

Minutes of the meeting (CSE Teaching Committee Meeting 14/2) of the **COMPUTER SCIENCE AND ENGINEERING TEACHING COMMITTEE** held at 1:00pm on **Friday, 16 May 2014**, in Room 103 (HoS Meeting Room), Computer Science Building.

DRAFT ... not yet confirmed and further material to be added ...

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<b>Present</b>	Prof J Xue AProf R Buckland, M Pagnucco Drs A Blair, B Gaeta, H Guo, E Martin, M Ryan, J Shepherd, S Venugopal
<b>Absent with Apologies</b>	AProf F Rabhi Miss C Nock
<b>Absent</b>	Prof A Sowmya Mr B Hall
<b>In Attendance</b>	AProf S Kanhere
	Present / Quorum: Not Set
	Attendance Rate: 11 / 15

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## **1 APOLOGIES AND WELCOME**

## **2 MINUTES OF PREVIOUS MEETING**

The minutes of the CSE Teaching Committee Meeting 14/1 held on 14 February 2014 were confirmed and signed.

## **3 BUSINESS ARISING FROM PREVIOUS MINUTES**

### **3.1**

- 3.2** There was no pressing business arising from the previous meeting (although see Malcom Ryan's question under "Any Other Business").

## **4 FACULTY THESIS ASSESSMENT PROPOSAL**

- 4.1** The Faculty has a working group looking at assessment of 4th-year theses. They have recently produced draft proposals on this. Salil will discuss these.

- 4.2** Salil Kanhere tabled draft documents from a Faculty working group on 4th-year thesis assessment.

There was discussion on the following aspects of the documents:

- how the marks should be distributed between Thesis A and Thesis B
- whether we should adopt the Faculty assessment criteria or continue with our own
- whether we should keep marking consistent across CSE degrees

JAS thinks the current arrangement of 10% for Thesis A and 90% for Thesis B sends the wrong signal on the importance of Thesis A, especially given the UOC split (6:6 for CE/Blnf, 6:12 for CS/SE). Others think the current arrangement works fine.

### **14.2.4.2. Action required by AProf. Salil Kanhere**

Liaise with program directors to determine what's best for each program.  
Present a draft proposal for CSE Thesis Assessment at the next TC meeting.

## **5 BIOINFORMATICS PROPOSALS**

- 5.1** There are currently three proposals related to Bioinformatics "in the system". Two are simple name changes. The third is a new plan to create a Bioinformatics major under the BSc.
- 5.2** Bruno Gaeta noted why the proposals were in: BINFB1 provides a new stream (Bioinformatics) in the BSc. The BINFA1 and 3647 proposals were then necessary because they couldn't have the same name (Bioinformatics) as the BINFB1 stream, and the new name (Bioinformatics Engineering) better reflects the intent of the restructured degree.

JAS noted that BINFB1, after having been "stuck" in the AIMS workflow for sometime, has had all issues resolved and JAS will chase up getting the approvals finalised.

### **14.2.5.2. Action required by Dr. John Shepherd**

Ensure that all three proposals reach full approval status in AIMS as soon as possible.

## **6 DATA SCIENCE AND ENGINEERING STREAM FOR MIT**

- 6.1** A new stream is being proposed to cater for the demand for Data Analytics/Big Data skills. It includes courses from both CSE and the School of Maths and Stats.

The plan is to eventually extend this to a full degree program and possibly a stream in the undergraduate programs.

- 6.2** Xuemin Lin described the proposed new stream in Big Data for the MIT, noting that it was a temporary measure and the goal was to propose a full degree program in the near future. The stream involves core courses from CSE and Maths. Most are existing courses, but there is one new CSE course (Big Data Management).

Eric Martin expressed concern that the stream was significantly different from other MIT streams in having a much larger core.

Xuemin to liaise with Eric in coming up with a suitable structure that jars less with the other MIT streams.

Once fixed, the proposal should be forwarded to the Faculty after circulation to TC members for final comments.

### **14.2.6.2a. Action required by Dr. Xuemin Lin and Dr. Eric Martin**

Proponents of stream to liaise with PG Coursework Academic Advisor to sort out appropriate structure for stream.

### **14.2.6.2b. Action required by Ms. Wenjie Zhang and Dr. John Shepherd**

Revise the stream proposal, complete the proposal for the new course, and get both proposals through AIMS workflow ASAP.

## **7 REPORTS FROM WORKING GROUPS**

- 7.1** Four working groups on aspects of curriculum/teaching were established last year:

- Service Teaching ... report on progress in implementing recommendations
- Teaching Practice ... report on progress in implementing recommendations
- Core Curriculum ... report on deliberations
- Program Outcomes ... report on deliberations

- 7.2** Maurice Pagnucco said that he planned to provide an online view of the recommendations in the reports and on progress in implementing them.

## Service Teaching (implementation progress)

- ENGG1811 has been revised in accordance with working group recommendations

## Teaching Practice (implementation progress)

- JAS (WG chair) described plans for an upcoming Teaching Workshop during the exam period
- there was also discussion on how to implement the recommendation that all course material should be kept available for subsequent lecturers in each course:
- depends on the platform used to house the material initially
- could we extract material into a standard form, whatever LMS was used?
- need further work to develop guidelines and technology for this

## Core Curriculum (aka "Knowledge Curriculum") (deliberations)

- Jingling Xue (WG chair) noted the robust discussion at the meeting in the morning
- the WG is making good progress towards defining a set of core courses and a syllabus for each
- the discussions revolve around the ACM Curriculum 2013 and examining curricula at top US schools

Richard Buckland described a proposal developed after the morning's meeting, based on ideas from that meeting

- S1: intro programming course (using Python?)
- S2: software engineering foundations course based on a large project (Helen Paik's proposal)
- S2: computer systems and programming using C
- S3: "proper" data structures and algorithms course
- S3: OO design course (using Java?)
- S4: Algorithms a la COMP3121 (should (once again) be made core for all degrees)

## Program Outcomes (aka "Skills Curriculum") (deliberations)

- Richard Buckland (WG chair) outline deliberations so far (up to March)
- the WG had identified a set of high-level outcomes for all CSE students
- needs further refinement for each specialisation (BInf,CE,CS,SE)
- needs to be mapped to UNSW graduate capabilities

Since any recommendations requiring modifications to the curriculum cannot now be implemented for 2015, the working groups have time to carry out their deliberations methodically, but be ready in time to implement in 2016.

It was noted that introducing a new curriculum around the same time as accreditation may make sorting out accreditation more difficult.

### **14.2.7.2a. Action required by Prof. Jingling Xue and AProf. Richard Buckland**

Complete the deliberations of the active WGs in a timely fashion

## **8 TEACHING PRACTICES WORKSHOP IN JUNE**

**8.1** As part of the follow-up on recommendations from the Teaching Practices WG, we plan to run a Teaching Practices Workshop over a half day during the June exam period. The aim is for people to present clever ideas for things they've done in their teaching that lead to better outcomes, make things easier, provide material in a novel way, use different forms of interaction with the class, etc. etc.

Presentations will be 15-30 mins with discussion afterwards.

The goal is that people leave with some useful ideas to try in their S2 courses.

**8.2** JAS noted that the workshop was being planned and further info would be circulated to academic staff in the near future.

## **9 UPCOMING PROPOSAL TO CHANGE PG COURSEWORK FOUNDATION**

## **COURSES**

- 9.1** Eric is planning to revise COMP9020, COMP9021 and COMP9024 so that they form a more coherent sequence, appropriate for incoming students with no computing background and being able to prepare them, in two semesters, to study more advanced computing courses.
- 9.2** Eric Martin described his plans to revise the PG foundation courses (9020,9021,9024) to make them more coherent. The critical feature was the use of Python and Sage in all courses to provide a simple, novel platform on which to discuss the existing concepts in those three courses. The syllabi would not be changed dramatically, but the exposition vehicle would.

Discussion around the need (or otherwise) for students to learn C and Java at some stage, and whether a Python-only background would exclude them from some subsequent courses. Eric to investigate potential problems and solutions here.

Srikumar Venugopal noted that changing COMP9321 and COMP9322 to use Python and its frameworks (rather than, as currently, Java and its frameworks) would be required under Eric's proposed changes. This change is feasible (agreed by both Srikumar (COMP9321) and Helen Paik (COMP9322)). However, we would need to ensure that both UG students and PG coursework students who were granted exemption for COMP902[14] had an appropriate Python background for these revised courses.

Everyone was in general agreement that this was a good idea (with the caveats above) and that Eric should present course proposals at the next TC.

### **14.2.9.2. Action required by Dr. Eric Martin**

Determine effect of using Python in COMP902[014] on subsequent courses.

Resolve any issues and develop Course Revisions for each of the three courses involved (and any other follow-on courses that may be affected).

Present course proposals at the next TC.

## **10 SENG2021 CHANGE OF PRE-REQS**

- 10.1** The pre-reqs for SENG2021 were recently changed from

SENG2011

to

SENG2011 or COMP2911

Since SENG2011 and COMP2911 are quite different (one is specification, the other OO design), it would be useful to know the rationale behind the change, and whether this might apply to other SENG workshop courses.

- 10.2** This item was deferred because Fethi Rabhi was not at the meeting.

## **11 REDUCTION IN COURSE OFFERINGS AND EFFECT ON STUDENTS**

- 11.1** Following the redundancies in 2012, there were cutbacks to course offerings. Have these affected students ability to complete their degrees on time? We analyse progression paths for various kinds of students to identify any who might be disadvantaged.
- 11.2** JAS presented some analysis of pathways through our degrees which aimed to show that "non-standard" students were being disadvantaged by the removal of offerings of some core courses. It turns out that the changes made to pre-reqs last year (replacing COMP2911 by COMP1927 in many cases) have made it possible for students to pursue a wide range of electives after completing the core programming courses, regardless of which semester they commence or whether they fail one of the first-year courses.

Need to ensure that this situation is preserved when the new core courses are defined.

## **12 CURRICULUM MAPPING**

**12.1** It is useful, for accreditation at the very least, to be able to show that a student completing any of our degrees will end up with a set of skills compatible with UNSW's graduate capabilities and (for BE degrees) Engineers Australia's Stage 1 Competencies.

Courtesy of Alan Blair, we made a start on determining what courses provided what skills in the recent pre-req checking exercise.

The Faculty is now keen on documenting this "skills flow" for entire degree programs, to assist with future accreditations and also to meet imminent UNSW requirements. They have recently embarked on a project to collect learning outcomes, assessment details and their relationships to graduate attributes for all courses in the Faculty. They have started with the Software Engineering program, and I would like to piggy-back onto this exercise to collect a detailed set of assumed knowledge (inputs) and learning outcomes (outputs) for all of our courses.

The goal is to embed this information into the AIMS database so that it can be used for a variety of tasks, including visualisations of "program flows", pre-req sanity checks, and accreditation.

**12.2** JAS noted that the Faculty had started to conduct a curriculum mapping exercise in order to produce a database of information that could be used (among other things) to assist with accreditation, and similar to one that had been developed at UQ.

They have started with the Software Engineering degree and will be asking LICs of courses used in that degree to clarify Learning Outcomes and their relation to UNSW Graduate Capabilities in the near future (if this is not already clear from the Course Outline).

JAS will also be collecting information about assumed knowledge for each course within CSE. Hopefully this can be largely gleaned from Course Outlines, but he may contact people asking for clarification.

The goal is to build a resource that can be used e.g. to check pre-reqs, to help with accreditation, etc.

## **13 ANY OTHER BUSINESS**

Maurice Pagnucco noted changes to the governance of academic matters in the Faculty

- David Clements stepping "down" from Assoc Dean (Ed) to Deputy Dean (Ed)
- Ray Eaton to take over as Associate Dean (Education)
- Iain Skinner to remain as Presiding Member and to monitor Teaching Quality

Maurice Pagnucco noted that UNSW was offering funding for Teaching and Learning projects and that CSE should submit some projects. Interested staff should contact him for details.

Maurice Pagnucco also noted potential changes to first-year service teaching:

- possibly dropping on COMP1911 and COMP1921
- converting COMP1400 into a JavaScript/WebApps course open to whole uni
- maintaining current (newly-revised) ENGG1811 structure

These changes need to be discussed with SISTM, FBE, EET and Mech, who use these courses in their programs.

Discussion on the above identified potential problems/advantages ...

- SISTM want Java, Java, and Java (could they teach it themselves?)
- EET/Mech need low-level programming in C ... how to get this? new 1st year?
- FBE ... Malcolm suggested that they might be happy with proposed COMP1400

Malcolm Ryan asked about the Advanced Masters discussed at the previous TC (which would draw on a new set of courses to be developed by academics in their own research areas). Clearly this involves us teaching more courses, albeit in areas that are "close to our hearts".

Maurice Pagnucco suggested that it might be achieved by

- everyone teaching 1.25 courses per semester
- with the 0.25 coming from making a contribution to first-year courses
- first-year courses could use team-teaching with 4 staff per course (2 taking 1/2 lectures each, other 2 assisting with assignment preparation, etc.)
- would need 1st year courses to use a well-defined standard set of material