

# INFORMATICS FACULTY PLAN (2005–2006)

## FINAL PROGRESS REPORT

### SUMMARY OF PROGRESS AGAINST OBJECTIVES

#### PREAMBLE

As advised in the First Progress Report, the University has changed their Faculty Planning and Resource template. The Plan, as submitted, complies with this changed template.

For the purposes of clarity and as presented in the first Progress Report summary, this summary report follows the changed reporting template by summarising progress within the two core sections and the four sub-sections of the new template as identified below:

#### Planning and Review of Core Activities

- Learning and Teaching/ Internationalisation
- Research/ Internationalisation
- Community Engagement
- Student Equity

#### Resources and Management

- Student Profile
- Staff Management
- Resource Implications (*not reported against*)
- Projected Income & Expenditure (*not reported against*)

This final Progress Report builds on that of the first and second, hence the achievements identified in these Reports, where not changed, have been retained.

As mentioned in the first Progress Report, the objectives and strategies for this current Plan were devised at the full Faculty Planning Conference held in January 2005 and adjusted at a smaller Planning Meeting in December 2005. As such, new sub-sections which appeared in the revised template were not considered within the structure of that the Planning Conference and the subsequent Plan. However, where the Faculty has progressed activities against these sub-sections in the normal course of operations, this progress has been reported.

Please note also that some new objectives have been formulated (identified in body of summary) and some objectives may have been adjusted in response to changes in environment and priorities.

#### OVERVIEW

FEC working parties, Quality 101 and Tertiary Literacies Integration, have achieved significant progress. The Quality 101 working party has developed and submitted several applications for funding to drive initiatives to implement changes to reduce failure rates in subjects of concern. Much work has gone into identifying initiatives and developing learning resources to effect positive outcomes with success noted in subjects targeted by the working party.

In part building on the success of Quality 101's initiatives and resources developed in the Maths area, Dr Porter was made Chair of a UEC working party looking at development of Maths skills across

campus, and the Vice-Chancellor (Academic) subsequently asked Dr Porter to prepare a University-wide submission for the development of Maths and Statistics skills.

The Tertiary Literacies Integration working party similarly has developed resources which have effectively integrated identified literacies into a number of subjects. Some areas successfully targeted have been plagiarism-avoidance, report-writing, intensive workshops for International students, and developing marking routines and guides for assessors.

Work has been progressing on reviewing course and subject offerings with a new flexible final year for the Master of Engineering Studies available from 2007 in response to market demand.

The BIST review is also progressing with the Review Committee to meet in early December.

Internationally, offshore partner consolidation efforts are continuing and Faculty Alumni have been activated in Malaysia and Singapore. The International Manager, Bill Damachis, has relocated to the newly-formed Transnational Programs Unit and a new recruit is scheduled to arrive in late November.

On the research front, the University-wide Research Information System has been developed and rolled out. All staff have attended a workshop and will now be self-submitting their publications to this system. Publications increased by 14% over the previous year and three ARC Discovery grants were successful totalling \$1.7m.

A new research strength was secured, Centre for Statistical and Survey Methodology, and a statistical collaboration agreement was signed with the New Zealand Ministry of Health.

On the student front, the Enrichment Program continued generating much interest with nearly 1100 student attendances across the 12 weeks of the Saturday Computing School, and the Saturday Maths School averaging 35 students per session.

The Early Entry program, due to a new initiative, registered its highest number of applicants since the tracking statistics commenced from a wider drawing area. First preferences are currently 18% above the same time last year.

## HIGHLIGHTS

- 18% increase in UAC first preferences (domestic students) over same time last year
- 14% increase in publications over previous year, with an apparent increase in quality as well
- Award of Carrick Institute pilot project for ICT discipline (one of three awarded nationally) for the Faculty to lead
- SECTE student awarded Best Presentation Prize in the theme Frontier Technologies and Scientific Discoveries at the UoW Annual Research Student Conference
- SECTE Honours graduate recipient of the Engineers Australia Graduate Electrical Power Engineer of the Year Award for 2006
- SECTE Head of School appointed member of the governing board of Asia Pacific Neural Network Assembly and also appointed to the editorial board of the International Journal of Computational Intelligence and Applications
- A SITACS staff member of the first Community Web Site development team
- SMAS ABS-funded Professor of Statistics commenced with the Faculty
- Two out of five nationally available ABS cadetships awarded to SMAS

- SMAS Head of School appointed to the Board of Studies Curriculum Review panel to review Maths for the HSC
- Maths in Industry Study Group (MISG) to be run at Wollongong for next three years commencing 2007
- Major statistical collaboration established between Centre for Statistical and Survey Methodology and the Public Health Intelligence Unit in the NZ Ministry of Health

## SECTION 1: CORE ACTIVITIES

### Teaching and Learning / Internationalisation

**Objective:** *Provide an effective educational experience for all our students that will produce quality graduates.*

- **QUALITY101** project working to developed a program of changes with the activities in Maths as an example
- Teaching and Learning Fund application submitted to release SMAS academic to initiate followup evaluations of subject improvements and to identify "second steps" successful
- Improvements effected in three subjects so far:
  - STAT131 – change of assessment (Autumn) and will adopt in Spring the lab tests developed during Autumn for CSCI114.
  - CSCI114 – continued lab development and assessment modifications
  - MATH141 – developed and trialled new video learning resources during Autumn Session which were also adopted for MATH161 in Spring.
- Followup evaluations of five subjects (STAT131, MATH141, CSCI114, CSCI124 and CSCI103) conducted with results as follows:
  - Failure rate for CSCI114 fell from 28–35% to 22% for the Autumn session
  - STAT131 changes led to a doubling of HD and D grades but only a slight drop in failure rate
  - MATH141 students, who used resources developed as identified above, improved their grades from Test 1 to Test 2, and maintained the increase in the Mid-term test (approx 12% improvement); Resources now being developed for rest of MATH141 and hence for major assessment final exam
  - Review held with lecturers of CSCI103, CSCI114 and CSCI124 to further explore transitions between subjects; data is currently being collected to examine this aspect and the unsuccessful ESDF application on increasing practice through games will be further developed for resubmission in December.
- Three ESDF applications completed and lodged: two unsuccessful, one successful (*Summertime Math*) with DVD resources currently under development for trial in MATH151 during Summer Session.
- Carrick Fellowship application submitted but unsuccessful.
- Expression of Interest for CASR (DEST Collaboration and Structural Reform) funding submitted to complete larger scale project, *Return to Mathematics*
- Working with Science Faculty to develop resources for Maths in Science which, in part, prompted the University-wide approach to the Maths Skills Development
- In part as a result of above initiatives, Dr A Porter asked to chair an UEC working party to look at the development of Maths Skills across campus and has met with DVC (Academic) which resulted in a request for Dr Porter to prepare a University-wide submission for the development of Maths and Statistics skills which is currently under development.

- Under Faculty Service Agreement with CEDIR:
  - newsletter developed
  - video clips of Science and Engineering problems, student experience and Maths of 21st Century developed
- FEC formed **Tertiary Literacies Integration Working Party (TLIWP)**, to investigate and report on language issues across the Faculty; now also developed a more sophisticated 'map' of various generic and professional skills required and actively developed across the various programs in the Faculty, to facilitate better needs assessment and strategic planning of integration. This working party will meet mid November to plan for 2007 integration with the `most urgent concerns receiving priority attention, eg INFO202 u/g project subjects involving various reports and literature reviews.
  - Current integrated academic literacy teaching in:
    - ECTE250/INFO202: continuing collaborative teaching with Learning Development
    - ECTE955: series of tutorials/workshops on lab report writing, literature reviews, avoiding plagiarism, and effective oral presentation
  - Generic academic literacy resource website established to consolidate and share existing resources; data to be uploaded to site for further discussion and development through December with a view to integration in 2007.
  - Integrated various strategies to support academic literacy development within ECTE171, including early assessment of writing, lecture and follow-up seminars, and still developing marking routines and guide for assessors
  - Actively reviewing language development needs of ECTE250/INFO202 and reporting to TLIWP
  - Separated international PG IACT201/MS9201/ITCS908 students and formed into single tutorial group receiving two intensive workshops on written assignment tasks which delivered significantly positive results
  - Report-writing workshop and plagiarism-avoidance workshop integrated into ECTE957
- Other initiatives:
  - SITACS invited 71 students who failed two or more subjects in Autumn session to a Student Forum where attending students were offered mentoring assistance but uptake was poor; however, attending students were offered the opportunity of an appointment with the Head of School
  - SITACS' comparative data of past three sessions indicated a drop from 6.15% to 5.4% of students failing two or more subjects
  - Following data collection at end of Spring 2006, SITACS students will be invited to a forum in Autumn 2007.

**Objective:** *Review course and subject offerings in line with the University Quality Review Framework with a clear focus on key national and (where appropriate) international industry and social sector needs.*

- SITACS first year subjects now have structured labs.
- Internal audit conducted of SITACS subject outlines with adjustments made to streamline assessment procedures
- SECTE postgraduate review now complete resulting in a new degree structure for the MEngStud to be introduced in 2007, ie offering three more focused and industry-

- relevant majors and two duration options (48-credit single major and 72-credit double major) providing more flexibility, and approved. This KPI now achieved for SECTE.
- New international marketing brochures under current development for above new course structure, including a Chinese language version.
  - SECTE and SITACS holding discussions on software engineering
  - Benchmarking being undertaken of SECTE Masters courses against major Australian competitor offerings relative to duration, subject offerings, industry input and course names
  - SECTE students now provided with MATH010 *Enabling Maths* realising good results for Autumn session
  - Additional tutorials, including PASS tutorials, used in MATH161 for Enabling Students (from MATH010) in Spring Session with results not yet known. SMAS committed to continuing to offer Enabling Maths in 2007.
  - SMAS proposal formulated for immediate changes to MMathFin (first year) for implementation in 2007 which were not fast-tracked. Additional work is required for the proposal to be submitted again in 2007.
  - SMAS commenced process of degree accreditation with FINSIA, ASIC and the Actuarial Institute, to be continued into 2008.
  - Discussions re connections between MATH121 and CSCI103 in a *Critical Cooperation Project* in process
  - Access Grid Room, funded by Australian Mathematics Society Institute, now operational with joint Honours subject being run with two other Universities
  - FEC developed schedule of course reviews by School
  - BIST-review process progressing with Working Party having met several times, and the Committee scheduled to meet in December.
  - Session reviews of subject delivery process completed Autumn 2006 with results entered into database for above review.

**Objective:** *Develop Dean's Scholars program across Faculty courses*

- Proposal for Dean's Scholars program developed, approved by the Faculty Executive Committee and Faculty Committee is currently scheduled for a 2007 implementation.

**Objective:** *Consolidate all offshore partnerships*

- Developing strategic government and industry linkages and contacts as follows:
  - formal relationship currently being developed with the Singaporean Infocomm authority as well as the Singapore Computer Society
  - key industry players identified and dialogue commenced in China, Malaysia and Hong Kong
- Faculty Alumni successfully activated in Malaysia and Singapore with major functions being held in both locations during February
- Hong Kong Alumni activation in progress with event rescheduled to coordinate with 2007 ABRS Graduation ceremony.

**Objective:** *Review teaching allocation*

- SITACS formed committee to review teaching allocation and subject delivery which did not reach a conclusion; new School structure in 2007 will inform the progress of this objective
- Many SMAS subjects now team-taught, including by an external expert in STAT304.

**Objective:** *Further enhancing teaching quality (new objective and only for FEC)*

- Five Quality Teaching and Learning grant applications submitted – two successful
- Two ESDF grant applications submitted – both unsuccessful
- Two Carrick Institute competitive grants in priority area categories applications submitted – both unsuccessful, but additional grant received under the Discipline-based Initiative for the Faculty to lead a collaborative team from QUT, Monash and UTS.

## Research / Internationalisation

**Objective:** *SITACS to attract high calibre Postgraduate students and improve their research productivity, and performance and completion rates*

- SITACS' new HDR Co-ordinator liaised with the Director of the Research Student Centre and determined that the CDU-offered course entitled *Supervising HDR Students – Policies and Procedures* appropriate for all staff supervising HRD students.

**Objective:** *Ensure that 85% of Academic staff are research active*

- RIS system to be deployed University wide reports on publications; SITACS current reviewing baseline data to determine fields to be constructed in SIMS (SITACS Information Management System) database
- SITACS runs School Research Colloquium every week including with occasional guest speakers from other institutions.

**Objective:** *Increase dollar-level of competitive funding from ARC, CRC, other funding agencies and industry sources*

- Faculty review process conducted for 2007 ARC Discovery Grants
- 25 ARC Discovery grant applications submitted, with three being successful totalling \$1.7m
- Successful SMAS staff mentoring program instituted and development of joint applications with other staff members also instituted
- All new SMAS staff applied for University Small Grants resulting in more applications lodged in 2006 than in previous years with all receiving review and discussion prior to submission
- Workshop for unsuccessful ARC Linkage applications held.

**Objective:** *SMAS to have a strong international reputation for research*

- Four new PhD students enrolled
- Active group in Nanotechnology with PostDocs and visitors established and growing
- Statistics research students and visitors also growing
- Two new professors in Statistics acquired
- Collaborations in Statistics with Manchester, Southampton and ANU established and an application for a CASR grant pending.

**Objective:** *Review SMAS research structure*

- Maths in Industry Group (MISG) planning progressing with:
  - Two SMAS staff appointed as directors

- Funding of \$10,000 secured for 2007
- Web site now live
- Partners offering problems and support now identified
- Problems scoped.
- Access Grid room now operational (funded by AMSI)

**Objective:** *Produce a substantial amount of research of high quality and impact, thereby positioning the Faculty to thrive in the new Research Quality Framework being developed by the Federal Government*

- FIRDS grant awarded
- Publications increased by 14% over previous year.

**Objective:** *Establish and/or improve relationship with six key domestic organisations*

- Meetings held in TITR to identify potential projects
- Statistical collaboration agreement signed with New Zealand Ministry of Health.

**Objective:** *Develop another long-term research strength for the Faculty*

- Centre for Statistical and Survey Methodology designated as a new Research Strength.

**Objective:** *Develop an effective Faculty-wide research management and funding plan in collaboration with URC*

- Research groups and funding processes finalised.

**Objective:** *Strengthen incentives and resources for educational growth and development*

- Subscription to TenderSearch bulletin (covering Australia, New Zealand, Singapore and Hong Kong) for information on available tenders and research grants acquired with relevant opportunities circulated to staff members.

## Community Engagement

**Objective:** *Quarterly Research Seminars and/or mini-workshops for local industry.*

- Ad-hoc workshops and presentations organised by various research groups and strengths; objective to be slated to Associate Dean (Research) to further progress.

**Objective:** *Provide the ICT leadership focus in terms of the development of the Wollongong Innovation Campus (WIC).*

- Discussions with *Imprezzeo* progressing with significant venture capital interest
- One provisional patent lodged around *Imprezzeo*
- Another two provisional patents currently being managed
- Partner audit to be undertaken in the future.

**Objective:** *Contribute to a sustainable economic and environmental management*

- *SECTE, SMAS, TITR:*
  - Remote individual computer wake-up applied on an individual unit basis for the server(s) systems and applicable only to computers that have the suitable configuration facility thereby effecting power savings

- All new computers configured with stand-by and hibernate modes, including "stay off" after power fail.
- *SITACS*:
  - All new SITACS labs (and other computers) are being set so they do not turn on automatically, again effecting power savings
  - Staff computer monitors turn off after 20mins and hard drives after two hours of inactivity.

## Student Equity

*Objective: Improve access, participation, retention and completion rates among student equity groups at the University of Wollongong*

- SECTE:
  - created first-year scholarships for females in non-traditional areas to be advertised for students commencing in 2007
  - SECTE held lunch for female students, HDR students through to first-year graduates and staff to encourage networking and demonstrate support for female students
  - SECTE joined with Faculty of Engineering in developing a *Guides in Engineering and Science Saturday (GESS)* event which resulted in 35 Guides and their leaders from Illawarra and Southern Sydney taking part in the two events held so far
  - SECTE female staff established a new 'Females in Engineering' network
- Enrichment Program and Saturday Computing School seeing good female participation rates; attendees across the 12 weeks of the program totalled 1099, averaging 92 per session.
- Female intake into Maths-related degrees increased to 36%
- Half of year 12 students attending Maths information evening female.

## SECTION 2: RESOURCES AND MANAGEMENT

### Student Profile

*Objective: Attract and retain undergraduate and postgraduate students, both domestically and internationally.*

- SECTE:
  - new dynamic School website framework and server development complete and requiring Academic input.
  - established an informal marketing sub-committee
  - in conjunction with UniAdvice, academic visit to High School organised
  - advertisement for all courses placed in international magazine and on new website, and for MEngStud in *Engineers Australia Course Publication*
  - Two successful Guides in Engineering and Science events held, partially funded by Community Grant.
- Faculty marketing activities currently focussed on attending identified Careers Markets and on supporting and growing the Enrichment Program
- New booklet developed and printed *Focus on Informatics* for career market distribution, Discovery Day database mailout, and to mail out to Schools

- The Enrichment Program now has a structure and process including online registrations through a dedicated web site, data collation and reporting, and dedicated administrative resources
- Saturday Computing School now finished and Saturday Maths School commencing for the first time
- Faculty supported the University-wide Early Entry advertising ½ page for four weeks in St George/Sutherland Shire Leader.
- Additional marketing initiative launched:
  - twice direct mailing students with an Informatics course as a preference (1 to 4) extending the Early Entry Program registration timeframe to one week prior to the commencement of the HSC
  - above resulted in achieving the highest number of Early Entry registrations since the commencement of data tracking in 2003
- October HSC preferences 18% higher than same time last year.

**Objective:** *Diversify International onshore students by country, levels and programs.*

- Due to 30% decrease in recruitment from the China market, objectives refocused to:
  - increase Faculty promotional/marketing activities with major agents
  - increase Faculty profile with twinning partners to ramp up articulation from Tainjin, Zhengzhou and Wuhan
  - Dean and Senior staff visiting partners in China during October with followup visits to occur in November and December
- Significant consolidation achieved with Chu Hai College in China resulting in more nuanced articulation arrangements being developed
- Ramping up Chu Hai interaction with less focus being placed on KHUST given their relative non-success in recruitment terms; recent visit by SITACS' Head ensured greater articulation opportunities
- Developing action plan for further collaboration with Chu Hai College
- Will disengage from KHUST and work to identify a partner for both onshore and offshore recruitment
- Discussions and meetings held with Singapore Polytechnic to gain market intelligence on Singaporean student course preferences as well as subject-development advice for new BComputer Science major, *Multimedia and Games Development*
- Research seminars scheduled to be delivered at Chulalongkorn University in Thailand; Prof P Ogunbona on editorial board of Chulalongkorn Computer Science journals
- Seminars presented at ICI in Jakarta (Indonesia) receiving press coverage and local industry and government exposure; preliminary discussions with University Binus Nusantara resulting in a senior delegation scheduled to visit in July
- Key academic staff with strong cross-cultural/student interaction skills identified and implemented for soft marketing campaigns internationally
- Newly formed Transnational Program Unit has seen Faculty International Manager relocate to head this Unit, and recruitment process recently secured a replacement to commence employment towards the end of November.

**Objective:** *Monitor and develop new staff.*

- SMAS have achieved a balanced staff workload through Workload agreements, new staff having at least one class at first year/service level and at least one class at a

higher level, new staff applying for a small ARC and/or Early Career Research Grant, and each new staff member being a joint supervisor of at least one higher degree student

- All new SMAS staff achieving good progress with ITT, have attended conferences and been involved in seminar organisation for the School
- Discussions held with senior staff to identify those seeking leadership roles, eg through MISC, SEC and research groups.

**Objective:** *Improve representation of academic women*

- *Women in Engineering* program reinvigorated in SECTE
- Female academic staff actively involved in high profile committee representative roles
- Dr Katina Michael appointed co-ordinator of R&D initiative on *IP Location Aware Services* (collaborative effort between *Andrew Corporation* and the Faculties of Informatics and Commerce).

**Objective:** *Create a more inclusive and mentoring Faculty culture for equity group members*

- Faculty achieved 99% completion rate for EOline (only Faculty to do so). This strategy is now complete
- University now established Student Equity and Diversity Liaison Officer positions with Informatics sharing one Officer with the Engineering Faculty
- One subject currently being taught across the three Schools
- SECTE new staff assigned to research group with leader of group and Head of School acting as mentors
- SITACS provides mentoring by Head of School for all new staff within three months of appointment
- SITACS Head of School works with staff to complete probations process with assistance given to refining applications
- SMAS reviewed mentoring arrangements at the commencement of 2006
- All SMAS probation and promotion applications discussed with Head of School and submitted on time with submitted application successful
- Over 50% of SMAS subjects team-taught
- INFO411 team-taught with Faculty's other two Schools
- Entire Faculty attended *Chinese Culture and Language Workshop*.

**Objective:** *Ensure work practices are non-discriminatory*

- Workloads working party formed to review and assess workload allocation and consistency across the Faculty's schools to be considered at both the Faculty and the EEO Office level
- New IS/IT School currently being formed with an external Change Manager sought to oversee and facilitate the process, and to address the concerns of IS staff related to the perception of a larger teaching load
- A commitment has been undertaken to continue and extend a number of current contract staff for Autumn session 2007.

**Objective:** *Multi-skilling Faculty's Administrative staff*

- Regular combined Faculty Admin Staff meetings held on a quarterly basis to share information and strategies

- Staff member supported in secondment to another area with existing staff redeployed to now-vacant position undertaking new roles and development
- Faculty and SITACS Admin staff sharing responsibility for support the Enrichment Program process.

**Objective:** *Implement the OH&S Strategic Plan for Informatics*

- The University continues to encounter problems with the Cognos reporting tool, now not slated for implementation until some time in 2007
- WAC currently investigating acquiring limited data for benchmarking purposes from the SafetyNet reporting tool
- Audit inspection of Building 6 complete; continuing with audit inspections of Labs, teaching spaces and ultimately office space (*see also below*).

**Objective:** *Promote a safe and healthy work and student environment for all staff, students and visitors*

- SECTE established OH&S sub-committee which:
  - has met and has scheduled meetings bi-monthly
  - Drafted items for OH&S Checklist Addendum: *In-house Designed Student Projects and Equipment* including:
    - procedures
    - induction session
    - induction video
- workplace inspections in Building 6 complete, as per OH&S Strategic Plan, with results currently under consideration (*see also above objective*).

Solveig Dewhurst  
2 November 2006