AN ASSESSMENT OF THE WORKING CLIMATE FOR ENGINEERING FACULTY AT THE UNIVERSITY OF BRITISH COLUMBIA

2012/2013

(VANCOUVER CAMPUS)

Main findings

1. There are opportunities for improvement in clarity on a number of faculty and department policies around workload and resource allocation.

2. On a majority of workplace climate indicators surveyed, including feeling respected, included, valued, empowered and legitimized, women faculty in engineering reported significantly less positive scores than their men peers.

3. Significant differences were found between research stream and teaching stream faculty related to perceived valuing of contributions, and clarity/fairness of teaching allocations. No overall differences were found across workplace climate/equity measures between faculty identifying as dominant ethnicity and those identifying as a member of a visible minority group, except around raising concerns in their department, particularly when comparing by seniority. .

4. Job-related discrimination in the workplace was reported by more than half the women but only 6% of the men faculty respondents.

5. Averaged over the current cohort and adjusted for leaves, women engineering faculty achieve tenure more than one half year later than men faculty. As well, on average women faculty remain in the Associate Professor rank prior to promotion over two years longer than men faculty.

6. Gender differentials with respect to recruitment rate, attrition rate and departmental leadership remain a concern for Engineering at UBC (Vancouver).

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Preface

In 2012/2013, the Faculties of Applied Science and Science jointly assessed the working climate and status of equity and diversity for their faculty members in the Science and Engineering departments and affiliated major research centres. The overall goal of this study was to identify potential gaps and best practices to develop recommendations for the Faculties' efforts to advance equity, diversity and working climate for faculty in alignment with UBC's employment equity[1] and respectful working environment[2] goals.

The members of the Steering Committee of the Working Climate Study[3] were:
From the Faculty of Applied Science - Professor Elizabeth Croft, NSERC Chair for Women in Science and Engineering, Professor Sally Thorne, Associate Dean Faculty Affairs, and Marlon Figueroa, Executive Assistant to the Dean;
From the Faculty of Science - Professor Vanessa Auld, Associate Dean Faculty Affairs and Carola Hibsch-Jetter, Strategic Initiatives Manager.

Acknowledgements

We would like to express our gratitude to the following persons for their support of this study: Eric Hall (APSC Dean Pro Tem to August 2013), Rachel Kuske (Senior Advisor to the Provost) and Marc Parlange (APSC Dean as of August 2013) for supporting this work, the Engineering Working Group including Michael Hitch, Rafeef Abugharbieh, Sheryl Staub-French, Madjid Mohseni and Daan Maijer for advice on the faculty survey and review of the report; Ellexis Boyle Maslovat, Research Associate, for consultation on the design of the faculty survey; Joanne Ursino, Equity Advisor, for facilitation of and advice on the faculty focus groups; Rick White and Dr. Jennifer Bryan, SCARL, for statistical consultations – and to administrative staff in the dean's offices both of the Faculties of Science and Applied Science, particularly, Yassaman Bayani for data analysis and graph preparation and Reginald Sacdalan, IT Coordinator, for expertly setting up and maintaining the online survey.

[1] UBC is committed to employment equity and to build a more inclusive university. The designated equity groups under the Canadian Employment Equity Act are women, Aboriginal peoples, visible minorities and persons with disabilities.
[2] UBC's Respectful Working Environment Statement: www.hr.ubc.ca/respectful-environment.
[3] The working climate assessment for Science faculty was part of a joint study conducted by the UBC Faculties of Science and Applied Science (for Engineering faculty) and co-chaired by Vanessa Auld and Elizabeth Croft. An Engineering Working Group was struck to help with the design of the faculty survey and the interpretation of the Engineering survey results.

1 Procedures for the Assessment of the Working Climate for Engineering Faculty

The 2012 Working Climate Study is based on three study components – a faculty survey (online questionnaire and focus groups), a review of departmental guidelines and procedures ("policy review"), and comparisons of institutional data including career progress, salary, and awards. The survey was done in partnership with the Faculty of Science. While this is the first time that such a study has been undertaken in Engineering, both the survey and the process are based on a similar study done by the Faculty of Science (FoS) in 2007. That study resulted in significant policy changes that are being assessed by the Faculty of Science as part of their survey process.

Survey questions were drawn from the FoS 2007 study as well as from a review of similar studies done at Wisconsin-Madison (2010), Oklahoma (2007), the University of Illinois (2006), Stanford (2004), and Michigan (2002) among others. The procedures for this study were approved by the UBC Behavioral Research Ethics Board, Certificate number H12-01738.

1.1 Participants in the Assessment of Working Climate

Just under 51% of faculty members participated in the Engineering survey (86/170). Table 1 shows the participation rate from each department.

Table 1. Survey participation rate by department.

DEPARTMENT	FACULTY INVITED TO PARTICIPATE	NUMBER OF RESPONSES	PARTICIPATION RATE
CHBE	22	10	45%
CIVL	33	13	39%
EECE	52	22	42%
MECH	32	25	78%
MINE	10	3	30%
MTRL	17	10	59%
Technical Communication[4]	4	3	75%
TOTAL	170	86	51%

[4] At the time of the survey, these instructors were not yet members of departments.

Table 2 shows the demographics of the survey respondents. The response rates are consistent with observed age, gender distribution and self-identified visible minority status of faculty members as documented in Section 2, Overview of the Faculty.

Table 2. Demographics of respondents.

	RESPONSE RATE FROM EACH GROUP	PERCENTAGE OF WCS SURVEY PARTICIPANTS
Designated equity group [1]		
Women	52%	14% [3]
Visible minorities	Data not available	23% [4]
Persons with disabilities	Data not available	1% [5]
LGB	Data not available	2% [6]
Stream [2]		
Teaching	65%	17%
Research	46%	83%
Seniority [2]		
Junior faculty	36%	37%
Senior faculty	60%	60%
Engineering total		
OVERALL	51%	51%

[1] See Appendices A and B for a listing of designated equity groups and pertaining WCS survey section ("Background Information").
[2] See Section 1.2 for definitions. Percentage of survey respondents who preferred not to disclose their gender identity
[3] 3%; their ethnicity/culture
[4] 9%; their disability status
[5] 1%; their sexual orientation
[6] 8%.

1.2 Abbreviations and Terminology Used

EQUITY GROUPS:

- LGB: Lesbian, Gay, Bisexual or corresponding terms (sexual orientation minorities).
- VM: Members of Visible Minority groups. See Appendix A for a listing of groups.

GENDER:

- M: Men
- W: Women

FACULTY RANK AND GROUPINGS:

- RS: Research Stream. Includes ranks of Assistant, Associate and Full Professor.
- TS: Teaching Stream. Includes ranks of 12-month Lecturer, Instructor 1, Senior Instructor, Professor of Teaching.

  We use the generic terms "research stream faculty" and "teaching stream faculty" throughout this document to refer to members of the two distinct contractual paths for tenure track faculty, recognizing that neither term fully reflects the full scope of and diversity within either the path. We also note that Lecturers, who are non tenure-track members of faculty, are grouped with the latter category for the purposes of our comparative analysis.
- Junior: Includes instructors, assistant professors, and associate professors with ≤ 5 years in rank.
- Senior: Includes senior instructors, professors of teaching, associate professors with ≥ 6 years in rank, and full professors.

GENERAL:

- APSC: Faculty of Applied Science.
- FoS: Faculty of Science, UBC Science.
- PES: Physical and Earth Sciences.
- MCS: Mathematical and Computational Sciences.
- LS: Life Sciences.
- WCS: Working Climate Study.
- PSA: Performance Salary Adjustment.
- FTE: full time equivalent.

1.3 Statistical Analyses and Comparisons

In addition to results based on total respondents, comparisons for the following faculty groups were conducted: Gender, Ethnicity, Stream and Seniority. Statistically significant differences (p-value < 0.05) for the various breakdowns were identified based on lumped answers (e.g., Strongly Agree + Somewhat Agree/ Disagree = Strongly Disagree + Somewhat Disagree). The "significance" of these results should be tempered by noting that for women and for Teaching Stream faculty, the numbers of respondents, although representative, was relatively small in absolute numbers. Thus, these results should be seen as helpful in pointing to areas that may be of concern rather than as a definitive measure of faculty perceptions.

Statistical comparisons were also done between Engineering and department "groups" in Science, broken out as Physical and Earth Sciences (PES), Mathematical and Computational Sciences (MCS) and Life Sciences (LS). In this report, where statistically significant differences were found between Engineering and FoS "groups", this data is used to provide some grounding comparisons. Further analyses, beyond the scope of this report, are required to fully compare outcomes for the two faculty groups.

1.4 Focus Groups

In an effort to address some of the inherent limitations associated with using a quantitative survey to interpret complex human experiential phenomena, we built a focus group component into the project design. During April and May of 2013, seven focus groups were scheduled – one open to all faculty and the others specific to various ranks and equity groups. Two were cancelled due to lack of participants, three had only one participant, and the remaining two groups (Women: All Ranks, and Full Professors) consisted of three members each. Thus, a total of nine engineering faculty members contributed.

The focus group or individual conversation was guided by prompt questions related to such issues as workload expectations, leadership opportunities, mentorship, inclusion in informal networks, career progress and recognition, and family accommodation (slight differences in the focus had been intended in relation to each subset of faculty). The prompt questions were developed based on a statistical analysis of the survey data as well as a qualitative review of themes emerging from the comments collected in the survey. Participants were invited to express their views frankly and openly, given opportunities to acknowledge and elaborate on any concerns, and encouraged to identify recommendations and best practices.

For reasons of confidentiality, data were reported in a grouped thematic format. Across the data set, we saw evidence of a considerable diversity of experience and perception. Reflecting on their own experience as well as their perceptions of the experience of other colleagues, faculty participants flagged issues of particular concern and offered constructive suggestions for how working climate and equity issues might be addressed, both at the department and

faculty levels. Although the individual accounts did provide rich contextual explanatory detail fleshing out that which could be discerned from the survey data, no major thematic departures were noted from the story the survey told. Insights of a more specific nature from these accounts, along with survey data pertaining to individual departments, will be folded into the ongoing dialogue at the level of the Dean, Associate Deans and Department Heads.

1.5 Confidentiality

Institutional as well as survey results have been grouped in order to protect confidentiality and to ensure anonymity. The faculty survey was conducted anonymously. Survey data were analyzed by UBC's Statistical Consulting and Research Laboratory (SCARL). Results were provided to the steering committee in aggregate format only.

2 Overview of the Faculty

The most recent strategic plan for UBC Engineering was developed in 2008. Goal III of that plan is as follows:

To recruit outstanding students, faculty and staff, and to foster their development and career goals

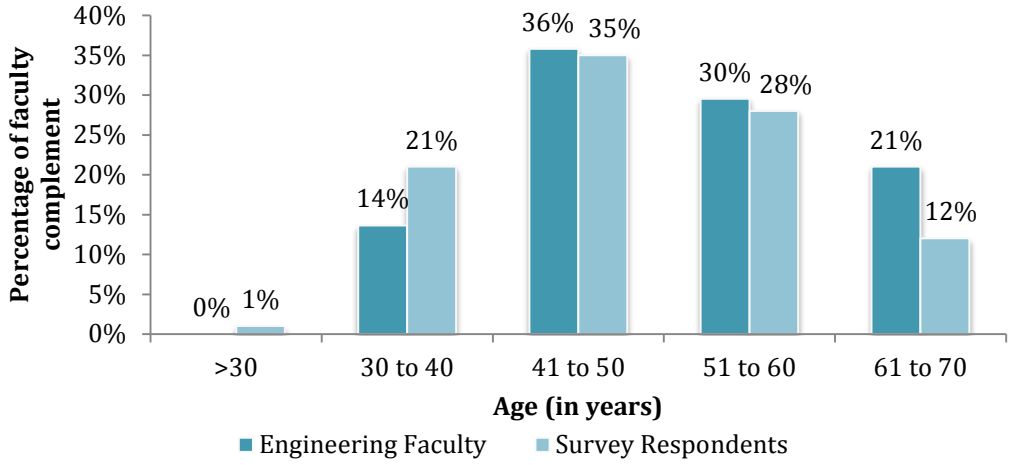
The three strategic objectives relevant to faculty in this goal are:

- *Ensure that the Faculty recruits and retains outstanding faculty who reflect its education and research priorities.*
- *Provide a high level of support, mentoring and suitable professional development opportunities for faculty and staff.*
- *Facilitate a greater degree of gender balance in the Faculty.*

2.1 Faculty Composition

In Fall 2012, UBC Engineering had a total of 176 full-time faculty members, 133 men and 23 women, of which 170 were invited to participate in the survey (faculty with joint appointments whose home department is not Engineering were excluded). Figure 1 compares the age distribution for the faculty and the age distribution of survey respondents.

Figure 1. Comparative plots of faculty age distribution versus survey respondents.



Source: HRMS. Calculations: APSC Dean's Office.

Table 3 provides data on equity groups among UBC Engineering faculty members compared to Canada-wide representation among overall academic personnel for years 2009 to 2013. In the UBC Equity Census no faculty members self-identified as Aboriginal. Out of the Engineering faculty responding to the Census, 29–35% identified as members of a visible minority group; 2–5% identified as persons with a disability; 2% identified as members of a sexual or gender minority. Around half of all faculty members of Engineering responded to the Equity Census, with response rates varying between 49% and 56% over five years.

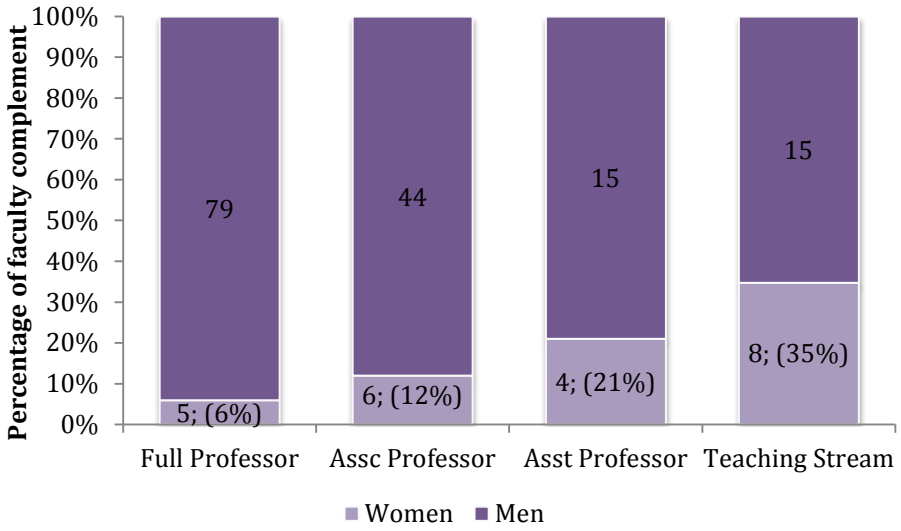
Table 3. Representation of equity groups among Engineering faculty (tenure-track and 12-month lecturers) over five years (2009-2013) in comparison to their Canada-wide representation in academia.

DESIGNATED EQUITY GROUP	REPRESENTATION OF EQUITY GROUP BY YEAR				
	2009	2010	2011	2012	2013
Women					
UBC Engineering [A)] – total	13%	13%	13%	14%	14%
– Research stream	10%	10%	10%	11%	10%
– Teaching stream	30%	33%	33%	32%	35%
All academic disciplines (Canada) [C)]	39.6%				
Visible minorities [E)]					
UBC Engineering [B)]	29%	34%	33%	35%	35%
All academic disciplines (Canada) [C)]	15.1%				
Aboriginal peoples [E)]					
UBC Engineering [B)]	0%	0%	0%	0%	0%
All academic disciplines (Canada) [C)]	0.9%				
Persons with disabilities [E)]					
UBC Engineering [B)]	5%	3%	3%	3%	2%
All academic disciplines (Canada) [C)]	4.5%				
Sexual and gender minorities [B) D) E)]					
UBC Engineering	2%	2%	2%	2%	2%
UBC	6%	5%	5%	6%	5%
All academic disciplines (Canada) [C)]	Data not available				

Sources:
[A)] UBC HRMS data (UBC office of Planning and Institutional Research). Research stream includes Assist., Assoc. and Full Prof.; Teaching Stream includes Instr. 1, Sr. Instr., Prof. of Teaching, and 12-month Lecturer.
[B)] UBC Equity and Inclusion Office (Equity Census, see Appendix A): self-reported equity groups (see response rates below);
[C)] Canadian Census 2006 (Canadian Labour Force availability data);
[D)] Persons who identify as LGBTQ (Lesbian, Gay, Bisexual, Transgender, Queer or corresponding terms) in UBC Equity Census.
[E)] Response rates of UBC Engineering faculty in annual UBC Equity Census: 49% (2009), 55% (2011, 2013), 56% (2010, 2012).

Figure 2 shows the total number of faculty members at each rank and the number and percentage of women faculty during 2012.

Figure 2. Faculty members in Engineering in 2012.



Breakdown by Gender and Rank. Headcount rather than FTE shown.
Source: HRMS. Calculations: APSC Dean's Office.

Figure 3 presents an overview of the engineering faculty during the last five years (2008-2012). The overall headcount in engineering over the past 5 year has been fairly static, as has the number and percentage of women faculty.

Figure 3. Faculty members in Engineering between 2008 and 2012.

Breakdown by Gender. Headcount rather than FTE shown.
Source: HRMS. Calculations: APSC Dean's Office.

Table 4 shows the breakdown for women faculty by year and rank from 2008 to 2012. In 2008, 26% of Assistant Professors were women, in 2012 that number has declined to 17% as the head count fell from eight in 2008 to three in 2012. The number of women Associate Professors has increased from four to seven (8% to 15%), while the number of Full Professors increased from four to five (constant at 6%). The percentage of women teaching stream faculty has remained fairly flat, around 32%. Between 2007 and 2013 seven women research stream faculty members (including three Assistant Professors) left UBC Engineering (see Section 4.3 for details on faculty retention).

Table 4. Headcount and percentage of women faculty in Engineering by rank, 2008 to 2012 as of July of each year.

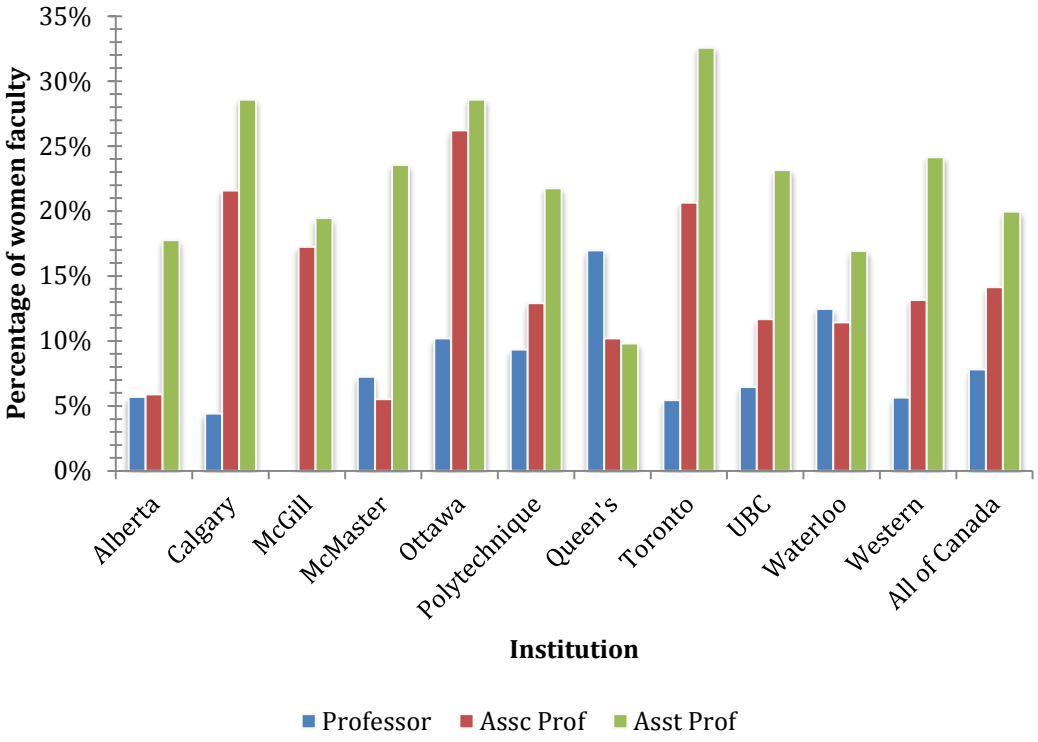
RANK	2008		2009		2010		2011		2012	
Full Prof	4	6%	5	7%	5	6%	5	6%	5	6%
Assc Prof	4	8%	6	11%	6	12%	6	12%	7	15%
Asst Prof	8	26%	5	17%	5	22%	4	21%	3	17%
Teaching Fac.	7	32%	7	29%	7	32%	8	35%	8	32%
Total	23	13%	23	13%	23	13%	23	13%	23	13%

Headcounts shown rather than FTEs. Source: HRMS.

2.2 Peer Comparisons

Figure 4 and Table 5 shows rank and gender for the faculty along with Canadian peer comparisons for 2010 based on full time equivalent (FTE) counts. In that year UBC reported 11% women research stream faculty (9th out of 11 comparator schools) and 15% overall FTE women faculty including teaching stream faculty (4th out of 11 comparator schools).

Figure 4. Canadian breakdown of women faculty in engineering by professoriate rank in 2010.



Percentages based on FTE counts.
Source: Engineers Canada

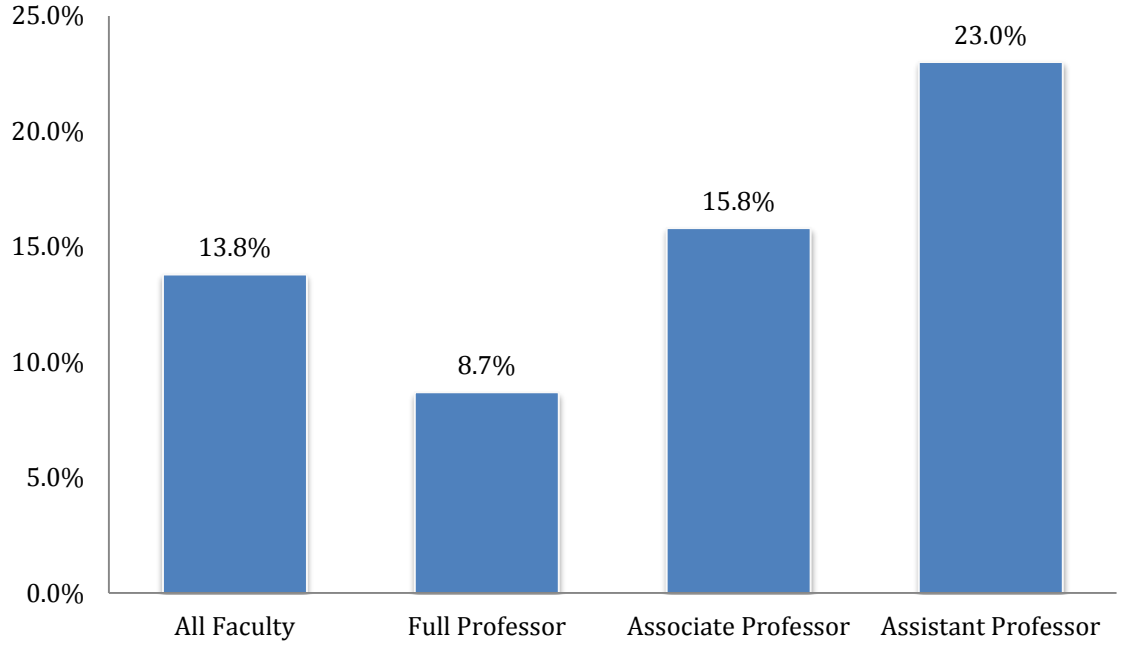
Table 5. Percentage of women engineering professors* in Canadian institutions in 2010 (in order of percentage women professors).

INSTITUTION	MEN	WOMEN	TOTAL	% WOMEN
Ottawa	90	22	112	20%
Toronto	183	33	216	15%
Calgary	120	20	140	14%
Queen's	119	19	138	14%
Waterloo	214	33	247	13%
McGill	115	17	132	13%
Polytechnique	197	29	226	13%
Western	78	11	88	12%
UBC	134	16	150	11%
Alberta	166	18	184	10%
McMaster	129	12	141	9%
TOTAL (all of Canada)	3162	440	3602	12%

Percentages based on FTE counts. *Professors in all ranks: Full, Assc., and Asst.
Source: Engineers Canada

In 2011, 13.8% of US engineering faculty were women (see Figure 5) with women making up 23% of the Assistant Professor rank. Yoder (2011, ASEE) identified 50 US engineering schools with more than 16.7% women tenured/tenure track engineering faculty including: the University of Washington, the University of Michigan, Northwestern University, The US Naval Academy, Northeastern University, and MIT.

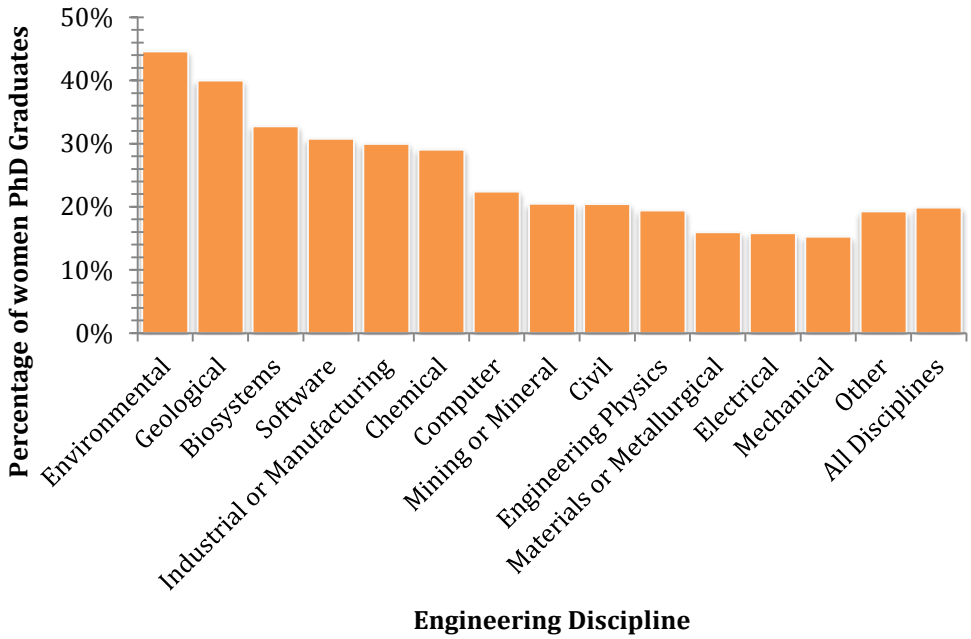
Figure 5. Percentage of Women Tenured/Tenure Track Engineering Faculty by Level for US Institutions



(Source: Yoder (2011) ASEE, Engineering by the Numbers).

Figure 6 shows the percentage of women Ph.D. graduates in Canada from 2007-2011 (Source, Engineers Canada). The national average is approximately 20%. In 2010, the percentage of women Ph.D. graduates in engineering, manufacturing and construction in the US was 24% and the percentage in European union was 26% (Source, She Figures 2012. Gender in Research and Innovation. European Commission, 2013, p. 54).

Figure 6. Average Percentage of Women Ph.D. Graduates in Canada by Engineering discipline 2007 - 2011



Source: Engineers Canada

As a local comparison, the percentage of women research stream faculty[5] in Science is 19%. The percentages of women research stream faculty in Math, Physics and Computer Science at UBC (units most often aligned and compared with Engineering) are 16%, 13% and 19%, respectively.

[5] The comparison by numbers of research stream faculty is done to give an "apples to apples" comparison as different units have widely varying numbers of teaching stream faculty depending on historical context and program demand.

3 Professional Climate

Policy 3 states that UBC is committed to providing its students, staff, and faculty with the best possible environment for study and work. This includes an environment where all:

- *have equitable access to work and study related opportunities,*
- *are treated with respect and dignity, and*
- *are free from discrimination and harassment*

3.1 Respect and Inclusion

Part 1 of the faculty survey addressed the professional climate in engineering. Question 1 considered respect and inclusion. Respondents were asked to respond to the following statements on a five point scale (strongly disagree, somewhat disagree, neutral, somewhat agree, strongly agree). Analysis of the data was done over both the full scale and over a lumped scale (disagree, neutral, agree).

Table 6. Percentage of Respondents Who Agreed (i.e. "somewhat agree" and "strongly agree") with statements in Question 1. Darker cells represent statistically significant responses (p-value < 0.05) for the lumped scale (disagree, neutral, agree).

QUESTION 1	OVERALL	BY GENDER		BY ETHNICITY		BY STREAM		BY RANK		VALID RESPONSES
		W	M	VM	WHITE	RS	TS	JUNIOR	SENIOR	
1. I feel treated with respect by my colleagues.	88%	58%	93%	86%	89%	89%	87%	88%	89%	86
2. I feel treated with respect by the staff members.	88%	67%	93%	81%	91%	87%	93%	81%	92%	84
3. I feel treated with respect by students.	88%	83%	91%	81%	91%	87%	93%	83%	90%	84
4. I feel excluded from informal networks in my department/unit.	26%	60%	22%	32%	24%	24%	33%	31%	24%	82
5. I am comfortable raising concerns about my department without fear of it affecting my advancement.	77%	46%	80%	60%	80%	79%	67%	74%	79%	85
6. I feel valued for my teaching.	76%	50%	79%	74%	76%	75%	79%	69%	80%	79
7. I feel valued for my research.	77%	50%	81%	75%	77%	82%	29%	74%	78%	78

QUESTION 1	OVERALL	BY GENDER		BY ETHNICITY		BY STREAM		BY RANK		VALID RESPONSES
		W	M	VM	WHITE	RS	TS	JUNIOR	SENIOR	
8. I have to work harder than my colleagues in order to be perceived as a legitimate scholar.	42%	75%	37%	43%	42%	41%	47%	52%	37%	85
9. I have a voice in the decision-making that affects the climate and direction of my department/unit.	71%	33%	78%	57%	75%	72%	67%	72%	71%	86
10. My department supports collaborative research.	71%	60%	73%	76%	69%	72%	69%	75%	72%	83
11. My department/unit supports interdisciplinary research.	66%	42%	70%	67%	66%	68%	60%	69%	67%	86
12. My department/unit supports and rewards interdisciplinary teaching.	46%	22%	49%	41%	47%	48%	39%	42%	50%	74
13. Commitment to diversity is demonstrated by my department.	59%	18%	65%	55%	59%	55%	83%	55%	59%	80

More than one-quarter of faculty respondents indicated that they feel excluded from informal networks in their department. Over 70% of faculty respondents agreed that their unit supports collaborative research, but fewer (66%) agreed that their unit supports interdisciplinary research. Furthermore, fewer than 50% of all faculty respondents agreed with the statement "My department/unit supports and rewards interdisciplinary teaching". By comparison, in the FoS survey, their response to this last question was more positive: overall, 65% respondents (women and men alike) agreed to this statement.

Less than 60% of Engineering respondents agreed with the statement "Commitment to diversity is demonstrated by my department" and most women disagreed with this statement. By comparison, in Science, 79% of faculty agreed with this statement, although there were also significant differences between men and women (W:70%, M: 83%).

Significantly less women respondents felt respected by other faculty and by staff and these gender differences were persistent when considering both tenure stream and seniority. Significantly more women reported that they felt excluded from informal networks in their unit, uncomfortable in raising concerns, less valued for their research and less empowered to affect decisions in their department. More women reported that they needed to work harder than their peers to achieve legitimacy. In comparison with the FoS study, while similar gender differences were also noted for respect by other faculty, with raising concerns, and with legitimacy, gender concerns were not found for the other categories.

In general, respondents identifying as visible minorities did not have significantly different responses to these questions. However, when comparing by seniority level (junior/senior), visible minority respondents were significantly less comfortable raising concerns (Q1.5) and there was an trend ($p<0.1$) for all visible minority faculty to respond more negatively to this question. Teaching Stream faculty reported feeling significantly less valued for their research contributions; with the introduction of the Professor of Teaching rank this is a metric of concern.

3.2 Perception of Fairness in the Administration of Units

Respondents were asked to respond to the following statements on a five point scale (strongly disagree, somewhat disagree, neutral, somewhat agree, strongly agree).

Table 7. Percentage of respondents who agreed (i.e. "somewhat agree" and "strongly agree") with statements in Question 2. Darker cells represent statistically significant responses (p-value < 0.05) for the lumped scale (disagree, neutral, agree).

QUESTION 2	OVERALL	BY GENDER		BY ETHNICITY		BY STREAM		BY RANK		VALID RESPONSES
		W	M	VM	WHITE	RS	TS	JUNIOR	SENIOR	
1. My head/director treats all sub-fields equitably.	75%	78%	75%	58%	83%	75%	79%	71%	80%	81
2. My head/director maintains high academic standards.	92%	90%	94 %	89%	94%	92%	92%	92%	92%	76
3. Administration and service loads are distributed fairly.	71%	60%	73%	60%	77%	71%	71%	65%	75%	80
4. Sabbatical leaves are handled fairly.	81%	88%	79%	88%	78%	83%	75%	81%	83%	69
5. Teaching loads are distributed fairly.	75%	50%	77%	63%	77%	77%	64%	64%	83%	79
6. The head/director handles disputes/problems effectively.	73%	22%	78%	67%	72%	75%	62%	76%	74%	77
7. Reporting harassment* and discrimination** is encouraged.	60%	11%	69 %	69%	57%	61%	55%	72%	56%	62

QUESTION 2	OVERALL	BY GENDER		BY ETHNICITY		BY STREAM		BY RANK		VALID RESPONSES
		W	M	VM	WHITE	RS	TS	JUNIOR	SENIOR	
8. I feel treated with respect by my head/director.	84%	75%	85%	81%	87%	85%	80%	84%	85%	86
9. I am satisfied with the efforts made by my head/director to help me obtain resources.	74%	73%	74 %	80%	76%	71%	86%	77%	71%	84
10. My head/director actively involves me in decision making.	69%	42%	73%	62%	74%	70%	67%	61%	75%	84

Almost all faculty members agreed that their head/director maintained high academic standards and 84% felt that their head/director treated them with respect. However, over a quarter of the faculty were less positive with respect to fairness of workload distribution, dispute resolution, help with access to resources and involvement in decision making. Faculty responses, in general, were similar to responses from the department groups in Science. Engineering responses tended to be more positive than faculty in the Physical Sciences (PS) and less positive than faculty in the Mathematical and Computational Sciences (MCS).

The overall responses were similar across faculty groups except when examining gender. Significantly less women faculty agreed that their head/director handles disputes/problems effectively, or that reporting harassment and discrimination was encouraged. Consistent with Question 1.9 at the trend level ($p<0.1$), less women faculty felt that their head/director involved them in decision making. This difference could not be explained by seniority or tenure stream although junior faculty were more negative than senior faculty.

3.3 Observation or Reporting of Harassment.

Respondents were asked to respond to the statements in Table 8 with yes/no answers.

Table 8. Percentage of Respondents Who Answered "Yes" to Statements in Question 3. Darker cells represent statistically significant responses (p-value < 0.05)

QUESTION 3	OVERALL	BY GENDER		BY ETHNICITY		BY STREAM		BY RANK		VALID RESPONSES
		W	M	VM	WHITE	RS	TS	JUNIOR	SENIOR	
1. I have experienced harassment in my department.	9%	25%	7%	0%	15%	7%	20%	13%	8%	85
2. I have observed harassment in my department.	12%	25%	10%	5%	17%	10%	20%	6%	16%	84
3. I know the steps to take if someone comes to me with a claim of harassment.	52%	8%	61%	43%	52%	49%	67%	39%	61%	84
4. I have reported harassment that I experienced or observed to my department head or the UBC Equity Office.	19%	20%	20%	13%	26%	18%	25%	9%	26%	62
5. For harassment that I reported, I was satisfied with the extent to which the case/s was/were resolved.	67%	50%	69%	67%	67%	67%	67%	67%	67%	15
6. I have not felt comfortable reporting harassment that I observed or experienced.	23%	50%	18%	20%	24%	15%	50%	29%	21%	26

Almost 50% of faculty responded "no" to "I know the steps to take if someone comes to me with a claim of harassment". Women (significant) and junior faculty (trend) responded much more negatively to this statement than men and senior faculty, respectively. In the FoS survey, 37.5% of faculty responded "no" to this question.

Faculty were asked "Have you ever perceived job-related discrimination in your department (against yourself or someone else) based on grounds such as ethnicity, gender, sexual orientation, physical/mental disability, religion/atheism, age, or other". While only 13% of respondents indicated "yes", 58% of women faculty responded "yes", Table 9.

Table 9. Percentage of Respondents Who Answered "YES" to Statements in Question 4. Darker cells represent statistically significant responses (p-value < 0.05)

QUESTION 4	OVERALL	BY GENDER		BY ETHNICITY		BY STREAM		BY RANK		VALID RESPONSES
		W	M	VM	WHITE	RS	TS	JUNIOR	SENIOR	
Have you ever perceived discrimination** in your department (against yourself or someone else) based on grounds such as ethnicity, gender, sexual orientation, physical/mental disability, religion/atheism, age, or other:	13%	58%	6%	14%	15%	13%	13%	16%	12%	85

When asked "Are you aware of a respectful environment policy at UBC?", 64% of faculty responded "yes". Significantly more senior faculty reported being aware of this policy.

3.4 Departmental Policies

POLICY AUDIT AND PROCESS

A departmental policy "audit" was conducted in the fall of 2012. As a result of that initial review of all extant faculty policies, it was apparent that there was considerable variation between departments with respect to explicit versus implicit policies. Further, where written policies existed and were used, there was considerable variation in relation to whether they were department-specific, faculty-level, or university-level policies. All Department Heads expressed enthusiasm for learning what opportunities existed for ensuring their practices were optimally aligned with university expectations, notwithstanding some essential variations for distinct local conditions and departmental cultures. They also looked forward to sharing "best practices" across the faculty.

On the basis of that initial review, it was concluded that there was little benefit in producing a formal report of what did and did not exist (and in what form and quality); neither was there any apparent reason to postpone the work of collective policy development. Therefore, over the course of the 2012/2013 academic year, many policy initiatives took place. All departments made revisions to hiring policies, including equity training for all faculty search committees, and several new faculty policy documents were approved by the APSC Budget Heads (including all Engineering Heads as well as the Directors of Schools within the faculty). Among the new policies put in place through this process are: Peer Review, CV and Teaching Dossier Guide, Hiring Checklists, Faculty Mentorship, Differential Assignment of Teaching, and Instructor Support. All of these new policies are explicitly aligned with current expectations and emerging directions at the university level. Most of these policy documents are designed to accommodate variations consistent with departmental norms operating cultures as appropriate, and departments may prefer to work with their own distinctive version. However, the expectation is that policies are increasingly explicit and transparent. Toward this end, a

Faculty Information section has been developed for the APSC Intranet site as an accessible repository of all such information. Efforts to ensure that all faculty know about and access this central site are underway and the faculty policy development process will remain ongoing.

FACULTY PERCEPTION OF DEPARTMENT POLICY

Faculty respondents were asked to rate the extent to which they felt department policies/procedures were clear and fair, Table 10.

Table 10. Percentage of Respondents Who Answered "Policy is Clear and Applied Fairly" to Statements in Question 9. Darker cells represent pairs with statistically significant responses to the full range of responses (p-value < 0.05)

QUESTION 9	OVERALL	BY GENDER		BY ETHNICITY		BY STREAM		BY RANK		VALID RESPONSES
		W	M	VM	WHITE	RS	TS	JUNIOR	SENIOR	
1. Workload expectations	33%	0%	38%	39%	31%	35%	21%	27%	37%	77
2. Sabbatical/study leave	71%	63%	73%	75%	70%	70%	82%	70%	72%	70
3. Leave for improving qualifications (for full-time teaching faculty)	21%	0%	26%	50%	12%	23%	17%	22%	22%	28
4. Maternity/ parental/ adoptive leave	79%	33%	85%	80%	77%	76%	100%	77%	81%	43
5. Administrative leave	59%	0%	70%	63%	57%	58%	67%	67%	56%	34
6. Leave without pay or benefits	52%	0%	64%	67%	41%	52%	50%	56%	50%	29
7. TA assignment	61%	20%	68%	47%	64%	64%	46%	45%	74%	72
8. Allocation of resources for teaching	44%	0%	52%	53%	37%	46%	33%	39%	49%	66
9. Allocation of resources for research support	30%	0%	36%	29%	31%	29%	40%	29%	33%	56
10. Teaching assignment (number and size of classes)	59%	11%	64%	47%	58%	61%	50%	54%	61%	75
11. Teaching releases	34%	0%	41%	42%	33%	34%	33%	39%	33%	47
12. Mentoring program for faculty	46%	22%	53%	43%	47%	47%	43%	46%	47%	56
13. Review for Merit/PSA awards	70%	33%	74%	67%	67%	71%	62%	62%	74%	76

The responses to questions about policy are consistent with responses around fairness presented in Section 3.2. With regard to workload, 36% of faculty said that there was no policy and another 21% said the policy was unclear. There were no significant differences between groups. The majority of faculty responded "don't know" for leave for improving qualifications, administrative leave, and leave without pay and benefits. Only 30% of faculty indicated that policies for allocation of resources for research support were clear and fair. By comparison, FoS survey responses to these questions, particularly around leaves, TA assignment, teaching releases, and mentoring were more positive.

Significant gender differences were noted for Maternity/Parental/Adoptive Leave, TA assignment, allocation of resources for teaching, teaching assignments and teaching releases with less women indicating that policies are clear and fair. Significantly less teaching stream faculty than research stream faculty reported that teaching assignments were clear and fair. More visible minority research faculty felt that teaching assignment policies were unclear.

4 Career Progression

UBC's Policy #2 on Employment Equity states:
The fundamental consideration for recruitment and retention of faculty and staff at The University of British Columbia is individual achievement and merit. Consistent with this principle, the University will advance the interests of women, native people, persons with disabilities, and visible minorities; ensure that equal opportunity is afforded to all who seek employment at the University; and treat equitably all faculty and staff.

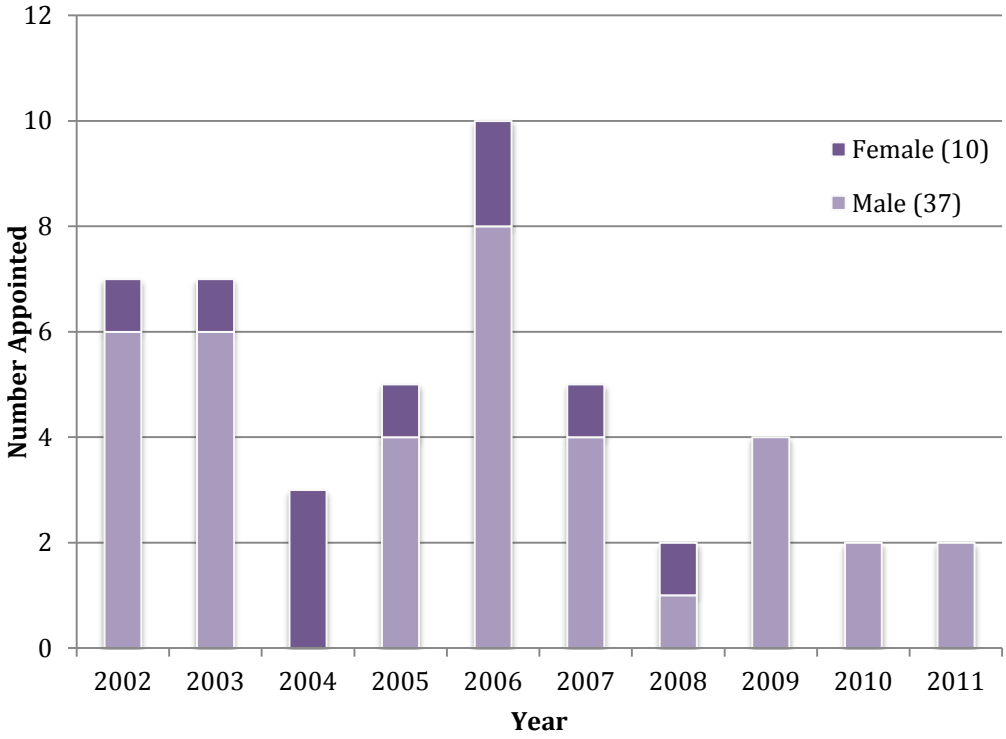
4.1 Recruitment/Hiring

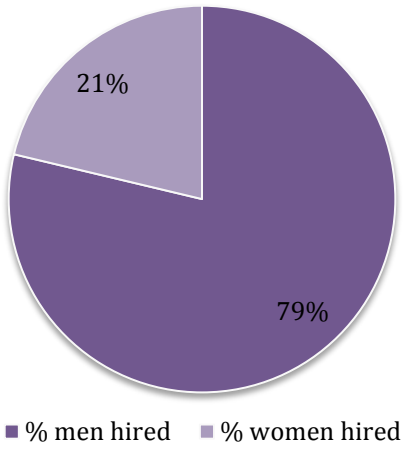
Less than half of faculty respondents (43%) felt that their department made a lot of effort to attract qualified women candidates and less than 20% felt that their department had made a lot of effort to attract qualified candidates who are Aboriginal, representatives of visible minorities, and/or persons with disabilities. By comparison, 58% of FoS respondents felt that their department made a lot of effort to attract qualified women. Overall, only 22% of FoS respondents felt that their department had made a lot of effort to attract qualified candidates who are Aboriginal, representatives of visible minorities, and/or persons with disabilities, with LS faculty the most positive (39%) and PES faculty the most negative (10.5%).

Figure 7 shows the percentage of women faculty appointed as Assistant Professors from 2002-2011. Over that period women made up 18% of Instructor, 22% of Assistant Professor, 13% of Associate Professor and 11% of Full Professor hires, for an overall hiring rate of 15% women faculty. By comparison, in the Faculty of Science during the same period of time, women made up 54% of Instructor, 24% of Assistant Professor, 38% of Associate Professor and 6% of Full Professor hires, with an overall hiring rate of 26% women faculty.

Related to recruitment, in response to "How satisfied are you with the efforts made by your department/unit and UBC in finding suitable employment for your partner?" faculty respondents were overwhelmingly negative.

Figure 7. Faculty Appointed as Assistant Professor by Gender 2002-2011





Total includes current faculty and faculty who left by 2011, initially hired into tenure-track Assistant Professor positions. Source: HRMS. Calculations: APSC Dean's Office.

Table 11. Percentage of Respondents Satisfied "(i.e. "somewhat satisfied" and "very satisfied") with Efforts Made by their Department/unit and UBC in Finding Suitable Employment for their Partner.

QUESTION 27	SATISFIED	VALID RESPONSES
1. Faculty Position	29%	7
2. Other Position at UBC	28%	18
3. Other Position Outside UBC	0%	12

4.2 Promotion and Tenure

Table 12 shows number of years current assistant and associate professors have been in their current rank as of 2012. Table 13 shows the mean and median length of time to promotion for faculty promoted to associate professor between 2007-2012, and faculty promoted to full professor during that same time frame, by gender, corrected for maternity and parental leaves. During this time there is a 0.5 year mean lag for women promoted to Associate Professor and a 2.2 year mean lag for women promoted to Full Professor.

Table 12. Current Assistant/Associate Professors Years in Rank by Gender, 2012-13 cohort.

GENDER		ASSISTANT	ASSOCIATE
Women	Mean	4.0	4.4
	Median	5	4
Men	Mean	3.8	7.0
	Median	4	5

Table 13. UBC Engineering Research Stream Faculty Average Time to Promotion 2007 to 2012

GENDER		YEARS TO ASSOC PROF	YEARS ASSOC TO FULL PROF
Women	Mean	5.6	8.0
	Median	5	8
Men	Mean	4.9	5.8
	Median	5	5

Source: APSC Dean's Office.

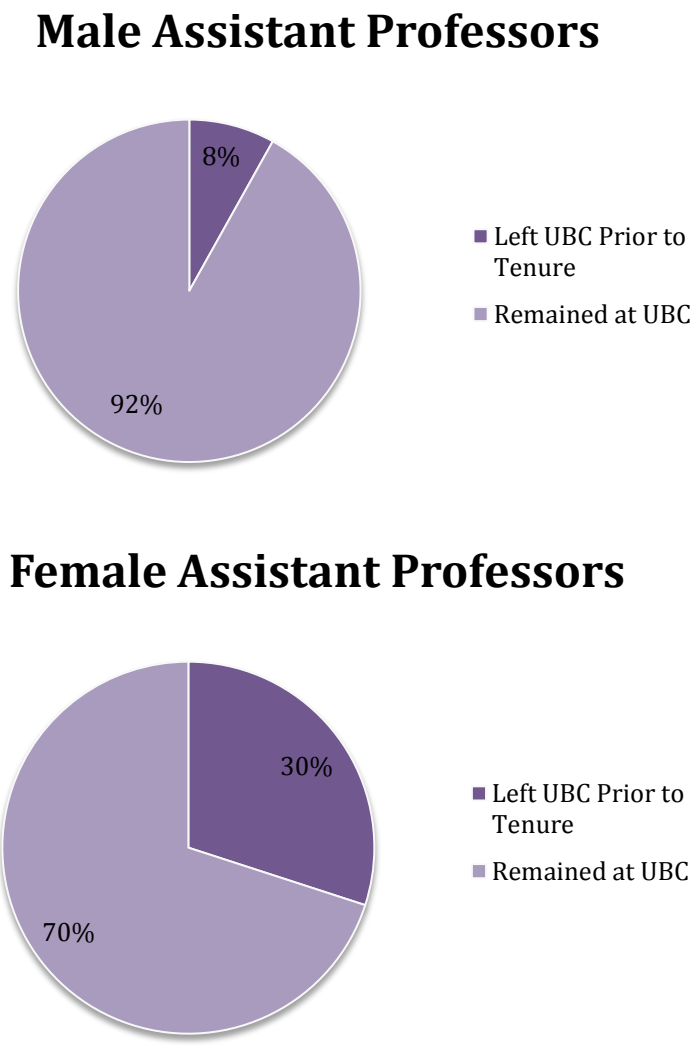
When surveyed about tenure and promotion policies, most faculty respondents felt they were clear or somewhat clear (almost 96% for promotion of Instructor I to Senior Instructor, 95% for promotion to Associate Professor, and 92% for promotion to Full Professor). Engineering faculty respondents were more positive than FoS respondents (on average) for all of these categories, although the MCS faculty group had the most positive results. Not surprisingly, given the evolving understanding of the new rank at UBC, only 75% of engineering respondents felt that the criteria for promotion to Professor of Teaching were clear or somewhat clear.

4.3 Retention

Similar to Science (55%), 57% percent of faculty responded "yes" to "Since joining UBC, have you ever considered positions outside UBC". No differences were found based on gender, ethnicity or rank. Further, 45% of faculty and 82% of women faculty have considered leaving to improve their personal-profession life balance. Of the reasons given for considering leaving UBC, cost of living, in particular the ratio of salary to housing prices and salary were the most commonly mentioned reasons.

Between 2002 and 2011, 10 women and 37 men faculty were appointed as Assistant Professors, Figure 7. As shown in Figure 8, 30% of the women and 8% of the men Assistant Professors left UBC before receiving tenure. Examining this data for significance, a one sided Z-test with Wilson's correction (H0: attrition rates same; H1: attrition rates for women>attrition rates for men) shows significance at $p<0.05$, ($Z=1.92$). However, using the same correction, the 95% Confidence Interval around the estimated difference is (-0.052, 0.514); thus the null hypothesis (difference is zero) cannot be rejected using this latter test.

Figure 8. Retention of Assistant Professors 2002-2011. Pie charts show the percentage of Assistant Professors who left UBC prior to achieving tenure, by gender.



Source: HRMS. Calculations: APSC Dean's Office.

4.4 Salary and Merit/PSA

Overall, 61% of faculty members were satisfied with the salary for the work that they do (Table 16) with no significant differences by gender, rank or ethnicity. In response to clarity of policy on review for Merit/PSA awards, 70% of all faculty, but only 33% of women faculty, indicated that the policy was clear and fair.

The mean and median salary for current Assistant, Associate and Full Professors by gender is given in Table 14. The mean and median salary-increase increments for current Assistant, Associate and Full Professors by gender is given in Table 15. For Assistant and Associate Professors, the differences appear to be consistent with the averaged period of time each

group has been in rank (Table 12), but the number of women faculty is too small to do further analysis. Figure 9 shows the distribution of merit and PSA (Performance Salary Adjustment) awards and merit dollars by gender compared to the faculty composition. No significant differences were noted.

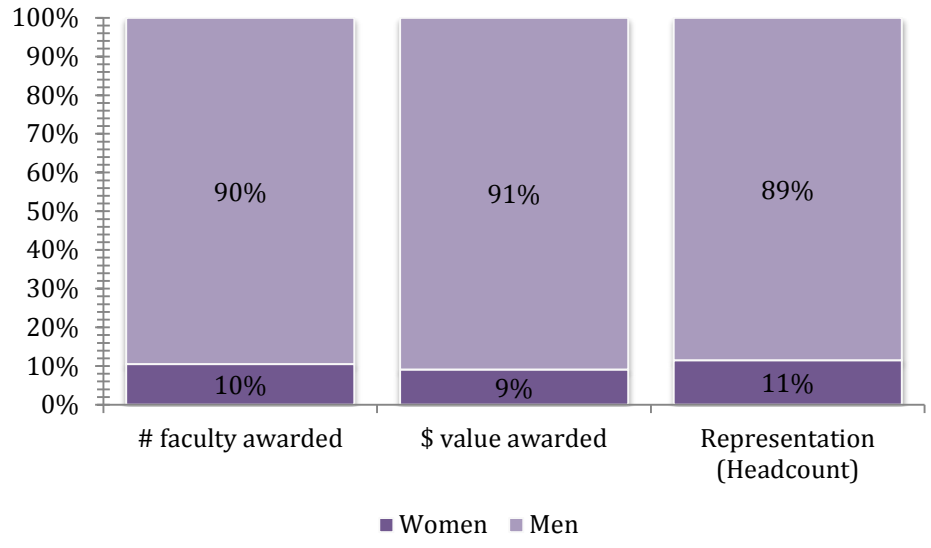
Table 14. Mean and Median Salary for Current Assistant, Associate and Full Professors by Gender (2012 data).

GENDER		ASSISTANT MONTHLY SALARY	ASSOCIATE MONTHLY SALARY	FULL MONTHLY SALARY
Women	Mean	$ 9,310	$ 10,486	$ 11,453
	Median	$ 9,431	$ 10,397	$ 11,312
Men	Mean	$ 8,989	$ 10,898	$ 12,638
	Median	$ 9,199	$ 10,754	$ 12,522

Table 15. Mean and Median Salary Increments for Current Assistant, Associate and Full Professors by Gender (2012 data).

GENDER		ASSISTANT MONTHLY SALARY INCREMENTS	ASSOCIATE MONTHLY SALARY INCREMENTS	FULL MONTHLY SALARY INCREMENTS
Women	Mean	$348	$404	$433
	Median	$350	$417	$445
Men	Mean	$313	$434	$489
	Median	$335	$446	$453

Figure 9. Merit and PSA as awarded to women and men faculty during the period 2008-2012



5 Resources and Support

UBC aims to increase the quality and impact of UBC's research and scholarship by supporting and enhancing UBC researchers' grant funding competitiveness and success.

Recognizing that an organization is its people, UBC strives first to retain the faculty and staff who have shaped its present success and then to attract those who can best help it uphold the commitments made in this plan.

UBC sustains an inclusive atmosphere of collegiality and respect by increasing its investment in the coordinated orientation of new recruits, development and recognition programs, health and well-being initiatives, and leader training and support.

5.1 Mentoring

Overall, 26% faculty responded "don't know" regarding policy on mentoring program for faculty. Of the remaining respondents, 30% indicated "no policy" while 46% indicated that the policy was clear and fair. In response to questions about informal mentoring provided, 14% did not respond and of respondents, 80% were satisfied. However, in response to questions about formal mentoring, 38% of faculty did not respond and only 57% were satisfied. Engineering faculty responses were similar to Science faculty from PES, and more negative than FoS responses overall.

5.2 Satisfaction with Resources and Support

Most faculty are satisfied with their office and lab space, Table 16. However less than half of the faculty are satisfied with support for securing grants and for research. Satisfaction with support for teaching and for outreach is only marginally better. Women faculty are more dissatisfied with support for securing teaching grants at trend level ($p<0.1$). These findings are a consistent with the low levels of clarity around workload expectations, leave for improving qualifications for full time teaching faculty, TA assignment, allocation of resources for teaching and research, as shown previously in Section 3.4, Table 10. On all of these metrics, Engineering respondents were less satisfied than FoS respondents.

Table 16. Percentage of Respondents Were Satisfied (i.e. "somewhat satisfied" and "very satisfied") with statements in Question 12 regarding the accessibility, quality and quantity of resources provided by departments/units . Darker cells represent statistically significant responses (p-value < 0.05) for the lumped scale (satisfied, dissatisfied).

QUESTION 12	OVERALL	BY GENDER		BY ETHNICITY		BY STREAM		BY RANK		VALID RESPONSES
		W	M	VM	WHITE	RS	TS	JUNIOR	SENIOR	
1. My physical office (quality, suitability, location, size)	79%	83%	80%	86%	76%	76%	93%	84%	75%	86
2. My physical lab	70%	89%	68%	74%	69%	69%	83%	67%	72%	74
3. Permanence of my lab space	80%	100 %	76%	78%	81%	80%	80%	74%	83%	70
4. Salary for the work that I do	61%	58%	63%	62%	59%	57%	80%	66%	59%	85
5. Level of support for securing research grants	45%	25%	50%	56%	46%	46%	25%	55%	37%	73
6. Level of support for securing teaching grants	45%	0%	50%	56%	43%	44%	50%	60%	35%	42
7. Other resources to support research	46%	36%	48%	47%	49%	44%	57%	46%	46%	68
8. Other resources to support teaching	58%	33%	63%	47%	62%	52%	85%	56%	60%	71
9. Other resources to support outreach activities	51%	29%	57%	57%	53%	49%	60%	53%	52%	51

5.3 Negotiations

Approximately 50% of faculty indicated that they negotiated the terms of their appointment with their head, as shown in Table 17. Overall, the factors most important to faculty were startup funds (particularly for junior research faculty), salary, and lab space. The availability of a research assistant, moving expenses and partner/spouse position were more important to junior faculty. Signing bonus, timing of the tenure clock, housing subsidy, childcare and partner/spouse position were more important for visible minorities faculty.

As noted in Section 4.1, faculty respondents were uniformly unsatisfied with efforts made by their department/unit and UBC in finding suitable employment for their partner.

Table 17. Percentage of Respondents Who Answered "YES" to "did you discuss/negotiate items of your contract" in Question 13.

QUESTION 13	OVERALL	BY GENDER		BY ETHNICITY		BY STREAM		BY RANK		VALID RESPONSES
		W	M	VM	WHITE	RS	TS	JUNIOR	SENIOR	
Thinking about the time before your start as faculty member in your department/unit, did you discuss/negotiate items of your contract with your department head/unit director?	49%	42%	51%	43%	52%	49%	53%	61%	40%	85

Table 18. Percentage of respondents who answered "Very Important" to statements in question 13a. Only those who responded "Yes" to Q.13 were asked Q.13a. Darker cells represent statistically significant responses (p-value < 0.05)

QUESTION 13A	OVERALL	BY GENDER		BY ETHNICITY		BY STREAM		BY RANK		VALID RESPONSES
		W	M	VM	WHITE	RS	TS	JUNIOR	SENIOR	
1. Course release time	28%	20%	29%	44%	23%	27%	29%	33%	24%	40
2. Lab equipment	39%	50%	38%	38%	35%	38%	43%	47%	33%	39
3. Lab space	58%	60%	59%	89%	46%	61%	43%	72%	48%	40
4. Renovation of lab space	26%	20%	27%	56%	19%	25%	29%	33%	20%	39
5. Research assistant	29%	20%	31%	44%	20%	29%	29%	53%	10%	38
6. Clerical/admin. support	24%	20%	25%	22%	28%	23%	29%	29%	20%	38
7. Start-up funds	68%	80%	66%	78%	63%	77%	29%	95%	48%	41
8. Signing bonus	18%	20%	18%	44%	8%	22%	0%	29%	10%	39
9. Special timing of tenure clock	18%	20%	18%	56%	8%	16%	29%	24%	14%	39
10. Moving expenses	46%	40%	49%	56%	48%	56%	0%	63%	33%	41
11. Housing subsidy beyond UBC policy	38%	60%	35%	44%	37%	42%	14%	47%	30%	40
12. Child care	18%	20%	18%	33%	12%	22%	0%	33%	5%	39
13. Partner/spouse position	21%	0%	24%	56%	8%	25%	0%	33%	10%	39
14. Salary	81%	100%	78%	89%	82%	85%	63%	90%	71%	42

6 Workloads

6.1 Committee Service and Mentoring

Reported service and committee loads were fairly uniform among faculty. As expected, senior faculty reported higher levels of service as committee chairs. As expected teaching stream faculty reported lower participation in direct graduate student supervision and graduate student supervisory committees.

In general, faculty did not report high loads for formal or informal mentoring of faculty; 63% of faculty respondents reported that they had not received recognition credit for mentoring.

6.2 Teaching Loads

On average, research stream faculty at UBC report teaching 1.9 full course undergraduate sections and 1.2 graduate or professional courses, while Teaching Stream faculty report teaching 4.5 full course undergraduate sections and 0.6 graduate or professional courses. Apart from instructors (at trend level) no particular group presented as having a higher teaching load than their peers. On average women instructors reported teaching larger numbers of smaller undergraduate classes. Instructors reported teaching smaller numbers of graduate and professional courses.

As shown in Table 10, Section 3.4, approximately 60% of faculty respondents indicated that the TA and teaching assignment policies were clear and fair. More white faculty than visible minority faculty reported that they always received appropriate teaching assignments (matching their interest/expertise and allowing appropriate preparation time).

6.3 Teaching Release

Averaged per faculty member over a 5 year period most teaching releases were reported for administrative secondments (0.9 courses), followed by "other" (0.6 courses), by grant buyouts (0.4 courses), department funding (0.1 courses). The most common reason for "other" releases was administrative work. Proportionally, more women were released for "other" reasons. More junior faculty but no women reported teaching release via department funding. As shown in Table 10, Section 3.4, only 34% of faculty respondents indicated that their departmental teaching release policy was clear and fair.

7 Leadership and Recognition

UBC aims to *increase the quality and impact of UBC's research and scholarship* by supporting and enhancing *UBC researchers' grant funding competitiveness and success*.

7.1 Awards

In response to the question, "Does your department have formal procedures or a committee on award nominations for faculty?" 21% of faculty indicated "don't know" and of the remaining respondents, 78% indicated "yes" (Table 19). Over 40% indicated they "don't know" if their department handles nominations fairly; however of the remaining respondents, 84% indicated "yes". Of yes/no respondents, 64% indicated they were satisfied with the transparency of the awards process in their department; however less than 30% of women respondents were satisfied with the transparency of the process. Proportionally, more engineering faculty than science faculty reported that their department did not have a nominations procedure or committee, and that they were unsatisfied with the nominations process.

Table 19. Percentage of Respondents Who Answered "YES" to Statements in Question 20. Darker cells represent statistically significant responses (p-value < 0.05)

QUESTION 20	OVERALL	BY GENDER		BY ETHNICITY		BY STREAM		BY RANK		VALID RESPONSES
		W	M	VM	WHITE	RS	TS	JUNIOR	SENIOR	
1. Does your department have formal procedures or a committee on award nominations for faculty?	78%	75%	79%	87%	73%	76%	85%	86%	73%	68
2. Are you satisfied with the process (formal or informal) around award nominations in your department (e.g., with regards to transparency)?	64%	29%	67%	64%	60%	63%	70%	58%	66%	58
3. Has your department handled the nominations of faculty members in the department fairly?	84%	50%	88%	91%	78%	85%	78%	92%	81%	50

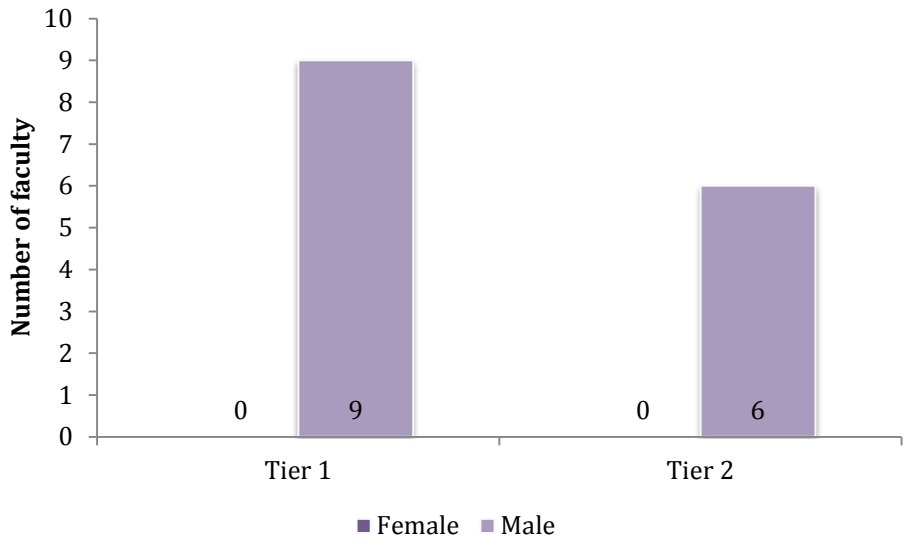
Due to disciplinary differences as well as incomplete reporting, a complete and categorized data set of awards received by faculty members is not available. As a representative sample, Table 20 shows the total number of awards reported by faculty between 2008 and 2012 with the number of Fellowships in the Canadian Academy of Engineering (FCAE) broken out separately.

Table 20. Total number of awards reported by faculty between 2008 and 2012. Fellowships in the Canadian Academy of Engineering are broken out as a representative sample.

	WOMEN	MEN
Total Reported Awards (2008-2012)	10	110
% Total Reported Awards	8 %	92 %
FCAE Awards (2008-2012)	0	14
% FCAE Awards	0 %	100 %

Figure 10 shows the distribution of CRCs by gender in engineering. Of the 15 CRCs received in engineering, no women faculty have been appointed.

Figure 10. Current CRCs in 2012. Does not include 4 CRCs with vacant chairholders.



7.2 Leadership Opportunities

Most faculty members do not see a clear path towards leadership roles in their department or within the faculty, Table 21. Less than 20% of faculty agreed with the statement "The criteria for gaining a leadership position within my Faculty are clear". Responses in the FoS survey were more positive overall.

Women faculty were more negative about their leadership opportunities. As well, only 20% of faculty agreed with the statement "There is a sufficient number of women in leadership positions in my department" and less that 30% agreed with the statement "There is a sufficient number of visible minorities in leadership positions in my department".

Table 21. Percentage of respondents who agreed (i.e. "somewhat agree" and "strongly agree") with statements in Question 21 around leadership opportunities. Darker cells represent statistically significant responses (p-value < 0.05)

QUESTION 21	OVERALL	BY GENDER		BY ETHNICITY		BY STREAM		BY RANK		VALID RESPONSES
		W	M	VM	WHITE	RS	TS	JUNIOR	SENIOR	
1. Opportunity/ies for a leadership position in my department/unit is/are open to me.	55%	17%	61%	48%	58%	55%	53%	50%	60%	86
2. Opportunity/ies for a leadership position within my Faculty is/are open to me.	31%	0%	35%	24%	35%	31%	33%	22%	39%	86
3. The criteria for gaining a leadership position within my department/unit are clear.	23%	0%	25%	24%	20%	21%	33%	16%	29%	86
4. The criteria for gaining a leadership position within my Faculty are clear.	18%	8%	18%	14%	16%	16%	27%	9%	23%	86
5. The process for recruiting and appointing leaders within my department/unit is transparent.	36%	0%	41%	38%	33%	35%	40%	22%	46%	86
6. The process of recruiting and appointing leaders within my Faculty is transparent.	23%	17%	24%	33%	18%	21%	33%	13%	31%	86
7. There is a sufficient number of visible minorities in leadership positions in my department.	29%	8%	31%	43%	24%	30%	27%	23%	33%	85
8. There is a sufficient number of women in leadership positions in my department.	20%	8%	23%	24%	19%	16%	40%	19%	22%	84

Table 22 shows the distribution of leadership positions by gender held by engineering faculty members in Applied Science from 2008-2012. The small percentage of women in leadership positions reflects the small number of senior women faculty overall.

Table 22. Leadership positions in held by engineering faculty in Applied Science during the period 2008-2012. Leadership positions in Applied Science held by faculty members from outside engineering are not included in this table.

LEADERSHIP POSITION	POSITIONS HELD AVERAGE 2008-2012			NEW APPOINTMENTS TOTAL 2008/09 - 2011/12		
	WOMEN	MEN	TOTAL	WOMEN	MEN	TOTAL
Director (UG and Grad Programs)	0	4.75	4.75	0	4	4
Director (Research Centres)	0	4	4.	0	3	3
Department Head	0	6	6	0	1	1
Associate Dean	0.5	3.25	3.75	1	2	3
Dean	0.75	0.25	1	1	1	2
Total	**1.25**	**18.25**	**19.5**	**2**	**11**	**13**
Total (%)	**6%**	**94%**	**100%**	**15%**	**85%**	**100%**

8 Balance Between Personal and Professional Life

Table 23 shows responses to questions regarding work life balance. Only 45% of faculty and 9% of women faculty are satisfied with their work-life balance. Faculty are also unsatisfied with workload, and 75% report that aspects outside their work-life have been a significant source of stress. This is consistent with the lack of clarity around workload policy and lack of satisfaction with support for teaching and research identified in Section 3.4. All women faculty reported experiencing significant stress outside their workplace and 82% have considered leaving their job to improve their personal-professional life balance.

Commuting is identified as a problem by 35% of faculty and 80% of faculty were dissatisfied with the UBC Housing assistance program – 42% have considered leaving UBC due to housing pressures.

8.1 Children

The majority of faculty respondents (72%) have children. Women faculty respondents reported a higher number of children under age six. Only 54% of faculty indicated that meetings and other departmental events were scheduled "several" or "all of the time" to accommodate family responsibilities. Of 31 respondents to this question, the vast majority men, 74% felt that UBC had *not* provided adequate access to childcare for their child/children. Significantly more junior than senior faculty respondents reported that career considerations affected their decisions around having or adopting (or not having) children.

8.2 Family Leaves

A small number of faculty reported taking Maternity/Parental leave in the past five years. Respondents only reported taking 0-4 or 4-8 months leave. During leave, no respondents reporting teaching, some reported spending time on administration and all reported spending time or research and graduate student supervision.

As shown in Table 10 in Section 3.4 of those who responded, only one third of women faculty and 85% of men faculty indicated that Maternity/Parental/Adoptive leave policies are clear and fair. Of respondents, just over 50% of faculty indicated that policies for leave without pay or benefits are clear and fair.

Table 23. Percentage of respondents who agreed (i.e. "somewhat agree" and "strongly agree") with statements in Question 26 about personal and professional life. Darker cells represent statistically significant responses (p-value < 0.05)

QUESTION 26	OVERALL	BY GENDER		BY ETHNICITY		BY STREAM		BY RANK		VALID RESPONSES
		W	M	VM	WHITE	RS	TS	JUNIOR	SENIOR	
1. I'm satisfied with the balance between my personal and professional life.	45%	9%	49%	45%	44%	46%	40%	41%	47%	85
2. I'm satisfied with my overall workload.	46%	18%	49%	40 %	47%	44%	53%	38%	51%	85
3. One or more aspects of my life outside the work place (e.g. family care, cost of living, my health) have been a source of significant stress for me.	72%	100 %	66%	60%	75%	70%	80%	72%	73%	85
4. My commute negatively impacts my personal and professional life.	33%	33%	31%	18%	38%	29%	50%	19%	38%	77
5. Faculty may comfortably raise personal and/or family responsibilities when scheduling departmental/unit obligations	83%	60%	86%	71%	84%	84%	79%	78%	88%	69
6. I'm satisfied with UBC's Housing Assistance Program.	20%	30%	16%	37%	14%	19%	22%	24%	15%	56
7. I have considered leaving UBC due to housing pressures.'	42%	40 %	41%	42%	40%	41%	46%	47%	37%	72
8. I forego professional responsibilities for personal responsibilities.	35%	36%	35%	37%	40%	30%	60%	28%	37%	82
9. I forego personal life activities for professional responsibilities.	84%	91%	82%	74%	86%	86%	73%	79%	88%	80
10. I have considered leaving my job to improve my personal-professional life balance.	45%	82%	40%	37%	50%	46%	40%	53%	40%	82

9 Concurrent Initiatives: Women in Academic Leadership Forum

In May 2013, with support for the provost office, the Faculty of Applied Science and Faculty of Medicine participated in a Women Faculty in Leadership Forum. Eleven current women engineering faculty members attended this event. A number of department heads and the Dean Pro tem also attended and supported this event. At this forum the following needs were identified:

1. The need for visibility/transparency on topics such as mentoring, review processes, best practice in recruitment for leadership positions. Do people have access to knowledge about resources that are already there?
2. The need for better clarity and understanding in review processes, with an emphasis on quality with flexibility introduced wherever possible
3. The need for regular access to mentoring and coaching programs, with recognition for mentors and opportunities for professional development
4. The need to communicate importance of best practices to those presently in leadership positions (Heads, Deans, etc.); making leadership opportunities attractive and accessible to a broader pool, cultivating a transparent and collegial/collaborative environment, understanding potential barriers to advancement
5. The need for better support around work/life issues: e.g. family care, dual career, maternity/parental leaves, exploring capacity at UBC for these areas

As an outcome of that forum, the following recommendations were put forward to address these needs:

1. Run regular CV workshops, for reviewing individual CVs and use of CV format. Associate Dean will continue to offer frequent sessions for Heads/ARPT members and for faculty (professor stream, professor of teaching stream, CV and teaching dossier guidance).
2. Develop a variety of mentoring and leadership development opportunities at both departments and Faculty levels. Create written APSC policy framework to support individual departmental policy development, with aim of having mentorship policies in place in all departments for 2013/14. Associate Dean does ongoing monitoring of processes and supports.
3. NSERC Chair for Women in Science & Engineering to track leadership opportunity perceptions among women faculty. Dean's office to monitor gender differences in career progress timelines, awards, leadership opportunities as a component of annual reporting mechanisms.
4. Develop series of regular networking coffee/lunches. NSERC Chair to develop series for 2013/14. Associate Dean Faculty Affairs to monitor and consider ongoing sustainability plan.

5. NSERC Chair and Associate Dean to build a larger and expanded pool of potential women leaders through partnering with a pre-ALDP process and awareness for heads.
6. Increase visibility and transparency around review processes, best practices, equity and diversity initiatives through website and Faculty/departments' intranet (launched May 30, 2013).
7. Complete the Working Climate Study, and combine results from that study with the Forum Action plans and recommendations, to be provided to the new Dean and his designates. NSERC Chair and Associate Dean to work with incoming Dean to determine appropriate processes for communicating results and mobilizing recommendations.
8. Continue development of "family friendly" policy framework (e.g. maternity/parental leaves).
9. Continue training for hiring committees on best practices and implicit bias, and encourage departments to address the gender imbalance in the faculty complement. Associate Dean will include information relative to workforce availability and peer comparisons as available from Working Climate Study.
10. Recommend a mechanism for accountability for follow-up on the WCS. Timeline: for Dean to put in place upon arrival and receiving results of WCS.

10 Conclusions

Based on the data collected in this survey, decisive action at the administrative level is required to strengthen the workplace climate in Engineering toward being reflective of the stated vision of the university and the Faculty.

While a majority of the faculty believe that the workplace climate is satisfactory, a significant number of faculty feel to some extent disenfranchised, excluded and/or disrespected. Fully one quarter of faculty report feeling excluded from informal networks in their department and nearly 30% report feeling they do not have a voice in departmental decision making. Visible-minority faculty, particularly junior faculty members, report feeling less comfortable raising concerns, as do women faculty overall.

Women faculty report significantly higher levels than their men counterparts of dissatisfaction or concern with respect to various workplace climate indicators, including feeling respected, included, valued, empowered and legitimized. Furthermore, statistics over the past decade suggest that efforts to augment recruitment, retention, career progression and leadership development of women faculty are not yet meeting the Faculty's established diversity targets.

In general, across all faculty categories, the level of reporting that policies and procedures around workload, teaching and resource allocation, mentoring, award nominations and leadership opportunities are lacking, unclear and/or unfair suggests the need for strategic action. Teaching Stream faculty in particular expressed concern around clarity/fairness of teaching assignments. There is much to be improved upon in ensuring a workplace climate that effectively supports teaching, research, career development and work-life balance for all faculty.

In conclusion, we have identified immediate steps to address workplace climate and equity within engineering.

- The Deans office should work closely with the departments to develop and policies related to workload, teaching and resource allocation, mentoring, leaves, award nominations and leadership opportunities and post these documents on a faculty accessible intranet site. All faculty policies should strive toward representativeness, inclusiveness, transparency and fairness, and be effectively aligned with UBC policies.

- All departments should develop, implement and monitor a mentoring program supportive of all faculty across ranks and career stages.

- Expanded opportunities should be supported for all faculty, and in particular for underrepresented groups, with respect to engagement in professional and academic leadership development opportunities.

- The Dean's office and the departments should work in partnership to develop and implement a pro-active strategy toward recruitment and advancement of women faculty in keeping with the Faculty's sustained commitment to excellence in academic Engineering leadership.

- The Dean's office should set up a process to track faculty progress data, including time to tenure, promotion, and attrition rates and report to faculty on a regular basis, including a follow up climate study in 5 years. This process should include exit interviews with departing faculty.

- The Dean's office should work with departments to ensure UBC's Respectful Environment policies are upheld and, when required, faculty have appropriate access, support and follow-up in cases where discrimination or harassment arises in the workplace.

Appendices

A. Designated Equity Groups

DESIGNATED GROUPS UNDER CANADA'S EMPLOYMENT EQUITY ACT

UBC's Employment Equity Policy includes the objective "to build a workforce that is representative of the pool of potential candidates with appropriate qualifications, including women, native people, persons with disabilities, and visible minorities." For the purposes of employment equity, women, Aboriginal persons, members of "visible minorities," and persons with disabilities are designated group members, as outlined in Canada's Employment Equity Act.

WOMEN

ABORIGINAL PERSONS

includes persons who are Indians, Metis, or Inuit.

VISIBLE MINORITIES

includes persons (other than Aboriginal persons), who self-identify as "people of colour." Members of visible minority groups include both persons who were born in Canada or other countries. Examples of visible minorities include, but are not limited to, persons who identify as:

- Black
- Non-white Latin American (including indigenous persons from Central and South America)
- East Asian (for example, Chinese, Japanese, Korean, Polynesian)
- South Asian/East Indian (for example, Indian, Pakistani, Sri Lankan)
- Southeast Asian (for example, Cambodian, Filipino, Laotian, Vietnamese)
- West Asian/Arab (for example, Afghan, Iranian)
- Persons of mixed origin (e.g., with one parent in one of the visible minority groups listed above)

PERSONS WITH DISABILITIES

Persons who have a long-term or recurring physical, mental, sensory, psychiatric or learning impairment, *and* A. who consider themselves to be disadvantaged in employment by reasons of that impairment* or B. who believe that an employer or potential employer is likely to consider them to be disadvantaged in employment by reasons of that impairment. This

includes persons whose functional limitations owing to their impairment have been accommodated in their current job or workplace.
Some examples of disabilities include:

- Co-ordination/dexterity impairment (e.g. arthritis, cerebral palsy, cystic fibrosis, multiple sclerosis)
- Deaf/hard of hearing
- Developmental/learning impairment (e.g. dyslexia)
- Mental illness (e.g. schizophrenia, chronic depression)
- Non-visible physical impairment (e.g. hemophilia, epilepsy, asthma, diabetes)
- Speech impairment (e.g. aphasia)
- Mobility impairment (e.g. amputations, paraplegia)
- Visual impairment (e.g. if glasses/contact lenses correct your vision so that you can perform your job, do not include yourself in this category)

*This means that the disability reduces the amount or kind of activity you can do at work.

SEXUAL ORIENTATION AND GENDER IDENTITY

While the federal government requires information based on the four designated equity groups described above, the University's employment equity statement also includes sexual orientation minorities (such as lesbian, gay, bisexual, queer, and analogous terms) and gender identity minorities (such as trans, transgender, gender-fluid, and analogous terms). Trans/transgender and gender-fluid refer to people who identify with a gender(s) other than the one ascribed to the biological sex of their birth, or people who view their gender as being more fluid than the strictly male or female gender categories allow. It is also used as an umbrella term which includes those who identify as transsexual, trans-identified, gender variant, genderqueer, multi-gender, gender diverse, and for those who don't identify with any gender labels.

B. 2012 Working Climate Survey for Faculty in UBC Science and UBC Engineering