

## **CBE CLIMATE ACTION TASK GROUP**

**Feb 10, 2020**

- Rationale
- Research
- Goals

**Rationale** (*What does your topic mean for CBE and our stakeholders? What is CBE doing currently? Why do we care?*)

Unprecedented environmental, economic and social changes are predicted over the coming decades. These changes can happen by default, disruption or design. We have a unique window of opportunity - now is the time to act decisively in order to ensure that our students, College, University, State and partners in research around the world are prepared to respond effectively to an uncertain future. The need for urgent action is clear; in order to meet global climate targets we need to reduce emissions globally by 50 percent in the next ten years, and reach net zero emissions--the point at which any remaining emissions can be removed from the air--by 2050 [1]. Buildings are responsible for about half of these emissions [2], cities and their associated physical and energy infrastructure for nearly 75 percent [3], and systemic changes will be required in order for construction, buildings, cities and landscapes to decarbonize. We need to simultaneously ensure that these transitions support increased equity and opportunity for all.

We envision a College of Built Environments (CBE) recognized as a center of climate action enabling collaboration between disciplines, the University, professional industry and the State such that the region becomes a model for how to meet global climate targets while enhancing equity, social and biological diversity and delight. We in the CBE at the University of Washington have unique capacities and significant ethical responsibility to lead towards a beautiful, equitable and sustainable future. Our research touches communities and supports cities around the world as they embark on their own journey toward sustainability. We can inspire and enable creative and bold solutions to complex challenges if we face them with optimism, resilience, collaboration, and rigor.

**Research:** *(Summarize your research and community outreach. What did you learn? What is important to our stakeholders?)*

The scientific community, represented by the Intergovernmental Panel on Climate Change, states with certainty that global average temperatures are rising due to greenhouse gas emissions from human activities have reached levels unprecedented in an empirical record of the Earth's atmosphere reaching back 800,000 years.[4] At the time of writing, global average temperatures have already risen by 1 degree Celsius, and forecasts of business-as-usual emissions portend temperatures that bring catastrophic change for people and the ecosystems on which we depend. Expressed as a global carbon budget,[5] the goal of limiting the rise of global average temperature to 2 degrees or less, set in the Paris Agreement of 2015 [6], allows parties around the world to realize that temperatures rise with each ton of carbon dioxide equivalent emissions, and will continue to do so until those emissions end. To meet this goal, emissions will have to be reduced by 2050 to only those for which carbon can be reliably sequestered from the atmosphere. Considering that rates of global greenhouse gas emissions have yet to peak, the United Nations Environment Programme [1] notes that humanity may well overshoot our global carbon budget, placing us in aggressive pursuit of practices for a carbon negative outcome in order to stabilize temperatures at 2 degrees above pre-industrial levels (pre-1880).

To transition away from the activities and infrastructure that generate emissions requires concerted research, education, and public action in fields that are found within the CBE at the University of Washington. Our academic disciplines are focused on land use, energy, industry, buildings, transport, and cities, all implicated in the problem and in search of solutions. CBE has the expertise to be a source of solutions for our campus, city, region, nation, and world.

Rising temperatures release energy into the planet's atmospheric and hydrologic systems with cascading effect on the biophysical world. The scientific community has defined relationships between emissions, warming, and climate variability, with increasing certainty, and is rapidly determining the extent of impacts that accompany these changes, such as sea level rise, flood, drought, wildfire, extreme storms, and the breakdown of biophysical features, such as permafrost, that further accelerate warming by releasing stores of methane from the seas and soils.[4] These shifts, which carry more energy and afflict more damage on built and natural systems, multiply existing threats to social, economic, and environmental systems. Scientists today are in a race to document the myriad effects, numbering among them species extinctions, food shortages, water crises, community displacement, exacerbated economic inequality, conflict over resources, desertification, and ecosystem collapse.[7]

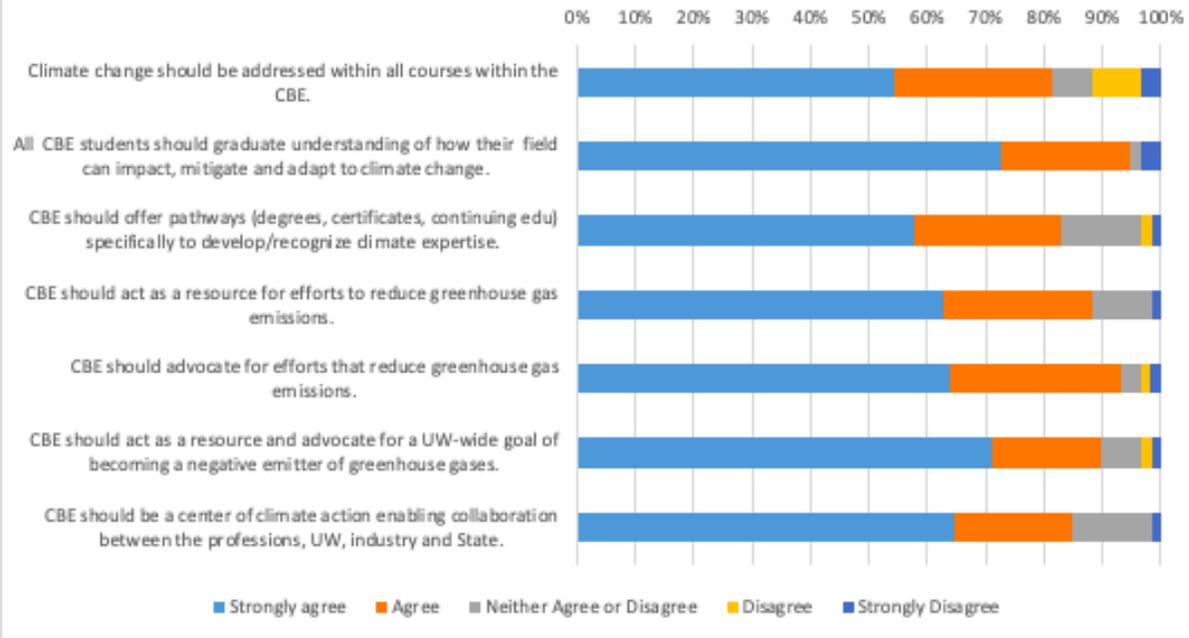
To become resilient in the face of these acute and chronic stressors requires research, education, and public action, on the part of the disciplines found in the CBE at the University of Washington. Urban design and planning, real estate, architecture, landscape architecture, and construction management have the collective capacity to reshape the elements of human settlement to be robust to the hazards that come, and to enhance the sustainability of human endeavors and the ecosystems we share with a biodiverse world.

In writing this chapter of the CBE Strategic Plan, our college community commits to climate action with determination to resolve the problems ahead and a wellspring of knowledge and spirit that gives the communities of research, education, and practice that we serve the capacity to thrive. In preparation for this Strategic Plan, outreach included questions to gauge student, faculty, staff, and professional committee interest in a variety of roles for CBE in climate action. Among all of these groups, 85 to 95 percent agreed or strongly agreed that all students in the college should graduate with an understanding of how the knowledge and skills of their field can be leveraged to impact, mitigate, and adapt to climate change.

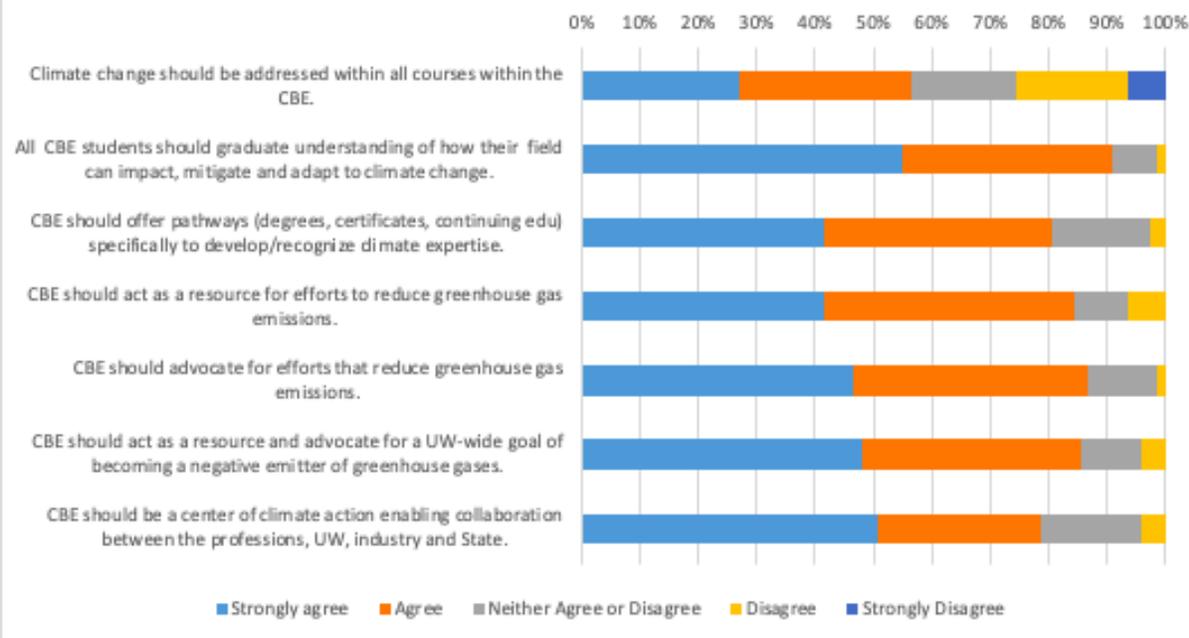
As the generation that shoulders a greater proportion of climate impacts over time, students are attuned to this burden and their responses show that they would like the college to lend strength and support to their fight with climate change. Students overwhelmingly agree that CBE should be a resource and advocate for reducing greenhouse gas emissions. More than 80 percent of students agree or strongly agree that the college should advocate for a UW-wide goal of carbon negative emissions, and that CBE should become a resource for its implementation. Furthermore, students believe they would benefit from efforts at CBE to shape our curriculum into pathways (e.g., degrees, certificates, continuing education) for climate change expertise, and to establish a center for climate action collaboration between industry, government, the professions, and the wider array of disciplines at the University of Washington.

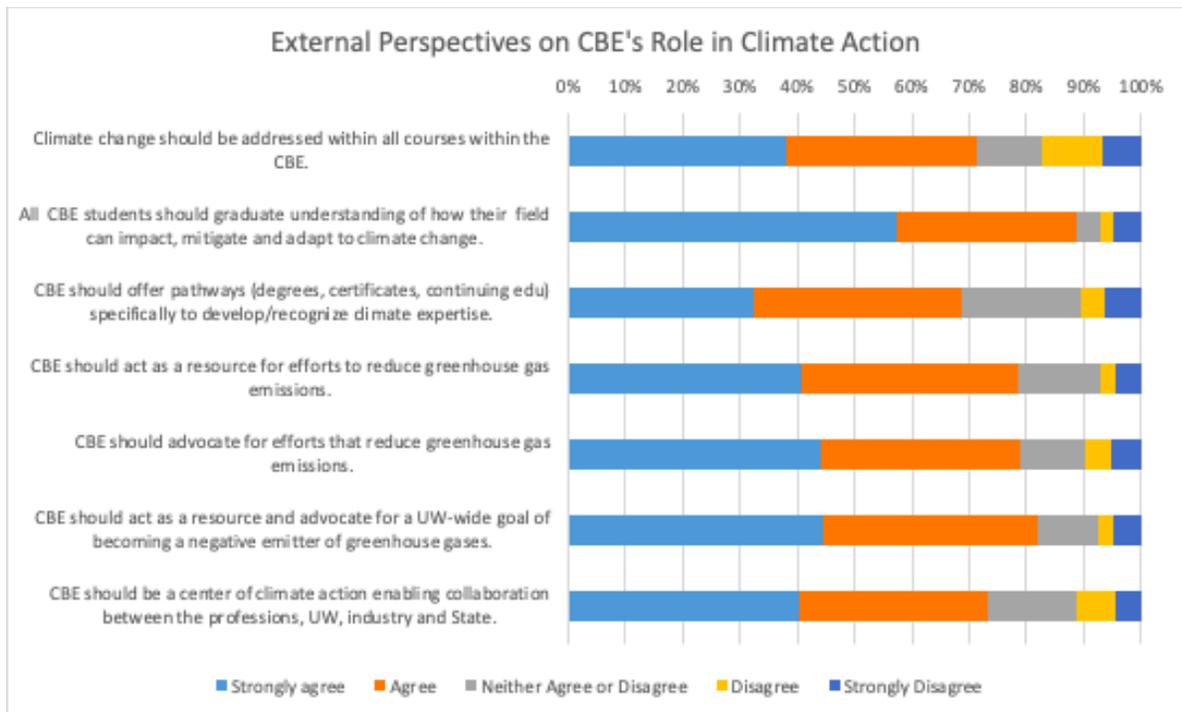
Within all survey groups over 90 percent of respondents agree or strongly agree that all students should graduate with an understanding of how their field can impact, mitigate and adapt to climate change and over 70 percent feel the same about the college being a center of climate action. The following three graphs plot the results of the primary climate questions in the stakeholder survey.

### Student Perspectives on CBE's Role in Climate Action



### Faculty & Staff Perspectives on CBE's Role in Climate Action





**Goals** (*Articulate suggested strategic goal(s). What should the CBE do?*)

Following a clear rationale for CBE involvement in climate action and informed by our research into student, faculty, and community perspectives on this issue, we propose the following four goals guide continued strategic planning on climate action by the College:

- **Goal 1: Rapidly decarbonize and enhance climate resilience of the UW campus.**
- **Goal 2: Encourage CBE students, alumni, faculty, and staff to actively participate in resilience and climate planning, solutions and action.**
- **Goal 3: CBE to develop a communications strategy to help us speak in a unified voice toward climate action**
- **Goal 4. Establish CBE as a leader in climate action education and research.**

----- Endnotes

[1] United Nations Environment Programme (2019). Emissions Gap Report 2019. UNEP, Nairobi. <http://www.unenvironment.org/emissionsgap>

[2] Global Alliance for Building and Construction (GABC) (2019) *Global Status Report*

[3] Seto K.C., S. Dhakal, A. Bigio, H. Blanco, G.C. Delgado, D. Dewar, L. Huang, A. Inaba, A. Kansal, S. Lwasa, J.E. McMahon, D.B. Müller, J. Murakami, H. Nagendra, and A. Ramaswami, 2014: Human Settlements, Infrastructure and Spatial Planning. In: *Climate Change 2014: Mitigation of Climate Change. Contribution of Working Group III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change* [Edenhofer, O., R. Pichs-Madruga, Y. Sokona, E. Farahani, S. Kadner, K. Seyboth, A. Adler, I. Baum, S. Brunner, P. Eickemeier, B. Kriemann, J. Savolainen, S. Schlömer, C. von Stechow, T. Zwickel and J.C. Minx (eds.)]. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA

[4] Intergovernmental Panel on Climate Change (2014): *Climate Change 2014: Synthesis Report. Contribution of Working Groups I, II and III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change* [Core Writing Team, R.K. Pachauri and L.A. Meyer (eds.)]. IPCC, Geneva, Switzerland, 151 pp.

[5] C. Le Quéré, R. M. Andrew, J. G. Canadell, S. Sitch, J. I. Korsbakken, et al. 2016. Global Carbon Budget 2016. *Earth System Science Data*, 8:605-649. doi:10.5194/essd-8-605-2016.

[6] Paris Agreement to the United Nations Framework Convention on Climate Change, Dec. 12, 2015, T.I.A.S. No. 16-1104.

[7] Intergovernmental Panel on Climate Change (2018). *Global warming of 1.5°C. An IPCC Special Report on the impacts of global warming of 1.5°C above pre-industrial levels and related global greenhouse gas emission pathways, in the context of strengthening the global response to the threat of climate change, sustainable development, and efforts to eradicate poverty* [V. Masson-Delmotte, P. Zhai, H. O. Pörtner, D. Roberts, J. Skea, P. R. Shukla, A. Pirani, W. Moufouma-Okia, C. Péan, R. Pidcock, S. Connors, J. B. R. Matthews, Y. Chen, X. Zhou, M. I. Gomis, E. Lonnoy, T. Maycock, M. Tignor, T. Waterfield (eds.)]. World Meteorological Organization, Geneva, Switzerland, 32 pp. <https://www.ipcc.ch/sr15/>

## **Rationale/Position/Research statement Communications & Storytelling task group**

### **Rationale**

#### *Communication Processes*

All organizations must have clearly defined processes and tools to deliver communications to a variety of stakeholder groups. This subgroup focused on reviewing a variety of approaches to standardizing, simplifying and possibly centralizing communications within CBE. Receiving information by email was the clear choice of the three survey audiences (student, staff/faculty, and external) when asked how they preferred to receive college/department communications.

Departments currently use a variety of tools and email lists to deliver communications to students, staff/faculty, and external audiences in very different ways. The difference in communication delivery and process is often due to lack of knowledge of available tools, and lack of training on their use, in order to improve the consistency of communication development and delivery throughout the college.

#### *Interdisciplinary Communication*

This subgroup is dedicated to connecting faculty, staff, and students to research opportunities, community partners, and industry partners to encourage interdisciplinary engagement and promote earned/professional skills. Achieving this goal is key for CBE staff, faculty, students, as well as external stakeholders. While specialists in specific disciplines are often sought after and rewarded, the current world struggles with large, complex problems (e.g., climate change, housing affordability) that require expertise from multiple disciplines to solve. And while all disciplines in the college are inherently interdisciplinary, any time a building is built or we engage in urban planning, we are interacting with an entire ecosystem of people, places, and objects, all of which require expertise found in fields such as geography, material science, engineering, technology, communication, organizational science, and cultural studies.

(Note: The work of this subgroup overlaps substantially with that of the Interdisciplinary Research task group. For this reason we are minimizing our stated rationale as it will likely be redundant with theirs. Our originally stated rationale can be found in Appendix 1.)

#### *Storytelling*

This subgroup's goal is to define a strategy for development of compelling CBE stories and definition of our brand for faculty, staff, students and alumni. Storytelling is a fundamental human experience that unites people and drives stronger, deeper connections. How we tell our stories is paramount to leading effective communications and strategic development of our college. Currently the story of CBE is not clear to most, and as a result, stories come primarily out of individual departments and, while strong and compelling, contribute to the "silo" effect that we have long recognized. The College's identity remains largely unclear to both internal and external audiences.

CBE occupies a nuanced and important space in the Pacific Northwest. In a rapidly changing metropolis, the faculty, staff and students of CBE bring expertise and involvement to topics that are community-focused and high press priority. CBE as a unit is a vast and central laboratory for study, exploration, and discovery across intersecting disciplines, and across professional and academic achievements. The goal of CBE communications strategy at all times is to propel the mission and vision of the college, across the many disciplines and communities CBE and UW impact.

The need for a concise CBE vision is clear. The UW has prioritized marketing and communications work with

the endorsed goals of: attracting and developing Washington and the world's most promising students; growing public and private support for the UW's shared mission; becoming a destination for world class faculty and staff; and growing internal passions without and around the university and our communities.

## **Research**

### *Communication processes*

Our research focused on how to standardize and simplify communication processes for our external, faculty/staff, and external audiences (alumni/professional council). We gathered data from a variety of sources to better understand preferred communication options and to identify gaps in communication processes. Internally we participated in the CBE survey, relying upon questions in that directly asked how students, faculty/staff, and alumni preferred to receive communications. In all audience categories, email was chosen as the way that these audiences wanted to receive information, so the majority of discussion was devoted to ways CBE could standardize and simplify email tools and processes.

### *Interdisciplinary Communication*

In the process of assessing and creating our rationale and methods, this subgroup participated in the initial crafting of survey questions along with the larger committee, and have subsequently arrived at the goals outlined below, via assessment of the answers provided by survey participants. In addition to this, we engaged in cross-committee communication with the Interdisciplinary Research Committee. The overlap in our work enabled us to draw conclusions as to how interdisciplinary communication can best serve the needs of CBE and its stakeholders. In particular, we relied on the IDR group's "Incentives and Barriers of IDR for CBE" and "Interdisciplinary Research Activities in CBE" documents to formulate our suggestions. We know that over 42 faculty/staff respondents and 36 students were involved in interdisciplinary research. We also found that the most resonant stories for external survey respondents were community connections (43.12%) and faculty research (39.45%). This data and the work of the Interdisciplinary Research Task group influenced the direction of our thinking; that we need stories that will help promote research, get the word out, and generate excitement and interest in building connections to others.

Based on our research, the subgroup determined that we should focus on the communication aspect of interdisciplinary engagement, rather than the skills-building aspect of learning how to best collaborate and engage, which we believe is a part of the Interdisciplinary Task group's work.

### *Storytelling*

Our subgroup utilized the CBE survey results to assess what types of stories most resonate with different audiences. From conversations, formal and informal brainstorming sessions, strategic planning, and trainings, both internal and external to CBE, we developed several strategy drivers. Strategy drivers are not externally facing messages; rather, they guide the creation of external messaging and marketing tactics based on targeted audiences and prioritization of those audiences.

(See Appendices 3 and 4.)

## **Goals**

### 1. *Communication processes*

Create a unified culture of communications across the college to the extent possible that is efficient, easily managed, readily accessible to the proper audiences, and workable for our different administrative structures.

## 2. *Interdisciplinary Communication*

Make CBE known to internal and external audiences as a fundamentally interdisciplinary community of engaged researchers and educators working together to solve problems across scales of the built environment through local and global initiatives.

## 3. *Storytelling*

Make CBE known to internal and external audiences through compelling and memorable stories that resonate with broad social and personal concerns.

### **APPENDICES:**

1. For faculty, higher level research courses may require faculty to have expertise in areas beyond their own. Being able to connect with members of the academic and nonacademic community outside of CBE will help broaden faculty expertise and expose students to knowledge from other fields that impact their own. For administrative staff, interdisciplinary engagement can mean building greater connections with others working in our local community, and learning from other academic institutions in areas that support the college's day to day work. For research staff, interdisciplinary research can be key to generating funding on complex projects, building a larger network of research partners, and expanding upon potential outlets for communicating one's work. It also means the potential to work with and research topics of importance to industry and community partners to improve the AEC industry and our community's at large.

For students, while classwork emphasizes that interdisciplinary connections and community engagement are an effective means to understanding course material and the complexities that they will encounter in their future careers, it has been difficult to make these connections. They face barriers, such as understanding the different languages and communication styles of disciplinary communities outside of one's own. Enhancing and promoting our interdisciplinary engagement in research and with community and industry partners can help build our reputation.

Currently CBE has promoted interdisciplinary work for our range of CBE stakeholders through courses such as the Integrated Design Studio and the ARC program, and through the individual activities of faculty and staff who have made their own connections across different colleges, off-campus communities, and industry partners. However, there has been little career incentive for individuals to make these connections. Connecting students and researchers to industry and community partners requires time and resources to promote CBE's reputation and to develop trusting stakeholder relationships.

2. The below list highlights those audiences in order of priority:

- Students – current and prospective
- Alumni – including professional certificates
- Faculty/staff – past, current, and prospective
- Individual donors – active, past, and prospective
- Industry partners
- Government partners and agencies seeking expertise
- Media/Press

3. We can accomplish this through:

- Identifying interdisciplinary engagement within CBE
- Provide easy-to-find, centralized information for external stakeholders on current interdisciplinary research at CBE based on themed topics
- Provide training or help to internal CBE stakeholders to build out their communications about their work in ways that create evocative, resonating stories that reach across campus and to industry and other community stakeholders.

4. Strategy drivers from the larger University branding and marketing guidelines, existing and past CBE marketing materials, and input from the first several rounds of strategic planning and survey questions include:

- Growth, continuous learning and challenges are essential tenets of a meaningful life
- Show clear pathways from majors and departments to careers
- Added career center support/ messaging a distinct possibility
- Exploration, discovery, innovation and complexity drive CBE
- Showing a variety of academic and professional opportunities and outcomes demonstrates the breadth of impact
- Seattle is an important component of the UW CBE narrative

5. Ideas for development of story framework:

- Facilitated roundtable discussion among CBE community
- Another survey, specific to this topic: what are the keywords/themes of CBE?
- 1:1s conducted by CBE Comms committee with key representatives of each constituency
- Other approaches TBD

## **Curriculum + Pedagogy – Rationale/Position/Research – 2/10/20**

### **RATIONALE**

The Curriculum and Pedagogy group has been working to define three broad and aspirational goals, including supportive processes in place or needed within the CBE to accomplish what we set out to do. The first goal is **Engagement and Leadership**, which we see as bookends to the undergrad and grad experience. This means that we are focusing on pre-college-age recruitment as well as bolstering our connections to, use of, and opportunities to serve professionals and their development. The second is an **Interdisciplinary CBE- Undergraduate and Professional Degree Programs** and the third in an **Interdisciplinary CBE - PhD and Post-Doctoral Programs**. The latter two are focused on building new CBE opportunities and supporting and enhancing current ones at multiple levels.

Using this framework we identified the following draft goals and related strategies.

### **Engagement and Leadership**

#### **Strategy 1 Strengthen connections with middle and high school students**

- Increase exposure to potential students of the allied college disciplines
- Increase opportunities for a diverse undergraduate student population
- Support teaching opportunities for CBE students

#### **Strategy 2 Attract undergraduate students to CBE coursework starting as freshmen**

- Increase CBE visibility within University
- Increase enrollment to college undergraduate programs
- Increase ABB revenue (i.e. Arch 150)

#### **Strategy 3 Leverage the PACs**

- Expose students to other disciplines
- Leverage potential efficiencies in delivering required coursework
- Increase engagement between departmental PAC's

#### **Strategy 4 Develop continuing education short courses including those focused on providing CE credits for registered/accredited professionals that build on CBE strengths**

- To be developed

### **Interdisciplinary CBE - Undergraduate and Professional Degree Programs**

#### **Strategy 1 Bridge required coursework across College departments**

- Expose students to other disciplines
- Leverage potential efficiencies in delivering required coursework
- Consider hiring lecturers at College level so that they could teach in multiple programs

#### **Strategy 2 Establish an interdisciplinary capstone experience across multiple professional degree programs**

- Expose students to other disciplines
- Increase interdisciplinary research within College
- Leverage potential efficiencies in delivering capstone coursework
- Establish interdisciplinary collaborative thesis projects

**Strategy 3 Leverage college-wide strengths as bridges between departments**

- Expose students to other disciplines
- Increase interdisciplinary research within CBE
- Develop CBE reputation in technology, craft, history/theory, public-interest design, climate and so forth
- Maximize role and benefit of Fabrication Lab within CBE
- Co-locate studios from different disciplines within same space – break-down the spatial divisions
- Co-ordinate logistics between departments such as the studio selection process
- Require more coursework outside departments

**Strategy 4 Establish/support College-level interdisciplinary design/build studios**

- Expose students to the applied practices of disciplines across CBE
- Increase interdisciplinary research/outreach within CBE
- Enhance CBE reputation in design-build education

**Strategy 5 Establish/support minor programs in multiple departments**

- Expose students to other disciplines at the undergraduate level
- Encourage increased interdisciplinary engagement
- Allow students from beyond CBE degree programs to engage with CBE coursework, faculty and students

**Strategy 6 Establish a College-wide community engagement center**

- Increase collaboration and partnerships between CBE and community groups
- Engage a practice-based curriculum focused on justice, equity, diversity and inclusion (JEDI)
- Foster increased interdisciplinary engagement

**Interdisciplinary CBE - PhD and Post-Doctoral Programs**

**Strategy 1 Bolster College PhD Programs**

- Increase viability and standing of Ph.D. programs
- Support CBE-wide research and scholarship
- Increase teaching opportunities for PhD candidates for pre-major and professional degree programs
- Provide support for sponsoring faculty of PhD students and program administration

**Strategy 2 Establish a College Post-Doctoral Program**

- Enhance College-wide research and scholarship
- Advance teaching opportunities for post-PhD education
- Prepare the next generation of university/college educators
- Establish an “Emerging Educator in Built Environments” post-doc program

**RESEARCH**

Outreach and research included the College Strategic Planning event held on 12/11/19 and the College Strategic Planning Survey which asked faculty and staff to rank the proposed strategies within each goal. The overarching goals and related strategies were presented to faculty and staff at the 12/11/19 event

which prompted a high level discussion and a number of comments as outlined in Appendix 1. The results of the survey are outlined in Appendix 2 and survey comments are outlined in Appendix 3.

## **GOALS**

Based upon the discussions during the 12/1/19 event and the survey results outlined in Appendix 2 we propose that the College focus on the following three goals and related strategies.

### **Engagement and Leadership**

#### **Strategy 2 Attract undergraduate students to CBE coursework starting as freshmen**

- Increase CBE visibility within University
- Increase enrollment to college undergraduate programs
- Increase ABB revenue (i.e. Arch 150)

### **Interdisciplinary CBE - Undergraduate and Professional Degree Programs**

#### **Strategy 3 Leverage college-wide strengths as bridges between departments**

- Expose students to other disciplines
- Increase interdisciplinary research within CBE
- Develop CBE reputation in technology, craft, history/theory, public-interest design, climate and so forth
- Maximize role and benefit of Fabrication Lab within CBE
- Co-locate studios from different disciplines within same space – break-down the spatial divisions
- Co-ordinate logistics between departments such as the studio selection process
- Require more coursework outside departments

### **Interdisciplinary CBE - PhD and Post-Doctoral Programs**

#### **Strategy 1 Bolster College PhD Programs**

- Increase viability and standing of Ph.D. programs
- Support CBE-wide research and scholarship
- Increase teaching opportunities for PhD candidates for pre-major and professional degree programs
- Provide support for sponsoring faculty of PhD students and program administration

## **Appendix 1**

Comments from 12/11/19 College Strategic Planning Event

- Co-locate disciplinary studios
- Think big about co-mingling disciplines
- The College is not only about studio – how can the College be more inclusive
- Recognize that service learning can take multiple forms
- Consider when interdisciplinary engagement occurs (early/late engagement)
- Require more coursework outside one's department

## **Appendix 2**

Results from Faculty/Staff survey (81 respondents)

### **Engagement and Leadership**

- Strategy 1 Strengthen connections with middle and high school students  
Lowest Ranking – 13  
Highest Ranking - 12
- Strategy 2 Attract undergraduate students to CBE coursework starting as freshmen  
Lowest Ranking – 1  
Highest Ranking - 44
- Strategy 3 Leverage the PACs  
Lowest Ranking – 14  
Highest Ranking - 14
- Strategy 4 Develop continuing education short courses including those focused on providing CE credits for registered/accredited professionals that build on CBE strengths  
Lowest Ranking – 20  
Highest Ranking - 9

### **Interdisciplinary CBE - Undergraduate and Professional Degree Programs**

- Strategy 1 Bridge required coursework across College departments  
Lowest Ranking – 6  
Highest Ranking - 14
- Strategy 2 Establish an interdisciplinary capstone experience across multiple professional degree programs  
Lowest Ranking – 7  
Highest Ranking - 5
- Strategy 3 Leverage college-wide strengths as bridges between departments  
Lowest Ranking – 4  
Highest Ranking - 18
- Strategy 4 Establish/support College-level interdisciplinary design/build studios  
Lowest Ranking – 8  
Highest Ranking - 11
- Strategy 5 Establish/support minor programs in multiple departments  
Lowest Ranking – 10  
Highest Ranking - 8
- Strategy 6 Establish a College-wide community engagement center  
Lowest Ranking – 11  
Highest Ranking - 16

### **Interdisciplinary CBE - PhD and Post-Doctoral Programs**

- Strategy 1 Bolster College PhD Programs  
Lowest Ranking – 11  
Highest Ranking - 56
- Strategy 2 Establish a College Post-Doctoral Program  
Lowest Ranking – 46  
Highest Ranking - 32

### **Appendix 3**

Comments from Faculty/Staff survey:

- I hope that the discussion of interdisciplinary initiatives provides wide opportunity for engagement of faculty
- Fight tribalism. There is value in taking classes in other departments EVEN IF they don't explicitly talk about disciplinary differences. We share enough vocabulary and values to learn with each other and students can adapt to variations in scale, focus, etc. given the chance. Just do it.
- Interdisciplinarity is a means not an end. We should use these proposals to identify what are the values, forms of knowledge that will allow truly productive exchange across disciplines both within the CBE but also link to other departments in the University. Without this work of critically defining healthy differences (not minimizing them as the way to foster interdisciplinarity) as well as shared interests and values, I don't believe that more interdisciplinary curricula and pedagogies will ever gain true traction.
- Having CBE students exposed to other disciplines seems really important.
- Merge the two PhD programs. UDP doesn't feel they are part of the college and currently both programs don't want to collaborate together. They are such a small group, relative to a department, and have shared experiences, they would be of great support to each other but there are currently physical barriers impeding that. Get UDP out of the Grad School would help.
- Focusing on low-hanging fruits such as re-packaging existing lower level curriculum in the College as part of a connected introduction into the disciplines can help drive income which opens opportunities for a lot of these other ideas.
- Support for the PhD program is largely needed. PhD programs are a big part of the research output of any department and college. They are also a great opportunity for interdisciplinary CBE collaborations.
- All of these activities sound great AND each activity should highlight the desired impact. Bake in a stronger WHY
- How would success be measured for middle and high school outreach and participation programs? What are opportunities for participating students after the conclusion of the outreach program? Is continued engagement and possible UW matriculation part of the pipeline plan? CM is involved in ACE, a well-established and resourced extracurricular program for high school students. Are there other such programs that the CBE can partner with?
- Raising visibility among all students on courses offered to all CBE students needs to be professionalized. Right now posters on courses are produced by individual instructors with varying degrees of graphics ability. It would be great if each Department or the College could have a POC that could produce quality PDF and hard copy flyers of particularly new courses/studios so that all CBE students are more aware of their options. Also offering training on ways faculty can increase JEDI content in their courses would be welcomed.
- More priority placed in pedagogy and ways of teaching.  
More priority placed on how to teach within and engage with topic of race, gender, power, rights, as it relates to space and design.
- Pathways for jr college transfer direct to Junior year to enable a 4 year pathway.
- Much more support existing interdisciplinary CBE Certificate Programs in Urban Design and In Historic Preservation -- programs have a long history of bringing students together across participating departments
- Affordable housing. The UofW wages have not kept up with this PNW economy.

## Health + Well-Being Task Group

### Research and Position-2/6/2020

#### Introduction

Human and community health have always been central to the design and construction of built environments. The imperative to increase human comfort and health is in the foreground of Vitruvian theory and feng shui in ancient times, and in modern architecture's embrace of extensive glazing for health and sanitation in the early 20<sup>th</sup> century. It fell somewhat out of explicit focus in disciplinary education and practice in the course of the 20<sup>th</sup> century as physical health concerns were absorbed into laws and codes. It has come increasingly back to consciousness for design and construction as scientific research has produced greater understanding of mental and emotional components of health and their connections to physical factors.

CBE is keeping pace with social changes in our understanding of a healthy "workplace" for faculty, staff, and students. Some CBE faculty are active in new areas of research connected to human health, and some are introducing health and wellbeing topics into coursework. We need to care about these issues in order to stay relevant in our disciplines, and in order to provide our students with the knowledge base they will need as professionals.

Since writing our December Universe Map, we collected examples of how health and well-being is currently represented topically and in practice in three spheres: the CBE, the UW and in our professions. Our strategy for this report was to undertake this investigation and then look for relationships, patterns, and voids in our notes that would help us identify a position(s) for our group and inform our subsequent Strategies and KPIs report.

Our task group has learned about health and well-being issues together, across our disciplines, professions and responsibilities, which gave us a wide breadth of knowledge and experience from which to navigate through this process. We began with an exploration of nomenclature and keywords used in describing human health and well-being and also conducted an inventory of CBE courses and research. We also received input from those that attended our World Café presentations with additional feedback from the Gould Court tabling event and the Strategic Planning Survey that went out to students, staff, faculty and external constituencies.

In our research and interactions, we discovered many overlaps with other task groups, which illustrates that health and well-being permeates nearly every aspect of the CBE, especially in teaching, research and space planning. **Our concluding position is that "health and well-being" can and should be both a leading priority and a lens by which to make strategic decisions and evaluate their impact and guide how our college proceeds in the CBE, UW and professional spheres. Our strategic goals are to 1) serve the immediate needs and anticipating the future needs of our students, staff and faculty 2) support innovative research that informs and directs best practices in our professions and 3) develop interdisciplinary partnerships within the UW population health initiative to raise its national and international profile in an area of universal importance- health and well-being.**

#### CBE Sphere

##### Student Feedback

The most commonly expressed student health and well-being concerns are around anxiety and stress. Stressors, as noted by students in the Strategic Planning Survey, include overall workloads, finances, time management, food insecurity and job/professional prospects.

Time management does not refer to just time management skills and strategies, but includes asking CBE to acknowledge time limitations, particularly of the quarter system and factoring in commute times, workloads and deadlines across their entire course loads, work schedules and family responsibilities. Students are asking for more scheduling flexibility with their required courses that includes offering courses with more time options. Commuters specifically noted that evening classes are difficult as busses do not run as frequently, lack of childcare and it makes for a long day. Some students preferred evening classes because it allowed them to work and raise their families during the day. Students also noted that there seemed to be more emphasis of time and effort on studio than other classes that they felt were equally important.

The UW has tools and services to support students with these challenges. They can be accessed through the [Husky Experience Toolkit](#), [Husky Health and Well-Being](#) and [LiveWell](#). However, only half the student respondents were aware of these services and a minority of those aware of these resources utilized them. There is a clear opportunity to better connect students to these resources. This also raises the question of whether or not students feel connected to campus enough to be aware of and utilize resources, including writing and career services.

Students also contributed many readily attainable suggestions such as regular 10 min breaks every hour, more fresh air and outdoor time when the weather permits, beginning class with a mindfulness exercise and the availability of healthy snacks.

In design education, studio courses are known to be intensive, time consuming experiences and the associated spaces are like second homes to students. We have studio policies from both Landscape Architecture and Architecture in the addendum. These policies contain references to practices that concern the health and well-being of students in the studio environment. Additionally, faculty and students have discussed with us their individual practices and experiences, which include both best practices and unmet needs. Select CBE faculty participated in the [CBE Raising Resilience Initiative](#) which was led by Julie Johnson and Brooke Sullivan and funded by a 2019 UW Resilience and Compassion Initiatives Seed Grant available through the UW Resilience Lab. This initiative explored, “How may the intersections of resilience and well-being; systems thinking; and biophilic design enrich our pedagogy and better support our students.” Existing studio policies may not be sufficient to current students' needs and that an inclusive process to revise and update them would be advised.

Related to space planning, students, particularly students not in studio programs, have expressed a desire for clean, quiet spaces or alcoves to rest, work spaces with tech equipment to meet and work on group projects, natural light and greenery. PhD students expressed the need for space to work, hold office hours, and meet with people connected to their research. Recent improvements to Gould Hall and the court area have reclaimed underutilized square footage to create more space for student use and activities. The outcomes for the Place, Space and Resources Task Group will likely continue to look at needs and identify improvement opportunities.

### **Faculty and Staff Feedback**

Faculty and staff also expressed an interest and need for wellness support. For faculty and staff, the UW has the [Whole U](#) program, which organizes activities across campus that center around faculty and staff well-being.

### **Courses**

Fewer than fifty percent of student respondents reported to have had coursework that touched on issues of human health and well-being. We have identified twelve courses across all CBE academic units that address human health and well-being listed in the addendum. There is a clear potential for additional offerings across disciplines.

This also raises the question of how students define health and well-being. The list of keywords in the addendum may help faculty connect students with alternative terminology and related concepts to illustrate the breadth of how CBE addresses health and well-being issues.

### **Research**

By looking at the history of CBE departments and the work of our current research centers and labs, it is clear that CBE has been actively investigating how to improve human health and well-being from its very beginnings. The global conversation has been elevated in recent decades as research has provided more insight into the cumulative and exponential nature of the negative effects of poverty and environmental degradation on human health and well-being. When looking at the UW sphere, there is momentum and resources behind the Population Health Initiative that if we can establish a strong connection to this, can amplify the work that we do.

See addendum for list of research centers and labs.

### **UW Sphere**

The UW Population Health Initiative has identified three pillars of population health: human health, environmental resilience, and social and economic equity. CBE's research labs and center squarely situates the college to address these issues as they relate to the built environment and contribute to the goals of this campus-wide initiative. The college's proximity to the new Population Health Building also presents an opportunity to engage and collaborate. Additional articles are included in the addendum.

<https://www.washington.edu/populationhealth/about/>

Our research also led us to the School of Public Health (SPH), which has both undergraduate and graduate programs. Andy Dannenberg, a member of our task group shares appointments in both SPH and CBE. Looking at his research and courses, there is a clear relationship between our disciplines. Our CBE course inventory and research directory revealed that we in fact have many faculty and courses that address issues related to population health from a variety of approaches and scales. There are still unexplored opportunities for interdisciplinary coursework, programs, research, public lectures etc...

### **PROFESSIONAL Sphere**

The Professional Sphere includes both research and practice by faculty in our respective areas, and the professional communities we regularly engage. As with the UW Sphere, research and teaching that can impact professional practice in meaningful ways will accelerate and amplify our potential to improve the quality of human health and well-being. Our respective professional organizations are identifying and articulating their priorities related to health and well-being, giving CBE an effective means to engage, and to disseminate relevant work.

## **Conclusion**

CBE initiatives should use health and well-being as a lens to look for nexus, synergies and interstitial opportunities across the college, university and professional spheres. The needs of the individual CBE student, faculty and staff well-being should be addressed immediately and with strategic consideration for future long-term planning and investments. Focusing on strengthening our connection to both the UW and Professional Spheres will enable us to access additional resources, elevate our presence and research and allow us to engage and disseminate our knowledge on a greater scale.

## **Best Practices Resources at UW and other Higher Education Institutions**

UW Resilience Lab

<http://webster.uaa.washington.edu/resilience/>

UT Austin-Texas Well-Being

WBLE Guidebook

<https://www.cmhc.utexas.edu/wellbeing/images/guidebook.pdf>

UBC-The Okanagan Charter

<https://wellbeing.ubc.ca/okanagan-charter>

## **CBE Programs and Areas of Research: What CBE activities connect to other UW Health + Well-Being programs and Initiatives?**

### **UW**

+[UW Resilience Lab](#) +[Well-Being Resilience Lab](#)

+[Urban@UW](#)

+[Population Health Initiative](#) +[Improving Population Health UW Article](#)

+[Video of President Cauce's speech on population health](#)

### **Built Environments**

+[BE Labs and Centers Directory](#)

+[Center for Integrated Design](#)

+[Livable City Year; The Whole U article](#)

+[Circular City+Living Systems Lab](#)

+[Green Futures Research and Design Lab](#)

+[Informal Urban Communities Initiative](#)

+[Institute for Hazard Mitigation Planning and Research](#)

+[Integrated Design Lab](#)

+[Northwest Center for Livable Communities](#)

+[SHARE Lab](#)

+[Urban Ecology Research Lab](#)

+[Urban Form Lab](#)

+[Urban Infrastructure Lab](#)

## **Architecture**

**By Heather Burpee**

### **AIA Design and Health Research Consortium**

Collaboration between UW CBE and UW School of Public Health, led by Burpee and Dannenberg as UW representatives. Added application materials to Drive, which may help with some verbiage,  
“AIA\_ResearchConsortium\_UWapplication\_FINAL.docx”

### **Architecture + Health Educators Summit**

Participation in national convening of faculty involved in health design curriculum development and delivery. Most schools of architecture with health curriculum attend by invitation.

### **UW CID Partnership Initiative and Partner Firms**

#### **Rosetta Stone for Research-Informed Practice in High Performance Design**

As a shared research endeavor for the UW IDL Partnership Initiative, the Rosetta Stone seeks to bridge academic research and design practice with a translational tool that consolidates research from various sources and is based on a range of high performance design elements and value cases. It presents evidence that practitioners can use to inform mindful design decisions.

### **Targeting 100!**

Significant experience in health design as it relates to energy efficiency with national (and international) research project in that vein. Can further articulate if/when helpful - [web link](#) is helpful, but out of date

## **[Bullitt Center Tour Program](#)**

Now open for six years, the Bullitt Center is still one of the greenest buildings in the world and serves as a precedent for sustainable building design (including focusing on innovative aspects of health/wellbeing). The Bullitt Center opened In 2013 and became the first large-scale 'living' commercial building. In 2019, the UW IDL hosted over 250 tours, promoting awareness of the building's design to over 5,000 visitors.

**Other UW IDL projects - can expand if helpful - details can be found in [Annual Reports](#):**

AIA Curriculum Development for: Materials Matter

Direct Project Consulting on numerous local hospitals

## **Construction Management**

[Lean and Safety Manual](#)

[SHARE Lab](#)

## **Landscape Architecture**

[Raising Resilience: Connecting compassion+well-being with pedagogy in the College of Built Environments](#)

+Urban@UW

## **Real Estate**

[Graduate Certificate in Housing Studies](#)

+Urban@UW

## **Urban Design and Planning**

+Urban@UW

+[Livable City Year](#); [The Whole U article](#)

## CBE Courses

[UW-CBE Course Catalog](#)

### **Architecture**

**ARCH 498A-Special Projects: Designing for People (3) WIN 2020** Focuses on how building design and operations influence health, behavior and performance. Explores biological and evolutionary theories of well-being and basic needs and how these have been supported in the built environment over time and what happens when support is weak.

**ARCH 498A-Special Projects: Biophilic Design (3) SPR 2020** Explores the concept of the adapted mind and how our evolutionary experience has influenced our responses to nature in the modern, built world. The course draws on evidence from the biological, medical and social sciences of the links to physiological, emotional, cognitive and social well-being. The end goal is to create design approaches that address basic human needs.

### **ARCH 564 Environmental Design and Well-Being (3)**

Analyzes how environmental design can promote well-being in natural systems and human life worlds. Explores current knowledge about climate change and organism-environment dynamics, theories of health and complexity, ideological barriers and the power of images, new materials, and "high-tech"/"low-tech" alternatives for ecological design and planning.

### **ARCH 526 Topics in High Performance Buildings (3)**

Addresses key dimensions to the design of high performance buildings including: energy efficiency; health and comfort; structures and materials; economic performance; and renewable energy systems. Includes faculty-led discussions and presentations by experts in the field. Students explore and refine research topics in

high performance buildings.

## **Built Environments**

### **B E 220 Cities, Health, and Well-being (3) I&S**

This course analyzes the ways urban built environments bear on physical and mental health and well-being (material-economic resources, security, social relations, open choices). It focuses on how the practices and knowledge of built environment professions and disciplines interact with public health, engineering, and the sciences to understand and change cities. Offered: W.

## **Construction Management**

### **CM 333 Construction Safety (3) K. LIN**

Explanation of requirements of the Occupational Safety and Health Act and other related federal and state legislation as applied to the building construction industry. Standards for accident prevention, hazard identification, and responsibility for compliance emphasized. Offered: A.

## **Landscape Architecture**

### **L ARCH 403 Ecological Systems Studio (6)**

Project design studies related to ecological systems. Emphasizes the innovative use of ecological processes and patterns in design development to improve designed landscape's performance. Both biophysical and social criteria are used to define performance. Introduces computer-mapping applications. Majors only. Offered: Sp.

**L ARCH 561 The Human Experience of Place (3) *Manzo***

Uses interdisciplinary approaches to explore the reciprocal relationship between people and the landscapes of everyday life. Studies place attachment, relationships to nature, environmental attitudes and perception, personal space, territoriality, urban public space, diversity, participation, and the politics of space. Offered: A.

**Real Estate**

**R E 564 Affordable Housing (4) *R. Walter***

Introduction to the field of affordable housing. Addresses policy issues inherent in planning, finance, design, construction, and management of affordable housing in the United States. Role of federal, state, local, non-profit, and private sector agencies and participants. Offered: W.

**Urban Design and Planning**

**URBDP 536 Health Impact Assessment (2)**

Examines the use of Health Impact Assessment as a public health tool for informing decision-makers about the potential health impacts of proposed projects and policies. Students learn the steps for conducting HIAs, review case studies, and conduct an HIA of a current local proposed project. Offered: jointly with ENV H 536.

**URBDP 538 Public Health and the Built Environment (2)**

Examines how the design of communities and land use and transportation decision have positive and adverse effects on health. Considers built environment impacts on physical activity, obesity, air quality, injuries, mental health, social capital, and environmental justice; and explores interventions to promote healthy community design. Offered: jointly with ENV H 538.

# UW Informational Resources-Health and Well-Being

Public Health Majors:

<https://sph.washington.edu/phgh/requirements>

Global Health Minor:

<https://globalhealth.washington.edu/education-training/undergraduate-minor/curriculum>

School of Public Health Graduate Programs:

<https://sph.washington.edu/students/graduate-programs>

Biostatistics

Environmental and Occupational Health Sciences

Epidemiology

Global Health

Health Services

Interdisciplinary Programs

Be well: Student Life:

<https://www.washington.edu/studentlife>

Health and Wellness Students

<https://www.washington.edu/studentlife/health/>

<https://wellbeing.uw.edu/>

WholeU-Faculty and Staff

<https://thewholeu.uw.edu/>

Resilience Lab-Students, Faculty

<https://www.washington.edu/uaa/excelling/resilience-lab/>

Population Health:

[President Cauce's speech on population health](#)

[Population Health Initiative](#)-Population health defined

[Population Health Facility](#)

[School of Public Health](#)

## Keywords in Health and Well-being

In the Health and Well-being Task Group meetings, readings and research, we encountered a number of recurring terms referenced across practices, research and challenges. Some keywords also connote scales of impact and influence. Although keywords can have different meanings in different contexts, we viewed the value of this list to serve as a tool to enable one to search by these words singly or in combination to look for taxonomies, synergies, opportunities and points of distinction across disciplines, environments, scales and geography.

Access  
Accessibility  
Aging  
Capacity  
Compassion  
Connectedness  
Design for Aging  
Ecological  
Emotional well-being  
Food insecurity  
Global health  
Health  
Health care  
Healthy  
Intentionality  
Livability  
Livable  
Meikirch Model  
Mental health  
Mindfulness  
Pause  
Physical well-being  
Population health  
Purposefulness  
Resilience  
Safety  
Social well-being  
Sustainability  
Systems  
Universal Design  
Wellbeing  
Well-being

## **Humanities+Histories+Futures**

### *RATIONALE*

Our increasingly complex world requires engagement with history and the humanities in order to address the critical challenges – climate action, equity – that we face.

CBE's degree programs train students in strategic approaches and technical skills that are required by their chosen professions. However, it is their common preparation in the values, stories and experiences of the built environment that allows them to excel as designers, planners, analysts, developers and builders.

Research and teaching in the areas of history and humanities promote critical thinking about human concerns and values in relation to the built environment, and provide a framework for putting them into practice. A critical understanding of the past enables insight into the present and envisioning the future in both academic and public dialogues.

The task group mission is to employ histories, humanities and futures as modes for engaging in critical discourse, practice based in values including those of curiosity, imagination, equity, diversity and inclusion, and communicating effectively.

The scope of Humanities, Histories and Futures is profoundly interdisciplinary and connects the departments and programs of the CBE across all areas of teaching, research and service. Humanities, Histories and Futures provide the platform for integrating the professions and disciplines of the built environments, and for communicating the scholarship, practical knowledge and vision produced in the CBE to the University and broader communities and publics at large.

### *RESEARCH*

We broadened our input through interviews with department representatives beyond the task group makeup (RE, UDP, CM). We identified wide interest but also curriculum capacity, structural and scheduling challenges.

We explored intersections across the university, with programs including CHID, Simpson Center, connections to digital humanities and data science, qualitative methods and the importance of narrative.

We have begun to develop potential course models and content, and topics for symposia and other events.

Our external explorations have included examining the role of history/humanities in other programs nationally.

## *GOALS*

- Build CBE support for research and scholarship in Humanities+Histories+Futures for students and faculty; amplify student enrollment and engagement in existing history and humanities-focused programs (for ex. BE PhD, Architecture MS History/Theory); foster the value of writing as a core communication skill within the college.
- Develop and integrate college-wide, interdisciplinary courses that include a humanities perspective.
- Develop symposia, workshops, and other events to highlight existing strengths in CBE scholarship and research in Humanities+Histories+Futures, foster connections across the University, and engage nationally and internationally.
- Amplify our existing history/theory collective of research, scholarship and teaching to lead in envisioning and articulating future narratives for just, responsible and resilient communities that improve human experience that improve human experience.

*11 February 2020*

# INTERDISCIPLINARY RESEARCH: RATIONALE, RESULTS AND GOALS

## Rationale

Across the disciplines of the built environment, and around the world, the questions we ask and the challenges we face are increasingly complex. Now more than ever, methods to address these issues must engage multiple perspectives in order to identify holistic answers and durable solutions. Interdisciplinary research is increasingly seen as a viable and powerful tool for addressing such complex challenges.

Interdisciplinary research, [as defined by the NSF](#), is “a mode of research by teams or individuals, that integrates information, data, techniques, tools, perspectives, concepts, and/or theories from two or more disciplines or bodies of specialized knowledge to advance fundamental understanding or to solve problems whose solutions are beyond the scope of a single discipline or area of research practice.” In the College of Built Environments (CBE), interdisciplinary research includes multiple methodologies (e.g., action research; historical research) as well as different scales, from an individual employing multiple disciplines in their work, to collaborative research with private-sector, public-sector, and community partners. Interdisciplinary research has been shown to effectively advance knowledge that spans disciplines, foster innovative solutions, and provide relevant, transferrable skills for academic and non-academic career success. In engaging the priorities of community partners, interdisciplinary research allows for greater and more equitable societal impact. Funding opportunities, including sponsored research as well as partnerships with public and private entities, increasingly require such collaborative approaches to ensure positive and robust impacts. Interdisciplinary research enhances the reputation of the College of Built environments for all of these reasons, and the funds generated through interdisciplinary research help CBE support its researchers. Notably, as found in the UW-wide Faculty 2050 survey and Carnegie community engagement assessment, and mirroring broader findings in literature on academic research patterns, women, people of color and other underrepresented scholars are more likely to undertake collaborative approaches like interdisciplinary research. Support of interdisciplinary research can therefore have a direct positive impact on diversity, equity and inclusion in our college and fields. Lastly, interdisciplinary research, while often requiring extra effort, can be extremely fun and rewarding. For all of these reasons, the Interdisciplinary Research Task Group believes that CBE should more effectively generate, support, and amplify interdisciplinary research efforts. *A greater number, variety, and quality of interdisciplinary research efforts led by CBE will lead to more beneficial impact for our academic fields, for our students, and for society.*

# INTERDISCIPLINARY RESEARCH: RATIONALE, RESULTS AND GOALS

## Research Results

Our research approach, detailed in appendix 1, focused on three questions:

1. **What interdisciplinary research is being done in CBE?**
2. **What are the incentives and barriers of interdisciplinary research for CBE?**
3. **What are successful models of interdisciplinary research that CBE could learn from?**

Constrained by group bandwidth, the methods we ended up completing included utilizing focus groups at the CBE World Cafe meeting on December 11, 2019; participating in the CBE survey for internal and external audiences; and representative documentation of existing interdisciplinary research efforts. We documented interdisciplinary research efforts (appendix 2) based on the above definition of interdisciplinary research. This database is a snapshot of CBE's activities, including research centers, institutes, labs and individual projects, compiled from various sources as outlined in our research approach (appendix 1). It is not comprehensive, serving as an example of useful information that CBE could collectively learn from (see goal 1).

The initial survey analysis (appendix 3) and visualizations (appendix 4) of standardized questions, combined with the focus group discussions (synthesized in appendix 5), demonstrated clear patterns in the perceptions of faculty, staff, students, and external partners with respect to incentives and barriers for interdisciplinary research in CBE.

**Perceived incentives** align with and inform the stated rationale above, including: addressing real-world problems; creating new knowledge and learning critical skills; and accessing more funding opportunities.

**Perceptions of barriers** to interdisciplinary research in CBE ranged from logistical to institutional to cultural. Many students and external partners indicated a lack of awareness of interdisciplinary research in CBE and/or how to get involved. Faculty and staff cited funding, fiscal administration, and time as significant barriers. Multiple people identified promotion and tenure criteria that are at odds with the needs, timelines and outputs of interdisciplinary research. Internal stakeholders noted the challenge of undertaking interdisciplinary research within the boundaries of degree programs, as well as various incompatibilities across disciplines and sectors that underpin the greater amount of effort that interdisciplinary research usually takes.

# INTERDISCIPLINARY RESEARCH: RATIONALE, RESULTS AND GOALS

## Goals

Achieving the following three goals should collectively lead to an increase in the *number, variety,* and *quality* of interdisciplinary research activities in the College of Built Environments.

1. **Better understand and communicate CBE's interdisciplinary research.** By documenting, tracking and communicating the efforts and outcomes across CBE's interdisciplinary research activities, we can first establish baselines and metrics that we'd like to improve upon. We can then identify redundancies, gaps, procedural difficulties and exemplary practices across efforts, leading to implementation of practices that allow for greater efficiency and more positive impacts. Further, by bringing more visibility to our interdisciplinary research we can create a shared understanding of what we do, why, and ways that stakeholders can get involved.
2. **Increase administrative support for interdisciplinary research in CBE.** Provide staffing and processes to support researchers to find opportunities for funding, achieve successful proposals and contracts, and manage resources for interdisciplinary research. Develop coordinated, efficient processes for grant-based research, service contracts, and projects that may not have additional/external funding.
3. **Address institutional barriers to interdisciplinary research within CBE.** Those in CBE who are most productive in interdisciplinary research consistently state that extra work is required for it to be successful, even without extra institutional barriers. By exploring and thoughtfully addressing key levers and alignment in hiring, promotion and tenure, curricular, and other college and departmental policies and procedures, CBE can take steps to a) not disincentivize, and b) further incentivize interdisciplinary research.

## Appendices

1. [Research approaches](#)
2. [Interdisciplinary Research Activities in CBE](#)
3. [Survey results spreadsheet](#)
4. [Survey results visualization \(PDF\)](#)
5. [Incentives and Barriers to Interdisciplinary Research](#)

## RATIONALE, RESEARCH & GOALS

Local/Global Task Group

DRAFT

### Rationale

1. As a college in a major public research university, it is CBE's mission and responsibility to serve the greater public through knowledge creation and dissemination. One of the ways to do so is through **public engagement** in teaching, research, and service locally and globally.
2. The challenges facing the built environments transcend political and territorial boundaries. The greater Seattle region, and the state of Washington, is globally connected. Our teaching, research, and service activities should respond to this complexity by **linking local and global scales**.
3. As a college of professional disciplines, local and global engagements provide opportunities to **collaborate with community and industry partners** and produce knowledge that advances the professions.
4. Local and global engagement is **an existing strength** within CBE with programs such as neighborhood design/build, Livable City Year, Storefront Studio, and a large number of study abroad programs in locations ranging from Scandinavia to Asia, Australia, and New Zealand.
5. Our strength in local and global engagement and our collective ties to many local and global partners have not been fully communicated and leveraged in our visibility as a College. There are opportunities for us to play a **stronger leadership role by linking local and global affairs** in the built environment.

### Research

Our research so far has relied primarily on the Strategic Planning Survey distributed to faculty/staff, students, and external stakeholders. The survey questions we prepared have focused on identifying current and recent activities of engagement outside CBE (for faculty/staff and students) and inside CBE (for our external stakeholder such as alumni and professionals), priority areas for CBE in terms of future actions, and support needed from the College for local and global engagement. We intend to further inquire about ongoing and planned local/global engagement activities within the College and engage those who are doing such work. For now, from the survey results, we identify the following key findings –

1. **Activities** -- The survey finds faculty/staff to be engaged in a variety of activities including research collaboration (22.5%), community engagement (20.5%), study abroad program (18.5%), academic exchange (13.2%), service-learning (10.6%), and contracted service (10.6%). For the students, the top activities are study abroad (29.0%), community engagement (21.7%), and research collaboration (21.7%). For the external stakeholders (predominantly alumni), the top activities are public lectures (20.3%), design workshops and charrettes (18.6%), studio reviews (13.8%), and gallery exhibitions (13%). The data from the survey were not sufficient for us to generate a complete map of activities at CBE.

2. **Spatial distribution** -- The results show strong ties to local governments and communities in Puget Sound with additional ties to entities at the state and federal levels, along with activities and connections around the world particularly in Asia.
3. **Priority areas for CBE** – The top three items identified by all the respondents combined are *research and engagement in climate resilience* (46.6%), *recruit students from underserved/underrepresented communities* (39.6%), and *research collaboration with industries and professions* (39.6%), followed by *empower underserved/underrepresented communities* (36.6%) and *research and engagement in social justice + equity* (31.1%).
4. **Support needed from the College** – For this question, the top three items identified by all the respondents combined are *outreach to local partners* (48.0%), *support faculty & student leadership through seed funding* (43.5%), *support & expand current initiatives* (e.g., LCY, BE studios) (42.7%), followed by *communicate more effectively current activities* (40.7%).
5. **Faculty/staff, students, and external stakeholders** – Despite some differences and discrepancy, the responses do generally mirror each other across the three populations which suggests consistency in the responses.
6. **Taken together** -- The results suggest a need to provide support and coordinate outreach efforts at the college level, provide support for faculty and student leadership, and engage/empower underserved and underrepresented communities, including recruiting from those communities. They also suggest a high level of interest in research and engagement in climate resilience.
7. **Task group opinion** -- As a task group, we see opportunities to link issues of climate resilience, health/well-being, and social justice and equity to take full advantage of the expertise and capacity in CBE. In addition, it's important to note that while some areas were not ranked as highly as others, they were still identified by a significant portion of the CBE community. Therefore, they are not necessarily less significant or deserving of attention and support.

### Goals (3)

1. **Create synergistic projects** that facilitate local and global collaboration at the intersection of critical issues such as climate resilience, health and well-being, and social justice and equity.
2. **Strengthen capacity to coordinate, support and promote** local and global activities in the College (including documenting and communicating activities and results as well as supporting current initiatives).
3. **Develop EDI capacity** including programs to support faculty and student leadership and outreach through local and global engagement, including engaging and empowering underserved and underrepresented communities.

## **CBE Strategic Plan | Deliverable 1**

### **Place, Space & Resources Task Group**

#### **RATIONALE**

As the infrastructure to all college operations, being both inspirational and aspirational, reflecting a daily embodiment of our disciplines current best practices and future possibilities, *place, space and resources* is a critical core college asset. How **Place** is conceived, **Space** is utilized, and **Resources** allocated serve as the foundation for the college to support learning, teaching, research, and community. Without each of these elements—and without all of them working in concert—the very idea of a College of Built Environments collapses.

#### **RESEARCH**

While the Place, Space and Resource Task Group has only recently been constituted, membership is comprised of faculty, staff, and students that have long contributed to these conversations. We have absorbed the findings and thinking of a student-centered space planning committee and other members have worked together, and with other CBE constituents for many years to improve, furnish and administer space and resources within the College. Work performed during the prior decade has included significant outreach to students, faculty and staff.

In identifying task group goals we specifically relied on:

- [2019 Student Space Committee survey](#) (student to student)
- College-wide Space charrette
- Strategic Plan Open House and Survey

#### **GOALS**

**Improve efficiency, synergy and equity through a holistic review current space allocation, identify efficiencies, under-utilization, and research expanding resources.**

- Are our [current spaces efficiently used](#) or provide constituent value?
- Are there amenities at [other institutions](#) that are absent in CBE (e.g. virtual reality or 3D printing)?
- What resources could be more accommodating and improve access (expanded computing services, more online curriculum)?
- Can we create space for student services that improve equity (e.g. space for donated Fabrication Lab materials to lower student program costs) or alleviate student time and stress (e.g. on-site [Materials Store](#))?
- How might we reimagine [office space](#) differently than the departmental model?

- Examine how the physical resources of the College can be used to encourage greater participation and engagement by the public, a wider range of the student body, faculty and staff from other programs and all others that our activities and interest affect, and are affected by.

**Review instructional space allocation—CBE studios and classrooms—through the lens of space and time management efficiency, evaluate program growth potential and what space is necessary to achieve it.**

- Explore course scheduling that maximizes classroom allocation efficiencies **and** invites greater student life-balance by providing students greater control of their schedule through block scheduling.
- Are the proper rooms assigned to [CBE classrooms and studios](#)?
- Find the maximum enrollment capacity, or even if such a thing exists, and identify a strategy that shares capacity efficiently.
- Identify instruction-free time periods to promote cross-departmental conversations to flourish and promote college wide conversations and initiatives.
- Fully align with the University's Learning Policy so our students can explore all that campus and our departments have to offer (certificates and minors).

**Explore how college space can create space(s) for a college culture to be cultivated and flourish while encouraging collaboration and constituent mental well-being.**

- Consider how our current spaces impacts our built environment culture. How might spatial alterations inspire and nurture a more creative culture (e.g. plants, wall color, soft furniture, and acoustics, light).
- Balance the need for space to fit specific needs (classrooms, studios, and breakout spaces) with the emotional and physical need of the community (distraction free spaces, kitchen space, conversation and collaboration).
- Identify spaces and resources that are not currently contributing in a positive way and reimagine their utility (e.g. Architecture Hall 2<sup>nd</sup> floor foyer, Gould Hall north lawn or the southern Varey Garden, Gould balconies, building ventilation).
- Evaluate how reimagining studio allocation away from a departmental model could promote student and program collaboration that could encompass a building and not simply a room.
- How can we create continuity between Gould and Architecture Halls so that one always feels an active participant in the college?
- Explore ideas for greater visibility and improved communication of what is happening in, and around, the college.
  - How can we showcase alumni achievements within our space to inspire current students?
  - How can we bring out current student work into our public spaces to identify collaboration opportunities?

**Create college-wide standards so that currently opaque procedures are defined, as able, to promote a culture that creativity is an asset the college strives to support.**

- Create [Facilities Space Guidelines](#)
- Create college-wide standards to share across spaces, buildings and activities to provide recognizable themes representative of the College as well as UW and each department.
  - Signage, furnishings, exhibitions, lighting, use of materials, recognition awards and building improvements might be included in this approach.
  - Clear communication of these standards will hopefully provide a dialogue that assumes everyone wants to get to “yes” and encourages student spontaneity and creativity while respecting space limitations.
- Establish policies for use of spaces, standards and guidelines for design & communication (how the College presents itself, how information is presented, palette of standard materials, recommendations for use etc.).
- Who has after-hours access to the Digital Commons? How are class times determined? How are studios assigned? Some practices have rationales behind them, that if known, show thought and fairness: without writing them down, perceptions change to cold and unaccommodating. Or maybe review would show some current policies are indeed unfair.

## SJE TASK GROUP - VISION & GOALS

Vision: Center EDI in the developing Strategic Plan of CBE so that it percolates/informs/shapes the outcome of all task groups.

- **Cultivate an inclusive College climate / culture - people understand the importance of EDI, have self-awareness and skillfulness in actions, urgency to start immediately recognizing that internalizing this type of change takes time**

**Goal 1. Cultivate an inclusive College climate / culture** - people understand the importance of EDI, have self-awareness and skillfulness in actions, *urgency to start immediately recognizing that internalizing this type of change takes time.*

- Cultivate an inclusive departmental and college climate that is welcoming to all, embraces differences, promotes and accommodates diversity, equity, and inclusion of all students, faculty, and staff
- Faculty, staff, students understand what EDI is, why it is important and what it entails and actively engage in personal and individual behavior change to embed it in CBE culture
- Deepen our understanding of our unintended bias, as individuals and collectively, and cultivate skills and practices to circumvent and reinvent the way we work
- Activities:
  - Co-create shared definitions and approach to creating an equitable college and society/built environment
  - Expand partnership with UW and the community to foster inclusivity and equity
  - Identify and support trainings for students, staff and faculty

- **Create systems that support EDI and accountability (both financial and representation) in admissions and hiring practices to address disparity**

**Goal 2. Create systems that support EDI** - representation, accountability, admissions and hiring practices, financial support from financial aid and scholarships to pay equity.

- - Recruit, retain and graduate a demographically diverse and excellent student body
  - Recruit, retain diverse and excellent faculty and staff
  - Departments and Dean's Office accept accountability by implementing new initiatives to achieve those goals
  - Develop systems and structures that hold individuals and departments accountable and support EDI
    - Use transparent models and metrics for understanding and communicating areas of success and weakness in funded EDI efforts and programs
  - Coordinate efforts to further a common vision and further best practices and successful efforts and programs that forge professionals committed to equitable outcomes
  - Built Environment practitioners engage communities in facilitating more inclusive, healthier, and vibrant places through a commitment to addressing deep social inequities.
  - Activities
    - Document department and college level efforts within each unit around EDI
    - Develop new EDI guidelines for CBE courses by type: Studio; Seminar; Lecture; Large Class; Study Abroad and Online
    - Make CBE Curriculum Committee responsible for reviewing new and revised courses for EDI content
    - Encourage and reward faculty for revising their courses to meet the new EDI Guideline
    - Ensure that technology in pedagogy is accessible to all students
    - Trainings to disrupt status quo to create an equitable workplace and classrooms
    - Address pipeline problems with underrepresented minority students
    - Use existing and create new scholarships to recruit underrepresented minority students

- Address existing disparity in teaching load and pay gaps between faculty based on demographic
  - Establish a professional practice to understand multiple publics and understand cross-sectional needs. Professional programs to train students in topics of cultural competency, racial literacy, and tending to difference.
  - Create an action-oriented curriculum that highlights the complexities of real world projects, especially projects focused on gentrification, anti-displacement practices, and resource distribution.
  - Create a participatory learning environment that encourages deep listening, negotiating, and facilitation. These components will give students and faculty adequate tools to work professionally among different communities.
  - Use transparent models and metrics for understanding and communicating areas of success and weakness in funded EDI efforts and programs
- *Built Environment Practitioners core role is to serve diverse communities through collective decision making and advocacy.*
- **Model of best practice and leader in the field - Become a leader in the field and model of best practice and be a – develop and showcase models of equitable practice and best practice in education and our fields, recognize, respect and support innovative student led EDI efforts**
  - Develop and showcase models of equitable practice and best practice in education and our fields
  - Recognize, respect, and support innovative student led EDI efforts
  - Demonstrate ownership and reflect on unsuccessful efforts that have not furthered or undermined equity, diversity, and inclusion within the college and professions
  - Serve as a leader in the field modeling best practice
  - Activities
    - Identify and implement low barrier changes that support EDI immediately
    - Review practices and programs of peer institutions

## **CBE Strategic Plan**

### **Student Experience Task Group**

#### **Deliverable 1: Goals, Rationale, Research**

Length: 1000 words

Due: February 10, 2020

---

## Goals

- 1. Identify and develop CBE student recruitment strategies**
- 2. Assess and improve CBE culture, resources, and opportunities for students**
- 3. Strengthen and maintain coordinated connections with CBE alumni**

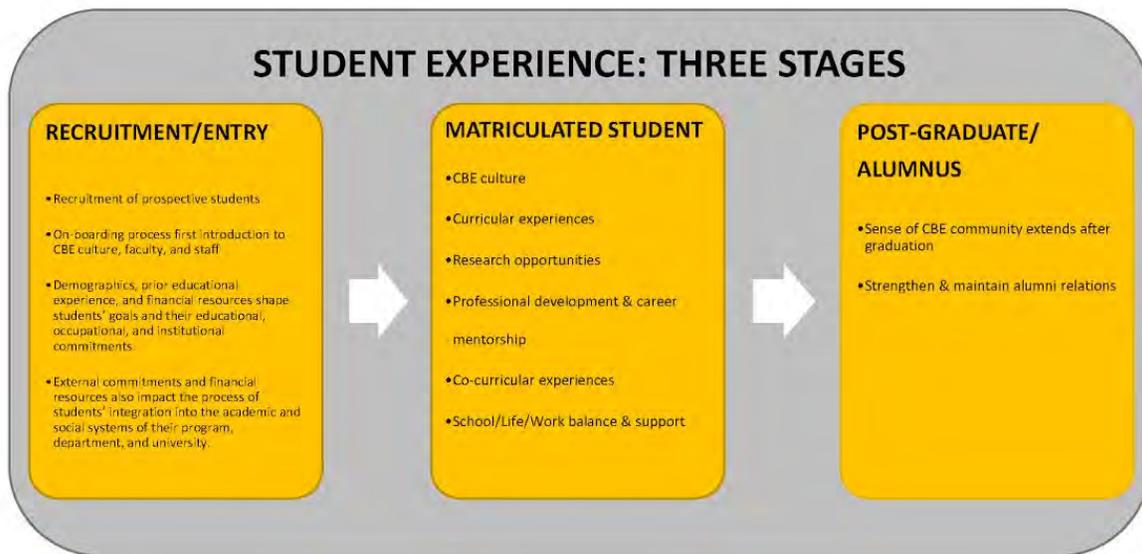
## Rationale

To facilitate the best experience for students in the College of Built Environments (CBE), we need to explore and support their values such as equity, diversity, and inclusion; school and life balance; personal and professional growth; and freedom of expression.

To promote a positive relationship with CBE, we suppose that the student experience begins at the time the student becomes interested in the University of Washington (UW) and continues throughout their post-graduate life. In order to best serve our students, we need to track students' perceptions of their educational experience from the time they apply to their program to the time they graduate, as well as their connections back to their program as an alumnus.

The online CBE Strategic Planning Survey and in-person Strategic Planning Open House help us understand the whole student experience. These outlets provide student insight regarding academics as well as culture, resources, and opportunities in CBE. These results will help us prioritize College-wide short- and long-term goals

It is important that the CBE student experience align with the UW Husky Experience which encompasses the transformative educational experiences — inside and outside the classroom — that help our students discover their passions in life and work, become independent thinkers and citizens, and gain the skills that lead to meaningful and rewarding lives and careers.



## Research

Our research focused on gathering data from a variety of sources to better understand the student relationship with CBE and how that can be improved. Our methods were as follows:

1. We engaged with the CBE Strategic Planning Survey as well as the CBE Strategic Planning Open House to receive direct student feedback.
2. We spoke with the UW Office of Academic & Student Affairs to understand the University's approach when drafting the UW Husky Experience. We asked, "What questions should we be asking to identify problem areas and how should we gauge how successful our students are in their careers and how fulfilling their time is in CBE?"
3. We analyzed the current (2019) and previous (2015, 2014) versions of the Student Experience at a Research University (SERU) survey, and the Office of Educational Assessment (OEA) Alumni 6-Month Surveys, as both will continue to be conducted by UW in the future.
4. We analyzed data from UW Profiles. In reviewing this data we focused on apparent trends in student opinions and how those translated into success. We focused on areas where CBE had statistically significant results compared to UW students as a whole.

Additional time should be spent analyzing data available from UW-IT on common pathways to and through majors. In addition, data on student health and well-being may be available through the Student Health Consortium, Student Mental Health Task Force, Student Course Evaluations, and other similar resources.

As we conducted this research, we noticed a number of common ideas, which have been organized into the three phases of the student experience: (1) pre-CBE, (2) during their time in CBE, and (3) post-graduation. These ideas will inform the action recommendations as part of Deliverable 2: Strategies and KPIs. The following ideas informed our three goals:

### **1. Pre-CBE**

- a. UW should implement a comprehensive enrollment strategy
- b. CBE should work with pre-major, athletic, and other academic institutions to improve referrals to CBE degree programs
- c. Ensure our majors and departments are included in Undergraduate Common Interests and Meta-Major initiatives at the University-level
- d. Assist our prospective and current students in finding funding via scholarships, grants, work-study, or TA positions whenever possible
- e. Develop resources for international students to assist in the VISA process as well as their transition to a new learning environment
- f. Establish CBE resources that will allow us to retain diverse and curious students so that they know they are supported when they choose CBE

### **During CBE**

- a. CBE should ensure all students obtain one or more Internships in their field
- b. Additional High-Impact Learning Experiences such as community learning, study abroad, and faculty research should be emphasized
- c. Expand interdisciplinary learning opportunities -- this should include partnerships not only internal to CBE but to other Colleges at UW such as business and engineering
- d. Promote an equitable, diverse, and inclusive learning environment for all CBE students
- e. Where is the friction to student success and how do we mitigate it?
  - i. Identify barriers students experience by utilizing Course Evaluations, survey feedback, and UW-IT data analysis, and then work to remove the barriers
  - ii. Do clear paths to graduation exist for all degree programs? Do our degrees accommodate a wide variety of minors or certificates? Are they built to accommodate study abroad or similar course changes? Are we doing enough to ensure our students graduate on-time or even early?
  - iii. Ensure courses take advantage of Canvas, Panopto and similar tools to accommodate different learning styles

- f. Research and identify areas for improvement regarding student health and well-being
  - i. College-wide plan for stress reduction
  - ii. Integrate mindfulness or similar practices into coursework
  - iii. CBE students and faculty should be more familiar with health and well-being resources on campus and how to take advantage of them
  - iv. Implement a required training for all faculty/staff on UW student wellness resources similar to Safe Campus training
  - v. Reduce student stress around design critiques by providing faculty constructive feedback training
- g. Shift student building environment by increasing informal gathering / discussion / collaboration spaces and dedicated team project spaces
- h. Apply biophilic design throughout Gould and Architecture Halls
- i. Consider block scheduling and limit scheduling courses no later than 6:00PM
- j. Provide access to comfort amenities such as vending machines and espresso machines after-hours
- k. Provide additional tools to prepare for post-graduation success, such as:
  - i. Portfolio workshops and reviews
  - ii. Writing workshops

#### **Post-CBE**

- a. Establish mentorship programs
- b. Obtain and implement feedback from CBE alumni on skills and tools required in their workplace
- c. Share alumni success stories, invite them to speak with current students
- d. Establish CBE alumni ambassadors to assist in recruiting new students, job placement for graduates and expanding the CBE brand recognition nationally and internationally

# Student Experience Goals Appendix

## Goal 1 - CBE Student Recruitment

How did our Undergrad alumni rate the quality of their advising?

Pre-major advising 2.2 compared to departmental advising 3.2

Pre-major advising 2.3 compared to departmental advising 3.0 prev year

## Have you encountered any significant obstacles in your degree progress?

- Lack of information, clarity from adviser about required classes. Department advising has been inconsistent and unnecessarily confusing. Claudine is a saint but she needs help. My advisor is kind and fun to talk to, with helpful insight into the field of planning, but generally uninformed on any of the policies and programmatic guidelines. Besides the requirements, I was pretty much on my own in developing a course plan that would help me reach my academic goals. I feel that my advisory team has not always had a clear understanding of what the format and expectations are for major degree milestones (e.g., general exam), which creates quite a bit of uncertainty and stress around the process.(4)
- the views of some instructors that students coming in from other departments or fields of study aren't legitimate
- Obstacles due to being an international student (Visa issues).
- Just in general getting familiar with the american school system.

What could be better?

- Students are expected to do many steps alone and as an international student I would have liked some kind of orientation for the period after applying and before starting school additional to the one offered by my program. There is a widespread use of abbreviations and acronyms that makes it difficult to understand, even within this survey!!
- I advocate for students from Morgan State University BS program to consider UW because I believe the school has a tremendous offering. I encourage CBE to sponsor an annual visitation to Morgan to encourage/fund their advanced degrees at UW.
-

# CBE Student Survey Statistics

The following tables include the data from the survey that we found important in terms of understanding how our students experience their time in CBE. Original survey data available at [CBE Student survey stats](#) & [CBE Student survey written comments per Q](#)

## Teaching & Learning

The following survey questions were similar enough to questions asked as part of the most recent SERU surveys for [CBE](#) and [UW](#) that we included the data from those responses as well.

I am satisfied with the overall quality of instruction in your courses

Total responses (N): 68 Did not respond: 1

Numeric value	Answer	Frequency	Percentage
1	Strongly disagree	4	5.88%
2	Disagree	12	17.65%
3	Neither agree nor disagree	9	13.24%
4	Agree	32	47.06%
5	Strongly agree	11	16.18%

Mean 3.50    Median 4.00    Mode 4    Standard deviation 1.14

Quality of Instruction - SERU total CBE responses 39

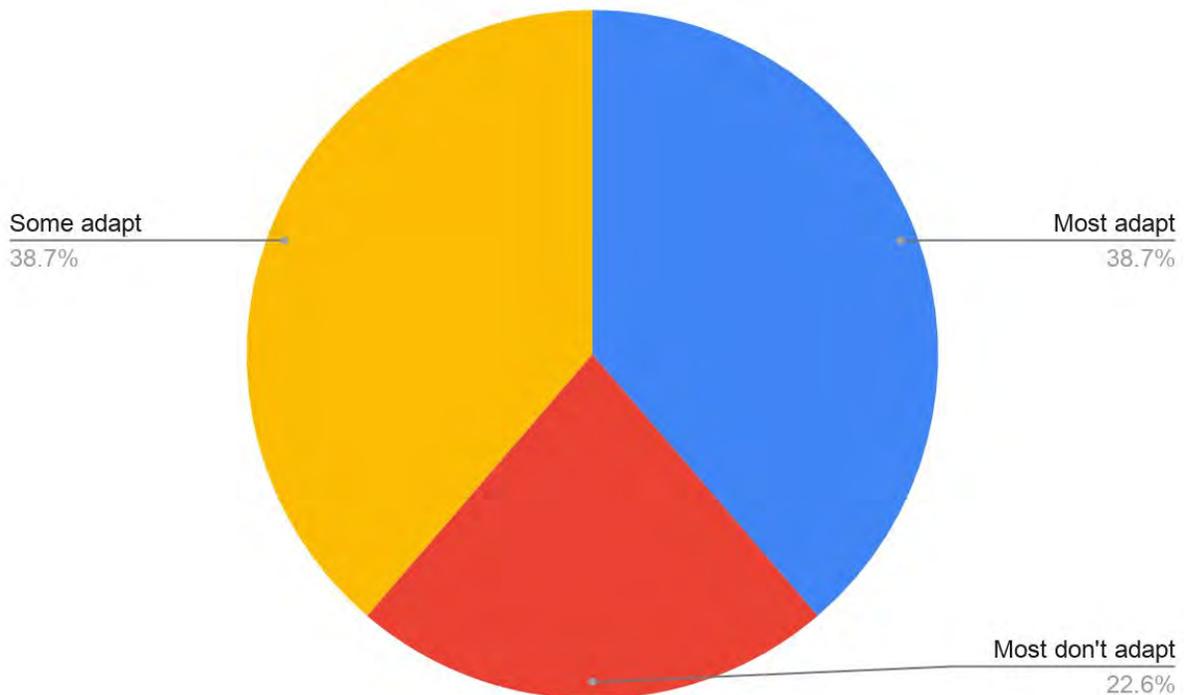
	UW Faculty	CBE Faculty	UW TAs	CBE TAs
Very Dissatisfied	1%	0% (0)	2%	3% (1)
Dissatisfied	2%	5% (2)	4%	0% (0)
Somewhat Dis	6%	3% (1)	10%	15% (6)
Somewhat Satis	26%	38% (15)	30%	28% (11)
Satisfied	46%	44% (17)	40%	36% (14)

Very Satisfied	18%	10% (4)	16%	18% (7)
----------------	-----	---------	-----	---------

Even though the 2 surveys use slightly different scales it appears as if the most recent CBE student survey shows a higher degree of dissatisfaction with the quality of instruction in their classes. This data should be compared to SERU surveys from previous years once they are posted by the UW Office of Educational Assessment to try and identify if this is a recent change or a larger trend.

We can also incorporate the following data mined from the survey question asking,

Does it feel like your instructors do a good job adapting their teaching methods to accommodate some of these different learning styles?



One recurring request by students was for their instructors to make better use of Canvas, Panopto, Zoom or other similar digital resources in order to facilitate different learning styles and to improve accessibility.

I am able to get into the courses I want, inside or outside of my program

Total responses (N): 68 Did not respond: 1

Numeric value	Answer	Frequency	Percentage
1	Strongly disagree	4	5.88%
2	Disagree	10	14.71%
3	Neither agree nor disagree	10	14.71%
4	Agree	27	39.71%
5	Strongly agree	17	25.00%

Mean 3.63    Median 4.00    Mode 4    Standard deviation 1.18

Availability of Courses SERU reponses 36

	UW GenEd	CBE GenEd	UW Major	CBE Major
Very Dissatisfied	2%	0% (0)	3%	0% (0)
Dissatisfied	4%	0% (0)	5%	6% (2)
Somewhat Dis	12%	14% (5)	12%	6% (2)
Somewhat Satis	30%	36% (13)	28%	33% (12)
Satisfied	41%	44% (16)	41%	47% (17)
Very Satisfied	11%	6% (2)	11%	8% (3)

Again note what appears to be a significant disparity between Disagree in the CBE survey and Dissatisfied in the SERU survey. Recommend using the UW-IT data that maps out common pathways to graduation for each degree to try and identify roadblocks that might exist.

## Post-grad Employment

I am confident in finding a job in my chosen field after graduation

Total responses (N): 68 Did not respond: 1

Numeric value	Answer	Frequency	Percentage
1	Strongly disagree	6	8.82%
2	Disagree	6	8.82%
3	Neither agree nor disagree	15	22.06%
4	Agree	28	41.18%
5	Strongly agree	13	19.12%

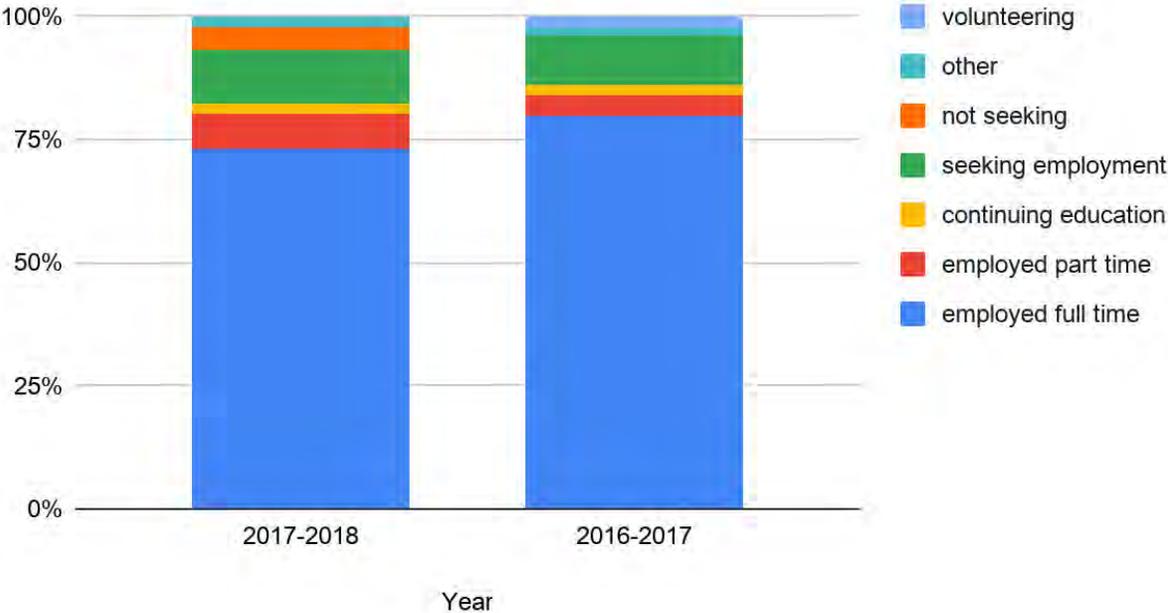
Mean 3.53    Median 4.00    Mode 4    Standard deviation 1.17

Compare this survey data to the following data pulled from the 2 most recent versions of the [Alumni 6-month survey](#) conducted by the UW Office of Educational Assessment on actual employment rates of CBE graduates. The most recent survey should be available during Spring quarter and should be assessed as well. We looked at employment status as well as how long the average job search took for CBE students compared to all UW Seattle students.

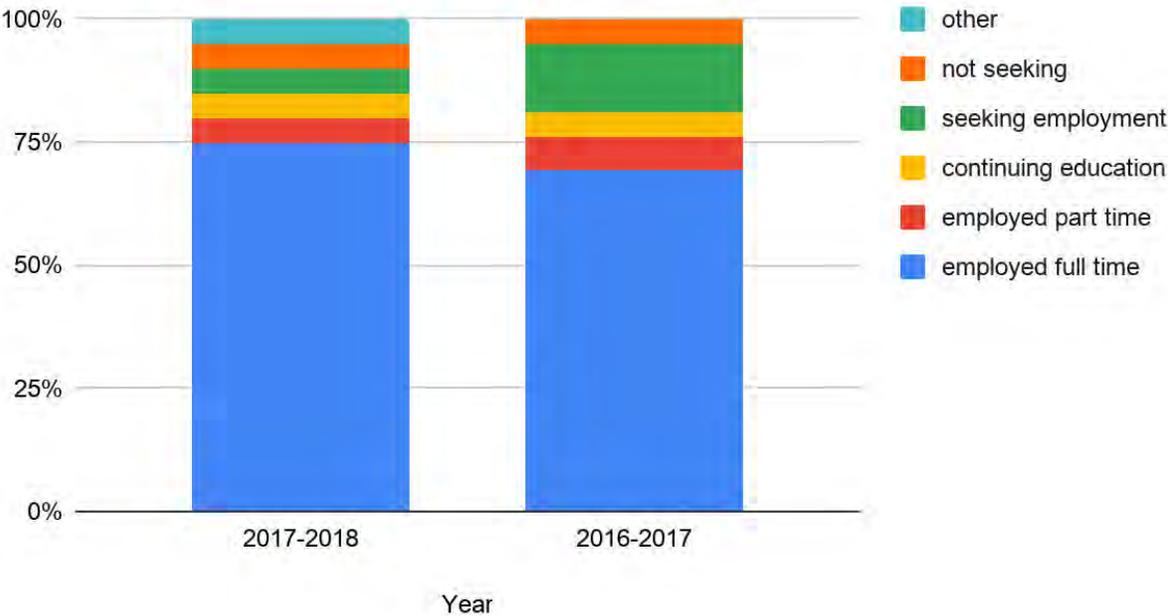
Per the following written response confidence in finding a job after graduation is also a major source of student stress.

- It is truly a function of how the college helps us relate to the current system, ie, we need help finding jobs. We're not stressed because we don't know how to breathe correctly, we're stressed because we are going into debt and don't know if we will get jobs.

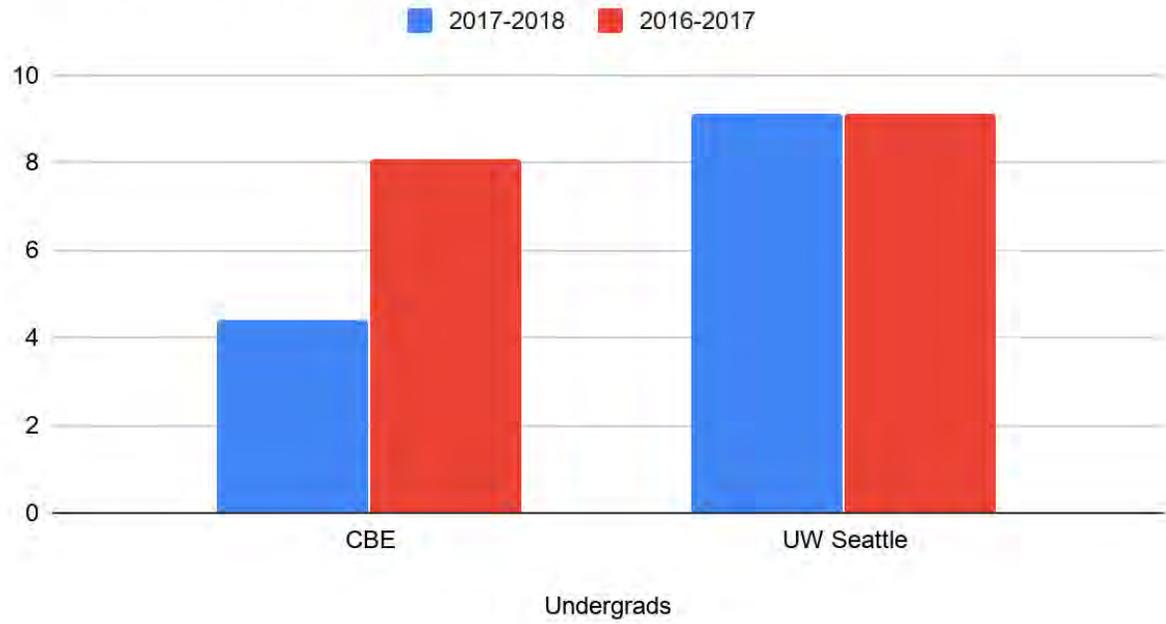
### CBE Masters 6 months after graduation



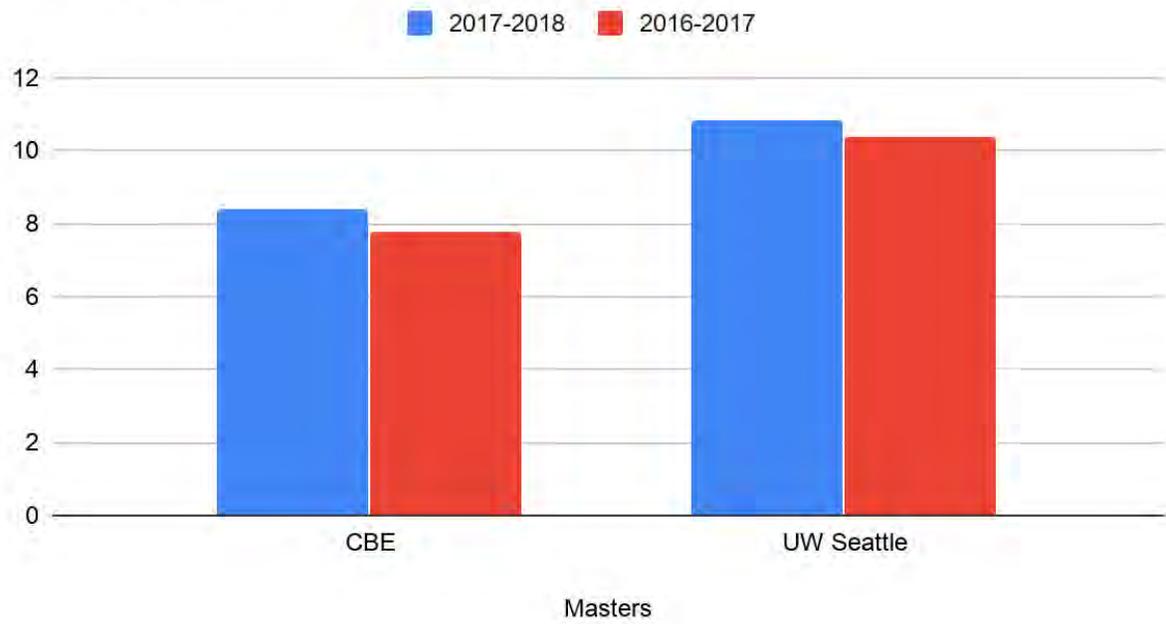
### CBE Undergrads 6 months after graduation



### Mean # of weeks searching for a job

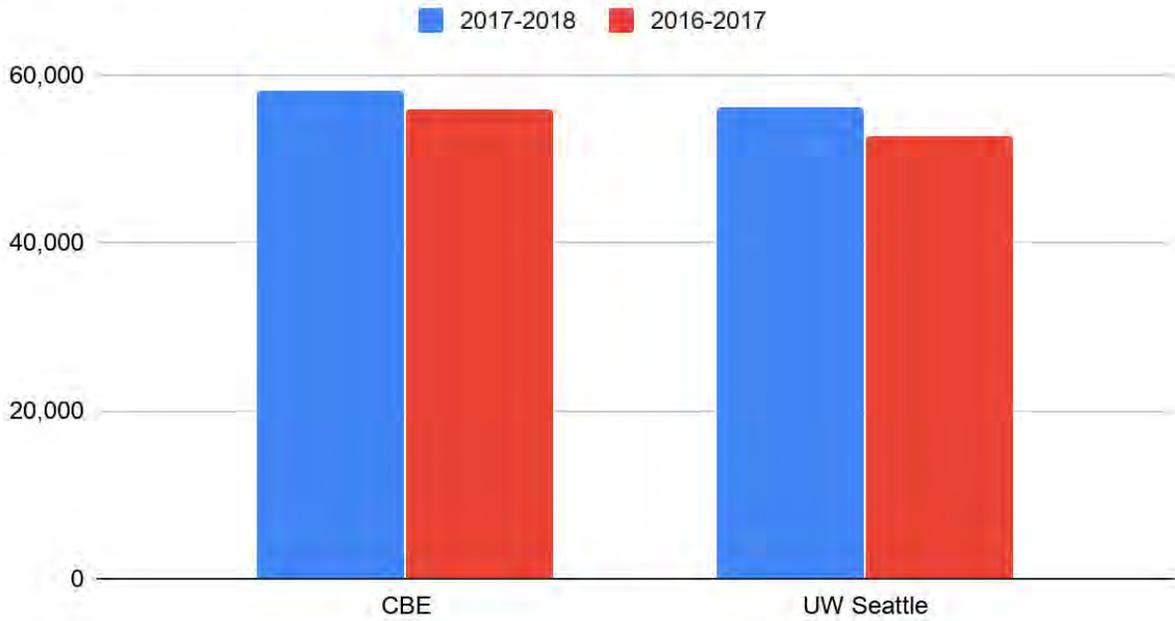


### Mean # of weeks searching for a job

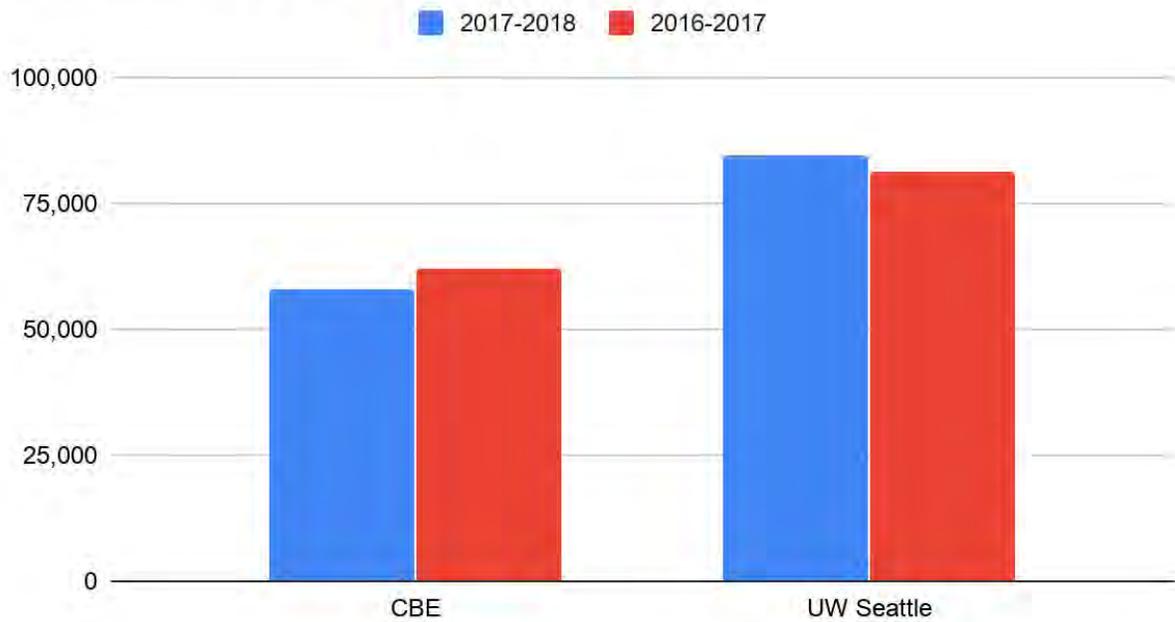


We were also able to pull data on recent CBE alumni salaries

### Undergrad Salary Means



### Masters Salary Means



Note the negative growth for our Masters students

I feel the College helped me to develop strong contacts in my field before graduation  
Total responses (N): 66 Did not respond: 3

Numeric value	Answer	Frequency	Percentage
1	Strongly disagree	4	6.06%
2	Disagree	11	16.67%
3	Neither agree nor disagree	18	27.27%
4	Agree	23	34.85%
5	Strongly agree	10	15.15%

Mean 3.36    Median 3.50    Mode 4    Standard deviation 1.12

Per UW research UW students who completed at least one internship were 61% more likely to be employed and 65% more likely for that employment to be career related compared to students who did not complete an internship. Those percentages go up for 2 or more internships.

6-month alumni data has CBE students at the following levels:

20% completed 0 internships (+3% from prev year)

30% completed 1 internship (-11% from prev year)

37% completed 0 faculty-mentored research projects (-4% from prev year)

48% completed 0 service-learning projects (-8% from prev year)

## Stress

On a scale of 1-10, how stressed or anxious do you feel at different times of the quarter? (1 = least anxious/stress; 10 = most anxious/stressed)

Beginning of the quarter

Total responses (N): 69 Did not respond: 0

Numeric value	Answer	Frequency	Percentage
1	1	9	13.04%
2	2	11	15.94%
3	3	16	23.19%
4	4	5	7.25%
5	5	10	14.49%
6	6	1	1.45%
7	7	7	10.14%
8	8	4	5.80%
9	9	3	4.35%
10	10	3	4.35%

Mean 4.25    Median 3.00    Mode 3    Min/Max 1/10    Standard deviation 2.60

52.17% start low stress (1-3)

23.2% start medium stress (4-6)

24.6% of students start a quarter high stress (7-10)

Middle of the quarter

Numeric value	Answer	Frequency	Percentage
1	1	2	2.90%
2	2	0	0.00%
3	3	4	5.80%
4	4	5	7.25%
5	5	17	24.64%
6	6	9	13.04%
7	7	12	17.39%
8	8	7	10.14%
9	9	6	8.70%
10	10	7	10.14%

Mean 6.33    Median 5.00    Mode 5    Min/Max 1/10    Standard deviation 2.17

9% low stress midway (1-3)

45% mid stress midway (4-6)

46% high stress midway (7-10)

End of the quarter

Numeric value	Answer	Frequency	Percentage
1	1	0	0.00%
2	2	2	2.90%
3	3	2	2.90%
4	4	2	2.90%
5	5	6	8.70%
6	6	5	7.25%
7	7	8	11.59%
8	8	14	20.29%
9	9	11	15.94%
10	10	19	27.54%

Mean 7.75    Median 6.00    Mode 10    Min/Max 2/10    Standard deviation 2.17

6% end quarter low stress (1-3)

19% end quarter medium stress (4-6)

75% end quarter high stress (7-10)

Have any of your CBE courses included practices to help manage stress/anxiety?

Yes	21	31.82%
No	45	68.18%

The written survey asked,

## What practices or structures would help you manage stress/anxiety in your course meeting times?

These were some of the more common or unique responses received,

- well structured, well spaced out set of deliverables presented to students at the start of the quarter, so students are well prepared. Setting expectations for exams and group or solo project content; Clear expectations of assignments/projects from instructors Faculty respecting the course meeting times (they sometimes go over the last 10 minutes). Also leaving time within class to resolve questions about upcoming assignments.(16)
- Taking walks/exercise/Stretching or Taking breaks during class (10)
- A debrief and breakdown of all that needs to be done in one's personal schedule; instructors expressing concern for the whole student, and openness to hearing about what students are holding; Checking in/class surveys on mood or any difficulty understanding material (7)
- reasonable workload expectations Not have studio take over all time. Less focus on studio. Possible allow for quarters without studio. Fewer outside of class time obligations (5)
- group "therapy:" short breathing exercises carried out at regular intervals throughout studio; mindfulness practice (2)
- I have been actively wanting to take advantage of the Health and Well-Being resources, but frequently have schedule conflicts. It would be helpful if we were clearly and frequently reminded about the health services available to us at UW, where to find them, and how it all works (I still don't really know this...but could always use it) (2)
- Clearer or more consistent use of canvas by instructors might be helpful. Some would benefit from some kind of tutorial- it can really throw a class off and create confusion. ability to miss a class or two and still be caught up with material (2)
- Providing access to a safe, quiet, comfortable place, preferably with natural lighting and plants or images of the natural world. Having a space like this where we can retreat and recharge during the long hours spent on campus would be hugely beneficial.
- Creating an environment that is inclusive of all peoples.
- Less evening classes (tougher with bus schedules)
- How about ensure professors are proficient in English. The amount of grammatical and spelling mistakes coupled with confusing lectures, quizzes and finals is appalling.
- Fewer group projects
- not needed
- I think it'd be really beneficial to provide at least some materials for studios. Not everyone has a disposable income and it's a real socioeconomic barrier to have to pay hundreds on materials.

## Health & Well-Being

Are you familiar with the UW's Health and Well-Being resources and the Husky Experience Toolkit?

Total responses (N): 67 Did not respond: 2

Yes	36	53.73%
No	31	46.27%

Have you used any of the UW's Health and Well-Being resources or the Husky Experience Toolkit?

Yes	14	20.59%
No	54	79.41%

Have you taken any CBE course that included human health and well-being as a consideration or part of the course material?

Yes	30	44.78%
No	37	55.22%

What is the best way to connect you with health and wellbeing support? Select all that apply.

Answer	Frequency	Percentage
Through your adviser	30	45.45%
Links on the Intranet	17	25.76%
Emails	44	66.67%
Through your studio or seminar instructors	27	40.91%
Other:	4	6.06%

## Have you encountered any significant obstacles in your degree progress?

- No significant obstacles (11)
- Money/funding. (6) Additional scholarships would help; more TA opportunities
- Lack of information, clarity from adviser about required classes. Department advising has been inconsistent and unnecessarily confusing. Claudine is a saint but she needs help. My advisor is kind and fun to talk to, with helpful insight into the field of planning, but generally uninformed on any of the policies and programmatic guidelines. Besides the requirements, I was pretty much on my own in developing a course plan that would help me reach my academic goals. I feel that my advisory team has not always had a clear understanding of what the format and expectations are for major degree milestones (e.g., general exam), which creates quite a bit of uncertainty and stress around the process. (4)
- The quarter system is stressful and too rushed to get a solid and impactful learning experience. Sometimes I just learned something new and then I was expected to determine the final paper or provide thoughtful insights in several weeks. spend too much time completing inconsequential assignments (2)
- PhD students do not have an office to study (in).
- Yes
- The culture of endless nights
- the views of some instructors that students coming in from other departments or fields of study aren't legitimate
- students and instructors bringing viruses into the school and spreading them to an already overworked and overstressed population of students.
- The work load is unmanageable. I need an alternative route. The curriculum is too rigid and there is no breath for personal growth. It is a mold to force out a specific skill set without taking in to consideration the individual needs or wants.
- Obstacles due to being an international student (Visa issues).
- I have had a significant amount of anxiety around critiques with my professors.
- A lot of pointing to talk to different people who then point to different people.
- On two occasions, I tried to enroll in a course at the Foster Business school. Foster would not accept me even though there were open seats.
- Not a lot of evening classes offered outside the CM program for electives.
- microaggressions from teachers
- no reply for (from) teachers when asking how I can improve,
- nonconstructive degrading comments during critiques
- disregard for mental health
- In recent years I struggled with some health and personal issues, specifically surrounding addiction and the loss of some loved ones, and this was detrimental to my progress in my degree.

- There is a lack of meaningful support for students in research tracks. Feedback is rarely timely and students often have to wait several weeks or months to get a minimal feedback on their papers, theses, or dissertations. During the academic year 'busy schedule' is the excuse and during Summer no contractual obligation or no university duty is gonna be the excuse.
- I think that the need to graduate on time often obscures the need to make sure that things are functioning smoothly for students.
- The most significant obstacle is learning in a vacuum. While it is possible to connect with other students and with professors (and all of my professors have been very responsive), it still feels like I'm learning/working alone. I am doing a full career transition (at 41 y/o), and the lack of my current work connecting to my (hopefully) future employment is an obstacle.
- The biggest hiccup was integrating the New Zealand curriculum into the normal progression of the program. While annoying that it put several classes and prerequisites off track, NZ was awesome and I think the department has prepared students better this year.
- Classes filling up has required me to drop plans for getting an additional certificate for my degree as I am no longer able to get the required classes for the certificate.
- Also, a predominance of night classes and morning classes has been physically draining. The later the class got out the harder it was to get home as a 30-minute bus commute could, and frequently did, turn into a 2-hour bus commute due to less frequent transit at night.
- Just in general getting familiar with the American school system.
- Obstacles so far have been time management, with very unpredictable requirements and deadlines from our clients, ensuring course work is completed in a timely manner is difficult.
- would say that studios and other aspects of the landscape program are incredibly trying based solely on the investment of time and energy that they require - particularly in the first year and a half or two of the program - but I also acknowledge that to a certain degree this level of work is standard and necessary in the field.
- Work/school balance, burnout
- issues with group member and instructor follow through.
- There have been a few classes that weren't taught well.
- The number of courses offered by the department are exactly equal to those required for fulfillment of the degree (33 credits) . So all the courses offered become compulsory for us to take, even though they are electives. When told to the department they said they will offer 2 more courses in fall2020 but nothing is official.
- Many of the usual PhD obstacles - funding, committee issues, research design.

## Has the College or your department been helpful in navigating you through those obstacles?

- a course conflict with my other major and my program was very flexible to work with me.
- When navigating a personal issue, I was made to feel by the department that the quality of my education and my happiness was secondary to department goals.
- No
- To some degree, yes, both departments have been. (3)
- Department advisor has been very helpful for me (4)
- The department was helpful to an extent, but I wish that experience did not require me to run from pillar to post to get some basic documents/information that one would expect a program in such a prestigious university to have (ex. an identity to the program with brochures, details of the program; and not just having it on a website. I am all for sustainability; but I do not think USCIS will want to go look at a website for details!)
- CBE has not served me in any way.
- The CM department chair has offered little to no support programs for conditional admit students starting the major or even past that into the program.
- I shared this (anxiety surrounding crits) with a couple of my professors and had one private conversation with one of those professors. After that it was not mentioned again. In hindsight I could have used more help in navigating this. I believe that if I had been forthright with my adviser I would have gotten the support I needed. To the few people that I shared this with I would have appreciated a continued inquiry into how my anxiety was going.
- (Department chair) has been the best resource for keeping classes open and helping everyone get the required credits.
- I feel that the program director as well as my individual professors have been very responsive to feedback and adjust their courses to best meet student needs.
- The college wasn't of any help to me in these struggles, and stressors I experienced in school compacted those I was experiencing in my personal life. The college offered no resources or accommodations to help me, and I was ostracized by fellow students and instructors due to the stigmas surrounding my personal struggles.
- Both college and department have been very helpful in many aspects.
- most faculty have been open and explicit in encouraging everyone to meet with them if they have an issue with the at hand.
- The college has been helpful for me as a PhD student but it could be better.
- The availability of office hours is helpful.
- As mentioned above, instructors have always been accepting of any personal issues/obstacles I have encountered along the way, namely depression or anxiety, or other health issues. (Landscape)

- In general, the college/department/program has not been helpful in navigating these.
- I have been satisfied with the help and guidance I have received.
- 

## Is there anything that could have been more helpful?

- Yes
- Providing access to recorded lectures and the potential for Skype based crits are incredibly helpful.
- I believe that if I had been forthright with my adviser I would have gotten the support I needed. To the few people that I shared this with I would have appreciated a continued inquiry into how my anxiety was going.
- Would be nice if the first person could answer the question, or just one degree of pointing
- From my perspective, the relationship between the MSRE program and Foster is broken and needs mending. I wanted to take Foster classes because I feel the quantitative aspects of the MSRE program need to be much stronger for success in marketplace.
- Would like to be able to build a more comprehensive knowledge with classes from other programs (via night classes)
- This program needs to become pliable.
- I think teachers could benefit from diversity training because I don't think it's okay to tell students "It must've hurt to use chopsticks" after someone complains about their hand hurting from cutting cardboard.
- I also think it'd be helpful to reiterate ways to give constructive criticism. I've been told one of my drawings was "disgusting" which didn't give me any way to improve and I know multiple people who feel strongly about this too.
- I would also reiterate that it's important to reply to students and make them feel heard when they stick their necks out to tell their professors that they would love to meet and discuss ways to improve.
- think there are still limited TA positions, listing more opportunities on the website can be more helpful.
- Be intentional and explicit on publishing funding for not only a trip to Rome, but social programs like childcare FUNDING (the childcare programs are better than the market, but a lot of us use independent care facilities that are more tied to our local neighborhoods and not corporate owned) and health insurance programs.
- More organized emails and announcements would be really appreciated. Each registration round we get 5+ emails about different add codes and drops and errors and omissions, some from Claudine, some from Brian.
- the graduate program needs a person dedicated to the advisor position, not a part-time professor. It would be wonderful if there were graduate program (thesis) drop-in hours

each week so Claudine doesn't need to deal with thesis program questions. It feels like Rob can't keep up with the needs of the students.

- Students are expected to do many steps alone and as an international student I would have liked some kind of orientation for the period after applying and before starting school additional to the one offered by my program. There is a widespread use of abbreviations and acronyms that makes it difficult to understand, even within this survey!!
- I wish there were more courses that utilize the woodshop and fabrication studios
- I wish there was a plant id class in the landscape department.
- Taking the digital design class in the autumn quarter would have been more helpful than the intro to GIS.
- Could use more faculty members for more class options.
- I also wish it was easier to take classes and work across departments. They feel very silo'd now.
- Some aspects covered in ARCH320 and 321 are a little involved and I think that some outside resources may be helpful. While there are plenty of students willing to give the answers, its not as easy to find student interested in collaboration or study groups
- The program requirements have been stringent but somewhat loose. Allowing students a more flexible tailoring of their curriculum could be a potentially better direction. I have taken initiative and been guided by counselors to tailor a varied and personalized set of courses, where flexible, and I think it has resulted in a much richer learning experience than if I had only followed the proscribed requirements.
-

## What aspects of career development would you like to see offered?

- Internship placement Greater coordination with potential employers (8)
- Interpersonal communication skills (6)
- How to make a portfolio; work on portfolio development throughout the program, like maybe as a part of each studio class (5)
- The new mentor program in Architecture is a great opportunity I only wish had been available sooner (3)
- More of an understanding on the ways that my discipline is practiced. I would like to see more insight in what the field is actually like and what they do in the day to day. (3)
- More lectures from working professionals panels of to ask people about their career path, I love to learn how others ended up where they are now. (2)
- More emphasis on opportunities/contacts outside of WA State and outside of traditional city government fields; mix it up a little more, and introduce a few alternatives to firms or government jobs- perhaps activist, nonprofit, indigenous, rural, etc.. employers. (2)
- What can you do with a PhD? More teaching and funded research opportunities for PhD students (2)
- a career fair aimed at urban planners; to meet local and regional planning and research organizations (2)
- A tutorial on professional certification/licensure would be beneficial. (2)
- Effective survey-writing skills
- I would also like to see a reconsideration of when professional skills are incorporated into the programs, as many of these steps could be integrated into studios sooner. Courses on running a firm (design or design/build), integrating studios with other departments (imagine architecture students actually pairing with the landscape students and engineers in a more cohesive process).
- It would be nice to see more examples of student work from various classes so that it is more clear what you can do in each one (for example, seeing projects from LARCH or ARCH so that you can tell what actually goes on in the class).
- Active Research seminars
- Minority/diversity programs for motivation, acknowledging impostor syndrome, etc.
- stronger class on teaching development
- How to convince a client/developer to use sustainable materials/processes
- More Design/Build or the physical application of design work
- A better understanding of practical and technical work so we can enter the job market confidently, ie looking at typical details, reading and drawing clean plan sets. Basic skills, nothing special. CM students take classes in reading elec, HVAC, and Arch drawings. Why don't architects?? This should be required...
- Significantly better, more relevant curriculum to support the environmental planning specialization
- How to find and make design contracts

- More opportunities to work with staff on research projects
- more practical knowledge, building codes
- Interview and resume skills
- More cross discipline courses offered.

## External Survey responses

- Why not inquire about mental wellbeing (while at CBE/UW) from former students? Isn't mental wellbeing critical to providing - and students accessing - the best education and opportunities? Career pathways analysis is essential, but so is understanding how students cope - or not - with the mental demands of being a graduate student at CBE/UW.
- Don't overload the program with so many accessory objectives that the students are not prepared to be strong designers, architects, landscape architects. If the graduates of the program are not prepared to succeed as thinkers and producers in the industry, how can they successfully create built environment changing work?
- Some of the best learning I got was from a psychologist who lectured on the impacts of environments on human functioning. Add some of that to your programs.
- There seems to progress but CBE needs to ensure that into the future their permanent faculty is representative of their diversity goals.
- The goals should be for professional placement and community engagement between students and professionals.
- Collaboration/interface/recognition with/by engineering schools within UW educational environment needs to be strengthened.
- All students should be encouraged to 'look beyond' their own educational 'module' in order to develop and apply their professional careers
- CBE should encourage and actively support more collaboration and engagement with professional organizations (AIA, APA, etc)
- May urban planning education at uofw was heavy on theory and light work place skills. Its value was more influential later in my career as my professional responsibilities increased.
- as the principal at a small firm in Brooklyn, NY, I like to think I'm a good resource for students and graduates - in searching for jobs, etc. I'd hope to be better utilized. I tried creating a job listing thru the UW "Handshake" site - while other schools (Columbia, Pratt, Cooper Union, Berkeley etc) allowed me to post a job, the functionally challenged admin at UW would not allow my posting to be seen by UW students -- truly absurd and not helpful for UW graduates looking for jobs
- I would challenge the CBE to bring in different perspectives that foster more curiosity and dialog about approaching issues in different ways (diversity of thought from different professions, political beliefs, cultures, and backgrounds).
- Stronger and more coordinated communication with alums
- Public forums with program speakers of interest, to better involve alumni like us...
- allow opportunity to add comments to this survey on an ongoing basis if doable.
- My biggest complaint was that I graduated from the program with a mountain of debt from a program that was too long. I was not self sufficient as an architect because the program did not support my licensure, nor did it work to help me find internships in the dark times of 2010-14. And not once has someone from the dept followed up to see if I'm employed, or to do salary surveys or anything else that would help our careers.

Altogether, it was a good, albeit inefficient education, but it was a terrible financial decision. I would like the CBE to acknowledge that their degree costs too much for the wages available to architects, acknowledge their complicity in perpetuating this, and tailor the degree and the focus of the department to benefit these realities for the students.

- I advocate for students from Morgan State University BS program to consider UW because I believe the school has a tremendous offering. I encourage CBE to sponsor an annual visitation to Morgan to encourage/fund their advanced degrees at UW.

## What skills would have made you a more talented recruit?

- Variety of software specific electives; tutoring? (32)
- Involvement with Professional community; expand Pro Council with different tiers; alumni connections; national conferences; mentorships (17)
- Real life/world on-site studio/class settings (16)
- Internship placement (16)
- Portfolio/graphic design workshops design and review; portfolio website (15)
- Strong communication skills - from hiring side (15)
- Strong technical writing/ communication writing skills - from hiring side (12)
- Practical skills & knowledge needed to work in the field; job shadowing (11)
- More Pro-practice courses; writing for Pro-practice (11)
- More interdisciplinary curriculum (10)
- Equity, Diversity, Inclusion (10)
- Psychology of leading others, leadership/management training work (8)
- Oral presentation classes/workshops/seminars; Public speaking (6)
- Business management (6)
- Assistance in job search; other opportunities uses for degree; Career center (6)
- More connections with other departments that offer specialized methods, analysis training and skill-building opportunities - closer ties to Foster, Engy, Business (5)
- Interview strategies for different orgs; Mock interviews (5)
- Marketing & Sales skills (5)
- Project management knowledge & skills (5)
- Study examples of projects in the region; community engagement & outreach projects (5)
- Construction experience/knowledge; More design build (4)
- Research opportunities for undergrads; research with professional firms (3)
- How to write for an audience beyond and outside of academia (3)
- Assistance passing the PE exam; licensure (3)
- Climate resilience; climate change & risk (3)
- Code research experience, how are codes influenced and written (3)
- Freehand sketching while developing ideas w/clients & colleagues (3)

- Broader CBE presence - national name (3)
- More diversity in program and Pro Council (3)
- Informatics minor or DB management cert
- TA opportunities for undergrads
- Follow up after graduation on job search & placement
- Understanding of diversity of professional models & markets
- International experiences
- Emphasis on design for human experience
- Better understanding of international & global aspects
- More resources for PhD students - funding, teaching, mentorships
- Dialectical Behavior Therapy skills to strengthen interpersonal relationships & communication
- Instruction on environmental regulations
- Need to know how to print
- Co-op program model leading engineering schools use

6-month Alumni data of import  
Undergrads  
Advanced Learning 3.0 or lower:  
Writing Effectively 3.0  
Quantitative reasoning 2.9  
Taking on leadership roles 3.0  
Understanding who you are 3.0  
Understand & Practice Civic engagement 2.9

Gap between Learning & Importance 0.5 or higher:

#### Masters

Advanced Learning 3.0 or lower  
Writing Effectively 2.8  
Identifying & Using best methods 2.8  
Generate original/creative ideas 3.0  
Put research ideas into practice 2.7  
Understanding ethics 2.9  
Using quantitative methods 2.8  
Special instruments 2.8  
Working interdisciplinary 2.6  
Understand & value diversity 3.0  
Self-reflection/assessment 2.9

Advanced Learning to Importance gap of 0.5 or higher

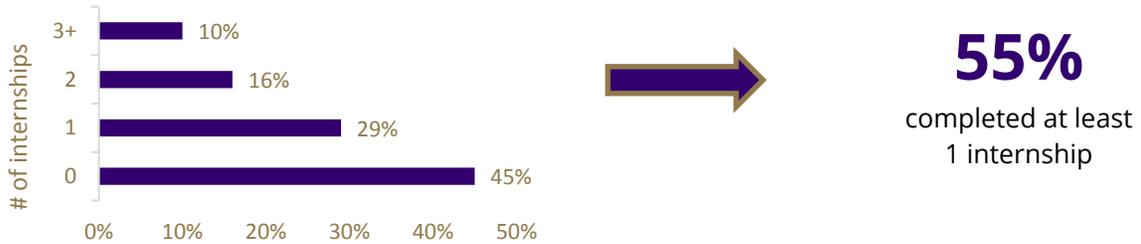
Acquire deep knowledge 0.5 gap (0.3 prev year)  
Writing effectively 0.6 gap (same prev year)  
Speak about ideas 0.6 gap (0.3 prev year)  
Best methods 0.7 gap (0.4 prev year)  
Creative ideas 0.7 gap (0.4 prev year)  
Research ideas 0.7 gap (0.4 prev year)  
Understand ethics 0.7 gap (0.5 prev year)  
Quantitative methods 0.6 gap (0.6 prev year)  
Special Instruments 0.8 gap (0.5 prev year)  
Collab in field 0.6 gap (0.4 prev year)  
Collab interdisciplinary 1.2 gap (0.4 prev year)  
Value diversity 0.7 gap (0.5 prev year)  
Self-reflect/assess 0.6 gap (0.5 prev year)

Help navigating job market 2.0 (-0.5 from prev year)

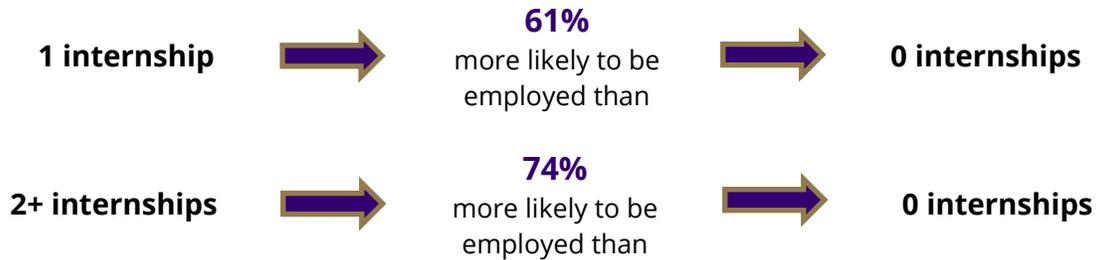
# Internship Results from First Destination Survey of 2016-2017 UW Graduates



## How many internships (paid or unpaid) did you complete while earning your degree?



## Are you still seeking employment 6 months after graduation?



## How important are the skills you gained from your internship(s) to your current position?

average score of **3.4** out of **4** = **moderately to very important**

## Is your current position career-related (part of, or a step towards, a career goal or plan)?



## Internship Results from First Destination Survey of 2016-2017 UW Graduates

### SUBJECTS:

- Sent to 7,485 UW-Seattle alumni who received undergraduate degrees during the 2016-2017 academic year. 2,071 students responded, for a 28% response rate.
- Survey sent 6-7 months after graduation.

### VARIABLES:

- Independent 1: **Internship participation** during college: "How many internships (paid or unpaid) did you complete while earning your most recent degree from the UW?" Choices were 0, 1, 2, and 3.
- Independent 2: **Perceived importance of internship**: "How important are the skills and abilities you gained from participating in internships to your current position?" Choices were Very Important (4), Moderately Important (3), Somewhat Important (2), and Not At All Important (1).
- Dependent 1: **Employment status**: "Which of the following best describes your current primary status?" Those "seeking employment" were compared to those who were employed. Alumni on other tracks (graduate school, traveling, etc.) were omitted from the analyses.
- Dependent 2: **Career-relatedness of job**: "Is your current position career-related (part of, or a step towards, a career goal or plan)?" Only employed alumni were included in the analyses.

### DATA ANALYSES:

- Overall internship participation levels were analyzed with frequencies.
- Perceived importance of internships was analyzed with a mean.
- Chi-square analysis was employed to investigate whether internship participation was related to the dependent variables (employment status and career-relatedness).
- Logistic regression was employed to investigate whether the specific number of internships completed was related to the dependent variables (employment status and career-relatedness).

### RESULTS – INTERNSHIP PARTICIPATION:

- 0 internships = 815, 45%
- 1 internship = 525, 29%
- 2 internships = 279, 16%
- 3+ internships = 187, 10%

### RESULTS – PERCEIVED IMPORTANCE:

- Average score of 3.4 indicated that employed alumni considered the skills and abilities they gained from their internships to be moderately to very important to their current positions.

### RESULTS – EMPLOYMENT STATUS:

- Internship participation was significantly related to whether an alum was employed (N=1613) or still seeking employment (N=193) 6 months after graduation.  $\chi^2(1, N=1806) = 15.72, p=.000$ .
- Alumni who completed 1 internship (N=428) during their time at UW were 61% more likely to be employed 6 months after graduation than alumni who did not participate in an internship (N=633).
- Alumni who participated in 2 or more internships (N=383) during their undergraduate studies were 74% more likely to be employed 6 months after degree completion than alumni who did not participate in an internship (N=633).

### RESULTS – CAREER-RELATEDNESS OF POSITION:

- Internship participation was significantly related to whether one's position 6 months after degree completion was career-related (N=959) or not career-related (N=183).  $\chi^2(1, N=1142) = 31.69, p=.000$ .
- Employed alumni who completed 1 internship (N=343) while at UW were 65% more likely than new graduates who did not complete an internship (N=472) to consider their job to be "career-related".
- Employed alumni who participated in 2+ internships (N=327) during their time at UW were 79% more likely than people who did 0 internships (N=472) to consider their position to be "career-related."

## **CBE Technology Task Group**

### **Rationale**

What does your topic mean for CBE and our stakeholders? What is CBE doing currently? Why do we care?

The development, use and consideration of technology is a central part of CBE's teaching, research and community-building efforts. CBE and its stakeholders take a broad view of technology, using the term to encompass a wide range of tools for design, visualization, making, organization, management and communication, as well as the products of those practices. These tools and capabilities change rapidly, and require thoughtfulness in their use. The CBE community widely accepts the value of technology as an essential facilitator of CBE's pursuit of larger goals.

Currently, CBE Departments remain disconnected in their teaching of technology-centered courses, and students are largely expected to manage their own technology needs. This allows Departments to meet their discipline-specific requirements, but often results in overlapping course content and little cross-college understanding. CBE funds its technology resources through a combination of the UW-wide Student Technology Fund (for larger initiatives) and College-level funding (staffing, smaller technology needs).

Each department utilizes technology for research in discipline-specific ways. These are driven by individual faculty members interests and capabilities, and these activities are largely isolated from other faculty members and students. In addition, technology-centered research is often disconnected from coursework. In general, CBE has an undefined relationship to technology (some areas ahead of practice, other areas behind).

Our task group is to help establish a college-wide *platform* for the discussion and use of technology within our disciplines. Given CBE's place within the University of Washington, the supportive professional communities, and the larger Puget Sound region, a conscious and deliberate engagement with technology offers a promising path forward to both lift the profile of CBE and substantively address the grand challenges of our time.

## Research

### What did you learn? What is important to our stakeholders?

Our task group collected information on technology in CBE in several different ways – including two surveys, Task Group discussions, and targeted emails to faculty and staff.

From these sources, we learned that students largely rely on their own technology to complete coursework demands, with cost as the primary barrier to use. The primary concern was about learning the required software (often assumed, not taught) and called for more workshops and online tutorials for gaining skills. Students are accepting of technology in their education and their future careers, and appreciate the design/ visualization/ collaboration capabilities it offers. Several students called for education in software that they would directly use in their profession.

Our external stakeholders appreciated the tech-awareness & perspective of our graduates, but the most important quality was the ability to continuously learn (as technology changes). This was followed closely by a desire for systems/ critical/ design thinking in their work, and solid communication/ leadership skills that improves with technology (doesn't get worse).

In general, our stakeholders expressed a sense that the disciplines must critically expand technology-enabled design & facilitation capabilities, to not only to 'keep up,' but advance the field. Our stakeholders saw huge potential for 1) interdisciplinary partnerships to leverage CBE's position, 2) to support a community-centered technology that encouraged public engagement and social equity, and 3) to be "Tech Nimble," especially in Seattle and use tech to address grand challenges.

Our faculty and staff expressed a strong desire for more integration between departments to foster a 'culture' of technology which is currently fragmented across the college. Existing faculty are intellectually transitioning from a mindset of tech-focused specialization, to a broader, more ubiquitous use by generalists. New research directions may arise from this sharing of interests, perspectives and abilities. Faculty education and growth in the area of technology has not typically been supported. Faculty saw a benefit to a series of low-level, core technology courses shared across the college to be take prior to more advanced courses.

Faculty and staff also acknowledged the danger of CBE's current ambiguous/fractured relationship to technology. With funding levels for resources and labs diminishing, CBE members voiced concern about the loss of reputation, status, and students that may come with further erosion of support. Growing a culture that acknowledges and values technology is essential to the future reputation of the college.

## Goals

### What should CBE do?

#### Three Strategic Goals:

1. Enable our students to be leaders in technology in their future careers, by modeling a critical understanding, educating for both knowledge and skill, and removing barriers to technology use.
2. Enable faculty & staff to develop expertise and become leaders in technology, by fostering a culture of accessible, explorative, ubiquitous use of technology across the college.
3. Foster interdisciplinary, leading research partnerships through outside collaborations with tech industry and local communities, by leveraging the unique perspective, position and resources of the college, and its ability to address grand challenges.

## **CBE Technology Task Group Research Summary**

First, we held regular meetings of our task group (representing architecture, landscape architecture, and construction management departments) and documented our discussions through a Slack channel. Second, we submitted three questions for students and external stakeholders for the CBE-led survey. Third, we produced a targeted student survey to ~90 architecture and construction management students. Fourth, we sent inquiring emails to faculty in the Urban Design and Planning Department, Real Estate Department, and college staff – but received limited response.

### **Summary of CBE Technology Task Group – Slack Channel**

In the area of research:

Funding/ Support – enable continuous discussions among faculty, in seminars, colloquia. Also enable research related to degree programs to use students (MS, Ph.D) (TME)

Partnerships - leverage nearby partners (McNeel, Microsoft, etc.) into funding CBE research (RC)

In the area of teaching:

Tech-related curriculum across CBE (an undergraduate course to teach baseline technologies) (CdA)

Assess what is being taught and how (specific courses), redefine values(RC)

Adopting new means of teaching digital modeling (JH)

Instructors supporting each other in teaching (reviewing syllabi, suggesting ideas) (JH)

Tech courses separate from studio or integrated?

We need to balance technology as a visualizing tool, and be careful of the dangers of falling back on it as a design tool. (CdA)

Enable FACULTY to continue to learn new technologies (CdA)

Perhaps a series of seminars to introduce faculty to new tools – brown bag lunches. (JH)

Are other institutions – JC/CC – teaching courses we rely on?(KH)

Evening workshops to present new ideas to all (CdA)

Need to interrogate tools – define language of how they are used (design, representation, drafting, etc.) (CdA)

Faculty development is important – how can we foster? Learn from other schools (EG)

Give students opportunities. How can faculty be effective leaders, when we are not necessarily the experts?(RobC)

### **CBE External Survey**

Summary of Strengths: our students learn about technology as a tool, through the Fabrication Lab and computer lab. Also, the location of Seattle, and the surrounding tech community.

Summary of Weaknesses: Our technology courses are uncoordinated/underdeveloped, and not connected to real-world issues (technology for its own sake)

Summary of Potential: Huge potential for interdisciplinary partnerships to leverage CBE. Huge potential to support a community-centered technology that encouraged public engagement / social equity. Huge potential to be “Tech Nimble,” especially in Seattle and use tech to address grand challenges.

The most important quality in graduates was the perspective on technology that comes with knowledge, and ability to continuously learn. This was followed closely by a desire for systems/ critical/ design thinking in their work. Professional knowledge/ skills and communication + leadership skills were also highly valued. Other attributes mentioned were abilities to facilitate interdisciplinary collaboration, to address social justice issues and other grand challenges.

The biggest priority is to ensure that communication (including visualization of design ideas) improves with changing technology, and doesn't get worse. This was followed by a sense that the disciplines must critically expand technology-enabled design & facilitation capabilities (not only to 'keep up' but advance the field). Other responses described how with the rapid changes in technology and ubiquitous, we must strive to produce well-rounded students as generalists, rather than specialists.

### **CBE Student Survey**

The most common response was calling for more integration across courses and across CBE. The next response was calling for more use of platforms used in professional work. The next few responses called for improved access to tech resources, more workshops and more online tutorials for gaining skills.

Many students agreed that technology would have a large (though undefined) impact on their future work. Some students recognized this could mean new design and collaboration capabilities, but also that it would require work to keep up to date.

Students acknowledged the potential of technology for better synthesis of more variables in design and better visualization tools. Yet students also acknowledged that this requires thoughtfulness.

### **ARCH+CM (undergrad) Student Survey**

Overall, students felt that they had adequate access to the technology they needed for their courses (93%). Students met these needs through using their own technology (36%) or a combination of their own and UW-owned resources (53%).

When asked if they received the proper instruction in required technologies, 40% responded 'yes' and 45% responded 'mostly' – indicating room for improvement in this area.

The primary programs used by this student group were: MS Office Suite, Adobe Creative Suite, Google Drive/ Documents, Rhino and Bluebeam. Other programs include SolidWorks, 3DsMax, FieldWire, Dialux.

For organizational/ coordination work, our students use the Canvas platform extensively for course information and group coordination. Our students also make extensive use of Messaging apps (iMessage, Snapchat, WhatsApp, GroupMe, Facebook Messenger) and Slack to coordinate on their own via group text.

In general, students felt there was an appropriate use of technology in their education – enabling work that might not be possible otherwise (communication, design, etc.). The primary concern was about learning the required software (often assumed, not taught) and the cost associated with getting the required programs on their personal equipment. Access to University-owned resources was adequate but could be improved, and student licenses (like to the Adobe Suite) have a big impact on their ability to work. Several students called for education in software that they would directly use in their profession.

### **Summary from Staff/ Faculty**

CBE balances funding from the Student Technology Fund (STF) and the College. Popular and expensive tech is funded by the STF, smaller/ more unique funded by CBE. STF funding is becoming less reliable. CBE funding could ramp up to fill the gap and maintain technology in studios. Funding of the Digital Fabrication lab is severely lacking, in both equipment and staffing – overall state is poor & inappropriate for a world-class university.

Suggestions: Culturally, faculty should see technology as part of their work – not external to it. This is how students operate now. There is an opportunity cost to not actively improving our technology standing – loss of status, students, etc. “Education and shared culture development might help. We might for example start having all-college colloquia, some of which would address interesting technological issues by bringing in UW and outside speakers.”

Several proposed a vision is of our College being a fully-networked, accessible environment that enables great work with minimal resistance. The College seems happy with producing good employees, but we have the capacity to actively model future practices that engage and use the digital practices that have been adopted in all professional environments of note.

Practitioners who hire our graduates they consistently say they would like our graduates coming to them with greater fluency in practices that offices don't have the time and flexibility to adopt on their own.

This is possible through a studio culture that encourages collective efforts over individual design would help. It would be great to have a large space(s) for innovation - space(s) in which particular tools, materials and people could be brought in and used.

## CBE TECHNOLOGY TASK GROUP

### EXTERNAL SURVEY RESULTS

1. When it comes to research in the realm of technology, what are the strengths, weaknesses and potential of the CBE?

Strength				
LEARN TECH AS A TOOL	FAB LAB	COMPUTER LAB	LOCATION	
8	7	3	3	

- a. Summary of Strengths: our students learn about technology as a tool, through the Fabrication Lab and computer lab. Also, the location of Seattle, and the surrounding tech community.

Weakness				
UNDERDEVELOPED	CLASSES	REAL-WORLD ISSUES	MAINTENANCE OF BUILDINGS	FEW RESOURCES
9	2	7	1	1

- b. Summary of Weaknesses: Our technology courses are uncoordinated/underdeveloped, and not connected to real-world issues (technology for its own sake)

Potential				
STUDENT PREPARATION FOR WORK	PUBLIC ENGAGEMENT / COMMUNITY CENTERED TECH	GRAND CHALLENGES	BE TECH NIMBLE	INTERDISCIPLINARY/ PROFESSIONAL PARTNERSHIPS
11	17	8	10	27

- c. Summary of Potential: Huge potential for interdisciplinary partnerships to leverage CBE. Huge potential to support a community-centered technology that encouraged public engagement / social equity. Huge Potential to be “Tech Nimble,” especially in Seattle and use tech to address grand challenges.

- d. Example Responses:

“The move to focusing on the built environment was prescient. To me the goals of the BCE should be: Optimizing resource use and sustainability in creating habitat; transitioning the existing built environment to accommodate today's technology, demographics, and energy systems; and using the built environment to stem isolation and the erosion of community.”

“CBE can learn a lot from more agile, tech models of research and practice. Not just visual representation, but tech leadership in the built environments.”

“CBE has a wealth of resources and professionals interested in working with them, yet does not always find the right fit. Sometimes it is successful (dig. fab lab) and sometimes things don't seem to connect (design computation).”

“Strength- having the resources of a world-class research university for collaboration. Weakness (possible) - relating technology and findings to the general public. Potential- to use technology to bring the activities and goals of the our professions to the broader public”

2. As CBE balances technological skill and knowledge education, what are the essential attributes and abilities our graduates should possess for long-term success?

SKILLS / PROF. KNOWELDGE	GRAND CHALLENGES	KNOWLEDGE / CONT. LEARNING WITH TECH	DESIGN / SYSTEMS THINKING/ CRITICAL THINKING	COMMUNICATION, LISTENING & LEADERSHIP	INTERDISCIPLINARY COLLABORATION	SOCIAL JUSTICE
48	12	57	55	46	19	17

- a. Summary: The most important quality in graduates was the perspective on technology that comes with knowledge, and ability to continuously learn. This was followed closely by a desire for systems/ critical/ design thinking in their work. Professional knowledge/ skills and communication + leadership skills were also highly valued. Other attributes mentioned were abilities to facilitate interdisciplinary collaboration, to address social justice issues and other grand challenges.

- b. Example Responses:

“Graduates should understand when they come out of school that they have only scratched the surface of what it takes to be an architect. They should however have a grasp for how to do a code analysis, at the same time as understanding the relationships we have with engineers, and other subs to coordinate a project. Often the value of recent graduates is that they are the best users of the technological tools available to us. The ones that understand how to use them to help us to communicate to clients and contractors are the best prepared.”

“Ability to manage complex, multi disciplined projects. Communicate effectively. Technology is great but the most successful members of the community possess strong team and communication skills as well as looking at complex projects from multiple directions and managing to minimize the risks and mistakes

“We need faculty that are not content on delivering the same old lesson plans year after year. I want faculty to be out in the community, engaged, and with the times. I understand this has gotten better over the last few years but is necessary moving forward.”

“Graduates need a basic foundation of knowledge for long term success. Their technological skill will require a lifetime of continuing education to stay relevant.”

3. With the goal of better interdisciplinary collaboration and better design of the built environment, how do you see technology affecting your institution / practice/ work in the future?

MUST ENSURE IMPROVED COMMUNICATION / VISUALIZATION, NOT WORSE	AUTOMATION COMING	TECH CHANGES FAST/ MUST KEEP UP	MUST USE TECH CRITICALLY TO EXPAND DESIGN CAPABILITIES (VR/AR...)	USE DATA IN DESIGN	WITH UBIQUITOUS TECH, MUST BE FLEXIBLE / GENERALISTS NOT SPECIALISTS	KEEP ETHICS/ SOCIAL RESPONSIBILITY
53	3	24	40	3	8	5

- a. Summary: The biggest priority is to ensure that communication (including visualization of design ideas) improves with changing technology, and doesn't get worse. This was followed by a sense that the disciplines must critically expand technology-enabled design & facilitation capabilities (not only to 'keep up' but advance the field). Other responses described how with the rapid changes in technology and ubiquitous, we must strive to be well-rounded generalists rather than specialists.
- b. Example Responses:
- "AR/MR will be huge; VR is for realtors; Realtime / x-platform interfacing/operating is a boon; Developing and deploying custom software/ops/algorithmic processing sets some firms apart; Being able to fluidly incorporate new tools for design productivity (e.g. auto-grading, cut/fill schematics, climatological calcs, etc) into the work flow w/ discreet intentions provides room for individual growth, design exploration and firm-wide benefit."
- "Data-driven design, and technological support for iterations and review design implications will continue to have a significant impact on practice. The value of design (monetary and cultural) will be determined by our professions' ability to integrate these technologies into practice."
- "leverage technology to support big ideas of carbon footprint reduction in our built environment from construction materials and methods to building efficiencies in systems and lifecycle costs but integrated thinking architects have to have the vision and ideas that technology can be used to help solve"
- "As someone who's worked for the City of Seattle for more than a decade, I'm dismayed to see the lack of partnerships between academia, UW, and the City. We were very intentional in creating the biotech hub in South Lake Union, but missed opportunities to create career pathways for local students AND to preserve and build more affordable housing. We need to do better moving forward, particularly in monitoring how the city and region is growing."

## CBE TECHNOLOGY TASK GROUP

### STUDENT SURVEY RESULTS

1. How do you think technology, in its use and integration in design, might be taught more effectively (within Departments, and CBE-wide)?

MORE ACCESS TO TECH	MORE SPACE	MORE INTEGRATION	MORE ONLINE HELP	MORE VISION	PROGRAMS/ PLATFORMS FOR PROF. USE	MORE WORKSHOPS
6	1	13	4	3	9	6

- a. Summary: The most common response was more integration across courses and across CBE. The next response was more use of platforms used in professional work. The next few responses called for improved access to tech resources, more workshops and more online tutorials for gaining skills.

- b. Example Responses:

"I feel 1 week evening workshops would be better than devoting full quarter courses to design and planning technology. These workshops can focus on different technology applications and can be recorded so that students can go through them during summer/ winter breaks."

"Online tutorials made available as playlists in the order in which they should be followed would be better than what was previously in place. Using Panopto is helpful while the student is in the course, but having that information available through Vimeo or YouTube would allow students access throughout their time here (and, in a perfect world, through the rest of their careers.)

I do think that there is so much technology and so many programs to use that it is very difficult to select what to teach and to what depth it should be taught. Different firms and employers use different software, so it is a bit hit and miss.

Augmented and virtual reality in design would be great courses to include and the idea of CBE partnering with the computer science department on developing design tools within these realms is of particular interest."

2. How do you see technology affecting your institution/ practice/work in the near term?

<b>BIG IMPACT (UNDEFINED)</b>	<b>MUST WORK TO KEEP UP WITH CHANGES</b>	<b>NEW DESIGN CAPABILITES</b>	<b>MUST BE BALANCED WITH TRADITION</b>	<b>ENABLE IMPROVED COLLABORATION</b>
23	9	10	1	6

a. Summary: Many students agreed that technology would have a large (though undefined) impact on their future work. Some students recognized this could mean new design and collaboration capabilities, but also that it would require work to keep up to date.

b. Example Responses:

“Much of what I do and will do professionally involves technology and web-based tools. I think technology will continue to affect all of the above profoundly in the future.”

“Tools that help us communicate and collaborate more humanely. Meaning tools that do not remove us from understanding the human experience but lead us to previously unimagined moments of collaboration.”

3. From your point of view, what is the potential of technology to design and understand a better built environment for the future?

<b>BIG POTENTIAL</b>	<b>IMPROVED DESIGN / ANALYSIS</b>	<b>ADDRESSES GRAND CHALLENGES</b>	<b>BETTER SYNTHESIS</b>	<b>IMPROVED SPEED</b>	<b>IMPROVED COMMUNICATION</b>	<b>BETTER VISUALIZATION</b>	<b>REQUIRES THOUGHTFULNESS</b>
12	11	3	5	3	9	5	7

- a. Summary: Students acknowledged the potential of technology for better synthesis of more variables in design and better visualization tools. Yet students also acknowledged that this requires thoughtfulness.

- b. Example Responses:

“I believe there is unlimited potential for the application of technology to improve design and understanding of the built environment. Leveraging technology to analyze and model complex adaptive systems such as our cities allows for better-informed decisions and policy development, which in turn provides for a better built environment.”

“Technology itself cannot design a better built environment for the future. Technology combined with collaboration and human creativity can be used in a targeted fashion to enhance our designs, save costs, and engage more people (among a slew of other things). It should never be the end-all be-all goal, but it should never be overlooked either.”