PROPOSAL TO REVISE A PROGRAM

1. MAIN FEATURES OF PROPOSAL

1.1 Program name
Bachelor of Engineering in Bioinformatics

1.2 Abbreviation
BE (Bioinformatics)

1.3 Program code
3647 (also affects combined programs 3755, 3756, 3757 and 3715 (Bioinformatics))

1.4 Staff Contact **ext/email**
Dr Bruno Gaëta x52056/x57213/bgaeta@unsw.edu.au

1.5 Program Authority

School: School of Computer Science and Engineering **Faculty:** Engineering
AOU code: E250

1.6 Proposed Revision Summary Checklist

	to change the name of the program	x	to amend the program structure
	to increase the program requirements		to reduce the program requirements
x	to vary the mix of compulsory core and elective courses	x	to increase or decrease the elective choices available
	to vary the unit of credit value of courses/stages		to re-arrange the program by introducing, adding or deleting a major stream of study
	to offer the program by alternative means eg. distance delivery		to increase the research content of the program
	to charge fees		Other (specify)

(Tick relevant box)	**YES**	**NO**
1.7 Authorisation		
University Librarian		
Registrar's Nominee		
Dean		
1.8 Consultation Process	x	
1.9 Planning Office		
1.10 Units of credit	x	
1.11 General Education program (<u>for undergraduate programs only</u>).	x	

2. PROGRAM DETAILS

2.1 Current Enrolment and EFTSU

(note: numbers for all bioinformatics programs: Bioinformatics, Bioinformatics+Science, Bioinformatics+Arts, Bioinformatics + Biomed Eng, Bioinformatics+Commerce)

Stage 1: 4, 2, 0, 11, 1 = 18

Stage 2: 1, 1, 0, 6, 0 = 8

Stage 3: 1, 0, 0, 2, 3 = 6

Stage 4: 5, 4, 0, 5, 5 = 19

Stage 5: na, 6, 1, 1 = 8

Stage 6

2.2 Details of Existing Program

CURRENT ENTRY IN THE FACULTY HANDBOOK, WITH PROPOSED REVISIONS CLEARLY INDICATED

OR

PROPOSED ENTRY IN THE FACULTY HANDBOOK

Whilst jointly administered by the Schools of Computer Science and Engineering and the Faculty of Science, for convenience, day-to-day administration of the program is conducted through the Computer Science and Engineering Student Office, to which enquiries should be directed.

Bioinformatics is an emerging discipline at the convergence of computing and the life sciences aimed at development of technologies for storing, extracting, organising, analysing, interpreting and utilising the 'tsunami' of information being generated. It is truly an interdisciplinary field. Not only have advances in computing helped accelerate the process of data generation, but the need to process and analyse this vast amount of information has led to advances in both software technologies (databases, algorithm design, machine learning and visualisation) and hardware architectures (IBM's investment in the development of petaflop computers is directly motivated by Bioinformatics problems). Additionally, there is considerable interest in Bioinformatics from researchers in medicine and mathematics.

Bioinformatics graduates receive a bachelor of Engineering after four years. The program is multi-disciplinary and students will achieve a high level of expertise across computing, maths and biology. Students will undertake major project in the fourth year bringing these areas together.

Note:

The School also offers the combined degrees

BE (Bioinformatics)/BA program 3756,

BE (Bioinformatics)/BSc program 3755,

the concurrent degree BE(Bioinformatics)/MBiomedE

program 3757,

and also the fast program BE/MITplan BINFL13647

Program Objectives and Learning Outcomes

Please contact the School of Computer Science and Engineering for information on the Program Objectives and Learning Outcomes.

Program Structure

Year 1

BABS1201 Molecules, Cells and Genes (6 UOC)

BINF1001 Bioinformatics 1 (6 UOC)

COMP1911 Computing 1 (6 UOC)

COMP1921 Data Structures and Algorithms (6 UOC)

And ONE of:

CHEM1011 Fundamentals of Chem 1A (6 UOC)

CHEM1031 Higher Chemistry 1C (6 UOC)

And ONE of:

CHEM1021 Fundamentals of Chem 1B (6 UOC)

CHEM1041 Higher Chemistry 1D (6 UOC)

And ONE of:

MATH1131 Mathematics 1A (6 UOC)

MATH1141 Higher Mathematics 1A (6 UOC)

And ONE of:

MATH1231 Mathematics 1B (6 UOC)

MATH1241 Higher Mathematics 1B (6 UOC)

Year 2

BIOC2201 Principles of Mol. Biol (Adv) (6 UOC)

COMP2041 Software Construction (6 UOC)

COMP2911 Engineering Design 2 (6 UOC)

COMP3311 Database Systems (6 UOC)

MATH1081 Discrete Mathematics (6 UOC)

And TWO of:

BIOS2021 Genetics (6 UOC) OR BIOS2621 Genetics (Advanced Level) (6 UOC)

BIOC2101 Principles of Biochemistry (Adv) (6 UOC)

MICR2101 Microbiology 1 (6 UOC)

BABS2??? Cell Biology (6 UOC) (course name and code not finalized)

And ONE of:

MATH2801 Theory of Statistics (6 UOC)

MATH2901 Higher Theory of Statistics (6 UOC)

Year 3

BINF3010 Bioinformatics Methods (6 UOC) (note: course name and code not finalised)

BINF3020 Representations and Algorithms in Bioinformatics (6 UOC) (note: course name and code not finalised)

BIOC3121 Molecular Biology of Nucleic Acids (6 UOC)

COMP3121 Algorithms & Programming Tech (6 UOC)

COMP3711 Software Project Management (6 UOC)

Life Sciences Elective (6 UOC)

Computing/Maths Elective (6 UOC)

Free elective (6 UOC)

Any BIOC/BIOT/MICR/BABS3xxx course for which prerequisites have been completed can be selected as a 3rd year life science elective. Recommended electives include:

BIOC3111 Molecular Biology of Proteins (6 UOC)

BIOC3151 Human Genetics and Variation (6 UOC)

BIOC3281 Recombinant DNA Techniques (6 UOC)

BIOC3291 Genes, Genomes & Evolution (6 UOC)

BIOT3011 Biotechnology A (6 UOC)

BIOT3061 Biopharmaceuticals (6 UOC)

Any COMP2xxx or COMP3xxx course for which prerequisites have been completed can be selected as a 3rd year Computing elective. Recommended electives include:

COMP2121 Microprocessors & Interfacing (6 UOC)

COMP3111 Software Engineering (6 UOC)

COMP3231 Operating Systems (6 UOC)

COMP3331 Computer Networks&Applications (6 UOC)

COMP3411 Artificial Intelligence (6 UOC)

COMP3431 Intro. Intelligent Agents (6 UOC)

Alternatively one of the following MATH courses can be chosen instead of a Computing elective:

MATH2281 Biomathematics (6 UOC)

MATH2831 Linear Models (6 UOC)

MATH2931 Higher Linear Models (6 UOC)

Year 4

BINF4910 Thesis Part A (3 UOC)

BINF4911 Thesis Part B (12 UOC)

BINF4920 Prof Issues & Ethics for Binf (3 UOC)

One Life Sciences Elective (6 UOC)

One Computing/Maths Elective (6 UOC)

Free Elective (6 UOC)

General Education (12 UOC)

Any BIOC/BIOT/MICR/BABS3xxx course for which prerequisites have been completed can be selected as a life science elective.

Any level 3/4/9 COMP course for which prerequisites have been completed can be selected as computing elective. The computing elective can also be substituted for one of the following Mathematics and Statistics course:

MATH2281 Biomathematics (6 UOC)

MATH2831 Linear Models (6 UOC)

MATH2931 Higher Linear Models (6 UOC)

MATH3801 Probability & Stochastic Proc (6 UOC)

MATH3901 Higher Prob & Stochastic Proc (6 UOC)

MATH3811 Statistical Inference (6 UOC)

MATH3911 Higher Statistical Inference (6 UOC)

General Education Requirements

Students in this program must also satisfy the General Education requirements.

This is usually 12 UOC taken in second and third year studies.

It may not be possible for computing students to enrol in General Education courses which are similar in content to the courses offered in their respective degrees. For a comprehensive list, see: http://www.cse.unsw.edu.au/undergrad/current/gened.html

Honours

Honours will be awarded to students who have achieved superior grades in courses over the whole program including the successful completion of a thesis at sufficient standard. Weighted average marks required for Honours grades are given below: The School of Computer Science and Engineering uses an internal method for calculating this average, the information provided by New South Student is not used for this purpose.

Honours Class 1: WA greater than or equal to 75

Honours Class 2: Division 1: WA equal to 70 up to and including 74

Divison 2: WA equal to 65 up to and including 69

Academic Rules

Bachelor of Engineering Program Rules

1. The Bachelor of Engineering is awarded following the completion of a minimum of 192 units of credit.

2. The specific requirements for the Bachelor of Engineering in the various disciplines are set out in the relevant sections in this Handbook.

3. The degree may be awarded with Honours, based upon the overall performance in the program and in accordance with Faculty and School policies. Honours are awarded in the following classes - Class 1, Class 2 Division 1, Class 2 Division 2.

4. The standard duration of the program is four years, or eight sessions, of full-time study each comprising 24 units of credit. Students may undertake the program over a longer period on the basis of part-time study.

5. Each student is required to complete a minimum of 60 days of approved experience in industry prior to graduation.

6. General Education electives may only be attempted after the student has attempted at least 24 units of credit.

Fees

For information regarding fees for UNSW programs, please refer to the following website: https://my.unsw.edu.au/student/fees/FeesMainPage.html

Industrial Training

All students in the BE in Computer Engineering, Bioinformatics Engineering and Software Engineering programs must complete at least 60 days of approved Industrial Training before the end of Year 4.

Computing Requirements

Information regarding recommended computing equipment and software for the program is available from the School,of Computer Science and Engineering Help Desk.

Further Information and Requirements

Some courses listed here also offer in advanced versions.

Professional Recognition

Engineers Australia

The professional body for engineering in Australia is Engineers Australia, which has as its first objective the promotion of the science and practice of engineering in all its branches.

Engineers Australia has its national headquarters in Canberra and functions through a series of divisions, the local one being the Sydney Division. Within each division are branches representing the main interests within the profession, e.g. civil, mechanical, electrical, engineering management and environmental engineering.

Students of an approved school of engineering may join the Institution as a student member (StudIEAust). Student members receive the monthly publication Engineers Australia and for a small fee they also receive The Transactions which contains articles on a particular branch of engineering.

Student members are invited to participate in the Excellence Award for Work Experience, the National Young Engineer of the Year Award and to avail themselves of other Engineers Australia services including the Mentor Scheme and industrial experience guidance.

For more information and membership application forms, contact Engineers Australia, Sydney Division, Level 3, 8 Thomas Street, CHATSWOOD NSW 2067 - telephone 02 9410 5600 www.engineersaustralia.org.au

The Australian Computing Society

The peak professional body for computing in Australia is the Australian Computing Society (ACS) - www.acs.org.au

The objectives of the ACS can be found here and include: "advanc[ing] professional excellence in information and communications technology, and further[ing] the study, science and application of information and communications technology."

Again, students who want to join ACS should go to Member Application

Area(s) of Specialisation

Bioinformatics

2.3 Proposed Revision in Detail

The BE (Bioinformatics) program was introduced in 2001 and has undergone only minor revisions since. This proposed revision implements the following major changes:

(a) Introduction of 12 units of credit of free electives, in compliance with university policy

(b) Relaxation of elective requirements for the program. In the original version of the program, elective choices were restricted to a limited number of year 3 and year 4 courses, based on content that was most relevant to bioinformatics at the time the program was initially developed. Since the program was introduced the definition and applications of bioinformatics have considerably broadened and the chosen elective shortlist no longer encompasses the career options available in the field. In addition there has been demand from students for increased versatility in elective choices. As a result the revised version of the program allows students to choose any COMP2/3/4/9xxx or BIOC/BIOT/MICR3xxx elective for which they have completed the prerequisites, as long as they maintain a balance between life science and computing/maths electives.

(c) Revision of the 1st and 2nd year program structure to take into account changes in the life science curriculum introduced by the school of BABS, which remove the requirement for BIOS1101 as a prerequisite for 2nd year courses. The original program gave students the choice of doing either CHEM1021/1041 or BIOS1101 in first year. With the removal of the BIOS1101 prerequisites for 2nd year BABS courses, the revised program requires all students to complete BABS1201, CHEM1011/1031 and CHEM1021/1041.

(d) The updated BABS 2nd year curriculum consists of 5 courses (biochemistry, molecular biology, microbiology, cell biology and genetics). The original bioinformatics program required students to take molecular biology, genetics and a third course, LIFE2101 combining biochemistry and microbiology, which has not been offered for several years due to low enrolments. The revised program formally removes the requirement for LIFE2101, only requires molecular biology as a core course, and offers the students a choice of any 2 other BABS 2nd year courses (2 out of biochemistry, microbiology, cell biology and genetics). This provides students with the maximum versatility in choosing their 3rd year life science electives, and allows them to focus on the areas of biomolecular sciences that interests them most.

(e) Replacement of BINF2001 and BINF3001 (1 level 2 and 1 level 3 course) with BINF3010 and BINF3020 (2 level 3 courses). The original version of the program included dedicated bioinformatics courses at each stage of the program. This structure was useful in that it

allowed students to do some dedicated bioinformatics at every stage of their program. However a number of problems were identified with this structure which can be addressed with a 2 level 3 courses structure:

- Bioinformatics is a "capstone" discipline that builds on foundations of both biology and computer science. The limitations in foundational knowledge for 2nd year students meant that the content that could be taught in BINF2001 was limited, and a lot of the bioinformatics content could only be taught at level 3 in BINF3001. As a result there was too much material needing to be taught in BINF3001 and not enough in BINF2001.The proposed change effectively shifts BINF2001 from 2nd year to 3rd year and allows distributing the bioinformatics content more evenly across courses. This is especially crucial with the move to a 12 weeks session.
- The original BINF2001/3001 structure also forced the content in each course to be chosen on the basis of its complexity and student knowledge, rather than on the basis of topics and themes. This resulted in fairly disjointed curricula for the courses, especially for BINF3001, which was reflected in CATEI surveys. By moving to a 2x level 3 course structure, it is easier to distribute the material between courses on the basis of topic rather than complexity, resulting in better integrated courses.
- Having both BINF2001 and BINF3001 taught in session 2 created difficulties for midyear entry students, who needed to start their research thesis before completing BINF3001 in order to finish in 4 years, and were therefore limited in their thesis topic choices. Changing these courses to BINF3010 (session 1) and BINF3020 (session 2) will make it easier for midyear entry students to obtain their degree in 4 years
- The BINF2001/3001 structure also makes it difficult for students not enrolled in the BE (bioinformatics) to select these bioinformatics courses as electives. Consultation with program directors in the school of BABS suggested that the proposed change to 2 level 3 courses would be beneficial as they would allow biological science majors to take bioinformatics courses as electives. This would also make it easier to implement a bioinformatics major in the BSc program.

The division between BINF3010 and BINF3020 would be on the basis of emphasis and target audience:

- BINF3010 can be set up as a "bioinformatics for users" course, targeted at students with a biology background and discussing a range of areas in bioinformatics, but emphasising their use to solve biological problems, advantages and pitfalls of various approaches, and promoting the informed selection of suitable tools and interpretation of results. The course would have only biology prerequisites and would therefore be suitable for any molecular biology/genetics major in addition to bioinformatics students. It is worth noting that the University of Sydney is offering a similar course that is a core requisite for all their molecular biology and biotechnology majors.
- BINF3020 can be set up as a "representations and algorithms in bioinformatics" course, dealing with the computer science behind bioinformatics, and targeted at computer science students. The course would have only computer science prerequisites and therefore be suitable as an elective for any student enrolled in a CSE program without the need to take biology courses.

Students enrolled in the BE (Bioinformatics) program would have to take both BINF3010 and BINF3020. The re-arrangement of content simplifies the prerequisite structure for the bioinformatics courses and makes it easy for students not enrolled in the BE (bioinformatics) program to also enrol in one of the courses (depending on their background) and learn about bioinformatics in the context of their major field of study.

The resulting structure for the BE (Bioinformatics) program is shown in the handbook entry (section 2.2).

Feedback on the revised program was obtained from the following stakeholders:

- Students: past graduates and current students were consulted in person and through the use of an online forum (http://unswedu.facebook.com/board.php?uid=2209864988). Overall the

program revision was met with positive feedback from students who appreciate the increased versatility of the program and the improved consolidation of content between BINF courses

- Lecturers in BINF courses: Mark Tanaka (BABS), Marc Wilkins (BABS), Mike Bain (CSE) and Paul Curmi (Physics) who all contribute significant content to BINF2001 and 3001 were consulted on the proposed changes to BINF2001 and BINF3001. While there was some concern about potential "dumbing down" of the courses in the process of opening them to non-bioinformatics students, all academics consulted agreed with the need to open these courses to other students and to consolidate the contents.
- Program directors in BABS: both Louise Lutze-Mann and Mike Edwards were consulted regarding the new BABS 2nd year curriculum and the impact of the proposed changes to the bioinformatics program. Both program directors indicated their support for the revised program (see section 3).
- Australian bioinformatics and biotechnology industry: the author of this proposal is a member of the Management Committee of Bioinformatics Australia, a special interest group of AusBiotech tasked by DITR to form an Australian Bioinformatics Network and connect all the Australian bioinformatics stakeholders. As part of this group, a number of interviews have been conducted around Australia with representatives from industry and academia regarding skills and employment for bioinformatics graduates, and these discussions were taken into account when revising the program. Sydney industry representatives that were consulted as part of this process include David Mitchell (CSIRO Bioinformatics), Mike Poindinger (Johnson & Johnson Research) and Tim Littlejohn (IBM).
- International bioinformatics community: the author of this proposal is a director of ISCB (International Society for Computational Biology) and vice-chair of the ISCB Education committee. Discussions in the ISCB Education committee on bioinformatics curriculum and industry needs in bioinformatics were taken into account as part of this program revision.

2.4 Units of credit

Stage 1 48

Stage 2 48

Stage 3 48

Stage 4 48

Stage 5

Stage 6

Total units of credit for the program 192

Full-time program load equivalence (EFTSU) 4.0

2.5 Date of Last Program Revision

2001

2.6 Next Program Review Date

4 years from the current review

2.7 Student Impact Statement/Transitional Arrangements

The impact of the revision on students should be minimal. The broadening in elective choice can be implemented immediately with no negative impact on students. Changes caused by the change in 2nd year BABS course structure are coming into place regardless of the bioinformatics program. The change from the BINF2001/3001 structure to the BINF3010/3020 structure should also not be disruptive as it involves initially moving one course (BINF2001) from second year S2 to 3rd year S1. There are a number of 3rd year core and elective courses in the program that students will be able to take in 2nd year S2 in place of BINF2001 in the transitional year so they are not impacted by the change.

2.8 General Education program (<u>for undergraduate programs only</u>)

The General Education requirements are not affected by the proposed revision

2.9 Alternative Delivery of Programs

Not applicable

2.10 Information Technology Requirements for students (for all programs)

IT requirements for the program are unaffected by the revision

3. CROSS REFERRAL

3.1 Academic Units with Potential Interest

The School of Biotechnology and Biomolecular Sciences (BABS) contributes a large proportion of the teaching in this program. In addition the changes to the bioinformatics courses make some of them suitable as electives for students in BABS. The Director of Academic Programs, Louise Lutze-Mann, and the Director of Studies, Mike Edwards, have both been consulted with regard to the revision. A letter of support from Dr Lutze-Mann is attached.

The other schools that contribute to the program are the school of Mathematics and Statistics and the school of Chemical Sciences. The contributions of these schools to the program in terms of service teaching are not affected by the proposed revisions.

3.2 Material Overlap and Service Teaching

(i) Does the proposal overlap with material already being taught by other academic units?

No

(ii) Will students in other programs take courses in this program?

Yes, the new BINF3010 and BINF3020 courses would be open to students in other programs including BSc and BSc (Computer Science)

(iii) Will service teaching be provided or has it been in the past and will it no longer be provided, by other departments/schools?

The proposed revision does not affect the level of service teaching provided by other schools

3.3 Academic Cross-referral

I have examined the Program Proposal and have no concerns with the matter proceeding.

Further Comments:

Dean or Presiding Member of consulted Faculty/Faculties

/ /2005

3.4 Administrative Units or External Organisations with Interest

The program revision has been presented to a number of potential employers of bioinformatics graduates at a series of recent meetings organised by Bioinformatics Australia/Australian Bioinformatics Network (the Australian bioinformatics society), including David Mitchell (CSIRO Bioinformatics), Tim Littlejohn (IBM), and Mike Poidinger (Johnson and Johnson Research). Followup letters of support from Lucia Santoso (Executive Officer, Bioinformatics Australia) and Mike Poidinger are attached.

The author of this proposal is also the vice-chair of the Education committee of the International Society for Computational Biology (ISCB) who has been investigating bioinformatics curricula around the world. The results from this research have been used to inform this program revision.

3.5 Administrative Cross-referral

Note: *the Registrar's Division needs to be consulted on the Program Proposal and this section of the Proposal must be signed by the Registrar's Nominee, stating:*

I have examined the Program Proposal and have no administrative concerns with the matter proceeding.

Further Comments:

Registrar's Nominee

/ /2005

4. COURSE DETAILS

Reminder: A course proposal must be completed for each new or revised course in the revised program. **The authorisation of the Dean, the Head of School, and the University Librarian is not required on each individual course proposal.** A course proposal is not required if previously approved courses form part of the revised program (a copy of the current Faculty Handbook Entry for each course should be provided instead).

4.1 Summary of Handbook Course Descriptions

Provide a summary of the description for each course in the program to appear in the Faculty Handbook detailing:

Course ID
Course name - Long
Staff Contact:
Units of credit: *Session/s offered:* *Hours Per Week:*
Pre-requisites:
Co-requisites:
Exclusions:
Course Description

5. RESOURCE STATEMENT

5.1 Enrolment Planning

Describe the impact of the proposed revision on the Faculty's Enrolment Plan.

5.2 Details of Fees

The University charges tuition fees for:

- all postgraduate coursework programs and some undergraduate programs offered to Australian citizens and permanent residents;
- undergraduate and postgraduate programs offered to International Students; and
- enrolment in voluntary non-award courses (ie. courses from an award program which will not be counted towards an award program at UNSW or elsewhere).

The setting of the above fees is are course to

- University policy and procedures, and
- Commonwealth Government legislation and guidelines.

As tuition fees for award programs are approved annually by the Vice-Chancellor on the recommendation of the Executive Director, Business and Finance, if the proposal involves fees, a Business Plan (Appendix B) should be completed separately and submitted for approval by the Vice-Chancellor. Contact the Business Office for advice on completion of the Business Plan ext 1815.

Provide details of actual fees payable by students.

Proposed fee:

$ for non-award enrolment (local)

$ for non-award enrolment (international)

$ for full fee-paying program enrolment (local)

$ for full fee-paying program enrolment (international)

5.3 Resource Impact

Provide full details of the effect of the revision on:

5.3.1 Teaching Format

Hours per Week per Student:

Session 1	Session 2
Lectures	Lectures
Tutorials	Tutorials
Laboratories	Laboratories
Seminars	Seminars
Other	Other
Total hours per week	Total hours per week

5.3.2 Staffing Requirements

Hours per week

- Full-time Academic Staff
- Part-time Teaching Staff
- General Staff

5.3.3 Support Requirements

- Laboratories
- Equipment
- Other

5.3.4 Accommodation

x No additional facilities required

OR

Space/facilities required but can be provided from own resources and/or existing allocation

OR

Space is required amounting to m^2 on:

(i) temporary basis for years

(ii) permanent basis

5.3.5 Materials Requirements

5.3.6 Equipment Requirements

(i) Expenditure on new or replacement equipment

(ii) Annual maintenance on new equipment.

5.3.7 Computing Requirements

5.3.8 Library Requirements

6. AUTHORISATION

6.1 University Librarian's Endorsement

Note: *this section of the Proposal must be signed by a Library representative, stating:*

I have examined the Library needs related to the above proposal and certify that existing Library holdings, staffing, services and accommodation are adequate / inadequate (delete one) to cover the demands that are inherent in it.

Appropriate arrangements for the use of digitised material to support this program have been made by the Program Authority with the University Librarian.

Further Comments:

University Librarian
/ /2005

6.2 Dean's Approval

Note: *this section of the Proposal must be signed by the Dean, stating:*

I have examined the resource implications of the above proposal in regard to staff, space, materials, equipment, capital funds, and computing, and certify that:

(Tick whichever is applicable)

6.2.1 (i) the proposal involves no additional resources. (A statement from the Head of School explaining how this can be achieved must be provided below); or

(ii) the proposal involves additional resources and it is proposed to redeploy existing resources within the faculty. (A statement from the Head of School explaining how this will be achieved must be provided below); or

(iii) the proposal involves additional resources to be obtained as set out below; or

(iv) the additional resources essential to bring the proposal into effect cannot be found within resources available to the faculty.

6.2.2 **Fees** (delete if not applicable):

- a fee will not be charged for this program (other than HECS)
- a fee will be charged for this program for local fee-paying students
- a fee will be charged for international students

If a fee is to be charged, the Dean must certify as follows:

I have ensured that the Vice-Chancellor has been advised of the proposed fee arrangements, and note that approval of fee arrangements is needed before the new program can be implemented.

6.2.3 the proposal conforms to the University's commitment to Equal Opportunity in Education.

Statement from Head of School on Source of Additional Resources and/or Further Comments:

Dean
/ /2005

Please click on link for
DISABILITY GUIDELINES FOR ACADEMIC STAFF PREPARING COURSES