

Athena SWAN Bronze department award application

Name of university: University of Warwick

Department: School of Engineering

Date of application: November 2012

Date of university Bronze and/or Silver SWAN award: November 2010

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Departmental website address: http://www2.warwick.ac.uk/fac/sci/eng/

Athena SWAN **Bronze Department** awards recognise that in addition to university-wide policies the department is working to promote gender equality and to address challenges particular to the discipline.

Not all institutions use the term 'department' and there are many equivalent academic groupings with different names, sizes and compositions. The definition of a 'department' for SWAN purposes can be found on the Athena SWAN website. If in doubt, contact the Athena SWAN Officer well in advance to check eligibility.

It is essential that the contact person for the application is based in the department.

Sections to be included

At the end of each section state the number of words used. Click <u>here</u> for additional guidance on completing the template.

1. Letter of endorsement from the head of department: maximum 500 words

An accompanying letter of endorsement from the head of department should explain how the SWAN action plan and activities in the department contribute to the overall department strategy and academic mission. The letter is an opportunity for the head of department to confirm their support for the application and to endorse and commend any women and STEMM activities that have made a significant contribution to the achievement of the departmental mission.

Letter of endorsement

Ms S Dickinson Senior Policy Advisor Athena SWAN

Dear Ms Dickinson

I am writing to convey my strong personal support for the School of Engineering's application for an Athena SWAN Bronze award. I took over as Head of School in April 2012 following 8 months as Acting Head. The School has been through significant change and restructuring over the last 2–3 years. Whilst this has sometimes been difficult we now have a clear strategy, which includes this Athena SWAN submission. We have used the process of developing our Athena SWAN action plan as part of our assessment of what we need to do to support staff more generally.

The Athena SWAN self-assessment group has been chaired by the Deputy Head of School (Research) and supported by the Senior Administrative Officer and the Deputy Head of School (Teaching). The School's Management Committee has discussed the action plan and provided feedback. I felt it was important to integrate the Athena SWAN action plan in the School's decision making structure. Therefore, following the practice of other Warwick departments, the School of Engineering is establishing a Communications and Welfare Committee (CWC) to take forward our action plan as part of the normal business of the School. The remit of the WCC includes some broader issues raised through the strategic review consultation, many of which are relevant to our action plan. The plan has potential benefits and implications for all staff and students.

There have been several recent reports on the participation of women in engineering, including investigations by HE STEM and the Royal Academy of Engineering. As a university engineering department we have slightly above average numbers of female staff and students for the engineering disciplines that we offer. However, although the number of female academics in Engineering has increased recently, it is difficult to recruit females to academic and post-doctoral roles. I recognise the benefits of an increasingly diverse staff and student population and in the context of the School's strategy I am committed to the principles of the Athena SWAN Charter.

We have not made specific provision for female staff or students previously. Although there has been no demand from students for a different approach, the evidence available suggests that some targeted interventions may be beneficial and we will look at developing our provision. The

School has operated informally in the past and we have usually been able to accommodate the requirements of staff with family commitments and provide support and career advice. I myself share childcare responsibilities with my wife. I am therefore fully aware of the necessity to have a flexible and accommodating approach to staff with similar responsibilities. However, if we rely on informal arrangements as the School grows we may fail to communicate the available options to staff and students. I therefore recognise that we need to formalise some of our practices. This is the focus of our action plan.

Yours sincerely

Professor Nigel Stocks

Head of the School of Engineering

Nail 8

500 words

2. The self-assessment process: maximum 1000 words

Describe the self-assessment process. This should include:

- a) A description of the self assessment team: members' roles (both within the department and as part of the team) and their experiences of work-life balance.
- 1. Chair, Deputy Head of School (Research)). Member of the Senior Management Team. Joined Warwick in 2005 as Professor of Civil Engineering. Has worked in the UK University system since 1984. Married with two adult children.
- 2. Director of Undergraduate Admissions. Principal teaching fellow with both administrative and teaching duties on undergraduate and MSc programmes. Joined Warwick in 1991 and has been involved in MSc admissions (in WMG 1992–1995) and undergraduate admissions since 2004. Has a child in full-time education and parent living locally in a dementia care home.
- 3. Director of Studies. Completed his BEng and PhD at Warwick.
- 4. Assistant Professor Joined Warwick in a full-time academic post in July 2009. Establishing a new area of experimentally-based research in the School. Was on maternity leave for six months in 2012, with a gradual return to work from July 2012. Obtaining a campus nursery place was necessary to enable return to the School full-time in September 2012. Probationary period ends in December 2012.
- 5. Senior Administrative Officer senior support staff manager in the School and member of the Senior Management Team. Secretary to the Group. Has a young family. Has worked part time in senior management roles in the University and Engineering since 2006.
- 6. Associate Professor started at Warwick as a PhD student and following an appointment as teaching fellow became a lecturer in 1998. Daciana has two children and has taken maternity leave. Currently on study leave.

- 7. Principal Teaching Fellow, MSc Tunnelling and Underground Space. Joined the School in 2011. Has a young family and in a previous job he worked part-time in a construction site management role after his son was born.
- 8. Assistant Professor. Joined the School as a Senior Teaching Fellow in 2010 after a 5 year career break. Became Assistant Professor in 2012. Has a young family.
- 9. Professor, former head of Civil Engineering Group. Has an elderly relative at home.
- 10. Post-doctoral research fellow. Joined School in 2012. Has studied in UK for 8 years and now working on (and enjoying very much) a very practical research project which aims to supply a new technique for measuring the early strength of sprayed concrete to overcome the weakness of the currently used measurement methods. Partner currently working overseas.
- 11. Associate Professor in Mechanical Engineering. As a female academic, life has been challenging, juggling with career and family life. She brought up one daughter who is now in training as a Doctor.
- 12. Associate Professor. Joined the School in 2007 and completed probation in 2011. Has a young child in pre-school and no family living locally.
- 13. Deputy Head of School (Teaching). Member of the Senior Management Team. Appointed in 1980, he is married with two adult children.
- 14. Project Manager. Joined the School in 2012. Has a young family. Worked part-time between October 2010 and October 2011 following return from maternity leave in a senior administrative role within a central service function of the University.

PhD student representatives

542 words

b) an account of the self assessment process: details of the self assessment team meetings, including any consultation with staff or individuals outside of the university, and how these have fed into the submission.

The School of Engineering began to consider an application for Athena SWAN accreditation in 2010 when initial discussions were held with Professor Alison Rodger (chair of the University Athena SWAN Network) and Sandra Beaufoy, HR advisor with responsibility for Athena Swan. A first informal meeting of interested members of Engineering staff and PhD students was held in December 2010. At this point, the School was undertaking an extensive strategic review across the range of its activities (see below for further detail). Staff concerns about communication, the workload model and overall workload were raised as part of this review. It was felt that all of these points were relevant to the Athena SWAN initiative and were likely to feed into the action plan. It was therefore decided to focus on completing the review and developing the School's strategy on these points before pursuing an Athena SWAN application. The Senior Administrative Officer continued to attend meetings of the University Athena Network Group during this period.

Following the appointment of Professor Nigel Stocks as Head of School in April 2012 the School decided it was an opportune time to concentrate its efforts to work towards a bronze submission. Key personnel and other interested staff and students were invited to discuss the objectives and benefits of an Athena submission and as a result the self assessment group was established. Following informal discussions within the School and

the University, the first full meeting was held in July 2012. 16 members of staff and PhD students attended.

Further meetings of the group were held in September, October and November 2012 to analyse trends in the data, review existing processes and to formulate appropriate actions. Alongside this, key staff members were consulted for views and ideas on how improvements could be made. Feedback was discussed at Group meetings and actions decided upon, which has formed the submission and subsequent Action Plan. Smaller informal discussions took place outside of the main group meetings.

Drafts of the action plan were also discussed at the School's Management Committee in September and November 2012.

346 words

c) Plans for the future of the self assessment team, such as how often the team will continue to meet, any reporting mechanisms and in particular how the self assessment team intends to monitor implementation of the action plan.

The School's Management Committee approved a proposal to establish a Communications and Welfare Committee (CWC) for the 2012/13 academic year (Action Plan 5.2). This Committee, which includes members of the self assessment group and other staff across the School will be chaired by a female professor and will report to the Management Committee. The remit of the CWC includes monitoring and reporting on progress of the Athena SWAN action plan.

The outline remit for the Committee is:

- Communication within the School (an issue highlighted in the 2010 strategic review

 see 3(a) below)
- Staff training and development
- Monitoring the Athena SWAN action plan
- Support for the School's research staff and PhD student community
- Facilities for staff and students
- Development of the School's website including intranet
- Analysis of the University staff survey PULSE results

The WCC is based on the successful model established in other Warwick departments, including Chemistry, where it has proved a valuable means of monitoring progress with the Athena SWAN action plan, and preparing submissions for further awards, as well as addressing other issues. The School of Engineering decided that the integration of the self-assessment group in the longer term within the School's committee system was important if consideration of the action plan and related issues was to become embedded in the culture of the School.

224 words

Word count 1000 plus 112 of extra 1000 as agreed

3. A picture of the department: maximum 2000 words

a) Provide a pen-picture of the department to set the context for the application, outlining in particular any significant and relevant features.

Warwick's School of Engineering was founded in 1965 and modelled on the engineering science departments at Oxford and Cambridge. This heritage, and in particular the integrated structure of the department, has been retained to the present day. Although the top engineering departments have integrated structures it is still relatively unusual by comparison with other university engineering departments which are typically discipline-based (civil, electronic etc.) with specific disciplines often housed in separate buildings. We believe the School's structure encourages activity across the engineering disciplines and thus benefits research and teaching. The School has 60 members of academic staff, 25 members of research staff, and 60 administrative and technical support staff. The School has over 1000 undergraduates, 50 MSc students and 100 PhD students.

The Head of School, Professor Nigel Stocks, was appointed in April 2012 (Acting Head since September 2011). He is supported by Deputy Heads for Teaching (Dr Tony Price) and Research (Professor Ian Guymer) and a Senior Administrative Officer (Faye Emery) who leads the School's support functions. The School has a Management Committee and subcommittees.

Academic staff are grouped for *management purposes* into three discipline streams: Civil and Business, Mechanical and Process, and Electrical and Electronic. The School also has three cross-cutting research themes which encourage multidisciplinary activity: Biomedical Engineering, Energy, and Cities. Members of staff are assigned to one of the three discipline streams but their research activity can link to one or more research themes. At an operational level research is organised through research groups and laboratories.

The distinctive undergraduate engineering curriculum at Warwick comprises a general Engineering course leading into specialised modules. Students follow a common curriculum in their first two years and specialise in years 3 and 4. The School offers undergraduate degrees in General Engineering, Civil, Electrical and Electronic, Mechanical, and Systems; additionally, Automotive, Manufacturing and Engineering Business Management are taught jointly with WMG (formerly Warwick Manufacturing Group) and Engineering and Business Studies is delivered in partnership with the Warwick Business School (WBS). WMG delivers about 25% of the undergraduate curriculum and WBS about 9%.

The School has been through significant change since 2008, when an external appointment was made to the then position of Dean. Management structures were changed. In 2010 WMG, which was formally part of the School, became a separate department. At this time the University was expecting the School to make significant improvements to research performance, particularly research income. The University funded a £2.5m refurbishment to improve research and teaching facilities in 2010.

Against this backdrop, the School undertook a strategic review in 2010 involving extensive staff consultation. Four working groups were set up involving staff across the School. The

review recommendations were adopted as the basis of the School's strategy in Autumn 2010. Some recommendations were implemented quickly, with the new discipline streams being put in place and leaders appointed by Easter 2011. The review highlighted concerns within the School, particularly communication and the academic workload model. Working groups including female staff developed a new workload model (see 6(a)(ii)) and overhauled the website, a key priority for the School.

Possibly the most important recommendations of the strategic review concerned the number of academic staff within the School. The School bid to the University for additional posts, having concluded, after considering evidence on competitors and research performance, that it could not achieve the expected level of research performance alongside its commitment to a large undergraduate programme without increasing staffing. Throughout the review process the lack of protected quality time for research within the standard working day was raised as an issue. This is a point of particular relevance to staff with young families or other caring responsibilities, both male and female. Alongside this, the School has also set out to increase post-doctoral staff numbers and PhD student numbers, as part of the drive to improve research performance. The University has been very supportive of the School and the strategic review process. Over the last two years, 10 new academic posts have been approved. Not all of these vacancies have been filled yet.

The School has seen significant improvement to research performance with some strong new appointments alongside success for existing staff. The School has also worked hard to raise its profile within the University and we now have collaborative ventures with other departments and at a University level. Engineering staff are now leading University level initiatives in Green Chemistry, Energy and Smart Cities (including the New York University Centre for Urban Science and Progress (NYU CUSP) project).

The School has also strengthened its international profile through partnerships with Monash in Australia (a University strategic partner), leading Chinese Engineering departments and involvement in the NYU CUSP initiative. Recent research successes have included a number of EU proposals with partners outside the UK.

In the context of this push for change and improvement, it seems timely for the School to seek Athena Swan accreditation. The action plan incorporates some recommendations from the strategic review and others from internal discussions and reinforces the School's commitment to implementing change.

b) Provide data for the past three years (where possible with clearly labelled graphical illustrations) on the following with commentary on their significance and how they have affected action planning.

Student data

(i) Numbers of males and females on access or foundation courses – comment on the data and describe any initiatives taken to attract women to the courses.

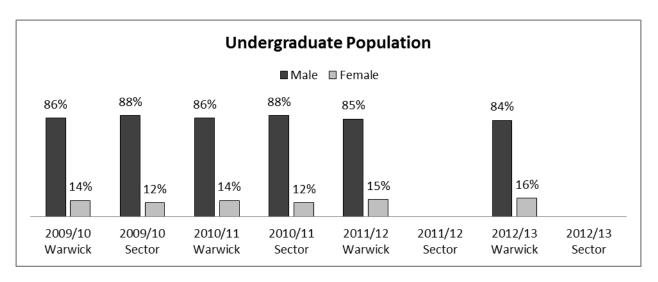
We do not offer access or foundation courses.

(ii) Undergraduate male and female numbers – full and part-time – comment on the female:male ratio compared with the national picture for the discipline. Describe any initiatives taken to address any imbalance and the impact to date. Comment upon any plans for the future.

Undergraduate population

Year	Male	Female	% male	% Female	Sector	Sector
					Male %	Female %
09/10	996	166	86%	14%	88%	12%
10/11	1189	198	86%	14%	88%	12%
11/12	1241	211	85%	15%	-	-
12/13	938	175	84%	16%		

(Sector data from HESA H1, H2, H3, H7 – the codes relevant to the courses we offer).



In terms of admissions to the Warwick degree, the School does not treat female applicants differently through the application process or at open days. The proportion of females is consistently slightly above the sector average for the courses we offer. At present we do not fully understand why this might be the case. We plan to review the available data and

consult with current female students about their reasons for choosing Warwick to seek to understand possible reasons for this (**Action Plan 1.1**).

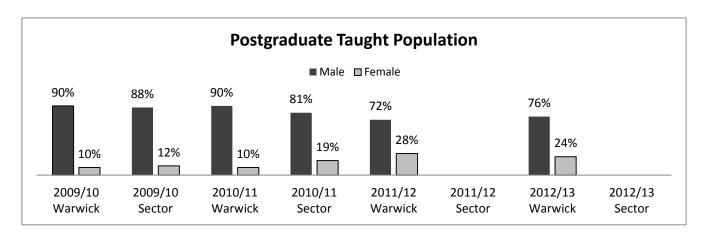
The School of Engineering runs an annual Engineering Headstart course, including for the first time in 2012 a pilot of a Dragonfly day for girls through the national EDT STEM programme (see outreach below (6v)). These courses aim to introduce engineering to school students.

127 words

(iii) Postgraduate male and female numbers completing taught courses – full and parttime – comment on the female:male ratio compared with the national picture for the discipline. Describe any initiatives taken to address any imbalance and the effect to date. Comment upon any plans for the future.

Postgraduate taught population

Year	Male	Female	% male	% Female	Sector	Sector
					Male %	Female %
09/10	44	5	90%	10%	88%	12%
10/11	36	4	90%	10%	81%	19%
11/12	42	16	72%	28%	-	-
12/13	38	12	76%	24%		



The School's MSc cohort is largely from overseas and students follow a range of specialist courses. As can be seen from the data the size of the cohort and its composition fluctuate. The small size and diversity of origin of the cohort make it difficult to explain the changes. In 2011/12 we introduced an MSc in Tunnelling and Underground Space with industrial involvement and sponsorship which has attracted more Home/EU students, although this did not explain the increase in female students in 2011 (see also postgraduate data under (v) below).

Data on student recruitment, including the proportion of female applicants and current students will now be reported to the School's Teaching Policy Committee on an annual basis so that any significant changes can be identified, possible action points considered and the impact of any changes we make can be monitored (**Action Plan 1.1**).

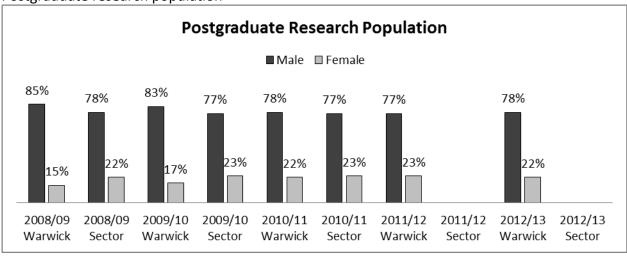
143 words

(iv) Postgraduate male and female numbers on research degrees – full and part-time – comment on the female:male ratio compared with the national picture for the discipline. Describe any initiatives taken to address any imbalance and the effect to date. Comment upon any plans for the future.

Year	Male	Female	% Male	% Female	Sector	Sector
*					Male %	Female %
08/09	117	20	85%	15%	78%	22%
© 9/10	112	25	83%	17%	77%	23%
<i>u</i> 10/11	123	35	78%	22%	77%	23%
<i>r</i> 11/12	127	39	77%	23%	-	-
<i>r</i> 12/13*	80	23	78%	22%		

е

Postgraduate research population



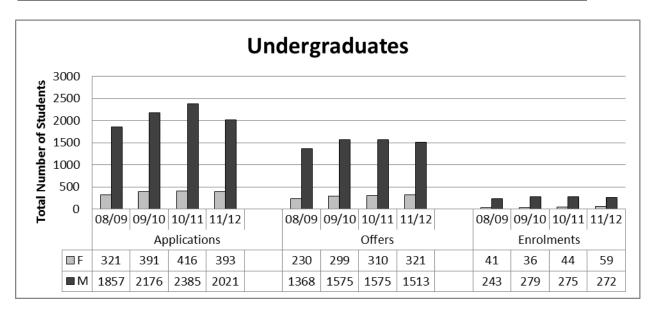
Many of our PhD students are from overseas. Since 2010/11 the percentage of females has increased and is in line with the sector average. We do not fully understand the reasons for this although we have made improvements to our PhD programme and recruitment strategies which we believe are partly responsible (see also postgraduate data under (v) below). In future, monitoring recruitment data more closely (Action Plan 1.1) will help us to assess the impact of changes we make to recruitment practices and programmes.

^{*} Current enrolments – this will increase during the year as PhD students may enrol at any point.

(v) Ratio of course applications to offers and acceptances by gender for undergraduate, postgraduate taught and postgraduate research degrees – comment on the differences between male and female application and success rates and describe any initiatives taken to address any imbalance and their effect to date. Comment upon any plans for the future.

Undergraduate

Year	Gender	Applications*	Offers	Enrolments	Applicants	Offers
					offered	enrolled
08/09	F	321	230	41	72%	18%
	М	1857	1368	243	74%	18%
09/10	F	391	299	36	76%	12%
	М	2176	1575	279	72%	18%
10/11	F	416	310	44	75%	14%
	М	2385	1575	275	66%	17%
11/12	F	393	321	59	82%	18%
	М	2021	1513	272	75%	18%



Offers are usually made to a higher proportion of female applicants than male. However, a lower proportion of female offer holders tend to accept. We believe that applications from female students who are committed to engineering tend to be some of our highest quality (hence the higher offer rate) and accordingly a higher proportion of them may hold offers from Oxbridge or other top competitors. We plan to investigate available data to develop a better understanding of this to ascertain whether this is the case (Action Plan 1.1).

We have a female Director of Undergraduate Admissions. Current students support our open days and we provide training and support through our new Ambassador programme (Action Plan 2.4). Last year 27% of volunteers were female. We will continue to ensure that

^{*}Application data not yet available for 12/13.

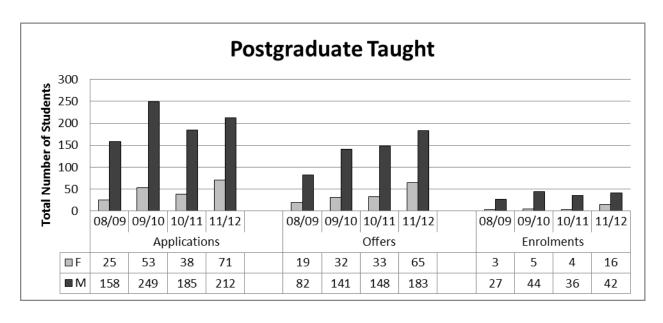
there is a positive female presence at open days so that our visitors have contact with female role models (Action Plan 2.4). We will review also recruitment literature and monitor recruitment data, including gender, more closely to understand the effects of changes made (Action Plan 1.1, 2.5).

176 words

Postgraduate taught

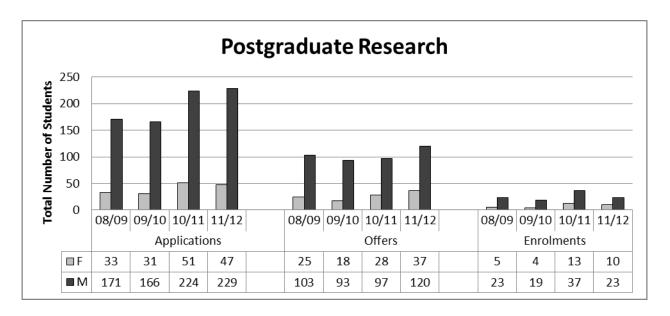
Year	Gender	Applications (% of total*)	Offers	Enrolments	Applicants offered %	Offers enrolled %
08/09	F	25 (14%)	19	3	76%	16%
	М	158 (86%)	82	27	52%	33%
	Not known	1				
09/10	F	53 (18%)	32	5	60%	16%
	М	249 (82%)	141	44	57%	31%
	Not known	1				
10/11	F	38 (17%)	33	4	87%	12%
	М	185 (83%)	148	36	80%	24%
	Not known	3			_	
11/12	F	71 (25%)	65	16	92%	25%
	М	212 (75%)	183	42	86%	23%

^{*}Total excludes not known



Postgraduate research

Year	Gender	Applications	Offers	Enrolments	Applicants offered	Offers enrolled
08/09	F	33	25	5	76%	20%
	М	171	103	23	60%	22%
09/10	F	31	18	4	58%	22%
	М	166	93	19	56%	20%
10/11	F	51	28	13	55%	46%
	М	224	97	37	43%	38%
11/12	F	47	37	10	79%	27%
	М	229	120	23	52%	19%



The first point of contact for all postgraduate applicants is currently a female member of administrative staff. There are an increasing number of female role models in the School. Recruitment strategies have improved through increased personal contact with applicants, use of Skype chats and other tools.

There was a significant increase in female MSc applicants and enrolments in 2011/12, but there is no obvious explanation for this. Our MSc intake is almost entirely from overseas, from a range of countries, and very few are Warwick graduates.

The School has strengthened its PhD programme by investing in bursaries and raising standards. Overall our numbers suggest we preferentially select female PhD students, though we suspect this is a reflection of the fact that women applying for PhDs in engineering generally are really committed to that career choice and are thus likely to be stronger applicants. The School has worked to recruit well-qualified students from China, including visits by a female member of academic staff. We will monitor recruitment data more systematically in the future (**Action Plan 1.1**).

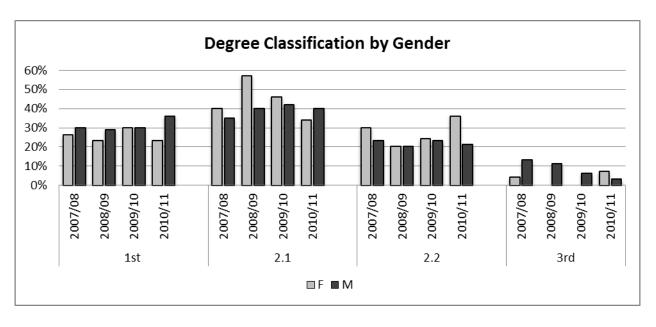
Overall, the School is investing in a specialist post to develop a marketing strategy and improve recruitment literature. This will include ensuring that our literature and the website are representative and include appropriate female role models. We will review recruitment data more consistently with the aim of improving our understanding of the impact of changes made (Action Plan 1.1, 2.5).

235 words

(vi) Degree classification by gender – comment on any differences in degree attainment between males and females and describe what actions are being taken to address any imbalance.

Year	Gender	1	%*	2.1	%*	2.2	%*	3	%*	Total
07/08	F	12	26%	19	40%	14	30%	2	4%	47
	М	59	30%	70	35%	46	23%	25	13%	200
08/09	F	7	23%	17	57%	6	20%	-	-	30
	М	63	29%	87	40%	44	20%	23	11%	217
09/10	F	14	30%	21	46%	11	24%	-	-	46
	М	67	30%	94	42%	51	23%	14	6%	226
10/11	F	10	23%	15	34%	16	36%	3	7%	44
	М	77	36%	85	40%	44	21%	6	3%	212

^{* %} achieving classification



Normally a higher percentage of females than males achieve a 2.1 and 2.2. However, in most years a smaller percentage of females than males achieve a first. The percentage of females awarded 3rd class is usually very low. The 2010/11 results require further investigation to understand if there is an explanation for the changes. We will monitor data including on degree classification and seek

information on results for courses elsewhere (**Action Plan 1.1**) to help us determine whether there is anything systematic in the way we teach or assess that may affect our female students adversely.

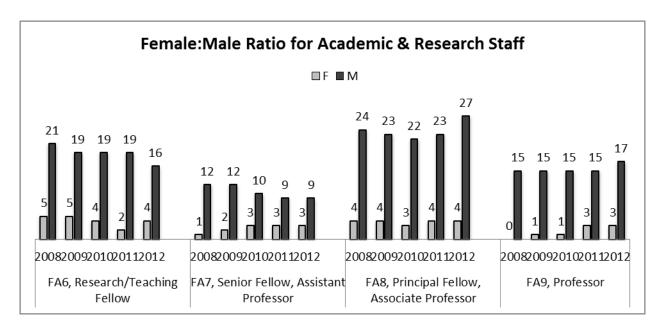
96 words

Staff data

(vii) Female:male ratio of academic staff and research staff – researcher, lecturer, senior lecturer, reader, professor (or equivalent). comment on any differences in numbers between males and females and say what action is being taken to address any underrepresentation at particular grades/levels

Academic, research and teaching staff as at 1 August

Level	Year	Female	Male	Total	%F	%M
		Headcount	Headcount			
FA6,	2008	5	21	26	19%	81%
Research/	2009	5	19	24	21%	79%
Teaching	2010	4	19	23	17%	83%
Fellow	2011	2	19	21	10%	90%
	2012	4	16	20	20%	80%
FA7, Senior	2008	1	12	13	8%	92%
Fellow,	2009	2	12	14	14%	86%
Assistant	2010	3	10	13	23%	77%
Professor	2011	3	9	12	25%	75%
	2012	3	9	12	25%	75%
FA8,	2008	4	24	28	14%	86%
Principal	2009	4	23	27	15%	85%
Fellow,	2010	3	22	25	12%	88%
Associate	2011	4	23	27	15%	85%
Professor	2012	4	27	31	13%	87%
FA9,	2008	0	15	15	0	100%
Professor	2009	1	15	16	6%	94%
	2010	1	15	16	6%	94%
	2011	3	15	18	17%	83%
	2012	3	17	20	15%	85%



The number of females at grades FA7–FA9 (Assistant/Associate Professor, Professor) is increasing. HESA data (2010/11) suggests that the percentage of female academic staff in the School (16.67%) is higher than that in a sample of other general engineering departments. We will conduct further analysis of the available data (**Action 1.2**). Overall in 2012 there were 14 female staff in academic and research posts, 17% of the total.

The School's expansion has led to an increase in posts at FA8/9 to date. Not all posts have been filled and there are current vacancies at all levels. The appointments made to date include a female previously employed as a Teaching Fellow after returning from a career break, who has been appointed as Assistant Professor.

Of the female professors one is a personal promotion. The others are external appointments, with one, a post in Sustainable Building Design and Wellbeing, shared with the School of Health and Social Studies.

The number of females at FA6 (post-doctoral researchers) is very low and fluctuates. In general, the School finds it difficult to recruit post-doctoral staff, including posts in very successful research areas, with low numbers of applicants for most posts (**Action 3.3**) (see Recruitment below). We recognise that there is more we can do to encourage and support our female PhD students and post-doctoral staff to pursue a career in engineering, even if this may not always be to our benefit (see Career Development below).

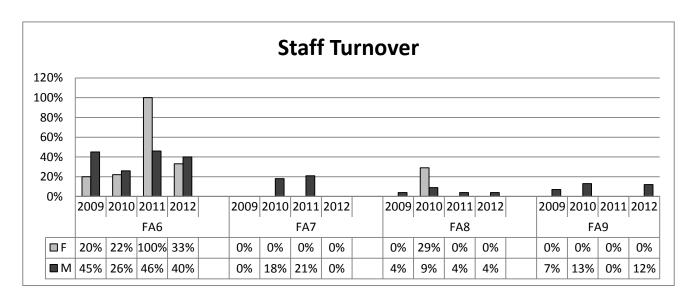
(viii) **Turnover by grade and gender** – comment on any differences between men and women in turnover and say what is being done to address this. Where the number of staff leaving is small, comment on the reasons why particular individuals left.

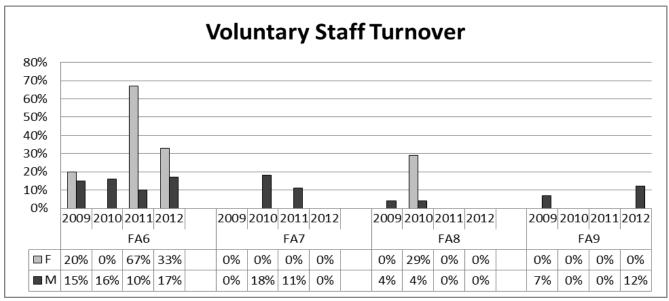
Female turnover

Level	Year	Average Female headcount	Leavers	Turnover	Voluntary leavers	Voluntary turnover
FA6	2009	5	1	20%	1	20%
	2010	5	1	22%	0	0%
	2011	3	3	100%	2	67%
	2012	3	1	33%	1	33%
FA7	2009	2	0	0%	0	0
	2010	3	0	0%	0	0
	2011	3	0	0%	0	0
	2012	3	0	0%	0	0
FA8	2009	4	0	0%	0	0
	2010	4	1	29%	1	29%
	2011	4	0	0%	0	0
	2012	4	0	0%	0	0
FA9	2009	1	0	0%	0	0
	2010	1	0	0%	0	0
	2011	2	0	0%	0	0
	2012	2	0	0%	0	0

Male turnover

Level	Year	Average	Leavers	Turnover	Voluntary	Voluntary
		male			leavers	turnover
		headcount				
FA6	2009	20	9	45%	3	15%
	2010	19	5	26%	3	16%
	2011	20	9	46%	2	10%
	2012	18	7	40%	3	17%
FA7	2009	12	0	0%	0	0%
	2010	11	2	18%	2	18%
	2011	10	2	21%	1	11%
	2012	9	0	0%	0	0
FA8	2009	24	1	4%	1	4%
	2010	23	2	9%	1	4%
	2011	23	1	4%	0	0%
	2012	25	1	4%	0	0%
FA9	2009	15	1	7%	1	7%
	2010	15	2	13%	0	0%
	2011	15	0	0%	0	0%
	2012	17	2	12%	2	12%





Overall, the number of leavers at grades 7–9 is low. The female member of staff at FA8 who left in 2010 was offered a Chair with significant investment in facilities in her home country, a successful outcome for the individual.

Turnover at FA6 is higher because most staff are employed on fixed-term contracts related to specific research projects. Female turnover is usually lower than male, except for 2011. Of the three female leavers in 2011, two returned to their home country. The third retired. We are committed to monitoring this data more systematically in the future to ensure that we identify issues and can track the impact of any changes we make (**Action plan 1.2**).

117 words

Word count 2000 plus 53 of extra 1000 as agreed

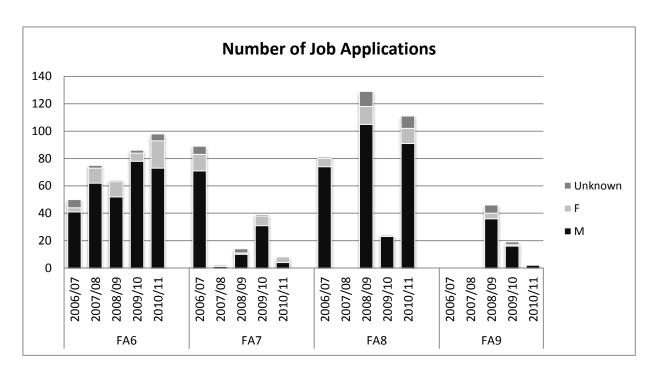
4. Supporting and advancing women's careers: maximum 5000 words

Key career transition points

- a) Provide data for the past three years (where possible with clearly labelled graphical illustrations) on the following with commentary on their significance and how they have affected action planning.
 - (i) **Job application and success rates by gender and grade** comment on any differences in recruitment between men and women at any level and say what action is being taken to address this.

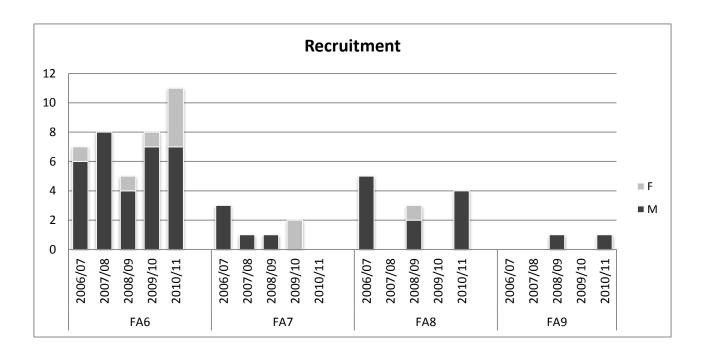
Applicants

Year	Level	Total no.	Male	Female	Unknown	%	%
		applicants				Male	Female
06/07	6	50	41	3	6	82%	6%
07/08	6	75	62	11	2	83%	15%
08/09	6	64	52	11	1	81%	18%
09/10	6	86	78	6	2	91%	7%
10/11	6	98	73	20	5	75%	20%
06/07	7	89	71	12	6	80%	13%
07/08	7	1	1	0		100%	0%
08/09	7	14	10	1	3	71%	7%
09/10	7	39	31	7	1	78%	18%
10/11	7	8	4	4	0	50%	50%
06/07	8	81	74	6	1	91%	7%
07/08	8	No posts ad	vertised	at this leve	el		
08/09	8	129	105	13	11	81%	10%
09/10	8	24	23	1	0	96%	4%
10/11	8	111	91	11	9	82%	10%
06/07	9	No posts ad	vertised	at this leve	el		
07/08	9						
08/09	9	46	36	4	6	78%	9%
09/10	9	19	16	1	2	84%	5%
10/11	9	2	2	0	0	100%	0%



Recruitment

Year	Level	Total no.	Male	Female	% Male	% Female
		successful			who were	who were
					successful	successful
06/07	6	7	6	1	15%	33%
07/08	6	8	8	0	13%	0%
08/09	6	5	4	1	8%	9%
09/10	6	8	7	1	9%	17%
10/11	6	11	7	4	10%	20%
06/07	7	3	3	0	4%	0%
07/08	7	1	1	0	100%	0%
08/09	7	1	1	0	10%	0%
09/10	7	2	0	2	0%	29%
10/11	7	0	0	0	0	0
06/07	8	5	5	0	7%	0%
07/08	8	No appointn	nents at	this level		
08/09	8	3	2	1	2%	8%
09/10	8	No appointn	nents at	this level		
10/11	8	5	4	0	4%	0%
06/07	9					
07/08	9					
08/09	9	1	1	0	3%	0%
09/10	9	1	0	0	0	0
10/11	9	1	1	0	50%	0%



Selection of applicants for shortlisting is gender blind. Applicants may choose not to disclose their gender on the application form, resulting in a number of "unknowns" so we do not have reliable information on the number of female applicants for posts. The data monitoring form on application forms is not available to departments, so we do not have full information on the gender breakdown of applicants. This makes it difficult to draw any meaningful conclusions from the available data.

We are in the process of appointing to a new HR assistant post. This will give us the resource to find out and record more information about applicants for selected posts within the School. These data would not be disclosed to those involved in selection processes but would give us more accurate information about our applicant pool to help us identify any areas of concern. We will also consider undertaking applicant surveys to understand more about motivation for applying and response to styles of advertisements (Action Plan 3.3). This information would help to inform future recruitment strategy and decisions on whether to adopt different approaches, such as targeting female candidates for particular posts.

All interview panels for academic and support staff include female members of staff, in line with University policy. We have not been able to implement this policy so consistently for post-doctoral staff because of the availability of female academic staff with relevant expertise. We will address this where possible (Action Plan 3.1). The University provides equality and diversity training on recruitment and selection aimed at interview panel members. The School will encourage all relevant staff to complete this training and monitor take-up. We will also include female members of staff in the shortlisting process where we have a member of staff with relevant expertise (Action Plan 3.1 and 3.2).

(ii) Applications for promotion and success rates by gender and grade – comment on whether these differ for men and women and if they do explain what action may be taken. Where the number of women is small applicants may comment on specific examples of where women have been through the promotion process. Explain how potential candidates are identified.

Promotion processes are administered and communicated to all staff, regardless of gender. The University's probation process applies to all staff appointed at FA7. Upon successful completion of probation, staff are promoted to FA8. The Head of School meets with all probationary staff for a formal annual probation review and prepares reports which are considered by a University level committee. All Engineering staff have successfully completed probation in recent years. However, despite this record, during preparation of this submission staff currently on probation have indicated that there is a lack of clarity about guidelines and the process. We aim to address this as part of our (Action Plan 3.4).

The promotion process is managed by the University through the Academic Staff Committee and the Vice-Chancellor's Advisory Group. The Head of School invites applications annually and provides feedback and advice on the application process. This is now done in conjunction with the Discipline Stream Leader. Typically there will be informal discussions before this process, either with the Head of School or with the line manager through the annual review. Individual staff do have the opportunity to put themselves forward for promotion to Reader or Professor. Over the past 5 years there has been one application for promotion to a Chair by a female member of staff which was successful. There have been two applications from male members of staff, one of which was successful at first attempt and the other was resubmitted and was ultimately successful.

244 words

- b) For each of the areas below, explain what the key issues are in the department, what steps have been taken to address any imbalances, what success/impact has been achieved so far and what additional steps may be needed.
 - (i) **Recruitment of staff** comment on how the department's recruitment processes ensure that female candidates are attracted to apply, and how the department ensures its short listing, selection processes and criteria comply with the university's equal opportunities policies

The School follows the University's standard advertising and recruitment processes. All posts are advertised on the University website, jobs.ac.uk and where relevant, in appropriate professional / industrial publications or local / national newspapers, usually for higher level posts. The University's Job Vacancies website includes the Equal Opportunities Policy and the University-wide Athena Swan Bronze accreditation logo. All adverts are issued with a link to the School of Engineering website for applicants to find further information. The website lists profiles of our current staff so applicants are able to see those of female staff.

The School adheres to the University's guidelines on panel composition wherever possible. All panels for FA7 and above and all support staff posts include a female member of staff. Unfortunately it has not always been possible to involve a female member of staff in panels for post-doctoral jobs because of the relatively small number of female staff in the School, staff availability and areas of expertise. We aim to review the process for post-doctoral interviews as part of our action plan to ensure that a female member of staff is involved wherever practically possible (Action Plan 3.1).

190 words

(ii) Support for staff at key career transition points – having identified key areas of attrition of female staff in the department, comment on any interventions, programmes and activities that support women at the crucial stages, such as personal development training, opportunities for networking, mentoring programmes and leadership training. Identify which have been found to work best at the different career stages.

There are no clear points of attrition for female staff who are in academic posts. The recent experience of a member of academic staff taking maternity leave has helped us to identify improvements that could be made. Although she felt that the School took a supportive and constructive approach we have agreed that some formalisation to ensure that all relevant issues are discussed would be beneficial (Action Plan 6.1), without losing the advantages of an approach tailored to the needs of the individual. We also have an increased number of staff with young children in the School. Arrangements have been made with individuals in the past to accommodate childcare requirements and we expect that this will continue. This year there have been some requests for earlier information on teaching timetables for the new academic year to assist with childcare arrangements and we are considering how best to address this (Action Plan 6.2).

We recognise that progression of females before the academic career path, from PhD through the post-doctoral stage requires investigation. We will be looking at this through reviewing available data and consulting with current staff and PhD students before deciding on future steps (**Action Plan 1.1, 1.2, 2.2**).

The University offers an extensive programme of personal development opportunities for all levels of staff. This is discussed as part of annual review. We have not systematically monitored the take-up of training programmes across the School to date but we will investigate how this information can be collected and utilised (Action Plan 4.3).

The Athena Swan application process has encouraged more networking amongst female staff in the School. We aim to encourage this and broaden the group to involve more female post-doctoral staff and PhD students (**Action Plan 4.2**). **288 words**

5. Career development

- a) For each of the areas below, explain what the key issues are in the department, what steps have been taken to address any imbalances, what success/impact has been achieved so far and what additional steps may be needed.
 - (i) **Promotion and career development** comment on the appraisal and career development process, and promotion criteria and whether these take into consideration responsibilities for teaching, research, administration, pastoral work and outreach work; is quality of work emphasised over quantity of work?

The School follows the University's annual review process, which comprises a discussion between appraisee and appraiser based on a form completed initially by the appraisee. Objectives are agreed, which may include development opportunities. There is a specific question on the form about personal development. The School has worked hard over the last three years to embed this process for academic staff and support staff and these are now routinely completed. More needs to be done to ensure that post-doctoral staff also have this opportunity – traditionally annual reviews have been held at a particular point in the year, which does not always fit well with the timing of an individual post-doctoral contract. The University's probationary process for post-doctoral staff is followed within the School and this ensures regular meetings between the member of staff and the line manager in the first month of an appointment.

A mentor is appointed for staff on academic probation. In addition, the University offers a Mentor Scheme, where mentors draw on their own experiences and knowledge to advise and guide a less experienced member of staff to enhance their performance or support their development in their role. The availability of this scheme will be promoted to all new staff as part of the induction process and to existing staff through the intranet (Action Plan 4.1).

The School has developed the annual review process this year and introduced an additional brief form for academic staff which asks staff to summarise their activity under teaching and research, but also "good citizenship" which encompasses a wide range of other activities including School and University-level administrative roles, outreach work and other contributions. The new workload model gives all staff an allocation for this type of activity and personal development opportunities. We will collect this information from the annual review process and evaluate the responses. We will also include this in the planned review of the new workload model (Action plan 4.4, 5.5).

In terms of outputs, the School considers both quality and quantity of outputs. Preparation for the current REF exercise has increased the emphasis on quality, provided a minimum quantity threshold is met. As part of this, the School has been advising all staff on the appropriate targeting of journal publications and we will continue to do this.

The School is aware that recognition of collaborative research activity (either as co-author or co-investigator) can be an issue for female members of staff, and also potentially for

more junior members of staff in general. We will consider how best we can capture and recognise this activity within the School and liaise with the University over central policy developments (Action Plan 5.4).

441 words

(ii) Induction and training – describe the support provided to new staff at all levels, as well as details of any gender equality training. To what extent are good employment practices in the institution, such as opportunities for networking, the flexible working policy, and professional and personal development opportunities promoted to staff from the outset?

The School has a schedule of induction meetings for all new staff. This includes meeting key members of School staff and tours of the School as well as an explanation of School processes. This has not previously routinely included family friendly policies and available support (unless discussed as part of the recruitment process) although the University's website for new staff does cover this. The University also has an informal network for parents returning to work. We will look to improve the way we make staff aware of these opportunities within the School (Action Plan 6.1).

Updates on personal development opportunities are circulated regularly through the Head of School's office (**Action Plan 4.3**). Within the School, the Research Office organises grant review panels and short Top Tips sessions. Grant review panels provide an opportunity for any member of staff to seek feedback on grant applications. Panel membership rotates so that a wide group of staff also have the opportunity to review grant applications and participate in discussion – we feel that this is a useful developmental opportunity. The Top Tips sessions are brief informal lunchtime sessions where members of staff speak about their experience. Topics have ranged from EU grant applications to working with industrial partners.

We recognise that we could improve support available to post-doctoral researchers where we tend to have very low numbers of women. Our number of post-doctoral researchers in general is set to increase alongside our research income and with this in mind we need to review support available to this group of staff. Warwick runs an innovative postgraduate certificate in transferable skills aimed at the needs of this group and, as well as reviewing provision within the School, we will also look at encouraging more of our post-doctoral staff to take up this opportunity (Action Plan 4.5).

(iii) Support for female students – describe the support (formal and informal) provided for female students to enable them to make the transition to a sustainable academic career, particularly from postgraduate to researcher, such as mentoring, seminars and pastoral support and the right to request a female personal tutor. Comment on whether these activities are run by female staff and how this work is formally recognised by the department.

We provide induction programmes for undergraduate, taught postgraduate and research students. These provide a comprehensive introduction to the operation of the School and the wider university. This includes facilities and support available to all students.

Undergraduate and taught MSc students are allocated a personal tutor. Students have the right to ask to change their personal tutor without giving a reason. This year for the first time we have tried to ensure there are at least two female students in first year tutorials. Although this was not requested by students we felt that this would provide some additional support for female students at the beginning of their degree and should also encourage informal networking and peer support amongst female students in the School (Action Plan 2.1).

For Research students, the School assigns a progress panel to each student within a month of arrival. The panel comprises two experienced members of staff. The panel is expected to monitor progress and also provide an alternative contact point independent of the supervisory team. An initial meeting is held with the student to explain the purpose of the panel. There are annual formal meetings to discuss progress and agree targets. The student is able to request additional meetings if there is a particular issue they wish to discuss. In addition, all students may seek to see the Director of Graduate Studies.

Discussions amongst female research students and post-doctoral staff at meetings of the self-assessment group have suggested that there is currently no demand for access to a female mentor or contact point, although there was a view that a general mentoring scheme might provide useful additional support.

Despite feedback from current students at all levels we recognise from evidence in reports such as the recent Jobs for the boys? (Peters, J and McWhinnie S, HE STEM project, 2012) that provision of some targeted support for female students may be beneficial, particularly in terms of careers advice to encourage female students to pursue engineering careers (Action Plan 2.3). As part of our action plan we therefore intend to explore the requirements of different groups of students (undergraduate, MSc and PhD) and potential models (Action Plan 2.2, 2.3).

As a pilot this year the School and WMG are paying for four female undergraduates to attend the annual Women's Engineering Society conference and a PhD student attended the Talent 2030/HEA Young women engineers network event in September 2012. We will evaluate the benefit to individuals of attending such events (**Action Plan 2.3**). We promote the increasing number of careers focused industry events aimed specifically at female

students and we will also work with the central University careers service to develop their support for students in the School.

We also work with the Centre for Applied Linguistics (CAL), following a joint project involving our Deputy Head (Teaching) on intercultural communication which has led to workshops for our MSc students. A member of staff in CAL involved in the project, Dr Sophie Reissner-Roubicek, has undertaken research on the way gender affects interviews for the recruitment of graduate female engineers. We have asked her to run a workshop in 2013 for the School's female students on how to maximise their chances of success at interview (Action Plan 2.3).

541 words

6. Organisation and culture

- a) Provide data for the past three years (where possible with clearly labelled graphical illustrations) on the following with commentary on their significance and how they have affected action planning.
 - (i) Male and female representation on committees provide a breakdown by committee and explain any differences between male and female representation. Explain how potential members are identified.

Committee	Membership for 2012/13	% female membership
Management Committee	Head of School, Deputy Heads, Discipline Stream Leaders (all M), Senior Administrative Officer (F), Finance Manager (M).	13%
Research Committee	Deputy Head (Research), Research Theme Leaders (M), Discipline Stream Leaders (M), Director of Graduate Studies (M), Research Development Officer (F), Research Officer Manager (F)	20%
Teaching Policy Committee	Deputy Head Teaching (M), Director of Studies (M), Director of Undergraduate Admissions (F), Discipline Stream Leaders (M), Academic Administrative Officer (F), WMG representative (M)	25%

Taught Degrees	Director of Studies (M),	40%
Committee	Director of Undergraduate	4070
Committee	_	
	Admissions (F), Academic	
	Administrative Officer (F),	
	4 course champions (M),	
	ESO Manager (F)	070/
Safety Committee	Head of School (M), Safety	27%
	Advisor (F), Senior	
	Administrative Officer (F),	
	Building and Facilities	
	Manager (M), Technical	
	Services Manager and two	
	assistants (all M), Deputy	
	Heads (M) of School,	
	academic staff	
	representatives (1 M, 1F).	
International Committee	Director of International	33%
	Recruitment (M), Head of	
	School (M), Deputy Heads	
	(M) academic staff	
	representative and lead on	
	links with China (F),	
	Exchange Coordinator (M)	
	Senior Administrative	
	Officer (F), University	
	International Office	
	representatives (1 M, 1F).	
Technical Committee	Academic staff	
	representatives (4,	13%
	including chair, all M),	
	Senior Administrative	
	Officer (F), Technical	
	Services Manager and two	
	assistants (all M).	
Communication and	Female member of	
Welfare Committee	academic staff to chair.	
Transa Sommittee	Other membership to be	
	confirmed but will include	
	representatives of Athena	
	Swan group.	

Overall, female staff are well represented in the School's committee structure. However, the academic membership of committees is predominantly male, although there are female members of academic staff on Safety Committee, International Committee,

Teaching Policy Committee and Taught Degrees Committee. Female support staff are members of the Management Committee and Research Committee.

Membership is largely determined by role, so for example the Management Committee is made up of the senior management roles in the School. In cases where there is an academic staff representative, a call for volunteers or nominations is usually circulated. Following the 2010 strategic review, staff were invited to apply for the Discipline Stream Leader roles and to put forward proposals to lead new research themes. No female staff members took up this opportunity, although members of female staff are involved in the new research themes, with one acting as a deputy on the Energy theme.

Female staff played a large part in the 2010 strategic review. A female Assistant Professor led the research working group, which involved two other female academic staff and the female Research Development Officer. Three female support staff were involved in the Ways of Working Group.

At the time of writing, two female members of staff are on study leave and three are on probation (one of whom has recently returned from maternity leave). A further member of staff is on long term leave. The School wishes to avoid burdening the available female staff with administrative responsibilities if individual circumstances make this inappropriate and it is not in the individual's best interests. We therefore propose to return to the issue of female academic representation on committees in the next academic year when this will be less of a concern (Action Plan 5.1).

290 words

(ii) Female:male ratio of academic and research staff on fixed-term contracts and open-ended (permanent) contracts – comment on any differences between male and female staff representation on fixed-term contracts and say what is being done to address them.

Numbers of female staff on fixed-term contracts is so small that it is difficult to draw any conclusions. Most fixed-term contracts (with two current exceptions at Assistant Professor level 1M, 1F) are postdoctoral appointments. (See also commentary on Staff data 3 (viii), Turnover by grade and gender).

- b) For each of the areas below, explain what the key issues are in the department, what steps have been taken to address any imbalances, what success/impact has been achieved so far and what additional steps may be needed.
 - (i) Representation on decision-making committees comment on evidence of gender equality in the mechanism for selecting representatives. What evidence is there that women are encouraged to sit on a range of influential committees inside and outside the department? How is the issue of 'committee overload' addressed where there are small numbers of female staff?

As explained above, membership of committees is largely determined by role. The pool of senior female academic staff is very small.

Outside the School, the female member of staff who sits on the Engineering Safety Committee also represents the School on the University Genetic Modification and Biosafety Committee and the Research Governance and Ethics Committee. A female member of staff sits as one of the three members of the School on the Sub-Faculty of Science, which considers academic business for the Science Faculty (new course proposals, course reviews). A further female member of staff is one of two representatives of the School on undergraduate appeals panels.

106 words

(ii) **Workload model** – describe the systems in place to ensure that workload allocations, including pastoral and administrative responsibilities (including the responsibility for work on women and science) are taken into account at appraisal and in promotion criteria. Comment on the rotation of responsibilities e.g. responsibilities with a heavy workload and those that are seen as good for an individual's career.

The School is implementing a new workload model in 2012. The Working Group that developed this has included representatives of female academic staff. (Action Plan 5.5).

The model takes account of significant administrative loads. As part of this process a brief job description has been prepared for the key administrative roles and the allocation of hours for each role has been reviewed. Each member of staff has an allocation of hours which is intended to cover time for personal development and less time consuming administrative tasks such as membership of committees and participation in open days.

Throughout the strategic review in 2010 the lack of protected time for research during the working day was raised as an issue. This is a point of particular relevance to staff with young families or other caring responsibilities, both male and female. The model aims to provide all research active staff with a fair allocation of time for research. The model will be reviewed at the end of the first year of operation.

Major administrative roles (e.g. Deputy Head Research, Discipline Stream Leader, Director of Graduate Studies) tend to be rotated every 3 years. In terms of career progression, while larger administrative roles help to raise an individual's profile within the School and potentially the University, the demands of these roles inevitably restrict the time available for personal research which carries more weight in promotion processes. As with committee membership at present the School does not wish to over-burden female staff with a significant administrative load at a point when it may not be beneficial for individual career paths (see 6(i) above).

(iii) **Timing of departmental meetings and social gatherings** – provide evidence of consideration for those with family responsibilities, for example what the department considers to be core hours and whether there is a more flexible system in place.

School-wide staff meetings, social gatherings such as the Christmas dinner and away days are held in standard working hours. Some research groups within the School also hold evening events. In some cases staff are welcome to bring children and partners. Inevitably from time to time staff are expected to work on Saturdays (primarily to support Saturday open days or field courses). Sufficient notice is given of events or meetings outside standard office hours. Where possible, the School takes account of individual staff circumstances.

83 words

(iv) **Culture** –demonstrate how the department is female-friendly and inclusive. 'Culture' refers to the language, behaviours and other informal interactions that characterise the atmosphere of the department, and includes all staff and students.

Overall, the 2010 review highlighted concerns amongst academic staff about communication within the School. This was a broad concern, and did not come from a particular group of staff. The School has taken some steps to address this, including holding regular academic staff meetings which are now formally part of the School's committee system. There is still work to be done here, hence the decision to establish a Communication and Welfare Committee (Action Plan 5.2) and other projects within the School including the website review.

Research performance is a key performance indicator for both the School and individual academic staff. In recognition of this, the School has a research development officer (female) who provides support to staff and PhD students who are planning to submit applications for research funding. The School's research development officer is located in the School and the School has taken the unusual decision to fund the post itself rather than relying on central research support services. The School therefore has a dedicated member of staff who can work closely with academic staff and research staff and get to know them and their research interests.

The support available includes one to one support and advice on draft applications particularly for less experienced staff and staff aiming at higher profile awards that involve complex partnership arrangements and interview processes. The School has a high success rate in first grant applications. The School's grant review panels also provide advice to staff who are seeking research funding.

The Research Development Officer provides extensive support for large scale proposals, including arranging mock interviews. This support is valued by all staff. Recent successes include a large EPSRC Grand Challenge collaborative project award led by Professor Jihong Wang (F), who joined Warwick in 2010. This was her first large scale award of this kind and

she has commented on the value of the support provided by the Research Development Officer.

The School has an informal and supportive culture. Female staff have commented positively on the strong support they have received from colleagues. In 2010 the School appointed a Senior Teaching Fellow who was returning to academia after a 5 year career break to care for young children. She has since been offered an Assistant Professor role (fixed term). She has commented on the support and advice she has received from a range of colleagues, including senior members of the department, which has helped her to redevelop her academic career.

406 words

(v) **Outreach activities** – comment on the level of participation by female and male staff in outreach activities with schools and colleges and other centres. Describe who the programmes are aimed at, and how this activity is formally recognised as part of the workload model and in appraisal and promotion processes.

The School runs an annual Headstart course, aimed at 16 and 17 year olds who are taking STEM subjects. In 2012 the School also ran a Dragonfly day. Dragonfly is an initiative providing the opportunity for girls on the Headstart course to become mentors to younger female students (http://www.etrust.org.uk/headstart.cfm). (Action Plan 2.7).

Both Headstart and Dragonfly are held at the School and delivered by Engineering staff, with contributions from WMG. The objective is to provide school students with some experience of Engineering, which is not a traditional school subject, with the aspiration that some will choose to follow an Engineering degree, even though not necessarily at Warwick. Headstart and Dragonfly are led by a female member of staff, the Director of Undergraduate Admissions. This outreach work is recognised as part of her role under the workload model and is taken into account as part of annual review and other processes. Other members of teaching staff in the School contribute to the course.

We are currently planning to participate in the Arkwright Scholarships initiative (http://www.arkwright.org.uk). This programme provides mentoring support to high calibre school students with the aim of encouraging them to pursue an engineering career through university or an apprenticeship scheme. The School would contribute to the costs of the programme and would also appoint a mentor (a current student or member of staff) who would support an individual school student over a two year period. The programme allows us to target our support and we are intending to offer a number of opportunities, including one aimed specifically at female students (Action Plan 2.7).

A female Assistant Professor and a female PhD student have also been involved in other recent outreach work, including Royal Society 350th Anniversary Summer Exhibition (2010), and the Big Bang Fair in March 2012. They have also produced podcasts to support the outreach work of the Diamond Light Source facility. As part of our action plan we aim to gather information on the broader outreach work undertaken by staff and raise awareness of this contribution within the School (**Action Plan 2.6**).

Although Warwick may not benefit from this activity directly, one of the objectives is to encourage female students to consider Engineering, which is rarely taught in schools, as a degree subject.

377 words

7. Flexibility and managing career breaks

- a) Provide data for the past three years (where possible with clearly labelled graphical illustrations) on the following with commentary on their significance and how they have affected action planning.
 - (i) Maternity return rate comment on whether maternity return rate in the department has improved or deteriorated and any plans for further improvement. If the department is unable to provide a maternity return rate, please explain why.

Year	Staff who started maternity leave	Return rate
08/09	3	33.3%
09/10	-	-
10/11	1	100%
11/12	1	100%

The number of staff who have taken maternity leave is very low so it is difficult to draw any conclusions from the data, although we will continue to monitor this. In addition to the staff shown in the table above, of the current four grade 8 female staff two have taken maternity leave and returned to the School.

Of the three staff who took maternity leave in 2008/09, two were research fellows on fixed term contracts. One contract came to an end during the maternity leave. Another took maternity leave which began at the end of her contract (and thus was entitled to statutory leave hence appearing in these statistics). This is a wider problem affecting all STEM departments, which the University is endeavouring to address as part of its institutional action plan, in collaboration with funders. At a departmental level, should the situation arise again we will look at offering an associate fellowship to the person affected to help them maintain a link with the School (Action Plan 6.1).

(ii) Paternity, adoption and parental leave uptake – comment on the uptake of paternity leave by grade and parental and adoption leave by gender and grade. Has this improved or deteriorated and what plans are there to improve further.

Year	No. on paternity leave
06/07	0
07/08	1
08/09	2
09/10	2
10/11	0

Again numbers of staff taking paternity leave are very low. It may be that not all staff are taking up this opportunity and we could do more to ensure that staff are aware of the University' policy on paternity leave at the appropriate time. This may be particularly relevant to overseas staff, who are not always aware of paternity leave entitlements (Action Plan 6.1). The University has included a statement in the maternity leave letter informing the individual that if she does not take up all her statutory leave, then her partner is entitled to take additional paternity leave once she has returned to work.

105 words

- (iii) Numbers of applications and success rates for flexible working by gender and grade comment on any disparities. Where the number of women in the department is small applicants may wish to comment on specific examples.
- b) For each of the areas below, explain what the key issues are in the department, what steps have been taken to address any imbalances, what success/impact has been achieved so far and what additional steps may be needed.
 - (i) **Flexible working** comment on the numbers of staff working flexibly and their grades and gender, whether there is a formal or informal system, the support and training provided for managers in promoting and managing flexible working arrangements, and how the department raises awareness of the options available.

The University has a flexible working policy which allows staff to request part-time employment or other options such as compressed hours. Amongst academic staff, nobody has a formal arrangement of this kind in place at present. Amongst support staff, there are staff who work part-time because of family responsibilities, including senior staff.

The School has an informal culture and both female and male members of staff with family responsibilities have agreed arrangements with the Deputy Head (Teaching) that accommodate family requirements. The School has historically operated in an informal way and flexible working arrangements have been agreed. Given the increase in the number of academic staff, it now seems timely to review this and formalise procedures where necessary (**Action Plan 6.1**). In response to concerns raised by staff who have family responsibilities we have also agreed to review the School's timetabling process to ensure

the earlier availability of the teaching timetable which will help staff to make arrangements (Action Plan 6.2).

163 words

(ii) Cover for maternity and adoption leave and support on return – explain what the department does, beyond the university maternity policy package, to support female staff before they go on maternity leave, arrangements for covering work during absence, and to help them achieve a suitable work-life balance on their return

Arrangements for maternity/adoption cover depend on the role in question. In the case of academic staff, teaching is re-allocated, with additional support being bought-in if necessary. For support staff, in most cases the School would seek to advertise a maternity cover post.

The number of academic staff taking maternity leave is very small. In the one recent case the member of academic staff has remained in contact with the School throughout her maternity leave (including formal paid Keeping in Touch days). She has commented positively on the support she received when returning to work although she has suggested some improvements to our processes to ensure all points are covered (Action 6.1). She was able to combine working from home with annual leave to facilitate a more gradual return to work between the end of maternity leave and a return to a full academic role. During this time the School has also provided support with grant applications.

156 words

Word count 4477

8. Any other comments: maximum 500 words

Please comment here on any other elements which are relevant to the application, e.g. other SET-specific initiatives of special interest that have not been covered in the previous sections. Include any other relevant data (e.g. results from staff surveys), provide a commentary on it and indicate how it is planned to address any gender disparities identified.

The School is proud of the achievements of its female staff, many of whom are working in innovative areas of interdisciplinary research. Research led by female staff illustrates the breadth of research in the School, including projects on brain imaging, the impact of the built environment on health and well-being, structural engineering, sensors and energy efficiency. Female staff have contributed to the School's improved research performance, winning a range of research grants from first grants to an EPSRC Grand Challenge project.

The School has a sponsored lecture series involving internal and external speakers. These are open to the School and external audiences.

We aim to attract prestigious speakers for these events. Past lectures have included one from Professor Jihong Wang (F) who joined the School in 2010 and is establishing a successful research

group with strong international connections and one from an external female professor. Alongside this series we run informal Top Tips sessions in the School intended to help share good practice. We have also had female speakers at these events. Looking ahead we aim to work to increase the proportion of female speakers at this type of event (Action Plan 5.4).

Engineering female undergraduates are active participants in their cohort. For example in 2011/12 46% of the executive group of Engineers without Borders were female, including the President and there was a similar level of female representation on the Engineering Society executive. Female students were also strongly represented on the School's Staff Student Liaison Committee. **247 words**

9. Action plan

Provide an action plan as an appendix. An action plan template is available on the Athena SWAN website.

The Action Plan should be a table or a spreadsheet comprising actions to address the priorities identified by the analysis of relevant data presented in this application, success/outcome measures, the post holder responsible for each action and a timeline for completion. The plan should cover current initiatives and your aspirations for the next three years.

The action plan does not need to cover all areas at Bronze; however the expectation is that the department will have the organisational structure to move forward, including collecting the necessary data.

1	Baseline Data and Suppor	rting Evidence				
Action	Description of action	Action taken already and outcome at Nov 2012	Further action planned at Nov 2012	Responsibility	Timescale	Success Measure
1.1	Develop understanding of data on student population Regular review of data on composition of student cohort and degree results by gender through annual report to - Teaching Policy Committee and Research Committee Investigate queries on undergraduate recruitment data (Further action column)	Data collected for Athena SWAN application.	 Develop standard report on student intake and undergraduate degree results by gender Prepare annual reports for School committees Investigate availability of data on degree classification breakdown for other institutions. Explore reasons why current female UG students chose to come to Warwick – we attract slightly more than the sector average – through review of available data and possible survey of current students. Look into data on female / male undergraduate conversion rates to establish any pattern in destination of female decliners. 	Director of Undergraduate Admissions, Teaching Policy Committee, Research Committee (for PhD students) Senior Administrative Officer (SAO),	 First set of data to committees Autumn 2012, thereafter on annual basis. Investigation of conversion rate data - Summer – Autumn 2013 Possible survey of current female undergraduates (2013) 	 Proportion of female students – aim to maintain at least at equivalent to sector average. Ability to monitor any changes in data and understand impact of changes we might implement. Better understanding of reasons why female students choose to come to Warwick (or not).

1.2	Develop understanding	Some data made	1. Request further breakdowns of	CWC, SAO, HR	Summer 2013 for report	Establish whether number
	of data on staffing	available by	data	officer,	to CWC in Autumn 2013	of female academic staff at
		central HR	2. Analyse available information			Warwick is out of line with
		Systems team.	3. Report outcomes to CWC			other engineering
	Collect and analyse					departments and whether
	available information on					there is a particular issue in
	female staff numbers at					any of the individual
	Warwick compared to					engineering disciplines or
	other general					at different levels.
	engineering					
	departments.					

2	UG and PG Students					
Action	Description of action	Action taken already and outcome at Nov 2012	Further action planned at Nov 2012	Responsibility	Timescale	Success Measure
2.1	Improve peer support for female students Change composition of first year tutorial groups so that there are at least two female students in groups where female students are represented.	Implemented for 2012/13 academic year as trial	 Monitor implementation and any related feedback Consult students on other possible support (see 2.2) 	Deputy Head of School (Teaching) and Engineering Student Office	2012/13 onwards	Positive feedback from female students.

2.2	Understand expectations of female students Consult current undergraduate and postgraduate students about their experience in the School and whether any specific further support for female students would be beneficial.	Format of consultation agreed for some groups of students.	 Agree consultation process for remainder. Consultation Spring Term 2013. Review outcomes of consultation and implement recommendations for 2013/14 onwards. 	Deputy Head (Teaching), Director of Graduate Studies, SAO	Consultation Spring 2013 onwards. Implement recommendations 2013/14 onwards as appropriate	 Information on student opinions from consultations Further actions and success measures will depend on outcome of consultation. Ultimately, we wish to ensure that our support for female students at all levels is effective. Positive Student Feedback and satisfaction
2.3	Introduce support targeted at females At present students rarely request provision targeted at females and do not see this as important. We recognise that there is evidence that targeted support benefits females and therefore we wish to develop a range of provision and thus collect more useful feedback.	Students have attended some external conferences aimed at female engineers this year. We have also promoted industry led events aimed at females (see submission).	 Evaluate benefits of external events through collecting feedback and data on level of take-up. Communicate student feedback on benefits of attending external conferences to new cohort of students. Promote CAL workshop on interview practice for graduate female engineers. Discussion with central University careers service to develop provision for women students. 	central	Promotion of University and external events (ongoing) Discussion with central careers service (initiate Spring 2013)	 Range of events aimed at female students which are well attended receive positive feedback. Feedback from students to feed into future plans.

	Description of action	Action taken already and outcome at Nov	Further action planned at Nov 2012	Responsibility	Timescale	Success Measure
		2012				
2.4	Effective Open Days with female involvement Ensure that female students and staff are appropriately represented at Open Days.	Currently high number of female student volunteers. Open Day programme changed and new format being tested in 2012.	 Collect data from 2012/13 academic year. Training for all student volunteers as part of Student Ambassador programme. 	Director of Undergraduate Admissions, Engineering Student Office, Director of Graduate Studies.	Monitor on annual basis through CWC	 Ensure appropriate level of female staff and student involvement in Open Days. Possibility of more female students opting to come to Warwick.

2.5	Representative	New Marketing	1. Appoint Marketing	Director of	 Marketing 	Increase awareness of
	recruitment literature	Officer post	Officer who will be	Undergraduate	Officer to be in	importance of
	with female role	established and	tasked with	Admissions, SAO,	post by March	representative
	models	recruitment	developing a	new Marketing	2013.	presentation of the
		underway to provide	marketing strategy	Officer, Research		School's activity when
	Review of student	resource for this area.	and recruitment	Office (for PhD	 Review of 	developing website and
	recruitment literature		materials, including	students).	literature and	marketing materials.
	and website as part of		social networking		website by	 Stronger use of positive
	development of		and website		September	female role models in
	marketing strategy. To		content.		2013.	School website and
	include focus on		2. Monitor student			recruitment activities.
	encouraging female		recruitment data.		 Development of 	 Over time with better
	applicants and				marketing	understanding of data
	presenting positive				strategy by end	under Action1.1,
	female role models.				2013.	appreciation of whether
						particular strategies and
						approaches are more
						successful at attracting
						female students.

	Description of action	Action taken already and outcome at Nov 2012	Further action planned at Nov 2012	Responsibility	Timescale	Success Measure
2.6	Enhancing outreach work Collect and communicate information on outreach work undertaken by all staff and PhD students, including activities aimed at females.	Some discussions with individuals about their involvement in outreach work.	 Collect information and ensure this is passed on to line managers and covered in annual review discussions. Develop process for collecting and collating information. Communicate information on activities involving School staff on website. 	SAO, academic staff line managers	2013/ 2014 onwards	Availability of accessible information on School's outreach activity and involvement of individuals. Increased involvement of staff, including female representation, in outreach activities Positive feedback from schools and audiences involved in outreach activities

	Description of	Action taken already	Further action	Responsibility	Timescale	Success Measure
	action	and outcome at Nov 2012	planned at Nov 2012			
2.7	Effective outreach aimed at females Run courses to introduce Engineering to school students (Headstart and similar) on annual basis, ideally to include an offer aimed specifically at female students	Course ran in summer 2012, plans to run extended offer for female students in 2013.	 Evaluate feedback on courses. Decide on most effective model. Longer term this has resource implications which need to be evaluated and resolved; potentially bid for additional post to support outreach activity Participate in Arkwright Scholarship scheme for school students including an offer targeted at females. 	Deputy Head (Teaching), delivery currently rests with Director of Undergraduate Admissions	Ongoing for course delivery. 2013 for Arkwright scheme.	 Positive feedback on provision. Sustainability of delivery within the School.

3	Key Career Transition Points, Appointments and Promotions							
Action	Description of action	Action taken already and outcome at Nov 2012	Further action planned at Nov 2012	Responsibility	Timescale	Success Measure		
3.1	Ensure that interview panels for all posts are set up in line with University procedures; specifically that all panels should include a female member of staff wherever possible, that shortlisting processes are appropriate and that records of decisions are kept.		 Reminder of process to be prepared and circulated with all application forms (Spring 2013). Monitor constitution of panels (Spring 2013) and address shortcomings. Appoint new HR support officer to provide support to staff on these issues (process underway). 	Chairs of interview panels, SAO, new HR support post.	Spring 2013	Post-doctoral interview processes conducted appropriately in line with University procedures wherever possible.		

3.2	Increased	Some staff have	1. Advise all new	SAO, new HR	Ongoing	Increase overall number of staff
	awareness of	completed training.	academic staff or	support post,	from	who have completed E&D
	E&D issues		those recruiting to	chairs of	Autumn	training.
			post-doctoral roles	interview	2013	
	Encourage staff		for first time of the	panels.		That those involved in shortlisting
	involved in		expectation			or who are chairing panels have
	interview		(ongoing).			completed E&D training.
	panels,					
	particularly		2. Get information from			
	those		Learning and			
	responsible for		Development Centre			
	chairing panels,		(LDC) on uptake of			
	to complete		training within School			
	equality and		(Autumn 2013).			
	diversity (E&D)					
	training		3. Advise all those			
	available from		involved in			
	University		shortlisting or			
			chairing selection			
			panels of expectation			
			that they complete			
			training (ongoing			
			from Spring 2013).			
			4. Monitor take-up with			
			LDC (Spring 2013).			

3.3	Improving recruitment Develop better understanding of applicant pool and motivations for applying. Review our recruitment processes for post-doctoral	Recruiting new HR support post to provide additional resource to support this activity and other work.	 Identify posts where information on gender of applicants is to be collected Collect data on gender of applicants to provide accurate information on number of females (data not to be used in shortlisting and selection) 	SAO, new HR support post, Reports on action taken to Communicati on and Welfare Committee (CWC)	HR support post to be in place by April 2013 This activity to start Summer Term 2013 (may include some historical data)	 Collection and collation of data on applicants and their motivation. Evaluation of value of exercise and identification of any action points, including any that may be specific to recruitment of females. Improvements to recruitment process. More success in recruiting to post-doctoral roles.
	roles.		 3. Consider possible applicant surveys to gather information motivation and what attracts different applicants 4. Evaluate data. 5. Consider post-doctoral recruitment strategies at other institutions 			

3.4	Guidance for	School follows	1. Collect	Head of School,	Start January	Feedback from staff confirming
	probationary	University probationary	information	SAO, central HR	2013, to be	clarity of information.
	staff	process. In the School	available centrally		completed in	Consistent approach and
		this is managed by the	and within the		terms of	guidance.
	Review	Head, who conducts	School.		School level	_
	information	the annual	Collect feedback		information	
	available to staff	probationary review	from current		and process	
	on probationary	meetings.	probationary		by end of	
	expectations		staff.		2012/13	
	and processes		3. Amend and		academic	
	to ensure clarity		enhance		year.	
	and consistency.		information as			
			necessary.			
			Amend processes			
			if needed.			
			Review support			
			structures for staff			
			on probation.			
			6. Discuss issue with			
			central HR and			
			raise through			
			Athena network			
			7. Seek views of staff			
			on any changes.			
			8. Monitor progress			
			of staff on			
			probation locally.			

4	Career Advice an	d Support				
Action	Description of action	Action taken already and outcome at Nov 2012	Further action planned at Nov 2012	Responsibility	Timescale	Success Measure
4.1	Effective mentoring process Improve mentoring process for new academic staff and those on probation.		 Review current process for allocating mentors to new academic staff and report findings to Management Committee. Ensure that all new academic staff are offered a mentor, irrespective of level of appointment. Collect feedback from current staff. Review role of mentors and guidance available to both mentor and new member of staff. Promote University mentoring scheme to staff. 	Head of School, SAO	 Review to be completed by end of 2012/13 academic year. Implementation to follow in 2013/14. 	 Implementation of changes to current arrangements. Positive feedback from staff on mentoring system.

4.2	Establish female network Regular meetings of female staff and PhD student network	Meetings have happened as part of the Athena SWAN submission preparation	 Termly meetings to be scheduled. Issues identified to be reported to CWC. 	Chair of CWC, SAO	Spring 2012/13 onwards	 Regular, well-attended meetings in place. Issues raised being dealt with and communicated through CWC.
4.3	Encourage uptake of training and personal development Collect data on uptake of staff training and personal development opportunities	Extensive staff training programme available centrally, promoted to staff in Engineering through regular email bulletins from Head of School's office. Data available from central Learning and Development Centre (LDC)	 Request data Evaluate against training needs identified through annual review or other means Discuss outcomes at CWC to identify any issues and potential solutions 	CWC, SAO, HR support post	December 2012 onwards, outcomes to be discussed at CWC during 2012/13 academic year.	 Availability of information on staff training needs and uptake Feed into LDC (or other central providers) any identified training needs that are not met through current provision. Increased uptake of relevant provision

4.4	Effective support through annual review Evaluate changes to annual review process	Changes made in 2012 including introduction of supplementary questions on research activity, teaching and general contribution to the School.	 Collate information; any trends from outcomes of reviews, feedback from staff (including any issues raised by female staff) Evaluate impact of change 	SAO, Management Committee	 Spring Term 2012/13. Any further changes to be subject to review in 2013/14. 	 Effective annual review system which engages staff, provides an opportunity for a productive discussion about individual development and provides useful information for the School. Clear guidance on process for reviewers and those being reviewed (to supplement that available from the University.4.5
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4.5	Post-doctoral community	staf	nsult post-doctoral on their ectations and	Deputy Head (Research) and Research Office,	 Promotion of available support (Spring 2013). 	 More active and engaged post-doctoral staff.
	Improve support for post-doctoral researchers	School 2. Asset grouincle mig suppost com 3. Profisuppost cert transpost and mar 4. Collins	erience within the ool. ess needs of this up of staff, uding how we ght encourage and port a more active at-doctoral nmunity. mote available aport, including atgraduate tificate in ensferable skills to at-doctoral staff I their line enagers. lection of data on e-up of support.	HR support officer	 Better understanding of support and training available in University and elsewhere (Spring 2013). Consultation with staff – ongoing for new staff from 2013 onwards, wider group Autumn 2013 onwards. 	Post-doctoral staff taking up opportunities to develop skills and career.

Action	Description of action	Action taken already and outcome at Nov 2012	Further action planned at Nov 2012	Responsibility	Timescale	Success Measure
5.1	Representative decision making system Monitor committee membership by		1. CWC and Management Committee to consider committee membership on annual basis – each summer for following year.	CWC and Management Committee	Summer 2013 onwards	Representative committee system.
	gender on annual basis		2. Through this to identify any issues of representation (on gender or any other basis) and agree appropriate action.			

5.2	Effective	Chair agreed	1. Confirm remit and	Chair of CWC	To be	Issues and subsequent actions
	implementation of	(female member	membership.	and members	implemented	being completed and
	Athena SWAN	of staff).	2. Regular meetings		in 2012/13	communicated to staff
	action plan and	 Chair has 	and report to			
	improving	discussed	Management		Annual report	More informed and engaged
	communication	involvement with	Committee as		to	staff members
		some members	needed.		Management	
	Set up new	of Athena SWAN	3. Progress check		Committee on	Promotion of best practice
	Communications	self assessment	against Athena		Athena SWAN	
	and Welfare	group	SWAN action plan		action plan	Understanding of staff
	Committee.	 First meeting to 	and annual report		(Autumn	expectations and concerns
		take place Spring	to Management		term).	across School.
		term 2013.	Committee			
			4. Consider PULSE		PULSE results	
			staff survey results		– survey Jan	
			and issues raised		2013,	
					consider	
					results when	
					available in	
					2013	

5.3	Recognition of collaborative research Discuss with University the recognition of collaborative research outputs.		 Identify and document areas of concern. Discuss with University Athena SWAN network to agree most appropriate route to raise issue. 	Athena SWAN group/CWC, SAO	To raise with network in 2013/14	Recognition of range of research outputs and value of collaborative work.
5.4	Female role models at School events Increase number of female speakers at School lectures and seminar sessions.	Some previous female speakers.	Request nominations specifically for female speakers	Research Office	Underway for 2012/13	Increased number of female speakers.
5.5	Implementing new workload model successfully Assess new workload model introduced in 2012		 Survey staff for views on model Consider workload distribution 	SAO, Management Committee	Spring Term 2013 survey and review	Effective workload model that supports equitable allocation of teaching and administrative duties and provides indication of protected research time.

6	Career breaks/flexib	ole working				
	Description of	Action taken	Further action planned at	Responsibility	Timescale	Success measure.
	action	already and	Nov 2012			
		outcome at Nov				
		2012				
6.1	Communication of	Senior	1. SAO to speak to any staff	SAO, individual	As cases arise	Comprehensive
	available support	Administrative	going on leave about	line managers	from Autumn	induction information.
	Ensure that staff	Officer (SAO) to	University policy and		2012 onwards.	
	are aware of	discuss family	informal support within			Checklist in place for
	support networks,	friendly policies and	School.		Checklist in	staff returning from
	support available	University support	2. For any staff on leave, SAO		place for March	leave.
	in School and	networks with all	to liaise with member of		2013.	
	relevant University	new staff as part of	staff and line manager about			
	policy.	induction process.	arrangements for return.			
			3. SAO to develop checklist for			
	"Leave" refers to		return from leave and case			
	any long term		studies so there are			
	maternity,		examples of how staff have			
	adoption, parental		managed a return to work.			
	leave, including		4. New HR support post to			
	paternity leave		develop information			
	beyond the		available on School intranet.			
	standard two week		5. Offer of associate fellow			
	entitlement.		status to any fixed-term			
			contract staff whose contract			
			expires during a longer			
			period of leave.			

6.2	Teaching	Plans to begin	1. To be implemented in 2013.	Director of	Time	tabling
	timetable	timetabling process		Studies, ESO	infor	mation to be
	Improve	earlier.			avail	able earlier
	advance				in ye	ar than
	availability of				curre	ently possible
	teaching					
	timetable to					
	help all staff					
	plan their					
	time and also					
	facilitate					
	childcare					
	planning					
	where					
	relevant					

Abbreviations

CWC Communications and Welfare Committee

SAO Senior Administrative Officer

ESO Engineering Student Office