>
<td>FACE2FACE</td>
<td>120 students: Chemical Engineering Programme</td>
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### Prerequisites

- ENSC1001 Engineering Challenges in a Global World
- ENSC1002 Material Behaviour from Atoms to Bridges
- ENSC2002 Energy
- ENSC2001 Motion
- MATH1001 Mathematical Methods 1
- MATH1002 Mathematical Methods 2
- CIT2401 Computer Analysis and Visualisation
- CHEM1002 Chemistry—Structure and Reactivity
- GENG1001 Engineering: Introduction to Engineering Mechanics

### Corequisites

Nil.

### Incompatibilities

CHPR2431 Chemical Engineering Thermodynamics

### Teaching Responsibilities

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### Accommodation requirements

**Summary:**
Central Teaching Spaces; Spaces currently controlled by the Faculty/School;

**Further details:**

### Funding

**Source:** Faculty/School funds

**Details:** No details provided.

Units to be rescinded to provide resources for this one:

### Library Form Approved

- Included in the spreadsheet summarising library requirements for ECM undergraduate units forwarded to Sciences Library November 2011

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<td>Accreditation Body</td>
<td>Engineers Australia/ICHEME</td>
<td>Ongoing consultation with ICHEME, visit anticipated early 2012. Engineers Australia conducted provisional accreditation visit in November 2011, further visit anticipated late 2012</td>
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<tr>
<td>Professional Body</td>
<td>Chemical Engineering Industry Advisory Panel</td>
<td>Regular meetings between staff and members of the Industry Advisory Panel for Chemical Engineering</td>
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**Unit Information**

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<tr>
<td>Title</td>
<td>Unit Operations and Unit Processes</td>
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<td>Type</td>
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<td>Engineering, Computing and Mathematics</td>
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<td>Resp. Org. Entity</td>
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<td>Contact</td>
<td>Assistant Professor John Boxall and Assistant Professor Thomas Rufford</td>
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**Academic information**

**Unit Content:** This unit covers the introduction of the mass and heat transfer principles as it applies to typical unit operations. The topics will include: (1) heat exchangers, (2) distillation, (3) multi-effect evaporators, (4) liquid-liquid and gas-liquid extraction, (5) solid-liquid separation, (6) refrigeration, (7) dehydration, and (8) cooling towers. It also includes applications of the unit operations in the process of LNG production and re-gasification.

**Outcomes:** On completion of this unit, students will be able to:

- Explain the basic science and working principles of unit operations.
- Apply the basic knowledge and skills for designing various mass and heat transfer operation units.
- Perform quantitative analysis of the process operation units including scaling up/down for different applications.
- Perform basic simulations of unit operations using commercial software packages.
- Conduct diagnosis and trouble-shooting of operation units.

**Assessment items:** This comprises two laboratory reports, two equipment sizing assignments with a related in-class quiz, and a final examination.

**Assessments tied to outcomes:** Two laboratory reports, two equipment sizing assignments with a related in-class quiz (40%), A final examination (60%)

**Teaching and Learning Practices:**

- 1 x 3hr lecture per week per semester
- 2 x 1.5hr labs

**Technologies:**

**Curriculum from existing units**

- **Unit codes:** CHPR3530 Process Modules
- **Details:** CHPR3530 Process Modules is being replaced by Unit Operations and Unit Processes

**Offerings**

- **Quota:** No quota proposed.

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**Unit rules**

- **Prerequisites:** ENSC3005 Mass and Energy Balances or CHPR2530 Process Fundamentals
Corequisites: ENSC3006 Chemical Process Thermodynamics and Kinetics
Incompatibilities: CHPR3530 Process Modules

Teaching Responsibilities

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Accommodation requirements

Summary: Lecture theatre and dedicated laboratories.
Types: Central Teaching Spaces; Spaces currently controlled by the Faculty/School;
Further details:

Funding

Source: Faculty/School funds
Details: No details provided.
Units to be rescinded to provide resources for this one: CHPR3530

Consultations

Library: Library Form Approved
Included in the spreadsheet summarising library requirements for ECM undergraduate units forwarded to Sciences Library November 2011

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## Interim Board of Studies - Feedback on Proposals (Phase 2)

Approved by Academic Council (R73/11)

### Bachelor of Science - Majors

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<td>F35286</td>
<td>Option Pathway B – Chemical Process</td>
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<td>Thermodynamics &amp; Kinetics</td>
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<td>F35285</td>
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<td>F35284</td>
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<td>F32096</td>
<td>Complementary Pathway B - Chemistry Structure and Reactivity</td>
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<td>F31535</td>
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<td>F31741</td>
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<td>F32258</td>
<td>Complementary Physics for Scientists and Engineers</td>
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PROPOSED CHANGES TO THE PATHWAY TO CHEMICAL ENGINEERING IN THE ENGINEERING SCIENCE MAJOR AND UNATTACHED ELECTIVES

After extensive stakeholder consultation the Discipline Leader for Chemical and Process Engineering has proposed the following changes to the pathway to Chemical Engineering:

1. That the complementary unit CHEM1001 Chemistry - Properties and Energetics be replaced with the complementary unit CHEM1002 Chemistry - Structure and Reactivity.
2. That a new Level 3 core unit Chemical Process Thermodynamics and Kinetics be introduced.
3. That the core unit Introduction to Reaction Engineering be replaced by a new Level 3 unattached elective unit entitled Unit Operations and Unit Processes.
4. That the Level 3 unit entitled Process Design and Synthesis be renamed as Process Synthesis and Design and made an unattached elective unit.

The following table summarises the proposed changes.

<table>
<thead>
<tr>
<th>Original</th>
<th>Proposed</th>
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</thead>
<tbody>
<tr>
<td>Core Units</td>
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<tr>
<td>Fluid Mechanics</td>
<td>Fluid Mechanics</td>
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<tr>
<td>Mass and Energy Balances</td>
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<tr>
<td>Heat and Mass Transfer</td>
<td>Heat and Mass Transfer</td>
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<tr>
<td>Introduction to Reaction Engineering</td>
<td>Chemical Process Thermodynamics and Kinetics</td>
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<td>Complementary Unit</td>
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<td>Chemistry - Properties and Energetics</td>
<td>Chemistry - Structure and Reactivity</td>
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<td>Unattached Electives</td>
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<td>Process Design and Synthesis</td>
<td>Process Synthesis and Design</td>
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<td>Unit Operations and Unit Processes</td>
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</table>

I have included a letter from the Discipline Leader providing the rationale for the changes. When interpreting this letter please note that the unattached electives, while not required to complete the major, are required before a student can complete the Masters programme. If the student does not...
pick these up as electives during their undergraduate programme they will be required to take them as part of a Masters Prelim.

While understanding the urgency of stabilising the 2012 offerings, I would be grateful if the Board would give consideration to these proposed changes.

Sincerely

Prof Cara MacNish
Deputy Dean (Education)