PROPOSAL TO INTRODUCE A NEW COURSE

1.   COURSE DETAILS

1.1   Course ID   BINF9020

1.2   Course name - Long
Computational Bioinformatics

1.3   Course name - Abbreviated
Computational Bioinformatics

1.4   Course Authority Dr Bruno Gaëta   **ext/email** x57213/bgaeta@unsw.edu.au

1.5   Organisational Unit responsible for course

(note: the course is jointly owned by the school of CSE and the school of BABS. However day to day administration of the course is carried out by the school of CSE)

School: School of CSE, School of BABS   **Faculty:** Engineering, Science

Academic Group Code (Faculty): ENG

Academic Organisation Code (Owner): COMPSC

1.6   Justification of Proposal
Bioinformatics is currently taught at the postgraduate level through BINF9010 (Bioinformatics Methods and Applications) that provides an overview of the field and is targeted at both life science and computer science students. CATEI feedback from BINF9010 suggested that there is interest from computer science students in a course that goes deeper into the computational and mathematical bases of bioinformatics, targeted specifically at bioinformatics application developers (rather than just software users).

1.7   Consultation Process
Other stakeholders in the program are the school of BABS. The Director of Postgraduate Coursework (Chris Marquis) has been consulted.

Academics who contribute to bioinformatics courses currently taught at UNSW have also been consulted

1.8   Units of credit (UOC) 6 **Session/s offered** S2   **Hours Per Week** 3

1.9   Pre-requisites:
         Co-requisites:
         Exclusions: BINF2001, BINF3001, BINF3020

1.10   Proposed Entry in the Faculty Handbook

BINF9020
Computational Bioinformatics
Staff Contact: Mike Bain or Bruno Gaeta
Units of credit: 6   *Session/s offered:* S2   *Hours Per Week:* 3
Pre-requisites:

Co-requisites:
Exclusions: BINF2001, BINF3001, BINF3020
Algorithms and representations in DNA and protein sequence analysis: string matching and alignment, tree building methods, hidden Markov models and other statistical representations. Computational representations in systems biology including Boolean and Bayesian networks. Optimisation and machine learning approaches used in bioinformatics.
This course may be taught concurrently with BINF3020

1.11   Is this course replacing an existing course?

NO

1.12   Postgraduate

1.13   Elective

1.14   Program stage
Any

1.15   Program/s in which course is be available
8682 MCompIT, 8684 MIT, 5432 Graduate Diploma in Computing & Information Technology, 7344 Graduate Certificate in Advanced Computing, 8680 Master of Computer Science, 8685 Master of Engineering Science in Computer Science and Engineering, 8508 Master of Information Science, 1650 PhD (Computer Science and Engineering), 9036 Master of Health Informatics, 5452 Graduate Diploma in Computer Science, 5453 Graduate Diploma in Information Science, 2665 Master of Engineering in Computer Science and Engineering, 2765 Master of Science in Computer Science and Engineering 8660 Master of Biomedical Engineering 8665 Master of Engineering Science in Biomedical Engineering 5445 Graduate Diploma in Biomedical Engineering 1710 PhD (Biomedical Engineering) 2675 Master of Engineering in Biomedical Engineering 2795 Master of Science in Biomedical Engineering

1.16   Proposed teaching methods and assessment practices
Lectures and tutorials
Assessed through formal exams, programming assignments, group work and student presentations

1.17   Assessment grades to be used
Full range of grades

1.18   Mode of delivery

Internal   x

External

Other (specify)

1.18.1 Multi-mode Delivery Guidelines
N/A

1.19   Information Technology Requirements for students
Required computing resources will be provided by the School of Computer Science and Engineering

1.20   Textbooks

An Introduction to Bioinformatics Algorithms
Neil C. Jones and Pavel Pevsner
MIT Press 2004..

1.21   Industrial experience component
N/A

1.22   Parallel Teaching Requirement

This course may be taught concurrently with BINF3020. It is an elective course in the MCompIT, MIT and associated graduate certificates and diplomas, and may be taken by research students as part of their coursework requirement.

Both BINF9020 and BINF3020 are taught concurrently under Recommendation 3 of the Academic Board Policy on Parallel Teaching (Resolution AB04/106).

Lectures and some assessment tasks are delivered concurrently.

a) The handbook course description contains a statement that advises students that parallel teaching of postgraduate and undergraduate course is occurring.
b) Postgraduate students are enrolled under a postgraduate course code.
c) Postgraduate students are required to complete an additional assignment.
d) Postgraduate students and undergraduate students take different final examinations.

2.   RESOURCE STATEMENT

2.1   Enrolments
Estimated or proposed enrolments for the next three years.

2009:	10
2010:	10
2011:	10

2.2   Resource Requirements

Staffing Requirements:

Hours per week

3   Full-time Academic Staff

0   Part-time Teaching Staff

0   General Staff

Field Costs: n/a

Studio/Laboratory Requirements: 0

Materials Requirements: 0

Equipment Costs: 0

Computing Requirements: 0 Uses only existing computing resources

Library Requirements:

Capital Funds Requirements: 0

2.3   Servicing Implications:
N/A

2.4   Teaching Arrangements:

(i)   Will other units contribute on a regular basis to the teaching of this course?

    YES   X

    NO

  (ii) If so, which units are involved and what proportion of the course will they teach?

School of BABS (20%)

2.5   Alternative Delivery Arrangements:
n/a

2.6   Details of Tuition Fees:
Standard fees for courses in the Faculty of Engineering.

3.   AUTHORISATION

3.1   University Librarian's Endorsement

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 course have been made by the Course Authority with the University Librarian.

Further Comments:

University Librarian
     /   /2007

3.2   Head of School's Approval

I have examined the resource implications of the above proposal in regard to staff, space, materials, equipment, capital funds, and computing, and certify that the School can cover the demands that are inherent in it.

Further Comments:

Head of School
     /   /2007

3.3   Dean's Approval

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

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

3.3.2   **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 certifies 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.

3.3.3   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
   /   /2007

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