October 25, 2018

To: Rebecca Aanerud, Interim Vice Provost and Dean
Graduate School

Kima Cargill, Interim Associate Dean for Academic Affairs
Graduate School

From:

Mike Ernst, Professor
Department of Computer Science and Engineering, UW Seattle
Chair, UW Bothell Computer and Software Systems Academic Program Review Committee

Pradyot (PK) Sen, Professor
UW Bothell School of Business

John Feo, Director
Northwest Institute for Advanced Computing
Pacific Northwest National Laboratory (PNNL)

Scott Leutenegger, Professor and Chair
Computer Science Department, University of Denver

RE : UW Bothell Computer and Software Systems Academic Program Review Committee Report

The UW Bothell Computer and Software Systems (CSS) Review Committee was charged by the Graduate School to conduct a review of the UW Bothell CSS program under the direction of the Office of Academic Affairs and in coordination with the Office of Undergraduate Academic Affairs, and the Office of the Provost. The committee was charged with making recommendations about the department's degree programs, and to provide an external, independent assessment of the "health" of the unit and how it can be improved

Due to unforeseen circumstances affecting some of the committee members, this report was generated by staff within the Office of Academic Affairs and Planning in the Graduate School with heavy reliance on notes generated by the entire review committee and submitted to the Graduate School Office of Academic Affairs and Planning by external members of the Review Committee. All members of the Review Committee were sent a copy of this report in its draft form and invited to comment on its contents. This final report reflects any comments that were submitted by Review Committee Members.

Computer and Software Systems Review Committee

Mike Ernst, Professor
Department of Computer Science and Engineering, UW Seattle
Chair, UW Bothell Computer and Software Systems Academic Program Review Committee

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Executive Summary:

Program Strengths:

- Generally very positive comments across constituents in the review including program faculty, staff, and students
- Good mentoring and support for faculty
- Strong collaborative environment; faculty enjoy being at UW Bothell
- Strong, dedicated junior faculty
- The program provides a strong service to the local community and the regions with a high economic impact on the local area

Challenges:

- The STEM building should support CSS and CSS should be involved in the design of the STEM building. This will ensure that labs and other CSS spaces will meet its needs and support the program's growth.
- There is a need to improve the number, quality, and access to advisors. Better communication between faculty and advisors will ensure that advice to students is consistent and uniform.
- There is a need to hire within CSS. CSS is currently turning students away, and there is room to further serve the Bothell and Seattle area.

Recommendations:

- Secure resources for long-term funding to initiate partnerships to integrate CSS with the University and local companies.

Overarching Recommendation:
Next Full Academic Program Review should take place in 10 years.

Detailed Comments and Findings.

I. Research and Teaching

Review Committee Observations:

- Comments gathered from faculty meetings:
    - Junior Faculty are concerned with the following: Grant funding, research, and student longevity. They also indicated that they would like one more year of release time.
    - Tenured Faculty and Lecturers are concerned with the following: Teaching load, new course prep, and class size.
    - All faculty are concerned with grading load. It can be crushing at times.
    - Faculty indicated their satisfaction with conference travel and professional development support, and the recent improved support for submitting proposals.
    - Faculty indicated their desire for increased support for course development.
    - Faculty indicated their desire for improved communication with advisors.
- Conversations with students indicated the following:
    - Overall students were happy with the quality of courses and the breadth of programs; but noted high variability in quality and that some course material was outdated.
    - There seems to be stark contrasts among the quality of part-time lecturers' teaching (e.g. They represent some of strongest and some of the weakest based on student feedback).
    - Students want more practical and less theoretical material. However, it's unclear to the review committee whether this is the best education for them. It is clear from these conversations that the material could be improved in order to better motivate students in the classroom.
    - More access to advisors. Students noted that there are no drop-in advisors.
- Based on review committee conversations throughout the site visit: Re-entry certificate program is great. UW Bothell is providing a great service to underserved populations.
- The CSS program is changing. This raised several research/teaching questions for the review committee:
    - What is CSS's mission?
    - Does CSS have a desire to be an R2-level program, and why?

        - Is this what is needed in the Seattle area?
    - Does CSS want a PhD program, and why?

Review Committee recommendations regarding Research and Teaching:

- Conduct a Vision (R2, comprehensive?), Mission, and Goals exercise: who do you want to be/serve, then align initiatives.
- Consider creating a 5 year BS/MS degree. This is a good credential and includes longer time to work with each student, thereby helping to solve the problem with longevity of research students (e.g. by the time they are trained, they are ready to graduate).
- Consider creating a teaching load policy to address lecturer teaching loads (we understand lecturer teaching loads to be 7 or 8 based on feedback from the site visit consistent with the campus norms). Consider a load policy that also rewards new course preps.
- Develop a comprehensive diversity & inclusion plan (K12 outreach, K12 scholarship, affinity group support of existing)
- Establish a better mentoring for part-time faculty that assists in the creation of learning outcomes and syllabi for courses taught by part-time faculty.
- Observe classes taught by part-time faculty, and filter out instructors who do not work out
- Research
    - Reduce the teaching load for tenure-track faculty for the first 3 years instead of the current 2 years
    - Explore the Scholarship of Teaching and Learning as a research area (this could be a broad impact initiative that ties in nicely) and broadens participation in scholarship
- Modernize the course material for those courses that are out-of-date.

II. Growth of Student Body

Review Committee Observations:

- Class sizes are going up and resources such as graders are staying flat or maybe even declining.. (This ties into themes of STEM school integration discussed in the next section.)
- The review committee feels the teaching load is too high. The student to faculty ratio has remained approximately 20:1 over the years.
- Faculty maintain a high service load. The Review Committee notes that service commitment provides an opportunity for faculty to bond/build community during shared work, which is a side benefit of this service load. Faculty members indicated that they agree that the service load is high, though unit leadership did not indicate this view.
- Faculty were concerned about space.

    - UWB could go to a statistic based formula for assigning classrooms.
    - Lab space appears large and well provisioned.
    - Better partitioning, adopting multi-use capabilities could alleviate many of the space issues. CSS faculty should be involved in space use with respect to labs and collaborative areas.
    - New building is absolutely necessary, and CSS needs to be involved in design and space discussions.
- Number and complexity of programs: The Review Committee is not clear about the cost of running programs. Are they already organized as core courses + satellites, in which case the cost should be low?

Review Committee Recommendations Regarding Growth of Student Body

- Increase spending to hire course readers/graders
- STEM school should permit peer facilitators as well as graders
- Faculty should be able to make decisions regarding whether they need graders or peer facilitators for courses.
- Student workers should be hired and paid quickly so they can be utilized to support teaching efforts.
- CSS should take leadership in working to reduce teaching load.
- Revamp advising program to increase availability, consistency of advice, and improved communication with faculty.
- More transparency is needed on the determination of class sizes and teaching load. As far as the Review Committee could tell, the teaching ratio appears to be 21:1, a number which seems to have remained fairly stable. Yet, the committee heard from faculty that the class sizes have increased (or are perceived to be large). More detailed analysis of class size over time for each course and section is needed to identify any imbalance.
- Hard money earned from student fees should be used to support necessary activities, and soft money should be used to support initiatives.

Integration with School of STEM

Review Committee Observations:

- The integration with the School of STEM represents the largest challenge for CSS as indicated by interviews with faculty, staff and unit leadership. The main challenges described include:
    - Centralization & shared services including:
        - Major disconnect with IT services perceived needs, expectations and performance
        - Lack of continuity of staff, and challenges posed by lack of available talent for some IT functions.

        - Concern about expectations from central services such as fiscal services
    - Physical separation from advisors and lack of knowledge of faculty regarding available advising resources
    - The loss of the CSS administrative assistant who was effective in the role, extremely knowledgeable about the department, and a wonderful colleague has significantly increased time for administrative interface and as a result adversely impacted faculty morale. The faculty seems to resent the fact that such a reorganization was done without any faculty input.
    - Administrative support seems to be inadequate as reflected in the following:
        - Length of time it takes for students to be added to payroll
        - Length of time in which reimbursements are processed and paid
        - Perception of the staff that their workload is too much
    - Management:
        - Faculty are unclear about resource allocation with respect to the integration with STEM; this has resulted in a perception of inequity
        - CSS would like more communication directly from STEM Dean
    - Issues surrounding IT
        - Potential applicants to IT department may not have required skillset
        - Difficulties in retention of IT staff
        - Confusion in roles and reporting lines
        - CSS faculty would like to be considered partners of the IT department in determining their needs whereas the current perception is that the IT department considers them as passive clients just as they do the rest of the campus.
    - Advising:
        - Many faculty seem unaware there are 1.5 undergrad and 1 grad advisor dedicated to CSS
        - There are insufficient advising resources
        - Faculty expectations about the role of advisors and response time needs to be reset during the period of expansion.
    - Governance
        - With respect to faculty governance, the committee noted that there are 14 committees for 24 faculty members. There also seems to be differing opinions between unit leadership and faculty expectations about committee workload/time spent on faculty governance.
            - Some faculty want time off for committee work.
            - One needs to think through should teaching be reduced or the committee work.

Review Committee Recommendations Regarding STEM Integration:

- Communicate to faculty that there is advising and IT support dedicated to CSS, but these resources are centrally administered.

- IT: Faculty need to provide prioritized requests. Creative hiring is needed (hire department alums, hire non-traditional, utilize student workers in linux and security labs, etc).
- Clearly communicate to the faculty and staff the allocation of resources such as budget, staffing, and space within STEM to dispel the perception that CSS is receiving fewer resources that other STEM units.
- More socializing and/or dedicated meetings between advisors and faculty from respective programs.
- Clearly communicate resource constraints to faculty and staff in CSS
- Consider the possibility of an administrative assistant for the CSS chair/division.
- Rethink the committee structures and faculty governance. Consider merging the scopes of different committees and reducing the sizes of the committees to reduce administrative burden of the faculty.
- Administrative workload of the faculty should be balanced in that the more demanding committee work should be effectively rotated among faculty.
- CSS and STEM must give immediate and serious attention to the integration of CSS into the school, given the perception by CSS faculty that workloads have increased. While multiple, concurrent changes have occurred since the creation of the School of STEM, the current resource allocation to CSS seems fair in the context of STEM.

The review committee recommends a 10-year review cycle for CSS, with the next review integrated into a STEM review, if appropriate.