MEMBERS OF THE FACULTY BOARD OF LIFE AND PHYSICAL SCIENCES

The following items are circulated for members' consideration, with recommendations from the Chair. If you do not agree with any of the recommendations or would prefer that an item/s be referred to the next meeting for discussion, please advise me by no later than **Monday 3 March 2008**.

If no comments/suggestions/objections are received by that date, the items will be processed in the normal way and the recommendations will be recorded as a resolution of the Board in the next set of minutes.

Imelda Ooi
Administrative Officer

ITEMS FOR CONSIDERATION BY CIRCULAR

1. **PROPOSED AMENDMENT TO FOUNDATION PACKAGES REF: F5075**

The Faculty of Life and Physical Sciences' office had suggested that the Maths options in the Foundation packages (i.e. Earth Sciences and Life Sciences [Biological]), be extended with immediate effect, to include the following options - MATH1040 and STAT2210; and MATH1050 and STAT2210. Marjan Heilbloem, Senior Faculty Admin Officer (FNAS), had advised that all prerequisites for STAT2210 would be removed with effect from 2008, in order to include the MATH1040 and STAT2210 combination.

This item was circulated to Board of Studies members on 30 January 2008 for consideration and approval. As there were no major concerns or objections from Board of Studies members, the Chair recommends the following with effect from 2008:

*that the Maths options in the Foundation packages (i.e. Earth Sciences and Life Sciences [Biological]), be extended to include the following options - MATH1040 and STAT2210; and MATH1050 and STAT2210.*

2. **FACULTY GOVERNANCE AND STRUCTURE REF: F1158**

The positions of the Associate Dean (Teaching and Learning) and Associate Dean (Research) came into effect in 2007. It is necessary to amend the Faculty Governance and Structure to incorporate these two positions as they were inadvertently omitted on the Faculty Board membership.

*The Chair recommends that the Faculty Governance and Structure be amended to incorporate the Associate Dean (Teaching and Learning) and Associate Dean (Research) on the Faculty Board membership with immediate effect.*

3. **PROPOSED MINOR CHANGE TO RULES FOR BSc (NANOTECHNOLOGY) REF:**

As a result of changes to the Level 2 Mathematics units and subsequent changes to the prerequisite Mathematics units for Level 2 Physics units, a problem has been highlighted during the enrolment process for students enrolling in the second year of the BSc (Nanotechnology). Currently, the Mathematics prerequisite units for PHYS2202 are: MATH1010, MATH1020 and MATH2200. In the BSc (Nanotechnology), students are only required to complete MATH2209 and MATH2202. This means that under the current prerequisite Rules, students would not be eligible to enrol in PHYS2202. To rectify the problem, the Faculty has consulted the School of Mathematics & Statistics, School of Physics and the Co-ordinator of the BSc (Nanotechnology) programme, to find a solution to enable
students to enrol in PHYS2202. The School of Physics has agreed that the prerequisites for PHYS2202 be changed to:

"must have passed (MATH1010, MATH1020, PHYS1101, PHYS1102) and (MATH2200, PHYS2201) or (PHYS2201, SCIE1109, MATH2209)".

The Rules for the BSc (Nanotechnology), will also be amended so that students will now be required to complete: either (CHEM2230 Nanochemistry, MATH2020, MATH2209) or (MATH2020, MATH2209, MATH2209) as shown in Attachment A.

The Chair recommends that the Rules for the BSc (Nanotechnology) programme be amended as shown in attachment A, with immediate effect.

4. **PROPOSED AMENDMENT TO THE RULES FOR MASTER OF SCIENCE AND TECHNOLOGY (52550) AND INTRODUCTION OF A NEW DISSERTATION UNIT REF:**

The School of Physics has requested changes to the Rules for the Master of Science and Technology (52550) which has arisen due to the enrolment of an international student in the Physics programme, which is one of the available programmes in the course.

As the core units - ANHB8404 Investigative Techniques: Data Acquisition and Analysis; and ANHB8405 Investigative Techniques: Experimental Design and Bioethics, cater for students with a biological focus, they are not appropriate for Physics students. The School has proposed with immediate effect, the substitution of the following existing units which are more appropriate in terms of research methodology, computation, and data analysis for these students:

- PHYS7415 Special Topics in Physics I
- PHYS7416 Special Topics in Physics II

Along with the above units, the School is also proposing the substitution of CITS7200 Scientific Communication for the core unit, COMM7403 Science Communication - Community Presentations, as it feels that this unit has much greater relevance for Physics students.

The School is also requesting the introduction of a new 36-point dissertation unit which is required for students in the Physics programme as follows:

- PHYS8501 MST Physics Dissertation Part 1 (12 points); and
- PHYS8502 MST Physics Dissertation Part 2 (24 points);

Attached are a covering letter from the Head, School of Physics Attachment B, checklists for the proposed dissertation unit (Attachment C) and the amendment to the Rules for the Master of Science and Technology (Attachment D).

The Chair recommends that the following be endorsed with immediate effect, subject to approval by Academic Council:

(i) proposed amendment to the Rules for the Master of Science and Technology with the substitution of CITS7200 Scientific Communication; PHYS7415 Special Topics In Physics I; and PHYS7416 Special Topics In Physics II, for the core units namely, COMM7403 Science Communication - Community Presentations; ANHB8404 Investigative Techniques: Data Acquisition and Analysis; and ANHB8405 Investigative Techniques: Experimental Design and Bioethics; and

(ii) introduction of new units – PHYS8501 MST Physics Dissertation Part 1 (12 points); and PHYS8502 MST Physics Dissertation Part 2 (24 points)
9.2.7R Nanotechnology (PG-NANOT)

Note: The Rules for this course are under review

9.2.7R.1 The programme consists of units to a total value of 144 points comprising—

- Physics Stream

9.2.7R.2 The Physics Stream comprises—

(a) all units in Table 9.2.7R(2) (Nanotechnology: Physics Stream Core Units)—32.66 points

and

(b) one unit from Group C—6 points

and

(c) two units from Group A in Table 9.2.7R(3) (Nanotechnology: Physics Stream Options)—12 points

and

(d) one unit from Group B of Table 9.2.7R(3) (Nanotechnology: Physics Stream Options)—6 points

and

(e) one unit from Group C of Table 9.2.7R(3) (Nanotechnology: Physics Stream Options)—6 points

and

(f) Level 3 units to the value of 12 points in physics, mathematics, engineering or chemistry, chosen in consultation with a Faculty Adviser.¹

¹ Students are not permitted to take ELEC3304 Physical Electronics.

Table 9.2.7R(2)—Nanotechnology: Physics Stream Core Units

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

Level 1
S1, S2 MATH1010 Calculus and Linear Algebra
S1, S2 MATH1020 Calculus, Statistics and Probability
S1 PHYS1101 Advanced Physics A
S2 PHYS1102 Advanced Physics B

Level 2
S1 CHEM2230 Nanoelectronics
S2 MATH2020 Multivariable Calculus and Linear Algebra
S1 MATH2209 Calculus and Probability
S1 PHYS2201 Quantum Physics
S2 PHYS2202 The Physics of Particles

Level 3
S1 PHYS3301 Classical and Quantum Physics
S2 PHYS3302 Optics and Electrodynamics
S2 PHYS3312 Laboratory and Quantum Solids

Table 9.2.7R(3)—Nanotechnology: Physics Stream Options

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

Group A
S1 CHEM1101 Inorganic and Physical Chemistry
S2 CHEM1102 Organic Chemistry
S1 CHEM1103 Biological Organic Chemistry
S2 CHEM1104 Biological Inorganic and Physical Chemistry

Group B
S1 ELEC2304 Physical Electronics 2
N/A MATE241 MAT2 Materials Engineering
Group C
S1 CHEM2230 Nanochemistry
S1 MATH2200 Applied Mathematics

Group CD
S2 ELEC4339 Special Topics
S1 ELEC4342 Semiconductor Nanoelectronics
S2 MATE3411 Fundamentals of Engineering Materials
N/A MATE4413 Non-metallic Materials

1 Offered in alternate years, not available in 2008.

Engineering Science Stream

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22\textsuperscript{nd} November, 2006.

Professor George Stewart
The Dean
Faculty of Life and Physical Sciences
The University of Western Australia

Re: Changes to Regulations for Masters of Science and Technology

Dear George,

The School of Physics requests changes to the regulations for the Master of Science and Technology course of study.

The core units for the Master of Science and Technology course are not appropriate for Physics students. Research methodology and data analysis in Physics is quite different to that in:
ANHB8404 Investigative Techniques: Data Acquisition and Analysis
ANHB8405 Investigative Techniques: Experimental Design and Bioethics,
which must cater for students with a biological focus.

More appropriate research methodology, computation, and data analysis is available via the existing courses:
PHYS7415 Special Topics In Physics I
PHYS7416 Special Topics In Physics II

Also, whilst the generic Science Communication unit COMM7403 Science Communication-Community Presentations is useful, the course -
CITS7200 Scientific Communication
has much greater relevance for Physics students.

The School of Physics requests amendment of the Master of Science and Technology (52550) course as follows:

Course Structure
9.6.8A.4(I) The course consists of units to a total value of 96 or 98 points comprising-
(a) all units in Table 9.6.8A(1) [Master of Science and Technology (52550) Core Units]-18 points
And
(b) units to the value of 36 points approved by the Faculty in one of the following programmes:
   Analytical Chemistry
   Anatomical Science
   Biochemistry
   Biophysics
   Computational Biology
   Human Biology
   Microbiology and Immunology
   Nanotechnology
   Pharmaceutical Science
   Physics
   Sport Science
   and
(c) dissertation units in the chosen programme area to the value of 36 points; and

(d) one unit chosen in consultation with the course co-ordinator from the units available within the University-6 or 8 points.

(2) The Faculty, on the recommendation of the course co-ordinator, may permit a student to substitute for a unit referred to in (1)(b) one other relevant unit of equivalent value offered in this University or in any comparable course in another recognised institution.

(3) A student taking the Sport Science programme may substitute the units in Table 9.6.8A(2) [Master of Science and Technology (52550) Alternative Research Units] for ANHB8404 Investigative Techniques: Data Acquisition and Analysis and ANHB8404 Investigative Techniques: Experimental Design and Bioethics in ANHB8404 [Master of Science and Technology (52550) Core Units].

(4) A student taking the Physics programme shall substitute the units in Table 9.6.8A(3) [Master of Science and Technology (52550) Alternative Research Units] for ANHB8404 Investigative Techniques: Data Acquisition and Analysis, ANHB8405 Investigative Techniques: Experimental Design and Bioethics, and COMM7403 Science Communication-Community Presentations in Table 9.6.8A(1) [Master of Science and Technology (52550) Core Units].

(5) A student who has completed a research dissertation in the same specialisation as that selected under (1)(b) and (c) is not permitted to use the previous dissertation as the basis of the dissertation undertaken in this course, but must select a new area of study within the selected specialisation.

Table 9.6.8A(3)--Master of Science and Technology (52550) Alternative Research Units

CITS7200 Scientific Communication
PHYS7415 Special Topics in Physics I
PHYS7416 Special Topics in Physics II

Yours sincerely,

Ian McArthur
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;

   MST Physics Dissertation

   (b) the proposed point value of the unit;

   36 points

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

   Dissertation component for student in Physics programme of Master of Science and Technology

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

   Master of Science and Technology (52550)

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

   No quota. Intake constrained by the number of available projects, and provision of suitable supervision

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

   The unit covers the dissertation component of Master of Science and Technology for a student in the Physics programme (as required by the Master of Science and Technology (52550) rules at http://rules.handbooks.uwa.edu.au/rules/sciences/part6/division10). Students undertake a research project, write a dissertation, and present a seminar.

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

   No

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

   No

   (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.

   N/A

2. **Demand**

   (1) What are the estimated annual enrolments?

   3

   (2) How has the estimate in (1) been arrived at?

   Expressions of interest from potential students.
(3) From which other units are students likely to move?

This unit is part of a new programme designed to attract new students.

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).

No 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.

Assessment of the dissertation is in three parts:

[1] The research work, assessed by the supervisor(s); 30%
[2] The report, graded and ranked by a panel of report readers; 60%
[3] The seminar, judged as to content and presentation by a panel; 10%

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).

Yes

(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.

Research students are assigned academic staff supervisors at the outset of the project.

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

N/A

(5) Will the introduction of this unit give rise to any accommodation needs other than standard lecture theatres, tutorial rooms or laboratory space?

No

(6) Will there be any ancillary student fees/charges associated with this unit?

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.

There was wide consultation within the Faculty, addressing all these issues when this course was established.
7. **Confirmation by Head of School**

I confirm that the process leading to the proposal for the introduction of unit MST Physics Dissertation 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 School:  

[Signature]

PHYSICS

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University Secretariat
June 2006
(New_Unit_Checlist)
9.6.8A MASTER OF SCIENCE AND TECHNOLOGY (52550)

Course Structure

9.6.8A.4(1) The course consists of units to a total value of 96 or 98 points comprising—
(a) all units in Table 9.6.8A(1) [Master of Science and Technology (52550) Core Units]—18 points
and
(b) units to the value of 36 points approved by the Faculty in one of the following programmes:

- Analytical Chemistry
- Anatomical Science
- Biochemistry
- Biophysics
- Computational Biology
- Human Biology
- Microbiology and Immunology
- Nanotechnology
- Pharmaceutical Science
- Physics
- Sport Science

and

c) dissertation units in the chosen programme area to the value of 36 points;

and

d) one unit chosen in consultation with the course co-ordinator from the units available within the University—6 or 8 points.

(2) The Faculty, on the recommendation of the course co-ordinator, may permit a student to substitute for a unit referred to in (1)(b) one other relevant unit of equivalent value offered in this University or in any comparable course in another recognised institution.

(3) A student taking the Sport Science programme may substitute the units in Table 9.6.8A(2) [Master of Science and Technology (52550) Alternative Research Units] for ANHB8404 Investigative Techniques: Data Acquisition and Analysis and ANHB8405 Investigative Techniques: Experimental Design and Bioethics in Table 9.6.8A(1) [Master of Science and Technology (52550) Core Units].

(4) A student taking the Physics programme may substitute the units in Table 9.6.8A(3) [Master of Science and Technology (52550) Alternative Research Units] for ANHB8404 Investigative Techniques: Data Acquisition and Analysis and ANHB8405 Investigative Techniques: Experimental Design and Bioethics in Table 9.6.8A(1) [Master of Science and Technology (52550) Core Units].

(45) A student who has completed a research dissertation in the same specialisation as that selected under (1)(b) and (c) is not permitted to use the previous dissertation as the basis of the dissertation undertaken in this course, but must select a new area of study within the selected specialisation.
Table 9.6.8A(1)—Master of Science and Technology (52550) Core Units
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<table>
<thead>
<tr>
<th>Course</th>
<th>Description</th>
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<tr>
<td>ANHB8404</td>
<td>Investigative Techniques: Data Acquisition and Analysis</td>
</tr>
<tr>
<td>ANHB8405</td>
<td>Investigative Techniques: Experimental Design and Bioethics</td>
</tr>
<tr>
<td>COMM7403</td>
<td>Science Communication—Community Presentations</td>
</tr>
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</table>

Table 9.6.8A(2)—Master of Science and Technology (52550) Alternative Research Units
All units have a value of six points unless otherwise stated.

<table>
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<tr>
<th>Course</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>HMES7602</td>
<td>Research Methods in HMES</td>
</tr>
<tr>
<td>HMES7603</td>
<td>Data Analysis in HMES</td>
</tr>
</tbody>
</table>

Table 9.6.8A(3)—Master of Science and Technology (52550) Alternative Research Units
All units have a value of six points unless otherwise stated.

<table>
<thead>
<tr>
<th>Course</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>CITS7200</td>
<td>Scientific Communications</td>
</tr>
<tr>
<td>PHYS7415</td>
<td>Special Topics In Physics I</td>
</tr>
<tr>
<td>PHYS7416</td>
<td>Special Topics In Physics II</td>
</tr>
</tbody>
</table>