Review Report
of the
School of Engineering & Technology (SET), University of Washington Tacoma
February 23, 2024

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1. Executive Summary and Background

The Committee reviewed the School of Engineering and Technology (SET) Self-Study, which was submitted to the UW Graduate School on December 1, 2023. In addition, during a two-day site visit on January 25-26, 2024, the Committee met with numerous faculty leaders, faculty members, staff, and students either in person or over Zoom. We believe that the information obtained through the reports and interviews provided a sufficient foundation for our review.

At the highest level, we were impressed with the quality of the academic programs. We **recommend the School undergo a full review in 10 years.**

Because **several academic programs are quite new**, including the master's degree in Electrical and Computer Engineering, the Graduate Certificate in Software Development Engineering, and the PhD in computer science and systems, they are **still on provisional status**. This provisional status exists because 2-3 years is insufficient time for evaluating full program rollout, quality of graduates, and other important criteria. As discussed in more detail below, we see promising signs in these important new programs and support their creation and continued deployment, but we are not in a position to remove the provisional status. This is not a criticism.

A core strength, perhaps *the* core strength of SET, is the value proposition it offers to all stakeholders – students, employers, governments, etc. – in the South Sound region. The pride from faculty, staff, students, administrators, and advisory boards is intangible and irreplaceable. The growth in engineering degrees is well-aligned with the UW-Tacoma mission and should be applauded. Continuing to work to meet demand in computing and IT is equally important. It benefits UW-Tacoma and in fact the entire Tacoma region to continue to invest in SET given its profound alignment with the UW-Tacoma mission and the significant student demand for SET programs.

The new PhD program is less of a natural fit for regional need, but it nonetheless provides an important and otherwise-unavailable opportunity for faculty and students to engage in research outside the highly constrained time limits of a typical master's degree. This holds a great opportunity to improve the recruitment and retention of strong faculty members and to provide broader research opportunities and experience to all students. There is concern, shared by this committee, that the PhD program may have grown too-large-too-fast for its overall role in SET, but calibrating the size and expectations of this program is still ongoing and should, with appropriate attention, come out successfully. The PhD program has potential to enrich and enhance the undergraduate program, which is critical to UWT-SET's core mission. Care should be taken that the PhD program does not redirect resources to the degree such that it overshadows the undergraduate programs.

2. Committee Findings and the Questions from the Charge Letter

Q1) *Are the unit's degree programs of high quality? Do they meet the university's expectations of quality and reputation?*

The review committee was impressed with the high quality of all undergraduate programs. They all are either solidly living up to the reputation of the university, in the case of well-established programs such as Computer Science and Information Technology or are exhibiting promising signs of contributing to the university's reputation, for the newer programs such as the various engineering disciplines.

The Computer Science and Information Technology programs have done well to build up a reputation within the South Sound region, and as a result have experienced a significant population increase that is not proportional to additional resource allocation. In order to sustain quality and reputation, statistics such as course load, class size, and instructor-to-student ratios should be monitored.

The PhD program is new, and the need for it to provide a means of attracting and retaining quality faculty was well documented. There have been concerns on a variety of topics, including the number of students enrolled, sustainable student funding, the ability for a faculty advisor to stop working with an underprepared student, and providing unequal professional development opportunities for faculty members in different disciplines or even within the same discipline. These concerns can be addressed and resolved with focused SET-wide conversations and thoughtful policy creation and/or change.

The new engineering programs have generated much enthusiasm from advisory boards and students alike. These are high-touch programs and are doing well with existing resources and enrollments. It was widely acknowledged that the engineering programs need more resources, such as additional lab managers, to maintain great high-touch programs as enrollment grows. It should be noted that the administration is acting on this need and facilities demonstrate capability to expand capacity with high quality to meet regional needs.

Q2) *How does the unit compare with that of peer and aspirational institutions in terms of educational programs and scholarship?*

It is important to acknowledge that UWT-SET is a unique college in that it serves a very specific, place-bound population in ways that few other institutions do. This sets SET apart from the STEM programs at similarly structured schools such as UW-Bothell, and it is important to make appropriate comparisons between institutions.

The recent move toward having first- and second-year students in programs is wise, with opportunities to improve the overall student experience while still supporting the transfer pathway. These programs also may have the opportunity to expand to meet regional demand more than other non-SET programs. UW-Bothell has already navigated this change; their approach may provide guidance on strategies to navigate the transition successfully.

The academic programs demonstrate high levels of achievement that are valued by outside stakeholders. The program array, particularly at the undergraduate level, addresses the needs of the South Sound community. Advisory board members were enthusiastic about ideas of broader and more niche program arrays to the South Sound-specific areas, such as aerospace, manufacturing, industrial engineering, port engineering, marine engineering, and production. Growth in more traditional areas that can be served by other universities, for example by UW-Seattle, was considered of lesser value.

Q3) *How can the unit improve the quality of its educational programs and scholarship?*

Faculty and staff shared themes of needing more time for scholarships. Because SET has grown so rapidly, the immediate need to cover coursework, either by taking on an additional section or by increasing enrollments of existing sections, threatens time to complete scholarly work. It also limits who may participate in research in a collaborative environment. Hiring appropriate numbers of instructors to match enrollment would assist.

Quality engineering programs can be enhanced by developing teaching load expectations that are considerate of the additional burdens of laboratory instruction. Best practices include separating labs out as independent courses, counting physical laboratory assignments as separate courses for load calculation purposes, and assigning teaching loads based on numbers of hours in the classroom or laboratory. Conversations with UW-Bothell may support this work.

Undergraduate teaching assistants could be used as a cost-effective way to free up time and provide research time for faculty in disciplines that do not have graduate level programs. The committee also recommends evaluating appropriate scholarship expectations for each discipline based on the access to graduate programs. While it is possible that a civil engineer could join a computer science doctoral student's committee, their opportunities to collaborate on doctoral-level research is more limited than someone who works in the Computer Science discipline who also supervises doctoral students. It is recommended that scholarship expectations are developed that are equitable through the lens of disciplinary student research support.

Strong scholarship flourishes in institutions with strong scholarship support. These efforts can be supported if there is additional support – buyouts for teaching and/or financial support – offered for faculty pursuing collaborative, cross-disciplinary grant opportunities. Scholarship also flourishes when institutions support the practice of pursuing grants. Many institutions offer mini grants that allow for buyouts and/or other financial support to write larger, national grants.

Q4) *What does the unit need to do to increase its regional and national prominence?*

The uniqueness and strength of UWT in its support for the South Sound is the touchstone for increased prominence. It is clear that SET has worked diligently in the last 20 - 25 years to increase regional prominence in the area of computer science and information technology. The

committee recommends engaging with community stakeholders, namely the Industrial Advisory Boards (IABs), connections with local community leaders, et cetera, to increase the visibility of all SET programs, particularly the new undergraduate programs. Secondarily, the committee recommends pursuing additional programs that serve the specific needs of the community (port engineering, for example) to further solidify ties to the region. To do so with excellence could, later, produce a program of national eminence that would draw students from a wider region.

Members of the advisory boards are very engaged and supportive of SET. They are eager to be of assistance for a variety of requests from the College. Specific requests can include new equipment in support of a specialty area or being advocates for SET to regional and state decision makers. The advisory board members particularly indicated willingness to teach specialty topics in areas of need (aerospace, manufacturing, industrial engineering, port engineering, marine engineering, production)

The advisory board also provides opportunities to connect more between industry and capstone support. One way to support this would be to create a capstone portal to make it easy for industry members to engage.

Q5) ***Do students, faculty and staff find the department a supportive and welcoming environment in which to pursue their degrees and careers as scholars, teachers, and administrators?***

Students valued the relatively small class sizes. They found that the ability to work closely with faculty had a humanizing impact and that this generally improved their perception of educational outcomes. Faculty engagement was high through formal classroom and informal after-class/office hour interactions. As the college considers higher course caps, the students' value should be strongly considered.

Students also spoke glowingly of high-touch interactions with advisors, both before and after admissions. The same advisors often felt not included in decision making, and thus undervalued.

Faculty and staff spoke of being overworked, overloaded, and managing expanded responsibilities. Program coordinators are doing personnel management in addition to overseeing curriculum. Tenure-track teaching loads are high as compared to comparable institutions. Engineering faculty loads do not differentiate between lectures and courses with significant lab components, which is outside of the disciplinary norm. The concern here is that many such labs have constricted enrollment due to safety and operational limitations, and faculty don't get credit for the significant time investment for a relatively small number of credits each lab is "worth". Some lab courses have discrepancies between the course credit and contact hours.

There were concerns about disciplinary differences not necessarily being well understood for purposes of promotion and tenure (P&T). The rapid broadening into engineering disciplines has led to a significant concern into the understanding of the roles of scholarship and teaching toward P&T. This is particularly inequitable, as disciplines with master's and doctoral students are able to produce scholarships at a different level than disciplines exclusively with

undergraduates. Many engineering disciplines also require significant equipment investment to be able to conduct research.

The committee observed that program leadership and senior faculty believe the criteria for P&T is clear; faculty under consideration disagree. Faculty under consideration would appreciate more guided constructive feedback; this should involve a formalized mentoring process that involves senior members of a discipline supporting junior faculty.

Q6) ***Are students, faculty and staff from groups that are underrepresented fully included in the intellectual life of the department?***

Wonderful diversity was observed in the student body and faculty and staff that is representative of the South Sound population. The DEI committee performs a commendable service in all their work; however, the expanding workload of the group may not be particularly sustainable with four areas of work for one committee.

One note of importance going forward: by expanding into male-dominated engineering disciplines such as mechanical and civil engineering rather than more gender-equitable engineering disciplines such as bioengineering, it is reasonable to expect the female percentage to drop in SET. Future findings should be evaluated within this context.

Future findings with retention should also be evaluated within the context of the direction of SET expansion. While current retention rates are excellent, it is expected that the retention at SET will decrease as participation by traditional-aged first-year students increases. Nationally, the largest retention drop is between the first and second year. As the population changes to include more of that student group, this drop is normal and expected, as the current population is mostly post-attrition.

Q7) ***To what extent do the unit's current facilities and building space meet its needs?***

Faculty research is being performed in teaching labs, or sometimes off campus. There currently is insufficient support for graduate student workspace. Overall themes here were that there was not sufficient developed research space for desired research productivity.

Advising and administrative staff do not have enough private offices to support the level of advising, recruitment, etc. that is commensurate with enrollment. Advisors appear to be sharing office space. This is detrimental to their work, which is often confidential and sensitive in nature.

Q8) ***To what extent is the unit preparing students at all levels for careers and future academic pursuits?***

In outfitting engineering labs, the purchases have been sensible and important. There is a plan where the lab managers understand the remaining gaps (e.g., wind tunnel) and they need to keep building out to the plan as the curriculum and the enrollment reach their goals.

Investing in an academic coach can help students be successful in their studies and prepare for future careers and aspirations. This is particularly beneficial when retaining first-year and first-generation students.

3. Supplementary Unit-Defined Questions and Committee's Responses

UWT SET supplied a set of supplementary questions in the written documents shared prior to the site visit. SET has demonstrated strong growth in student enrollment, surpassing the UWT School of Interdisciplinary Arts & Sciences (SIAS) in recent years. These questions, roughly speaking, sought input on managing the growth of the school, including how to organize faculty and teaching efforts, how to maximize the integration of the school into the surrounding business and economic ecosystem as part of growth, and how to build a robust research portfolio as the school grows its faculty body and graduate offerings. Questions and responses are shared inline below.

How do we manage growth?

This top-level concern was divided into several subsections related to aspects of growth. The first of which focuses on faculty and staff organization:

Q1. ***How might we optimize our organizational structure that enables efficient management of the school?***

At the heart of this unit-defined question is the role or value of *departmentalization*. This committee identified the following motivations for departmentalization on behalf of SET:

- **Faculty experience a lost sense of identity.** In multiple settings, faculty from different disciplinary backgrounds expressed a sense of losing their identity, particularly where the faculty mass was smaller.
- **Faculty peer review during promotion and tenure discussions.** The current faculty promotion and tenure (P&T) process at SET, which is in line with the UW faculty code, has all eligible faculty review tenure and promotion cases. This means that faculty whose primary disciplinary background and exposure are quite different from those who are being evaluated. For example, a Civil Engineering oriented faculty may review a Computer Science & Systems faculty P&T packet. This can lead to several unfavorable scenarios, including faculty just abstaining from a P&T vote where they think they are unable to adequately evaluate materials. Abstention in P&T votes can complicate cases needlessly but reviewing faculty feel it is warranted when their expertise is misaligned. Moreover, junior faculty and senior UWT leadership expressed concerns that the P&T process, in general, was opaque. Some of the lack of clarity identified was around differential expectations for P&T from different subdisciplines in SET. For example, publication quantity and timelines may be very different for faculty whose research is primarily experimental or in the field, relative to those in theory or computation, and

those differences contribute to confusion over expectations. Finally, senior faculty reviewing all cases across SET is a large workload burden.

- **Workload equity issue for program directors.** The current organizational structure of SET where "program directors" manage various aspects of education for separate degree offerings (e.g., ECE, ME, CE, CSS), can contribute to workload equity issues for the faculty who are currently serving in those program director roles. The limited teaching release time does not fully compensate for the overhead of the roles. In addition, those roles were originally envisioned just to manage education programs, for example teaching and curriculum issues, but have evolved to handle other administrative aspects including faculty supervision and P&T. This is complicated because the program directors' roles do not have additional resources to support the non-educational aspects of the roles and aren't technically given decision making authority independent of SET leadership on these topics.

The committee identified several overarching concerns around 'departmentalization' reorganization of SET that should be addressed. They include:

- **How will support staff be allocated?** Currently, the SET administrative and support staff are shared across the SET programs. This includes recruiting, admissions, advising, finance, and human resources. Models exist, like the Collaboration Core, at UW Seattle's College of Engineering, for sharing administrative expertise and talent across defined unit boundaries, but this can create competition for limited and exceptionally valuable staff time. This item is exceptionally important considering a recent ABET review that stated that the educational programs would benefit from more staff, including a lab manager. Finally, there was strong consensus that the support team is understaffed, particularly amongst those who self-identified as having roles in student "advising" who are responsible for leading ABET reviews, faculty searches and aspects of academic human resources, all on top of traditional student advising roles. Departmentalization can amplify the perception of understaffing if unit boundaries are too rigid and don't enable staff to work flexibly across units, when necessary.
- **How to approach smaller programs in SET?** Some programs may not yet have enough faculty, students, or demand to support the infrastructure weight of departmentalization. A new organizational structure should be cognizant of how to approach programs before they have enough critical mass to support themselves as a separate unit for P&T review, admissions, retention, advising, etc. SET should have explicit plans for programs that are too small to be organized independently, criteria for determining when they should form a unit, and fair and equitable procedures for handling management prior to a unit transition.
- **How will DEI programs be managed and represented across new units?** If SET chooses to embrace departmentalization, the DEI committee needs to continue its work while additionally representing individual units that may want to build out their own DEI committees and programs. Given the limited resources, it is imperative that departmentalization doesn't cannibalize the service efforts of existing work in this space in SET.

- **Should faculty review/promotion/tenure/hiring drive this process?** The UW rules regarding voting on faculty reviews, promotion, tenure, etc. may be overly driving the move toward departmentalization. It may well make sense to divide this work into programs (subsets of faculty with discipline-familiarity) without the full rigidity of departments. If this is possible within the current UW faculty code, then consider such an approach. If it is not possible, perhaps a larger UW tri-campus conversation would be valuable since this issue is likely not unique to SET or UWT.

While the committee demurred from weighing in directly if SET should "departmentalize" in the near future, several recommendations have arisen:

- **Departmentalization can happen too early or too late.** The timing of this proposed approach is important. It is possible that SET could rush to form units that are unable to self-support and as a result pose an even larger administrative burden. Conversely, it is possible that retaining a "program director" structure could create too many inter-program dependencies that are difficult to unwind. The committee felt that formal discussions should begin soon.
- **A formal committee charged with directly addressing this question will be valuable.** A formal committee should consist of faculty, staff, and student representatives of the different disciplines within SET. They should consult with SIAS, which has five divisions, and other programs at UWT who have already navigated this process. They should work closely with the UW Bothell faculty and staff to better understand the School of STEM's divisionalized model. SET should start formal discussions now with an acceptable outcome as "not yet" or "not at all."
- **SET should create a rubric for evaluating when departmentalization is appropriate.** A rubric can make clear what the goals of departmentalization are (and are not!) so that the many details of doing it effectively can be judged against the agreed-upon goals.

The discussion on the topic of departmentalization and reorganization was some of the most engaging and thought provoking that the committee had, which demonstrates the importance of this topic to all at SET.

While still on the topic of managing growth, SET also requested that the committee consider two additional items, the first being student facing and the second being community facing. They were:

Q1.1 [What is the need for a] … robust career office for our graduates for both internships and jobs.

When speaking with students and community partners, this topic came up in a variety of ways. For the students' part, they would like access to an expanded career office that can assist in the matching process for internships and jobs. While students were aware of resources like Handshake, they reported that they were less well suited for their needs in the Tacoma area. In the context of speaking with the advisory boards' members and regional business representatives, they spoke of needing more outlets and vehicles to recruit talented students from UWT and more ways to identify potential interns. In short, investing in a more robust career office was strongly supported.

Q1.2 [How can we] ... expand recruiting of students from the South Sound Area to include King/Snohomish County, the state, and beyond.

The committee viewed this as unnecessary and not well-aligned with the mission and vision of UW-Tacoma and SET. Instead, the committee would suggest deepening the engagement with the South Sound community and focusing on the regional mission. From discussions with the advisory board, it was clear that they are supportive and excited about the engineering expansion and encouraged SET to think about more regional engineering foci such as aerospace, manufacturing, industrial engineering, port engineering, marine engineering, and production. The advisory boards' members have fresh ideas about the disciplines that resonate locally and will keep talent in the South Sound, and they very much wanted to engage in expanding the engineering education offerings towards the local needs. A South Sound focus should also enable more relevant research-specific needs of the community and region and leaning into those to create location-based programs that are not available elsewhere that will retain South Sound talent, maintaining a vibrant ecosystem for UWT.

Finally, the committee didn't feel that the local recruiting pool had been exhausted. It was clear that staffing support, partly in recruiting, was lacking and that investing in these support roles could enable deeper penetration into the South Sound student pool. These efforts should be exhausted before pushing growth by recruiting nationally.

Q2. How do we make sure we have adequate resources for research and teaching that ensures faculty and student success? and Q4. How do we balance research and teaching while encouraging grant applications and enhancing research productivity?

As SET grows, it is also transitioning into a more research-driven faculty body, as evidenced by some of the recent tenure-track hires and growing extramural research awards. Research should drive innovation in teaching and enable faculty to remain at the cutting edge of their disciplines, but it should not come at the expense of teaching and student success. Juggling these simultaneous competing and cooperating interests is complex. Research active tenure track faculty have 6/7 the teaching load of teaching track faculty and are expected to deliver a nationally recognized research program in the remaining FTE, including their service commitments. The committee identified the following concerns in these regards:

- **There is a lack of incentive programs for grant-writing.** Faculty are not adequately incentivized to write proposals through teaching or other service releases. The committee felt strongly that there needed to be a venue to stimulate grant development.
- **Research gains must not come at the expense of faculty equity.** When considering how to adjust teaching duties to facilitate grant-writing, the shifted burden must fall equitably across all faculty. Given the rapid growth in the number of students and number of programs inequities in the teaching load allocation are going to surface. The committee acknowledges that not all courses are equally challenging for instructors and mediated discussions to approach a shared understanding of teaching load would be valuable.

- **Research labs are not sufficient.** Faculty expressed concern that there was not sufficient space for their graduate students to perform research. New faculty are often offered research space off the main UWT SET campus, which can diminish opportunities for collaboration and student engagement. The faculty reported having equipment available but no physical infrastructure to support it or graduate students who can run it. As courses grow and offerings grow this will put teaching labs and research in competition.
- **Increasing opportunities for collaborative proposals within the SET disciplines.** Increasing opportunities for collaborative proposals, e.g. between CSS and the newer engineering disciplines is valuable. Proposals like this spread out the grant writing needs, increase broader impacts, and enable the kind of real-world research activities for the students where they are collaborating across disciplinary boundaries.

Q3. How do we increase collaboration with industry and community partners?

The advisory boards' members were incredibly enthusiastic. They expressed genuine interest in being consulted for building new engineering programs, including aerospace, manufacturing, industrial engineering, port engineering, marine engineering, and production, and even contributing instructional time in the form of guest lectures or elective courses to supplement areas outside of existing faculty expertise. Members of the boards expressed a desire for increased vehicles and opportunities for interacting with students for hiring in permanent positions and for internships.

In addition, the committee heard the refrain, "Why don't they ask us for more?" multiple times in reference to input, but also money, equipment, and interactions.

Q4. Response combined with Q2, see above.

Q5. How do we increase our visibility? How do we market our programs to a wider population that includes our state, our region, and the nation?

Similar to the answer for Q1.1, the committee felt that SET should continue to lean into its strong roots in the South Sound area, including embracing the engineering and research needs of the regional ecosystem. UWT and SET can support this by signaling value for Scholarship of Teaching of Learning (SoTL) efforts and community-engaged scholarship during promotion and tenure.

Q6. Student Success (retention): How do we increase funds (e.g., scholarships) to support our current students and broader participation (DEI) for future students?

The committee identified several components of building student success and creating strategies for retaining students.

- Expanded career office, capstone portal, internship match making.
- Access to cutting edge technology. Computing for teaching is not sufficient. Competition for single GPU for ML, outdating networking for courses (v6/v4), how to learn competitive job skills with outdated equipment.
- Advising space is limited. Advisors who do more than 50% of their interactions with students are in shared spaces.

4. Challenges, Strengths, and Opportunities

SET clearly understands its regional mission and its connection to local industry. The programs are responsive to local industry as evidenced by the active and engaged advisory boards. SET's greatest strength is its connection to the South Sound Region; the school should keep this strength central to its growth and development.

The students valued the relatively small class sizes. They found that the ability to work closely with faculty had a humanizing impact and that this generally improved their perception of educational outcomes. Students spoke glowingly of high-touch interactions with advisors' pre-admission through faculty engagement, both through formal classroom and informal after-class/office hour interactions.

The growth in curriculum, students, and faculty over the last decade shows a firm commitment to improvement and, indeed, these improvements have been very successful.

While we identified no critical concerns, we enumerate here in no particular order the challenges and opportunities we did identify:

1. **CSS PhD program**
    - This new program has the potential to improve the recruitment and retention of strong tenure-track faculty members while also providing broader research opportunities and experience to all students – not just the PhD students but also the undergraduate and master's students who could be mentored or involved in larger, longer-term research initiatives.
    - As discussed in the executive summary, the PhD program grew much larger and more rapidly than one would expect (targeted a start of 7, but there was a start of 15. Increased to 22 - 23 next year.). Working out the role of the program, the academic standards, the funding expectations, and the target student population remains in flux.
    - The opportunity for doctoral research is important for a small number of students in the region as well as for the faculty and for the opportunity for improved undergraduate and master's research opportunities, but the approaches for managing the PhD program are nascent at this time.

- The school should carefully assess the appropriate size of the PhD program in the context of the SET mission and vision, as well as the needs of the South Sound community (and industry).
- PhD students that we interviewed received no financial packages or guarantees when they originally matriculated as PhD candidates, and their current support is mostly quarter-by-quarter. A survey of other R2 programs may provide insight into best practices for sustainably supporting PhD students financially, such as using graduate students to teach lower division core courses.
- The four students we interviewed mentioned that they were planning to graduate after completing their PhD in around four years. The concern that PhD students would graduate prematurely without sufficient education and training was not confirmed, at least by the students interviewed.
- The committee concluded that concerns about post-degree placements (industry vs. academy or other research-oriented placements) are an inappropriate criterion because nationally a majority of computing PhDs pursue industry careers.
- Opportunities: The program could reach out to Seattle for collaboration/partnership and provide their students with access to various opportunities on the Seattle campus (such as seminars, etc.) so that they can learn the ropes and receive mentoring until the program matures.

2. Space

- One challenge given UW-Tacoma's student population is student clubs and organizations, but finding better ways to build this community, particularly for the new engineering programs, is worth trying to do. For student projects, this will require space.
- Increased faculty research projects will also require space, but most space is currently focused on teaching labs.
- The disciplinary differences in teaching challenges, notably the introduction of lab courses with substantial physical footprint and safety issues, is also not yet fully understood across SET.

3. Faculty

- The gap between the teaching load of tenure-track (six per year) and teaching-track (seven per year) faculty is surprisingly small, but it is not clear how to change this with current class sizes and budgetary constraints.
- Given the increased emphasis on research in recent years, junior faculty do not feel promotion and tenure guidelines are clear. They also express concern that the broader set of disciplines in SET makes it difficult for calibrated evaluation of faculty scholarship.
- The work of program chairs has expanded far beyond curriculum and degree-program management, becoming untenable with the current teaching loads and support levels. This is one motivation for departmentalization, but there may be middle grounds.
- The school requires more structured and extensive disciplinary review input for faculty members. Except for CSS, which has a long history and a large mentorship pool, input for second year or annual review is too broad or insignificant.

4. Student

- Student diversity and retention is currently excellent, but we anticipate two challenges in the years ahead:
    - The move toward 4-year programs will reduce retention compared to 3rd-and-4th year programs after students have already completed introductory and mathematical coursework elsewhere.
    - The move toward more male-dominated engineering programs is likely to reduce the fraction of women students in SET as the national gender ratios in different disciplines of engineering vary substantially with these programs usually among the lowest fraction of women.
    - For retention, UW-Tacoma may need to think through options for students who leave the current SET undergraduate programs after 1-2 years. Proactively examining current best practices and implementing strategies now can help ameliorate some of these upcoming challenges.
- In terms of student services, SET is in clear need of a dedicated career office to coordinate internship and full-time job opportunities with regional employers. Academic advising is also working toward catching up to recent growth, figuring out how to efficiently support many more students. Quality is excellent but growth exposes inefficiencies that can be worked on.
- Students highly value smaller classes & reduced barriers to personal relationship with instructors. Humanization of professors is more important than class size. Some, including students and faculty, are concerned about plans with a maximum enrollment of 45.

- The core strength of SET is the opportunity to connect the students and employers in the South Sound region via a high-quality university experience. We recommend focusing on this mission, including continuing to recruit students from the surrounding region, rather than moving toward recruitment from farther across the state or beyond.

5. Conclusion

The Review Committee concludes that, despite a few strategic and operational challenges, the School of Engineering & Technology (SET) UW-Tacoma is successfully pursuing its mission and vision in the South Sound as an important unit of the University of Washington system. The School is positioned to expand its impact in the region and deserves the University's ongoing support to achieve its full potential.