



***The Graduate and Professional  
Student Senate***

***Program Review of  
Department of Computer  
Science and Engineering***

***Winter 2011***

*The Graduate and Professional Student Senate (GPSS) conducts program reviews of academic departments to coincide with the Graduate School's Program Review process. GPSS reviews are a vital component of the final Graduate School Program Report. These reports are the primary source of student feedback in the review process.*

*For each review, the graduate students in the program in question are administered a survey requesting their feedback about their program. The survey results are analyzed into a data report. Two GPSS Senators conduct an in-house interview session with available graduate students. The Senators take their results and the survey data and compile the final report.*

*For more information about the GPSS Program Review Process or questions regarding this Report please contact [gpsspa@u.washington.edu](mailto:gpsspa@u.washington.edu)*

# UW Department of Computer Science & Engineering

## *GPSS Graduate Program 10 Year Review Committee*

### *2011 Report on findings of GPSS Catalyst Student Survey and Student Meeting*

#### **STUDENT MEETING SUMMARY**

##### **Educational status of survey and interview participants:**

There were only eight students who attended the site visit discussion. There was no representation for the 1<sup>st</sup>-year and the 4<sup>th</sup>-year cohorts. The student in attendance reported that they received personal invitations from the department to attend the site visit discussion. Therefore, it is interesting that no member of these two cohorts was invited to the site review discussion. No reasons were given (or were obvious) for the 1<sup>st</sup> and 4<sup>th</sup> year cohorts lack representation.

##### **Feedback on the academic program:**

Only one issue was discussed during the site-review discussion about the academic program. It should be noted that this issue did not actually come from the student (see discussion on general assessment). Rather, it was an observation made by one of the external reviewers. The reviewer gave the observation that the program seemed to have a heavy course load. According to him, it appeared that some students were taking course well into advanced stages in their doctoral training.

The student present did not think the course load was an issue. Several responses that were given that all participating students seemed to agree with included: 1) The heavy and extended course load seemed to offer them a variety of skills in their graduate training. 2) The heavy/extended course load allowed them to explore different courses or academic areas in engineering before they finally positioned themselves to any particular research area. 3) Some also expressed the opinion that the extended course structure gave them the flexibility of taking courses during their training. Most students reported that this course structure allowed them to take 1 course per quarter and hence leaving them with time for other things.

During a discussion on areas that need improvement, some students expressed the opinion that the above course enrollment structure also had some negative effect. One negative effect was that some faculty in the department easily lost track of where a student/advisee was in the program. This could lead to less effective advising. Another, negative is that students could be also end up taking (or having pending

required) courses well into their advanced stages in the program where they should be concentrating on their thesis/dissertation research.

### **Feedback on students' research experiences:**

Although some students reported their funding is from working on research projects conducted by faculty in the department, the students did not mention any research experiences during the site visit.

### **Feedback on career counseling and job search:**

During the site visit, the students did not talk about their experiences in the department with regard to career counseling or the job search. Instead, the students talked about their future career aspirations. Most of the views expressed revolved around careers in either academia or the industry (non-academic). The students present were split between those who wanted to work in academia and those who wanted to work in the industry.

For those who wanted to work in academia, they said that they preferred the academy because of the freedom it offers them to explore and advance their ideas. In addition, they loved and enjoyed the opportunity to teach. Students who did not want to go into academia reported that the academy did not pay well enough while others said that the academy did not fit with their desired lifestyle after graduate school. One student qualified this latter point by saying that "there is too much work in academia." These seemed to be no negative reasons in wanting to work in the industry. Some of the reasons floated included, the industry paid really well, the work was less stressful as well as in the industry one also has the flexibility to on various areas of research interest.

However, the one student who reported that he was about to graduate did mention that he had already secured a job (outside academia). It was not apparent whether he got any assistance from the department in securing this job. The student who was about to graduate did mention that he did not feel or get any pressure from the department for him to finish and get into the job market. In fact, he said he took a while longer than he should have. He added that he wanted to do more research in his area of study before joining the job market.

### **Feedback on departmental advising:**

The students reported that in their department there were ample opportunities to be mentored as well as to provide mentoring. All students were unanimous that faculty in their department were accessible and willing to mentor student. It also seemed that most students were satisfied with the kinds of advising they

received from their mentors. Furthermore, the graduate program coordinator in the program was mentioned severally as being very helpful in any matters that the student brought to their attention.

In addition, the students reported that the department provided many opportunities for them to provide mentoring to other junior students and potential comp-science and engineering high school students. For instance, some students mentioned opportunities they had in teaching and mentoring undergraduate students in their department. Others reported that they were involved in various high school (and community) outreach programs where they to potential students about education and careers in engineering. This latter example was generally viewed as opportunities to be mentors by the student present at the site visit.

### **Feedback on departmental climate:**

It is important to not that discussion on departmental climate only came up when another external reviewer asked the student *what made them choose to attend UW instead of some other institution?* For this question, all the students present were asked to each give their reason(s). The following are some of the responses given:

- The department has good ranking in terms of scholarship (or productivity).
- There is great scholarly relationship between student colleagues and faculty.
- In the department, some student felt there was a health emphasis on scholarly development with one's peers without feeling there is need to compete
- The is also an healthy atmosphere that its okay for a student to change their research focus without any negative consequences
- Faculty did not seem to necessary lay claim to student. That is, students felt that they could pursue several working relationships with faculty without fear of offending their assigned faculty mentor. Faculty encourage student to work with other faculty
- Department showed genuine care to some students even before they accepted offers for admission.
- Some section of the student said that life in the department was relaxed (not as stressful).

### **Feedback on funding:**

The students were also asked whether they were any issues with funding: All students present unanimously reported that they had no issues with their funding. Some reasons given for lack of funding issues included: 1) all students are guaranteed some form of funding through TAships. 2) When the department allocates funding, it does not necessarily tie it to any particular funding source. In fact, some of the student at the site visit did not know where their funding comes from. All they knew was that they had RA or TAship. In addition, some students noted that they do go after external funding outside of the department (and sometimes UW). However, these students said they applied for the external grants/fellowships not because of funding needs but rather because of the prestige attached to holding the grants/fellowship in their particular fields of research.

### **General assessment:**

This site visit went very well. All students in attendance expressed very positive views about their department to a point that external reviewers had to literally pull from them any issues or discussions topics about any areas in the department that needed improvements. However, findings reported herein should be read with caution because during the visit, we (external reviewers and GPSS senators) discovered that all students present were personally invited to the review session by the department instead of the department sending out a mass email to invite all and sundry to give their opinion about the running of the department. Even so, all students expressed satisfaction with the general running of the department for the following reasons:

Department chair holds quarterly meetings with students. In these meetings he gives them an ‘update of the state of the world’ and student gives him an “update of the state of their world.” Therefore, there seemed to be a genuine discussion between the students and the department leadership about issues that could be affecting them. In addition, the student reported that if there as a sensitive issue that the student needed to raise, the department head did encourage the student to submit anonymous question that he could then responds to.

Furthermore (and as noted above), the graduate program coordinator was mentioned severally as being very helpful with any matters concerning students issues. Faculty members were also reported to be helpful and accessible to the students.

The students also reported that in the department there no pressure for the students to publish or hurry through their academic training. For instance, some student reported that the departmental climate is such that if a student wanted, they could stay a little longer in the department (without graduating) and build their resume.

Therefore, for all the above reasons the running of the department was said to be incredibly satisfactory.

### **Areas of improvements:**

The following areas of improvements were discussed in a very general sense. Remember, the reviewers needed to extract information out of the students on areas that could be improved on as many students held the opinion that the department was running very well. Three key areas mentioned include:

- **Systematic Advising:** Although all faculty members were talked about in a positive light and mentorship in the department was said to be good, it appeared that good mentorship is not consistent across the board. Some student expressed the concern that without a strong advisor, a student could easily fall behind in accomplishing key program milestones. Therefore, the department needed to set up a system to ensure systematic advising in going on especially with regard to program milestones.
- **Course enrollment:** Some students felt that the flexibility in taking one course per quarter is good but could be risky as discussed above. One downside mentioned was that it makes faculty forget exactly where in the program the students are. The department needs to ensure that faculty and students know exactly where they are in completing their graduate training increase better student advising.

- **Student government:** The student reported that the student lead government in the department has declined considerably. Some attributed this to the good running of the department. However, there was a unanimous agreement that the decline in student government is a concern and risks them loosing their voice in running of the department

## **SURVEY DATA SUMMARY**

A 43 item survey was administered to graduate students in the Department of Computer Science and Engineering from January 1<sup>st</sup> to January 28<sup>th</sup>. 31 students out of 310 enrolled students completed the survey resulting in a 10% response rate.

### Educational Status

Among the students that responded, two students self-identified as master's students, 23 identified as doctoral students and six identified as doctoral candidates. All of the students were pursuing a degree in the Department of Computer Science and Engineering.

Table 1. Years of admission

2003-2006	6
2007-2008	7
2009-2010	18

All 31 students were attending school full-time. Overall, students estimated that it would take five to six years to complete the program.

Table 2. Student's estimate of how long it would take them to obtain degree

1-2 years	2
3-4 years	1
5-6 years	25
7+ years	3

### Academic Program

Table 3. Evaluation of the academic quality of program, faculty and faculty-student relationships

	Excellent	Very good	Good	Fair	Poor
Academic standards in the program	23	8	-	-	-
Integration of current developments in field	23	7	1	-	-
Program space and facilities	27	2	1	1	-
Intellectual quality of the faculty	27	4	-	-	-
Intellectual quality of fellow graduate students	21	9	1	-	-

Table 4. Student's evaluations of graduate program

	Strongly agree	Agree	Neutral	Disagree	Strongly disagree	No opinion
Program activities foster a sense of intellectual community	19	11	1	-	-	
Program content supports my research or professional goals	16	14	1	-	-	-
The amount of coursework required seems appropriate to the degree	12	15	2	1	-	1
Program structure encourages collaboration and/or teamwork	18	6	6	-	1	-
Program structure provides opportunities to take coursework outside my own department	7	15	3	4	-	2
Program structure provides opportunities to engage in interdisciplinary work	11	11	8	-	-	1

Teaching experience

20 of the 31 students have had a teaching appointment while in graduate school. The majority of these students have assisted other faculty on their courses for an average of 3.4 quarters. Only one of these students has been the primary course instructor.

Seven of these students reported that their program did not provide teaching training, five students were not sure and eight students said that their program did.

Table 5. Student's ratings of the quality of the teacher training (n=20)

	Excellent	Very good	Good	Fair	Poor	No opinion
Quality of teacher training	-	-	3	5	-	10

One student provided the following comment:

“I believe there are occasional seminars on teaching, but I've never attended one.”

Table 6. Extent to which teaching experience affected their interest in teaching (n=19)

Increased my interest	9
Made no difference	5
Decreased my interest	5
No opinion	1

Research experience

Table 7. Student's experiences with research, publications and conferences

	Yes	No	No response
Received adequate training before beginning own research or scholarly work	28	3	-
Received adequate faculty guidance in formulating a research topic	29	2	-
Conducted research in collaboration with one or more faculty members	29	2	-
Received funding through a faculty member's grant	25	6	-
Received funding to do own research	22	9	-
Assisted in writing a grant proposal	5	25	1
Published one or more papers as sole author	3	28	-
Published one or more papers as lead author	20	11	-
Published one or more papers as a co-author	24	7	-
Have attended a professional conference	27	4	-
Have presented paper or poster at a professional conference	18	13	-

Career counseling and job search

Table 8. Student's satisfaction with career counseling

Very satisfied	9
Satisfied	15
Dissatisfied	1
Very dissatisfied	-
No opinion	5

One student provided the following comment:

“I have transferred to UW and I am pretty upset with the attitude of the faculty here toward my case.”

Table 9. Career counseling from faculty

Did you receive advice on the following topics from your advisor or other faculty members?	Yes	No
Employment opportunities inside academia	19	12
Employment opportunities outside academia	20	11
How to search for a job	9	22
How to prepare a resume or curriculum vitae	7	24
How to prepare for an interview	4	27

Advising

Table 10. Accessibility of information

	Usually	Sometimes	Never	No opinion	No response
Is information on degree requirements available?	31	-	-	-	
Is information on degree requirements clear?	28	2	-	-	1
Are faculty and staff well-informed about degree requirements?	26	3	-	2	-
Have you had input into the design of your individual program of study?	17	9	2	3	-

Table 11. Student's satisfaction with the quality of advising in the program

Very satisfied	19
Satisfied	10
Dissatisfied	1
Very dissatisfied	-
No opinion	1

Table 12. Interactions with advisor on the following items:

	4 + times a month (at least one a week)	1-3 times a month	Less than once a month	No response
Your ongoing research results	21	9	1	-
Writing your thesis	5	6	-	5

Table 13. Satisfaction with amount of communication with advisor

Very satisfied	Satisfied	Dissatisfied	Very dissatisfied	No opinion
16	15	-	-	-

29 students identified as doctoral students and they were asked specifically about the type of advising they had received in relation to their PhD.

Table 14. Type of advising received (n=29)

Have you received advice on the following?	Yes	No	No opinion	Not applicable
Preparing for oral examinations	12	2	-	15
Preparing for written exams	6	2	2	19
Developing thesis/dissertation proposal	9	3	1	16
Selecting thesis/dissertation advisor	14	3	1	11
Doing your research	26	1	2	
Plagiarism and other violations of the standards of academic integrity	17	3	4	5
Your thesis/dissertation draft	5	-	-	24
Preparing for your final defense	2	-	1	26

### Departmental climate

One question on the survey was whether or not students felt that their peers were overly competitive. The majority of the students (19) said that their peers were not overly competitive. One student said that students were competitive, but not with each other. Some of the students provided the following additional comments:

- Definitely not. only to a healthy and beneficial degree
- I think they are ambitious but not overly competitive?
- No, I feel like more collaboration then competition.
- No, not at all. The people in my office and in my laboratory/research group get along well together, help each other out with research, sometimes co-author each other's papers. More generally, the CSE department has many exciting research projects going on, with very few requiring any expensive equipment, so that the areas where competition might occur (too few projects, too few glamorous projects, not enough time with research equipment) are simply not present to any great degree in CSE.

The graduate students here are a little fragmented in their research because CSE casts

such a wide net, but because of the nature of computer science it's easy to bring anyone up to speed on what you're doing even in casual conversation, and that along with the tight-knit faculty culture makes it so that students feel close together as a community regardless.

I know that sometimes research graduate departments are so Balkanized that you barely even know anyone outside your advisor's research group, and that your advisor is incapable of even teaching an introductory undergrad class that isn't in his field. This is absolutely not the case in UW CSE.

- No, other students are generally supportive and friendly.
- No. I think the atmosphere here is really terrific. My fellow students are my colleagues and friends, and there are very few people who are overly competitive.
- No. The atmosphere is one of collaboration, not competition.
- No; they are brilliant but also friendly and open.

Table 15. Student's perception about sense of community in the department

Excellent	Very good	Good	Fair	Poor	No opinion
15	12	3	1	-	-

Table 17. Issues of diversity

	Yes	No	Unsure	No opinion	No response
Program open to cultural diversity	28	2	-	-	1
Program committed to attracting and retaining underrepresented students	17	2	8	4	-
Program provides support for needs of diverse students	20	1	6	4	-

Table 16. Witnessed discrimination in the graduate program

	Frequently	Occasionally	Never	Unsure	No response
Gender	1	2	23	4	1
Race or ethnicity	-	2	27	1	1
Country of origin	-	3	26	1	1
Religion	1	1	26	2	1
Sexual orientation	-	-	28	2	1
Disability	-	1	28		2

Table 17. Experienced discrimination in the graduate program

	Frequently	Occasionally	Never	Unsure	No response
Gender	1	2	27	1	-
Race or ethnicity	-	2	29	-	-
Country of origin	-	1	30	-	-
Religion	1	1	29	-	-
Sexual orientation	-	-	31	-	-
Disability	-	-	30	-	1

Table 18. Student's response to discrimination

Spoke with perpetrator(s) of discrimination	2
Spoke with target(s) of discrimination	-
Discussed incident with friends or family	3
Spoke to other graduate students	-
Spoke to faculty or staff in my department	1
Contacted the UCIRO	-
Spoke to someone in the Graduate school	-
Not applicable	10
No response	17

## Finances

Table 19. Student's funding

	More than 9 quarters	7-9 quarters	4-6 quarters	1-3 quarters	None	No answer
Teaching assistantship	3	-	2	16	7	3
Research assistantship	6	3	7	9	5	1
Non-service fellowship	-	2	5	7	15	2
Traineeship or grant	1	1	-	1	25	3
Need-based financial aid/loans	-	-	-	-	26	5
Personal funding	-	-	-	-	28	3
Other	-	-	-	-	28	3

18 students have had research or teaching opportunities outside of the program.

Table 20. Are the criteria for financial support eligibility clear?

Usually	27
Sometimes	4
Never	-
No answer	-

Table 21. Does the program provide sufficient funding?

Yes	29
No	1
Unsure	1
No opinion	-

Table 22. Anticipated accumulated debt from graduate school

\$0	27
\$1-\$9,999	1
\$10,000-\$19,999	2
\$20,000-\$29,999	-
\$30,000-\$39,999	-
\$40,000-\$49,999	-
\$50,000-\$59,999	-
\$60,000-\$69,999	-
\$80,000 or more	-
No response	1

General assessment

Table 23. Quality of their overall academic experience at this university

Excellent	19
Very good	10
Good	2
Fair	-
Poor	-
Other	-

Table 24. Obstacles to student's academic progress

	Not an obstacle	A minor obstacle	A major obstacle	Not applicable	No response
Work/financial commitments	22	6	1	2	-
Family obligations	24	6	-	1	-
Availability of faculty	25	6		-	-
Program structure and requirements	24	5	2	-	-
Dissertation topic/research	26	4	-	1	-
Course scheduling	25	4	2	-	-
Immigration laws or regulations	21	3	3	4	-

The majority of students (n=23) said it was very likely that they would be able to complete their degree objective. Seven students said it was “somewhat likely” and one student said that they were uncertain.

Table 25. Satisfaction with program and university

How likely are you to pursue graduate studies...	Definitely	Probably	Maybe	Probably not	Definitely not	No opinion	No response
at this university	18	9	2	-	1	1	-
in your graduate program	23	4	2	1	-	1	-
in your field	24	5	1	-	-	1	-
in another field	1	1	9	10	8	1	1

Table 26. Recommending program and university

	Definitely	Probably	Maybe	Probably not	Definitely not	No opinion
Would you recommend this University to prospective students in your field?	27	4	-	-	-	-

Students responded to several open-ended questions. In the first question students were asked what they saw as the most positive characteristics of their program.

1. Students and faculty from different areas are encouraged to collaborate with each other on research, which results in students having a greater breadth of knowledge, and also creates unique research opportunities. This is a huge benefit.
2. positive community, diverse well-rounded students
3. The CSE program has an atmosphere that fosters creativity, collaboration, and cross-disciplinary work without being overly competitive. It is also a very social department,

- which I think goes hand with its collaborative nature.
4. Flexible. Positive environment.
  5. Strong non-competitive collaborative academic community
  6. Amazing support and advice for students from faculty and staff. Feeling of community in the Department. Secure funding. Opportunities for collaboration with industry/research labs. Quality of research.
  7. The chance to do research on the most exciting things to me in the world, with a faculty that values graduate students as more than just underpaid research associates. (Sorry, but I can't think of anything more specific.)
  8. Out of all schools and departments I have visited, CSE has by far the most supportive community (both profs and grads)
  9. The freedom afforded by flexible structure of program
  10. Supportive environment. Grad students are generally social. Faculty members have tons of experience and advice to offer. Our building is awesome.
  11. We're not as cutthroat and competitive as some other departments (in my field). We're mellow and social and don't cause high blood pressure and related things.
  12. The quality of the faculty and the openness of the community.
  13. sense of community, intellectual level of people, flexibility
  14. We are a fairly diverse department where people seem to have a good work/life balance. There's a fair amount of collaboration and socializing.
  15. Focused highly on research by letting us generally having one qual course in a quarter and seminars other than that. Seminars help you to keep up with the ongoing research very quickly and learn the basis for your own research. Faculty is extremely helpful in advising and mentoring.
  16. The majority of the faculty really care about the students and there is a spirit of camaraderie.
  17. Very good students and some of the faculty are really great but my experience with two of the faculty members has been aggravating. The facilities in the department are very good.
  18. Low pressure requirements-wise. Freedom to choose advisor, explore different options
  19. Not overly competitive but encouraging and collaborative
  20. Supportive community.
  21. Seattle. Prof. Alan Boring.
  22. Collaborative culture, brilliant students and faculty.
  23. Great faculty and students. The collaborative environment here is unique compared to other programs of the same caliber.
  24. World-class, renowned faculty/research. A computer science PhD from UW really means something. Lots of collaboration.
  25. High quality of life combined with exceedingly good quality of faculty, students and research.

In the second question, students described what they found to be the most challenging aspects of their graduate program?

1. From what I've seen thus far, the General Exam would seem to be the most challenging, but appropriately so. The exam requires absorbing, digesting, and evaluating a large

body of prior research, pointing out similarities and opportunities for new development. But this is exactly what someone who holds a PhD should be able to do, so the exam is absolutely appropriate.

2. Coursework
3. Not enough Faculty. Funding varies drastically by subfield.
4. Keeping personal focus and motivation
5. Balancing own research with quals classes.
  
6. I wasn't ready for a research-oriented degree. I don't have the temperament to do research long-term, at least not at this point in my life. I will be publishing and getting my master's soon, but I wish I had had more experience in life before putting in the work required to reach those goals.
7. The fact that everyone else is just as smart as you :)
8. Also the freedom (it's a double-edged sword)
9. Being heard in our weekly research group seminars.
10. I'm not good at picking mentors/advisors.
11. Small number of faculty in certain fields
12. Getting a PhD and doing good research requires high dedication. You should be willing to ignore some other aspects of your 'normal life' and maybe the most challenging aspect is this.
13. Passing Theory Quals
14. Dealing with an advisor who will be my co advisor. I have to put up with this assistant professor who is trying to push one of his projects to me. It is just aggravating.
15. Figuring out a dissertation topic
16. Figuring out how to take interdisciplinary classes.

The third question asked students, if they could change one thing about their graduate education to make it more successful or fulfilling, what would it be?

1. After thinking about it for a while, I honestly can't think of anything I'd want to change.
2. More teaching experience
3. More travel/conference funding.
4. Slightly more rigid structure of research program to keep me on track and making progress consistently
5. A better standard of teaching (especially from some of the older profs).
6. Wait about 10 years.
7. Spend less time on TA duties; it's basically put my research on ice this quarter.
8. Smaller seminars.
9. Don't know. All the insufficiency has been on my side of the deal.
10. Fewer required quals courses or more flexibility in choosing which areas quals courses can be chosen from.
11. Being better prepared to understand research mentality
12. Provide new faculty members with more guidance about exam (quals, generals, etc) requirements.
13. Have more respect for the engineering/hardware research.
14. I would not have transferred to UW.
15. Tighter integration of research groups in my research area

16. Reform the courses with a big project to ensure that the project is more educationally useful for everyone rather than randomly just some students.
17. I would like to have had more guidance in research, or be forced to do research right from the start, rather than trying to find my place. Also, I would like to have been forced to do an internship early on.