



THE UNIVERSITY OF  
WESTERN AUSTRALIA

# Faculty of Engineering, Computing and Mathematics

Operational Priorities Plan

2004 – 2009

## Key:

D – Dean

FM – Faculty Manager

FMPRM – Faculty Marketing and Public Relations Manager

FSAO – Faculty Senior Administrative Officer

AD(A) – Associate Dean (Academic)

AD(I) – Associate Dean (International)

AD(R) – Associate Dean (Research)

SD – Sub-Dean

HoS – Heads of School

SM – School Managers

FMAC – Faculty Management Advisory Committee

FTLC – Faculty Teaching and Learning Committee

FRC – Faculty Research Committee

FB – Faculty Board

UG – Undergraduate

PG – Postgraduate

FECM – Faculty of Engineering, Computing and Mathematics

FIAB – Faculty Industry Advisory Board

EF – Engineering Foundation

EGA – Engineering Graduates' Association

UWAGA – UWA Graduates' Association

# Aggregated Faculty Data at June 2004

Indicator Ref.	Item	2000		2001		2002		2003		2004	
-	HDR Student :Staff Ratio (UWA / Faculty) <sup>i</sup>	1.65	1.38	1.65	1.43	1.62	1.37	1.62	1.39	n/a	n/a
-	UG Student : Staff Ratio (UWA / Faculty) <sup>ii</sup>	13.50	13.68	13.67	16.51	14.95	17.43	14.99	15.91	n/a	n/a
C2.2	International UG students/total UG load <sup>iii</sup>	11.44%		13.15%		15.04%		16.00%		17.45% <sup>*</sup>	
-	International HDR student/total HDR load <sup>iv</sup>	16.51%		23.00%		27.10%		27.22%		24.19% <sup>*</sup>	
C1.1	International PG student / total PG load <sup>v</sup>	15.43%		20.82%		26.39%		26.56%		23.70% <sup>~</sup>	
A2.1	First year female gender fraction BE <sup>vi</sup>	21.07%		20.40%		20.33%		16.79%		17% <sup>#</sup>	
A2.1	First year female gender fraction BCM <sup>vi</sup>	30.34%		28.33%		23.46%		13.88%		11.5% <sup>#</sup>	
A2.1	First year female gender fraction BCompSc <sup>vi</sup>	<i>Not offered</i>		15.62%		10.67%		8.96%		13% <sup>#</sup>	
A2.2	PG female gender fraction					Data to be obtained					
A2.4	Academic FTE (T&R) female staff fraction <sup>vii</sup>	11.47%		14.29%		15.57%		15.27%		n/a	
C4.1	Outgoing exchange student number <sup>viii</sup>	19		27		27		23		13 (Sem 1)	
C4.2	Number of students undertaking international vacation work experience.					Data to be obtained					
B3.1	Total Research Funds per Academic FTE (≥ Level B Lect.) (UWA/Faculty) <sup>ix</sup>	\$84084	\$71935	\$85649	\$86187	\$103552	\$83033	n/a	n/a	n/a	n/a
	<b>Item</b>	<b>2000</b>		<b>2001</b>		<b>2002</b>		<b>2003</b>		<b>2004</b>	

<sup>\*</sup> UNISTATS Preliminary 2004 data

<sup>~</sup> EIS Preliminary 2004 data

<sup>#</sup> Student Records System Preliminary 2004 data

B2.1	National Competitive Grant Funds per Academic FTE ( $\geq$ Level B Lect.) (UWA/Faculty) <sup>x</sup>	\$48432	\$38469	\$57203	\$51639	\$58671	\$34833	n/a	n/a
B2.2	Total ARC SPIRT/Linkage Grant Funds per Academic FTE ( $\geq$ Level B Lect.) <sup>xiv</sup>	\$2886		\$7416		\$15229		\$3662	\$13670 <sup>^</sup>
B1.3	Weighted Publications per Academic FTE ( $\geq$ Level B Lect.) <sup>xv</sup>	2.02		2.29		2.03		n/a	-
B4.1	HDR Student Load (EFTSU) <sup>xi</sup>			178.84		183.80		183.40	n/a
B4.3	HDR Average Time to Completion	Data to be obtained							
B4.4	HDR Separations	Data to be obtained							
	Income from PG coursework programmes <sup>xii</sup>	n/a		\$23k		\$65k		\$266k	\$152k (est.)

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<sup>^</sup> 2003 Staff data assumed for 2004

## A. Teaching and Learning

Priority/Objectives	Targets/Indicators	Strategies	Responsibility	Date	
<b>A1. Quality</b>	<b>A1.1</b> Increased student satisfaction	Monitor student satisfaction in all schools	HoS, FTLC	Continuous	
	<b>A1.2</b> Increased quality of outcomes	Determine where T+L quality is being compromised by lack of funding – target funding	HoS, AD(A), D, FMAC	Continuous	
	<b>A1.3</b> Increased efficiency of delivery/ learning		HoS, D	Continuous	
	<b>A1.4</b> Increased efficiency in all processes	Utilise Industry Advisory Panels in unit/ course development	HoS, D	Continuous	
	<b>A1.5</b> Decrease multiple data-entry	Support development of alternative delivery mechanisms	International benchmarking	HoS, AD(A), FTLC	Continuous
			Development of measures of educational outcomes	D, HoS	2006
			Communication between databases: UWA IT Strategy	D, FIAB, HoS	2006
			FM, D, FSAO, SM	Continuous	
<b>A2. Diversity</b>	<b>A2.1</b> Increase UG female gender fraction to 25% in all courses	Review Faculty marketing strategies	D, FMPRM	End 2004	
	<b>A2.2</b> Increase PG female gender fraction to 25%.	Develop new strategies/programmes to attract women students	D, FMPRM, HoS	Mid 2005	
		Re-invigorate the WISE programme	FMPRM, Student Services	Mid 2005	
	<b>A2.3</b> Increase flexibility of entry to BE course	Modify BE entry requirements	FTLC, FB	2006 entry, review early 2006	
		Develop strategies/programmes to attract/support female PG students	AD(R ), RC	End 2005	

	<b>A2.4</b> Increase academic female staff gender fraction to 20%	Promote the appointment of women academic role models	D, HoS	Continuous
		Actively attract applications from women	D, HoS, Office of Equity and Diversity	Continuous
		Develop or reinforce support programmes for women academics	D, HoS, Office of Equity and Diversity	End 2005
<b>A3.</b> Collaboration	<b>A3.1</b> Reduce duplication in teaching	Monitor proposals for new unit and courses	D, HoS, FB	Continuous
		Promote rationalisation where overlap is detected	D, HoS	Continuous
		Review Faculty budget model to provide incentives for collaboration	D, FM	End 2004
		Propose change to Faculty Funding Model to provide incentives for cross-faculty collaboration	D	Continuous
<b>A4.</b> Outcomes Based Education (OBE)	<b>A4.1</b> Develop meaningful definition and implementation of OBE for FECM courses	Develop definition of OBE relevant to FECM	AD(A), FTLC	End 2004
		Implement OBE in one unit within each School	AD(A), FTLC	2005
		Test OBE on BE thesis assessment	AD(A), FTLC	2004
		Extend OBE to all units	AD(A), FTLC, FB	2007
<b>A5.</b> Coursework masters/ doctoral programmes (CMDP)	<b>A5.1</b> Increased industry interaction/ collaboration	Formulate policies and procedures to assist in the development of strategically focused CMDP	FM, FTLC	2005
	<b>A5.2</b> Increase income from CMDP by \$200,000 p.a.	Explore idea of Graduate School of ECM - Generate discussion paper	AD(A), FTLC	2005

## B. Research, Research Training and Commercialisation

Priority/Objectives	Targets/Indicators	Strategies	Responsibility	Date
<b>B1.</b> Improve research outcomes	<b>B1.1</b> Enhanced opportunities and funding	Appoint Associate Dean for Research – AD(R )	D	End 2004
	<b>B1.2</b> Increased collaboration	Establish Faculty Research Committee (FRC) to replace Higher Degree Committee	D, AD(R )	End 2004
	<b>B1.3</b> Increase publication rate by 10% per annum.	Review size and allocation of Faculty Strategic Fund	D, FM, FMAC	End 2004
	<b>B1.4</b> Increased commercialisation of research outcomes as evidenced by number of patents, Intellectual Property licenses and spin off companies.	Maintain start-up grants for new academic staff	D, HoS	Continuous
	<b>B1.5</b> 1 spin-off company/ 2 years	Review FFM to provide incentives for research outcomes	D, FM, FMAC	End 2004
<b>B2.</b> Improve performance in national competitive grant programmes.	<b>B2.1</b> Increase income from national competitive grants (Discovery, Linkage, NHMRC to at least \$50,000 per annum per Academic FTE (≥ Level B Lecturer).	Develop initiatives to improve internal communication and collaboration within the Faculty, across Faculties and across institutions	D, HoS, AD(R ), FRC, FMPRM	Continuous
		Develop initiatives to expand opportunities for industry supported research for all staff	D, AD(R ), HoS, EF, EGA	2004/2005 – continuous
	<b>B2.2</b> Increase ARC Linkage grant income to at least \$15,000 per Academic FTE (≥ Level B Lecturer).	Develop strategies to increase conversion rate from CEED projects to PhD projects.	D, HoS, FMAC, EF, CEED Office	2005
		Lead development of “Technology Precinct” surrounding Motorola building	PVCRI, D, HoS	2015

<b>B3.</b> Increase overall research income.	<b>B3.1</b> 'Increase Research Income \$ per Academic FTE ( $\geq$ Level B Lecturer) to at least \$100,000 per annum.'	Develop strategies to increase number and success rate of research grant applications	AD(R ), FRC, HoS	2005
		Create and exploit opportunities for involvement in research joint ventures, Centres of Excellence, Cooperative Research Centres and other collaborative activities	D, HoS, AD(R )	Continuous
		Increase awareness of commercialisation opportunities, processes and incentives	AD(R ), FRC, Office of Industry and innovation	Continuous
		Develop commercialisation strategies	AD(R), FRC, Office of Industry and innovation	2005
<b>B4.</b> Improve higher degree by research performance.	<b>B4.1</b> Increase number of HDR students by 50% <b>B4.2</b> Increase number of full scholarships by 50% <b>B4.3</b> Decrease average time to completion. <b>B4.4</b> Reduce separations.	Develop and implement strategies to increase HDR completion rate (reduce separations)	AD(R ), FRC, HoS	2005
		Seek bequests for creation of HDR scholarships	D, FM, Office of Development	Continuous
		Establish alumni programme for creation of HDR scholarships	D, FM, Office of Development, EGA	2005
		Establish programme to increase opportunities and rate of application for Linkage grants	AD(R ), D, EF	2005
		Develop culture of routine grant budget allocation for PhD scholarships	AR(R ), FRC	Continuous
		Review mode of allocation of scholarships within Faculty	D, Faculty Scholarships Committee	2004

		Create and exploit opportunities for involvement in research joint ventures, Centres of Excellence, Cooperative Research Centres and other activities that both attract students and provide opportunities for scholarships	D, HoS, AD(R )	Continuous
		Lobby for continuation of fee waiver policy for international HDR students who are given a UPA	D, AD(R ), HoS	Continuous

### C. Internationalisation

Priority/Objectives	Targets/Indicators	Strategies	Responsibility	Date
<b>C1.</b> Marketing and recruitment of postgraduate research students	<b>C1.1</b> Increase international PG enrolments to 30% of PG Load by 2006.	Strengthen links with International Centre	D, AD(I), HoS, AD(R)	Continuous
		Improved coordination in managing postgraduate enquires	AD(R), FRC, School PG Coordinators	Mid 2005
		Create database of FAQ from potential international students provided for use by School PG Coordinators	FMPRM, AD(I), School PG Coordinators	Mid 2005
		Create web page giving all scholarship information (Australian and International)	FMPRM, AD(I)	End 2004
		Review and strengthen articulation path from coursework masters to PhD – create guidelines	AD(R), AD(A), AD(I), SFAO	Mid 2005

		Strengthen and establish international research links	HoS, D	Continuous
<b>C2.</b> Marketing and recruitment of undergraduate and coursework masters/doctoral students	<b>C2.2</b> Increase International UG student numbers to 20% (overall) of Faculty UG load  <b>C2.3</b> Diversify markets to include China, India and Middle-East	Marketing plan for UG and PG coursework programmes	FMPRM, AD(I), SM	End 2004
		Active involvement in the new UWA International Foundation course	AD(I), SD	Continuous
		Exploration of new markets	AD(I), D, FMPRM	Continuous
<b>C3.</b> Improve experience of international students at UWA	<b>C3.1</b> Increased application and retention rates for fee paying and exchange students	Develop welcome packs for new students	SM, AD(I), FMPRM	End 2004
		Review and expand mentor programme for international students	AD(I), FMPRM, SD	End 2004
		Review support programmes for international students	AD(I), FMPRM, SM, SD	End 2004
		Review mechanisms for identifying need and providing assistance with English language training	AD(I), AD(R), International Centre, CELT	2005
<b>C4.</b> International experience for local UWA students	<b>C4.1</b> Increase number of UWA students engaging in exchange by 200%  <b>C4.2</b> Increase opportunities for offshore vacation employment/experience  <b>C4.3</b> New international exchange partnerships, 1/yr	Develop strategic partnerships with key universities to facilitate cross interpretation and crediting of units	D, AD(I), SFAO, HoS, FM	Continuous
		Review funding support for outgoing students	D, AD(I), FMAC, International Centre	End 2004
		Engage foreign partners to actively market exchange opportunities	AD(I), D, FMPRM	Continuous
		Assess flexibility in crediting foreign units to UWA degrees to avoid lengthening completion time	D, HoS, SD, DVC	2005

		Use international research and industry linkages to create opportunities for international vacation employment or other international experience	HoS, D	Continuous
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## D. Faculty Image and Marketing

See separate Marketing Plan (under development 2004)

## E. Organisational Culture, Human Resources and Corporate Governance

Priority/Objectives	Targets/Indicators	Strategies	Responsibility	Date
<b>E1.</b> Enhance organisational culture	<b>E1.1</b> Improved collaboration and collegiality, evidenced by, inter alia, reduction in complaints.	Develop surveys to identify and measure key aspect of organisational culture for use by HoS	D, FM, HoS	2004/5
	<b>E1.2</b> Increased participation in OSDS training and development opportunities.	Review of workload models	D, HoS	2005
		Develop Faculty level induction programme for Heads of School	D	2005
	<b>E1.3</b> Reduced absenteeism.	Develop induction programmes for academic and general staff in Schools, including dissemination of UWA policies on roles at different levels (eg. Role of the Professor)	HoS	2005
		Explore need/role for mentor programmes to enhance those already available (Leadership Development for Women, Research Mentors)	D, FM	2005

<b>E2. Define academic profile and staffing</b>		Map school profiles – develop staffing plan in each school, which may include staff with backgrounds other than traditional academic	HoS	2005
		Increase awareness of potential for industry based sabbaticals	HoS	Continuous
<b>E3. Clarify Corporate governance and planning</b>		All schools to develop strategic plans, subject to regular review	HoS	2005
		Review governance documents to reflect new definition of “Faculty” – see Faculty Strategic Plan	SFAO	End 2004
		Clarify role of Management Advisory Committee, to include regular review of strategic plan, advice to Dean on budget/financial matters, strategic funding, accommodation/minor works, HR policy, risk management	D, FM	End 2004

#### Data sources:

<sup>i</sup> UNISTATS: 'Student\_Staff-ratio-99-03.xls'

<sup>ii</sup> UNISTATS: TOTAL STUDENT ENROLMENTS BY COURSE TYPE, 1994-2003

<sup>iii</sup> UNISTATS: 'full\_year\_01-03.xls'

<sup>iv</sup> UNISTATS: 'Higher Degree by Research EFTSU and Weighted EFTSU by Faculty, as at 31 March 2003 – 2004'; and UNISTATS Table 4.2 – 'Student Load by Faculty and Department, Course Type and Funding Source' for each year.

<sup>v</sup> Ref. ii and iii above.

<sup>vi</sup> UNISTATS: 'Student Enrolments by Course, Faculty, Attendance Type and Sex' for each year.

<sup>vii</sup> EIS: UWA Staff numbers and FTE at 31 March 1991- 31 March 2003

<sup>viii</sup> International Office database

<sup>ix</sup> EIS: 'Research Income 1996-2002'

<sup>x</sup> EIS: 'Research Income 1996-2002'

<sup>xi</sup> EIS: Full-Year Higher Degree by Research EFTSU and Weighted EFTSU

<sup>xii</sup> Ian Hill: Financial Services

<sup>xiv</sup> ARC Publications in each year

<sup>xv</sup> UNISTATS: Weighted Publications per Academic FTE (Lecturer Level B and Above) 1997 - 2002