

# PROPOSAL TO INTRODUCE A NEW COURSE

## 1. COURSE DETAILS

1.1 **CourseID** COMP 9152

1.2 **Course name – Long** Comparative Concurrency Semantics

1.3 **Course name – Abbreviated** Comparative Concurrency Semantics

1.4 **Course Authority** **ext/email**  
Rob van Glabbeek 83060492/rvg@cse.unsw.edu.au

1.5 **Organisational Unit responsible for course**

**School:** School of Computer Science Engineering **Faculty:** Engineering

## 1.6 Justification of Proposal

The course COMP 4151 "Advanced Topic in Concurrency" was proposed in 2003 as a generic template for a variety of advanced courses in the theory of concurrent and distributed systems for fourth year and postgraduate research students. In practice, it has been instantiated by two different courses. In 2003 S1 and 2005 S1 the course was given by Rob van Glabbeek under the title "Comparative Concurrency Semantics" and in 2004 S1 and 2006 S1 it was given by Ron van der Meyden, Ralf Huuck and Ansgar Fehnker under the title "Algorithmic Verification".

As both courses are being continued indefinitely, it appears prudent to give them different course numbers:

- COMP 3152/9152 Comparative Concurrency Semantics
- COMP 3153/9153 Algorithmic Verification

Amongst others, this enables students to enrol in both courses, which is proper given that they have different content. It also enables us to offer both courses in the same session. Given the fact that the material in both courses is particularly suited for 3th year students, at the same time we propose to emphasise this by using a COMP3xxx course code. As the course is also useful for graduate students,

Who are not already familiar with this material, we'd like to also offer it as 9xxx.

## 1.7 Consultation Process

The Formal Methods group in NICTA wants to increase the visibility and continuity of their teaching. Splitting the single course with alternating titles into two courses would serve both purposes. The CSE teaching committee was consulted, and helped formulate the current proposal.

1.8 **Units of credit** **Session/soffered** **Hours Per Week**  
6UoC S1 3 hours

1.9 **Prerequisites:** COMP9024 or enrolment in 8684  
**Corequisites:** none

**Exclusions:** none

**1.10 Proposed Entry in the Faculty Handbook**

**Description**

Topics chosen from: semantic models of concurrent and distributed systems (e.g. process algebra, event structures, Petri nets, Chu spaces), operational and denotational semantics, semantic equivalences and implementation relations, linear versus branching time, interleaving versus partial order semantics, true concurrency, algorithms for equivalence checking and their complexity, modal and temporal logic for concurrent systems.

**1.11 Is this course replacing an existing course?**

**YES** COMP 4151. See "rationale" earlier in this proposal.

**1.12 Postgraduate**

**1.13 Elective**

**1.14 Program stage**

Stage 2 in coursework programs that require more than one year  
Stage 1 in programs that require at most one year.

**1.15 Program/s in which course is available**

8682 MCompIT  
8684 MIT  
5432 Graduate Diploma in Computing & Information Technology  
7344 Graduate Certificate in Advanced Computing  
1650 PhD  
2665 ME  
2765 MSc

**1.16 Proposed teaching methods and assessment practices**

Teaching: lectures, tutorials  
Assessment: homework assignments, seminar presentations by enrolled students, exams.

**1.17 Assessment grades to be used**

Full range of UNSW grades (i.e. FL, PS, CR, DN., HD, etc.)

**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**

*The standard computing resources available in CSE are adequate.*

### **1.20 Textbooks**

J.C.M. Baeten & W.P. Weijland (1990): Process Algebra, Cambridge Tracts in Theoretical Computer Science, Cambridge University Press

W.J. Fokink (2000): Introduction to Process Algebra, Texts in Theoretical Computer Science, Springer.

### **1.21 Industrial experience component**

none

### **1.22 Parallel Teaching Requirement**

This course may be taught concurrently with COMP3152 Comparative Concurrency Semantics. 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 COMP9152 and COMP3152 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.

2007: 15

2008: 25

2009: 35

### **2.2 Resource Requirements**

#### **Staffing Requirements:**

Hours per week

3 Full-time Academic Staff

1 Part-time Teaching Staff

0 General Staff

**Field Costs:** N/A

**Studio/Laboratory Requirements:** N/A

**Materials Requirements:** N/A

**Equipment Costs:** N/A

**Computing Requirements:** Already covered by CSE infrastructure

**Library Requirements:** Standard for a course of this size

**Capital Funds Requirements:** N/A

### **2.3 Servicing Implications:**

None

### **2.4 Teaching Arrangements:**

(i) Will other units contribute on a regular basis to the teaching of this course? **NO**

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

**2.5 Alternative Delivery Arrangements:** N/A

**2.6 Details of Tuition Fees:**

Standard fee scale as for other CSE postgraduate courses.

### **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  
/ /2006

#### **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  
/ /2006

#### **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  
/ /2006