

**University of Washington Tacoma**  
**Institute of Technology**  
**Strategic Corporate Partner Initiative**

August 25, 2017

The purpose of the Strategic Corporate Partner Initiative (SCPI) is to establish the Institute of Technology at the University of Washington Tacoma (UW Tacoma) as a model for providing world-class professional practice learning experiences for its undergraduates, preparing them to enter and succeed in the professional workplace. A select group of at least five Strategic Corporate Partners is being invited to collaborate with students, faculty and staff to develop unique approaches in establishing new standards for industry and academic partnering. UW Tacoma, in collaboration with its corporate, professional society and alumni partners, plans to play a key role in the emerging national movement to *Transform Undergraduate Education in Engineering* (TUEE). A distinguishing feature is the development of an exemplar K-16+ Diversity Pipeline/Transfer Scholars model that supports the ASEE Deans Diversity Pledge recently signed by more than 200 Deans of Engineering nationally.

During the summer of 2017, then throughout the 2017-2018 academic year, the pilot program to be established is expected to answer the aggressive challenge of the *Transforming Undergraduate Education in Engineering* (TUEE) Collaboratory. The objective for June 2018 is to scale this pilot to develop a sustainable and scalable exemplar model of engineering practice for the TUEE Collaboratory **when the [ASEE TUEE](#)** findings and recommendations are expected to be released in 2018. The SCPI outcomes will include (a) an exemplar Professional Practices Program featuring team-based problem solving and project learning throughout the undergraduate experience including a best practice senior design (capstone) program featuring at least five successful sponsored projects, (b) a unique Student Professional Practice

Scholars program involving at least 100 honors students that engages student teams and work groups in co-curricular student managed personal and professional development activities and events in collaboration with corporate partner employees/alums and recent retirees (c) accelerated development of an exemplar K-16+ Diversity Pipeline/Transfer Scholars model will play a very prominent role in developing and implementing the pilot phase of SCPI through mid-2018, (d) a world class Strategic Corporate Partner Initiative that systemically engages corporate partners in student managed team based projects, events and activities instilling the necessary skills and qualities needed in the dynamic and ever changing engineering profession.

**Undergraduate Professional Practice Program *including Industry Sponsored Senior Design (Capstone) Projects*** - The Faculty Professional Practice Council (FPPC) includes faculty members representing every participating engineering/computer science major and technical managers from each Strategic Corporate Partner. Each Strategic Corporate Partner will have a seat on the FPPC Industry Leadership Board. The FPPC will be responsible for overseeing the overall undergraduate academic experience for all students. Included will be a design spine and a team based project each of the four years. Various presentations and reports will be embedded with each project to help assure that each student has acquired communication skills required in the professional workplace upon graduation. The sponsored senior design (capstone) project is more like an actual industrial work experience than any other course situation. First, projects involve teams of four or five engineering and/or computer science students that are empowered to solve real open-ended customer-defined problems throughout the 20172018 academic year. Although a faculty coach (or coaches) is provided for each team, the students are empowered to solve the problem for their customer. Second, skills of negotiating project plans, creating presentations, adjusting to changing conditions, presenting a mid-project critical design review to

client senior management and writing and presenting a final report are experienced and learned. Third, senior design (capstone) corporate partners/sponsors provide a stakeholder liaison(s) who maintains weekly contacts with the team for project planning and execution to ensure the goals are realistic and milestones are met. Thus, the senior design (capstone) experience serves as each student's "final course and first job", engineering practice prior to graduating. The corporate sponsor receives full intellectual property rights to the results produced by their sponsored senior design project student team.

**Student Professional Practice Scholars (SPPS)** – The objective of the SPPS program is to establish UW Tacoma as an exemplar model for recruiting, retaining and graduating engineering students of the highest potential who are prepared to enter and succeed in the professional workplace. A distinguishing feature of the SPPS program will be the extensive student collaboration with corporate partner alumni and recent retirees along with local chapter members of national professional societies. They will support student-managed teams and work groups in development of a world class co-curricular experiential program that complements the curricular Professional Practice Program. Thus, SPPS members will be empowered to plan, conduct and manage experiential and professional development activities and events in collaboration with corporate partners while learning from mentoring professionals.

*The Program* – Students who exceed requirements to maintain a merit scholarship (3.0 GPA minimum) will be encouraged to apply, current resume is their ticket, to develop and participate in the new SPPS program that will include several innovative elements. A Student Professional Practice Council (SPPC) will be established consisting of student leaders from national engineering student organizations (ACM, IEEE), as well as, student ambassador teams that will be designated as the point of contact for each corporate partner. Each Strategic Corporate Partner has a seat on the SPPC Leadership Board. Student teams are empowered to manage personal and professional development activities such as mentoring, corporate hosted networking breakfasts, receptions and custom information sessions for corporate partners, boutique career events, corporate partner site visits and an annual Day on Campus with each corporate partner. It is requested that corporate partners designate technical and recruiting leads, ideally alums and recent retirees, to coordinate activities with their respective student work groups, student ambassadors and student leaders.

**K-16+ Diversity Pipeline/Transfer Scholars** – To articulate underrepresented minorities and women as a core value in engineering fields, a strong diverse student leadership group is essential to collaborate effectively with corporate partners to address various diversity and inclusion issues. At UW Tacoma, student scholar leaders representing national diversity student organizations such as NSBE, SHPE and SWE establish the Diversity Solutions Council (DSC) in conjunction with their respective local professional chapters. Students, with the support of faculty and staff, will be reaching out to alums and recent retirees of Strategic Corporate Partners to develop and manage mentoring, professional development, internship, and various student engagement activities and events. Programs will integrate students from partner community colleges into the emerging university/industry collaborations. Due to community college enrollment characteristics in most communities, it is anticipated that most of the transfer scholars will be underrepresented minorities and women. Highest potential transfer students will be awarded full tuition scholarships and all finalists have the opportunity to interview for an internship with Strategic Corporate Partners for the summer of 2018 as an incoming student. Additionally, upon enrollment in the fall semester, each Transfer Scholar will be assigned a SPPS/DSC student mentor to help the Transfer Scholar assimilate with SPPS work groups and activities throughout the fall term. An effective Transfer Scholars/Diversity Pipeline program will include at least three key elements: smallscale real world problem solving experiences for community college students, participation by corporate partners and UW Tacoma SPPS students with community college students in co-curricular activities and events, and clear pathways to transfer scholarship support.

*Founding Corporate Partner Investment and Benefits* – Strategic Corporate Partners are represented on the Executive Council and the SPPC, DSC and FPPC industry boards and participate in the development

of strategic self-sustaining programs, with expectations for implementation of an innovative corporate/university student centered partnering program by June 2018. Strategic Corporate Partners will be invited to invest funds but more importantly encourage employees/alums and recent retirees to help develop, support and participate in SPPS activities and programs (scholarships are optional for companies as alums and retiree donations and corporate matching gifts along with various gifts and grants will be the primary sources for increased scholarship opportunities and program funding for these high potential low income underrepresented minorities and women). Exceptional benefits will begin accruing to the founding corporate partners immediately – they will have the opportunity to hire Transfer Scholar interns for the summer of 2018 and establish relationships with a very bright contingent of current engineering/computer science students. Active participation in the ongoing development of this exemplar program will assure each founding Strategic Corporate Partner that UW Tacoma will be an important cost effective solution for achieving recruiting and university relations goals.

**Strategic Corporate Partner Initiative (SCPI)** – The goal is to leverage the curricular Professional Practice Program and co-curricular Student Professional Practice Scholars initiatives to create new standards to provide an alternative to traditional Corporate Partner Programs that tend to treat corporate partners as donors instead of active investor/partners. In the process, UW Tacoma immediately enhances existing corporate relationships and develops new ones by encouraging systemic engagement (not simply access) with faculty, staff and students. A broad range of programs defined and developed in collaboration with founding Strategic Corporate Partners will include sponsored undergraduate and graduate research, senior design (capstone) and various other projects, internships including summer team internships, various student engagement activities and events of mutual benefit developed with each Strategic Corporate Partner, UW Tacoma and its faculty, staff and students. Developing specifics of this initiative will be defined and implemented in collaboration with Strategic Corporate Partners throughout the 2017-2018 academic year. Although investments will be encouraged to develop and maintain self-sustaining programs, no investments or fees will be required of invited Strategic Corporate Partners prior to June 2018 when new standards for industry/university partnering are expected to be established in collaboration with university and corporate members of other regional TUEE Collaboratories.

In collaboration with industry, higher education and its many national and community partners, the Institute of Technology at the University of Washington Tacoma aspires be a model for the emerging national movement to Transform Undergraduate Education in Engineering and to remain a positive influence on the ever-changing engineering profession.