STATE BOARD FOR COMMUNITY AND TECHNICAL COLLEGES  
OCTOBER 2021



STATEMENT OF NEED BACHELOR OF APPLIED SCIENCE APPLICATIONS DEVELOPMENT

*SKAGIT VALLEY COLLEGE*

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# Cover Page — Statement of Need

## Program Information

Institution Name: Click or tap here to enter text. Degree Name: Click or tap here to enter text.

CIP Code: Click or tap here to enter text.

Name(s) of existing technical associate degree(s) that will serve as the foundation for this program: Degree: Click or tap here to enter text.

CIP Code: Click or tap here to enter text. Year Began: Click or tap here to enter text.

Degree: Click or tap here to enter text.

CIP Code: Click or tap here to enter text. Year Began: Click or tap here to enter text.

Degree: Click or tap here to enter text.

CIP Code: Click or tap here to enter text. Year Began: Click or tap here to enter text.

Proposed Start Implementation Date (i.e. Fall 2014): Click or tap here to enter text. Projected Enrollment (FTE) in Year One: Click or tap here to enter text.

Projected Enrollment (FTE) by Year: Click or tap here to enter text. Funding Source: Choose an item.

## Mode of Delivery

Single Campus Delivery: Click or tap here to enter text. Off-site: Click or tap here to enter text.

Distance Learning: Click or tap here to enter text.

## Statement of Need

*Please see criteria and standard sheet. Page Limit: 20 pages*

## Contact Information (Academic Department Representative)

Name: Click or tap here to enter text. Title: Click or tap here to enter text. Address: Click or tap here to enter text. Telephone: Click or tap here to enter text. Email: Click or tap here to enter text.

## Chief Academic Officer signature

The Statement of Need must be signed. To sign, double click on the signature line below.

X

Chief Academic Officer

Click or tap to enter a date.

# Introduction

From January 2010 to January 2016, 4.6 million new jobs were added nation-wide that required a bachelor’s degree. Yet, according to the Washington Student Achievement Council’s Washington (WSAC) Attainment Gap Model, the number of bachelor’s degrees being awarded is declining and shows a downward trend. In Washington, 39 percent of public baccalaureate graduates in Washington start at one of the state’s community or technical colleges. Students should have the opportunity to complete their bachelor degree at their regional community college. To that end, Skagit Valley College’s (SVC) Bachelor of Applied Science in Applications Development is proposing a Bachelor of Applied Science in Applications Development (BASAD).

Software and Applications Development jobs are in high demand across the state and show a significant supply gap. While several Seattle-area colleges offer a related bachelor degrees, the graduates are not nearly enough to meet the growing demand. Skagit Valley College’s Bachelor of Applied Science in Applications Development will be a forward-looking technology degree concentrating on theoretical, programming, analytical, and complex problem-solving skills needed to develop computer and mobile applications. The Applications Development program will focus on preparing students to create, develop and adapt computer and device applications, including generating software solutions for optimization and efficiency for end users. Students will learn how to determine user needs, design and test solutions, develop applications or software to meet those needs, and ensure continued functioning and maintenance.

This proposed degree fills a gap in the educational needs of the community and meets the affordability requirement for those seeking to attain a bachelor degree. Skagit Valley College aims to have a bachelor degree that is affordable, accredited, and easily available to the populations we serve. Since no Bachelor of Applied Science in Applications Development is offered in the region, the addition of this program increases access and opportunities for place-bound, working adults. The Bachelor of Applied Science in Applications Development program meets the needs of Skagit Valley College associate degree graduates because it is non-duplicative and does not require students to transition to another institution outside the area.

# Criteria 1

## Relationship to institutional role, mission, and program priorities.

Skagit Valley College’s mission is to cultivate student learning and achievement; contribute to the educational, personal, and economic success of students; and promote equitable and thriving communities. Consistent with this mission, one of Skagit Valley College’s key strategic enrollment priorities is to increase equitable pathways to high wage, high demand offerings by increasing Bachelor of Applied Science offerings in our region. Skagit Valley College’s Core Themes of Equity in Access, Equity in Achievement, and Equity in Community are assessed annually and reported to the Board of Trustees. The Core Theme of Equity in Access centers on providing educational programs and services to meet the needs of the local community. The Equity in Achievement Core Theme involves developing pathways for students to achieve their educational and career goals, including offering students the ability to transition from an associate degree to a bachelor degree and beyond.

The addition of relevant educational programming in response to community- and industry-identified needs is in direct support of the Core Themes.

Skagit Valley College serves Skagit County, Island County, and San Juan County, as well as the northern portion of Snohomish County and southern portion of Whatcom County. Skagit Valley College’s service district covers a large geographical area, more than 2,000 square miles that is primarily rural and agricultural. In addition to remote islands, the district includes semi-urban populations in Mount Vernon and Oak Harbor. There are large numbers of place-bound students living in this region. A local Bachelor of Applied Science in Applications Development fills a gap in the educational needs of the community and meets the affordability requirement for those seeking to attain a bachelor degree. We aim to have a bachelor degree that is affordable, accredited, and easily available to the populations we serve. Since no bachelor level program in Applications or Software Development is offered in the region, the addition of this program increases access to place-bound working adults. The Bachelor of Applied Science in Applications Development would be non- duplicative and would not require students to transition to another institution outside the area, thus meeting the needs of Skagit Valley College’s associate degree holders who want to continue their education.

This Bachelor of Applied Science directly addresses the strong regional interest in a diversified and growing economy. The Economic Development Alliance of Skagit County is a key college partner with a goal to have a more educated workforce to support economic growth and development. New businesses and industries are being recruited to the area by Economic Development Alliance of Skagit County and the Ports of Skagit, San Juan, and Anacortes. Easy access to the I-5 corridor and good railroad access have attracted new distribution centers, shopping malls, and other industrial development. A trained and educated workforce is vital both to attract further investment in our region, to support the increased economic development, and to meet the needs of employers in the technology sector. With the growing demand and potential market growth in Washington within the technology sector, Skagit Valley College has an opportunity to develop this program for entry-level, intermediate, and continued education for seasoned professionals.

# Criteria 2

## Support of the statewide strategic plans

The State Board for Community and Technical Colleges’ (SBCTC) 2010 Mission Study includes long- term needs analyses for priority areas: economic demand, student success, and innovation. Skagit Valley College’s new Bachelor of Applied Science program will support each of the priority areas in the following ways:

Economic Demand: The Bachelor of Applied Science program will support state and local economies by closing the supply/demand gap with a well-educated and skilled workforce.

Student Success: The Bachelor of Applied Science program will increase educational attainment across Skagit, Island, and San Juan counties; and the Bachelor of Applied Science program will attract students from feeder program across the region, contributing to increased educational attainment at the state level. The program will improve student success as it offers new opportunities for current and prospective students and incumbent

workers in high-demand, high-wage occupations.

Innovation: The new Bachelor of Applied Science program will use technology and collaboration in new ways to meet the demands of the economy by working with regional employers, professional organizations, and healthcare partners to develop curriculum and program outcomes.

Two of the focus areas identified in the Mission Study are the need to increase the education level of more people and to serve place-bound working adults. The Mission Study states that, “Washington also needs more people with baccalaureate and graduate degrees. Community and technical colleges must expand their contribution to help meet this need” (pg. 4). Recognizing that many community college students are place-bound and balancing school, jobs, and families, State Board for Community and Technical Colleges plans to address this through the production of more baccalaureate degrees. In our service area, there are no other colleges or universities offering bachelor degrees in management to place-bound students. Offering the Bachelor of Applied Science in Applications Development at Skagit Valley College will open opportunities for place-bound students and will help increase the continuation of degree attainment for many of the residents of Skagit Valley College’s service area. The Action Plan of the Mission Study also identifies a goal to close the skills gap for high need industries including information technology. The Bachelor of Applied Science in Applications Development degree will contribute toward meeting these State Board for Community and Technical Colleges goals. The Washington Governor’s Office identifies Information and Communication Technology (ICT) as one of Washington’s key industry sectors. In the state, there are more than 14,000 companies and over 313,000 technology workers and over 50,000 software engineers. According to Washington State Governor’s Office, “Information and Communication Technology companies are engaged in nearly every product in the nation for total state-level payroll coming from the tech industry at 18.4 percent, and product and service line, from microcomputer business productivity tools and telecommunications to the mobile apps, big data and digital gaming.” (WA Governor’s Office, 2020).

The Washington Student Achievement Council Strategic Action Plan 2019-21, states that two thirds of jobs in Washington will require an associates or higher and the biggest gaps are in the Science, Technology, Engineering & Math pipeline in computer science and information technology. Skagit Valley College’s program will also support the Washington Student Achievement Council policies and goals for higher education. Specifically, the Bachelor of Applied Science in Applications Development addresses the following specific points from the Washington Student Achievement Council Action Plan:

1. Close Opportunity Gaps: Skagit Valley College’s core themes include Equity in Access, Equity in Achievement, and Equity in Community. Annually, the college studies the themes and results from these studies are analyzed and reported to the college community. That data is disaggregated by race, and plans are developed to address any equity gaps that are identified. Our data has shown that the gap between our Latinx students and white students is narrowing. The increasing Latinx population in Skagit County has created a need for more variety of college degree levels for first generation college students that are unable to geographically attend other institutions. As more local Bachelor of Applied Science programs are available to these students, it is more likely they will continue their education to the baccalaureate level. Skagit Valley College continues to be committed to closing the gap in
2. educational outcomes for historically underrepresented populations, and this Bachelor of Applied Science program is another key component of that commitment. Along with the traditional development of the Bachelor of Applied Science curriculum, Skagit Valley College will leverage its existing work around inclusive pedagogy to inform program outcomes and curricular design to model instructional strategies intended to serve a diverse student population.
3. Create Affordable, High Quality Pathways: The Bachelor of Applied Science in Applications Development will be very affordable to our students. Leveraging our current facilities and technology, the students will not be burdened with extra fees or extra charges for this program. The total cost of the program to the student will be 37 percent lower than a four- year university in the region, and significantly lower than at private institutions.
4. Engaging Adult-Learners: The program will use a cohort model with students on campus only one day per week to support working adults. Courses will be hybrid and supported with the most current technology including: mobile platforms for the Learning Management System, low-bandwidth multi-media streaming, Americans with Disabilities Act technology accommodations, multiple online resources, and a student friendly Learning Management System. Support will be available through faculty advisors, our dedicated Bachelor of Applied Science Student Services Director, and through peer-to-peer support networking within their cohort.

# Criteria 3

## Employer/community demand for graduates with baccalaureate level of education proposed in the program.

Both employer and community demand for qualified workers with bachelor degrees exceed the current supply of graduates with relevant degrees in the region. Nearly three-quarters of residents in the Skagit Valley College District lack a bachelor degree. The educational attainment level in the Skagit Valley College service district is lower than the State. The current lack of higher education attainment in Skagit, Island, and San Juan counties affects employers and the quality of life for community residents. It is projected that from 2020-2025 in Washington State, over 23 percent of jobs will require a bachelor degree, and projections show that the supply will fall about 5,000 short of the demand. (A Skilled and Educated Workforce: 2017).

According to Washington’s *A Skilled and Educated Workforce: 2017 Update* report, “the largest supply and demand gap at the baccalaureate level is in computer science and information technology, with the majority of jobs going to software developers, programmers, and systems analysts”. There is a demand for skilled computer science workers at the baccalaureate level, and 52 percent of those openings are for software developers. This program will provide training for our local students to access a high wage, high demand career in our service district, which includes Skagit, San Juan, and Island counties. Currently, 35.3 percent of the population in Washington State has a bachelor’s degree or higher, however the numbers are less for the population in our service district. Only 26 percent of residents in Skagit County and 33 percent of those in Island county hold a bachelor’s degree or higher. For those students that are place-bound, there are few options, and Skagit Valley College would like to expand equitable access to higher education in order to improve

living family wages. There are currently no Universities in our service region and the nearest one is 45 minutes to two hours away depending on where in the region the student resides. This program would offer local access to a bachelor degree in the computer and technology field.

*Table 1: Population with a Bachelor Degree in Skagit Valley College District Compared to State*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Island | San Juan | Skagit | District Total | WA State |
| Total Population | 84,820 | 17,150 | 129,200 | 231,170 | 7,545,478 |
| Total Population- Bachelor degree or higher | 27,990 | 8,232 | 33,592 | 69,814 | 2,663,553 |
| Percent of Population- Bachelor degree or higher | 33% | 48% | 26% | 30% | 35.3% |
| *Source: Employment Security Department 2019 Data* | | | | | |

## Demand

Washington State is considered a hot spot for software and applications developers. According to the Employment Security Department, applications and software development is in-demand in almost all Washington Counties, with an estimated 24,742 jobs open annually. The Bureau of Labor Statistics shows an estimated growth rate of 26 percent for this industry. The average annual wage for Applications and Software Developers is approximately $66 per hour or $130,000 annually (refer to Table 2). The compensation rate in Washington is 24 percent higher than the national average for software and applications developers. These jobs are living wage jobs for graduates.

Labor market data supports the growing need for individuals with bachelor degrees in Applications and Software Development. According to an EMSI report, in the last year, there were over 75,000 unique job postings open in Washington. Of these, over 65 percent required a bachelor’s degree or higher. Over the last year, there were approximately 16,000 active jobs posted monthly in this field in Washington and only 1,649 hired, meaning only 1 in 10 positions were filled.

Sample job titles include:

* Software Developer
* Applications Developer
* Software Development Engineer
* .NET Developer Software Engineer
* Information Technology Analyst
* Applications Integration Engineer
* Technical Consultant
* Software Architect
* Computer Consultant

*Table 2: Regional Demand for Relevant Occupations*

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Occupation | SOC Code | Demand | Required Education | Est. employment 2017 | Avg. annual growth rate 2017-  2027 | Avg. annual total openings 2017-  2027 | Median Wage (Hourly) |
| Software Developers, Applications | 151132 | In demand | Bachelor Degree | 63,029 | 3.8% | 24,742 | $66.51 |
| *Data Source: Washington State Employment Security Department, 2019* | | | | | | | |

Current and projected demand data for selected, relevant information technology careers just in Skagit Valley College’s service region and surrounding counties demonstrate a need of over 2,500 workers (refer to Table 3).

*Table 3: Regional Open Jobs — Skagit, Island, San Juan, Whatcom, Snohomish Counties*

|  |  |  |
| --- | --- | --- |
| City | Unique Job Postings | Posting Duration |
| Anacortes, WA | 78 | 29 days |
| Arlington, WA | 159 | 27 days |
| Bellingham, WA | 182 | 33 days |
| Bothell, WA | 852 | 30 days |
| Burlington, WA | 65 | 26 days |
| Edmonds, WA | 79 | 26 days |
| Everett, WA | 434 | 35 days |
| Lynnwood, WA | 198 | 36 days |
| Marysville, WA | 78 | 25 days |
| Mill Creek, WA | 72 | 26 days |
| Mount Vernon, WA | 76 | 44 days |
| Mountlake Terrace, WA | 186 | 30 days |
| Mukilteo, WA | 79 | 37 days |
| Total | 2,538 |  |
| *Data Source: EMSI- Q1 2020 Data Set- Software Developers, Applications (SOC 15-1132)* | | |

## Supply

Approximately ten bachelor degree programs related to the proposed Applications Development program exist in the state and generated approximately 1,800 graduates in 2018 (refer to Table 4). For these programs, only 3 percent of student completions were aligned with distance education, while the rest of student completions aligned with face-to-face program delivery. Additionally, the majority of the programs are Computer Science and not specialized in software or applications development. Of those colleges listed, none are in our three-county service region and UW-Bothell (185 completions) is the only one in a neighboring county. There is also an opportunity to diversify the field. Currently women represent only 18 percent of employees in this field. White and Asian

workers make up 93 percent of the field. Our regional demographics, and college enrollment goals support increasing enrollment of women and students of color, specifically Latinx students. We currently have an NSF Science, Technology, Engineering & Math grant with scholarship and research support for students of color in Science, Technology, Engineering & Math degrees.

## Gap

The number of graduates and residents with requisite education levels is insufficient to meet the current and projected demand. Annual openings for in-demand occupations requiring a bachelor degree far exceeds the number of projected program graduates (refer to Table 4).

*Table 4: Demand/Supply/Gap*

|  |  |
| --- | --- |
| Demand/supply | Openings |
| Demand: Average annual total openings | 24,742 openings |
| Supply: Annual total degree completions | 1,826 completions |
| Gap | 22,916 openings |
| *See Appendix A for SBCTC Applied Baccalaureate Degree Supply/Demand Gap Rubric for Colleges* | |

# Criteria 4

## Applied baccalaureate program builds from existing professional and technical degree program offered by the institution.

All degree and certificate programs at Skagit Valley College are clustered into nine Areas of Study (meta majors): Basic Education for Adults, Arts & Communication, Business, Education, Food & Beverage Management, Health Sciences, Industrial Technology & Transportation, Public Service & Social Science, and Science, Technology, Engineering & Math (STEM). The new Bachelor of Applied Science in Applications Development will be housed in the Science, Technology, Engineering & Math Area of Study with the other technology departments: Multimedia & Interactive Technology, Computer Information Systems, and Computer Science. Skagit Valley College also has comprehensive Planning Guides that include career and transfer information for each Area of Study, and each degree. The Bachelor of Applied Science in Applications Development will be included in those Planning Guides and as part of the degree and career pathways presented in the required First Quarter Experience course.

The proposed Bachelor of Applied Science in Applications Development builds on a foundation of Skagit Valley College’s current computer and information technology workforce degrees.

Additionally, the Bachelor of Applied Science in Applications Development will build on Skagit Valley College’s Computer Science Direct Transfer Agreement (DTA). Upper division core curriculum will be an extension of content offered in the associate degrees, which includes programming and project management. The curriculum will also focus on personnel management skills such as infrastructure, innovation, leadership, problem solving, and integration. Augmenting content attained in an associates program degree with upper-division courses will supply Bachelor of Applied Science in Applications Development students with the technical skills, critical thinking skills and project management skills necessary to grow and adapt to a constantly changing technological and economic environment. Further, the Bachelor of Applied Science in Applications Development program will include educational experiences,

such as a required internship to allow students to apply skills in an environment in which they will likely be working.

From an administrative prospective, Skagit Valley College’s success in developing and offering Bachelor of Applied Science degrees in Environmental Conservation and in Applied Management will create a framework that can be adapted to the needs of the Bachelor of Applied Science in Applications Development program. Changes have taken place college-wide to advance efforts to become a baccalaureate degree granting institution. These changes include additional program management, library, financial aid, enrollment, and advising services. Further, the Bachelor of Applied Science in Applications Development will be constructed to include many of the instructional innovations implemented in the Bachelor of Applied Science in Applications Development degree program, such as team-taught courses, instructor led learning-labs, and a focus on promoting the development of social-capital.

As mentioned above, Skagit Valley College will lean on the existing curricular infrastructure to inform its Bachelor of Applied Science in Applications Development, but we will also utilize the robust advisory committees that have contributed to the success of the Multimedia and Interactive Technology and Computer Information Systems programs. Those existing technology program advisory committees will act as a model for the creation of the Bachelor of Applied Science in Applications Development advisory committee and bodies from which to draw input related to Bachelor of Applied Science program development.

The following table shows the long-established programs in computer and technology as well as the average annual headcount and gross AFTE from 2015-2020.

*Table 5: Table 6: 5-Year Enrollment History*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Program** | **EPC** | **Years Running** | **Average Annual Head Count (*past 5 years*)** | **Average Annual Gross FTE (*past 5 years*)** |
| ***Foundational Programs*** | | | | |
| Multimedia & Interactive Tech | 524 | 19 | 102 | 59 |
| Computer Information Systems | 514 | 29 | 96 | 47 |
| *Info Management & Data Science (Approved February 2020)* | *573* | *0* | *Enrolling 2021* | *Enrolling 2021* |
| ***Other Feeder Programs*** | | | | |
| Computer Science DTA/MRP | CSA | 29 | 53 | 30 |
| Computer Science AST- Track 2 | ASBC | 7 | 15 | 8 |
| **TOTAL** | | | **314** | **144** |

# Criteria 5

## Student demand for program within the region.

Nearly all students, 99 percent, remain in state immediately after leaving Skagit Valley College, and most stay within the five-county region (*EMSI Washington College Survey, 2016)*. In a Skagit Valley College - Community College Survey of Student Engagement (CCSSE) conducted in 2017, 54 percent

of students report providing care for dependents and nearly 70 percent live near campus. Additionally, 54 percent work at least 10 hours or more while attending college. Skagit Valley College students are place-bound, working adults who need local and flexible program to accommodate the demands on their time while achieving their educational goals. In general, 67 percent of Skagit Valley College students indicate a bachelor’s degree as their primary goal. Students are also interested in a baccalaureate level program at Skagit Valley College.

With an annual average of over 300 students at Skagit Valley College in computer and technology- related programs, there is a healthy pipeline to a Bachelor of Applied Science. In a 2020 survey given to current students and recent graduates of computer and information technology degrees at Skagit Valley College, 72 percent of students intend to obtain a bachelor degree, 80 percent were specifically interested in pursuing a bachelor degree in the technology field, and 75 percent of students were interested in more information if Skagit Valley College was to offer a related Bachelor of Applied Science. Additionally, we will reach out to other Washington community and technical colleges for potential articulation opportunities from their related programs. Skagit Valley College plans to contact approximately 10 colleges that currently have an associate degree, but no Bachelor of Applied Science in computer programming, software development or application development.

In addition to the existing technology programs, Skagit Valley College also has a newly approved Information Management and Data Science associates degree that will enroll students in Fall 2021. As those students graduate, they will have the option to seamlessly enroll in the Bachelor of Applied Science in Applications Development program to continue their education. Based on the figures of the feeder programs offered at Skagit Valley College and the ability to recruit students from other colleges and industry, Skagit Valley College expects to enroll cohorts of 30 students annually in Fall quarter when the program is fully developed and at full enrollment. Skagit Valley College will begin with a cohort of 15 students in the fall of year 1 and increase by five students annually each fall until meeting the goal of 30 new students each year.

*Table 6: BASAD Annual Enrollment Projections*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Year | 2021-22 | 2022-23 | 2023-24 | 2024-25 | 2025-26 |
| Cohort Size | 15 | 35 | 45 | 50 | 55 |

# Criteria 6

### Efforts to maximize state resources to serve place-bound students.

Skagit Valley College intends to build a Bachelor of Applied Science in Applications Development program that is accessible to students in our region, and beyond. This means offering a high-quality program to place- bound students, ensuring that curriculum is inclusive of our diverse population and meeting diverse computer and technology industry demands of the many small and medium organizations in our district and with larger companies in neighboring counties. All of this would be part of a seamless educational pathway for Skagit Valley College’s and other associate degree completers.

## Serving Place-Bound Students

Based on a review of enrollment data, the top three sources of computer program enrollments were

local from multiple areas to include Mount Vernon (22 percent), Whidbey Island (21 percent), and Sedro Woolley (13 percent). With the majority of students being place-bound, the program will be offered in a hybrid format with primarily digital content as well as limited on-site meetings to benefit students and allow for flexible scheduling. Technologies such as lecture-capture software, streaming classrooms and cloud computing will be utilized to allow instructional delivery to take place on-site and online. These technologies allow place-bound students to access the program via on-ground classes and to take online courses that can be completed at home. Skagit Valley College provides distance-learning opportunities at our two centers and two campuses, therefore, delivery of the Bachelor of Applied Science in Applications Development program in this manner is a natural extension of the college’s mission to serve students throughout our large and geographically diverse district. The flexibility of the instructional model will also provide access to a baccalaureate education to potential students currently in the workforce or those with family obligations that make enrollment in programs that require full-time residency difficult, if not impossible.

## Regional Collaboration

The closest Bachelor of Applied Science program in Applications Development is over 55 miles away at Cascadia College, and it is specifically for mobile applications. While the University of Washington- Bothell (UW) offers a bachelor degree program in Computer Science, Skagit Valley College’s proposed Bachelor of Applied Science Applications Development program will attract a different student population and provide a more targeted and hands-on development training. Skagit Valley College will continue to recruit and promote educational opportunities to both traditional and non- traditional students, especially the 2 + 2 pathway that the Bachelor of Applied Science programs create for students interested in workforce programs.

Additionally, the Bachelor of Applied Science in Applications Development will attract non-traditional students that are older than the general population that attend the state’s four-year institutions, which often times require full-time attendance and accept minimal transfer credit from professional- technical programs. Future Bachelor of Applied Science in Applications Development students will have likely completed 2-year degrees in the state’s community and technical colleges, and generally look like Skagit Valley College’s current student population with an average age of 29 and responsibilities of caring for children and dependents. This population, therefore, requires flexible program scheduling that community colleges are better able to accommodate.

Regionally, Skagit Valley College has communicated with Whatcom Community College (WCC), Bellingham Technical College (BTC), and Everett Community College (EvCC) regarding our intent to begin the Bachelor of Applied Science in Applications Development program. There is potential for collaboration with each institution, specifically regarding transfer opportunities for profession- technical graduates from Whatcom Community College, Bellingham Technical College, and Everett Community College. We are also eager to work with Western Washington University (WWU), Western Governors University (WGU), and University of Washington- Bothell (UW) in order to develop agreements for Bachelor of Applied Science in Applications Development graduates to continue to a related master’s degree program. These conversations are ongoing, and we are optimistic about collaborating in ways that most benefit Washington students. Skagit Valley College has also reached out to the Center of Excellence in Information and Computing Technology at Bellevue College to discuss the degree and to assist with the development of the program advisory committee.

## Unique Program Aspects

As stated above, Skagit Valley College’s student population reflects the community that we serve. Our Latinx population is projected to reach 25 percent in the next few years, and serving this community is a top strategic priority of the College. This engagement with the Latinx community has prompted institution-wide changes that promote inclusivity. Specifically, our faculty have engaged in a curricular and instructional practice review through our inclusive pedagogy learning community.

Faculty leaders from Skagit Valley College have presented this work throughout the state and nation, and it is reshaping the culture and practices of Skagit Valley College. Practices of inclusivity will purposefully inform each step of Bachelor of Applied Science in Applications Development program development. In this fundamental sense, the Bachelor of Applied Science in Applications Development program will not only differ from existing programs in our region, but from those across the state, in its instructional design and prioritization of inclusive approaches to teaching. We look forward to the challenging work of critically assessing traditional instructional strategies to attain equitable outcomes and using the Bachelor of Applied Science in Applications Development program as an example of a program developed with inclusivity and diversity training as a central tenant of the curriculum for technology professionals. Training students within this framework not only creates a learning environment that promotes a diverse student body, it builds an infrastructure for traditionally marginalized students to succeed and contribute to the education of others.

# Conclusion

The proposed Bachelor of Applied Science in Applications Development (BASAD) closely aligns with Washington State key industry sectors State Board for Community and Technical College’s goals, and the Skagit Valley College mission statements. It also meets strategic planning goals, student interests and industry demand. The Bachelor of Applied Science in Applications Development is an innovative and forward-looking technology degree intending to serve an in-demand industry both locally and statewide. This program will provide access to training for our regional place-bound students to engage in a high-wage, high-demand career in our service district as well as neighboring urban centers. The Bachelor of Applied Science in Applications Development will combine theoretical knowledge, analytical problem solving, and practical hands-on skills to engage and prepare exceptional graduates to enter a growing field. Graduates from the Bachelor of Applied Science in Applications Development program will engage in solving real-world problems in technology settings through a lens of inclusion and with an understanding of diversity in an evolving workplace. This program will prepare applications development professionals for the challenges of leading projects, people, and innovation.

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# Appendix A

*Place holder*

# Attachment A: Applied Baccalaureate Degree Supply/Demand Gap Rubric for Colleges

**Applied Baccalaureate Degree Supply/Demand Gap Rubric**

*The goal of this rubric is to help you build a program that will meet the needs of your community. We have given you options about the information you can use to support the need for your new program. Also, the guidelines for estimating the supply/demand gap are similar to the ones we use for other program applications. We hope this makes the rubric more familiar to you. If not, contact the Director of Transfer Education at SBCTC for further information.*

**The application needs to show the information below for program approval**:

* + employers demand\* the level of technical training proposed within the program, making it cost-effective for students to seek the degree;
  + lead to high wage-earning jobs; and
  + the proposed program fills a gap in options available for students because it is not offered by a public four-year institution of higher education in the college's geographic area.

|  |
| --- |
| **College Name: Skagit Valley College** |
| **Program Name: Bachelor of Applied Science- Applications Development** |
| **Select one:** Existing Occupation ☒ **or** Emerging Occupation ☐ |
| **If local demand/supply information is available for the specified degree program and target occupation(s),\*\*** |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **For demand:** Provide local/regional demand data for the  targeted occupation job title(s) from traditional labor market data, industry data, trade association data, or other transactional data. (*Provide absolute numbers, not just percentages*) | Job titles:  Software Developer Applications Developer Software Development Engineer  .NET Developer Software Engineer Information Technology Analyst (IT Analyst) Applications Integration Engineer Technical Consultant  Software Architect Computer Consultant  State Data: Software Developers, Applications (15-1132) In demand  Bachelor’s Degree Required 3.8% Average Annual Growth 24,742 Average Annual Openings Median wage: $66.51 per hour  Regional Demand 2019-2020:  (Skagit, Island, San Juan, Whatcom, Snohomish counties) | | | |
|  | **City** | **Unique Job Postings** |  |
| Anacortes, WA | 78 |
| Arlington, WA | 159 |
| Bellingham, WA | 182 |
| Bothell, WA | 852 |
| Burlington, WA | 65 |
| Edmonds, WA | 79 |
| Everett, WA | 434 |
| Lynnwood, WA | 198 |
| Marysville, WA | 78 |
| Mill Creek, WA | 72 |
| Mount Vernon, WA | 76 |

**Related Bachelor Degree Programs**

**Completions**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  | Mountlake Terrace, WA | 186 |  |
| Mukilteo, WA | 79 |
| **Total** | **2,538** |
|  | | | |
| **For supply gap:** Provide data on the number of programs and the  number of annual program graduates for all four-year colleges that supply your region. Is the number of current annual graduates insufficient to meet current and projected demand? (The result of demand minus supply). | Statewide Supply:   |  |  | | --- | --- | |  | | | University of Washington-Seattle Campus | 745 | | University of Washington-Bot hell Campus | 185 | | Washington State University | 169 | | Saint Martin's University | 119 | | Seattle University | 119 | | University of Washington-Tacoma Campus | 113 | | DigiPen Institute of Technology | 104 | | Renton Technical College | 100 | | Central Washington University | 95 | | Green River College | 77 | | **Total Completions** | **1,826** |   State Demand: 24,742  State Supply: 1,826  GAP: 22,916  Regional Demand: 2,538  Regional Supply: 0  GAP: 2,538 | | | |
| **OR, if demand information is not available or it is a new/emerging/changing occupation,** \*\* | | | | |
| **For demand:** Provide employer survey results for local demand  for the targeted occupation job title(s) to support the demand  and education level for the program. Survey requirements are listed below. | NA | | | |

|  |  |
| --- | --- |
| **For supply gap:** Provide employer survey results for local supply  for the targeted occupation job title(s) to support that there is a gap in the number of qualified applicants available to fill jobs.  Survey requirements are listed below. | NA |
| **OR, if based on a statutory or accreditation requirement,** \*\* | |
| **Select one:** Statutory Requirement☐ **or** Accreditation Requirement ☐ | |
| **For demand:** Provide labor market information on the current education requirements for the job, including evidence of recent openings for requiring or preferring bachelor’s degrees or above. Cite the statute or certifying body, your proposed program is  based upon that has specified a bachelor’s or above in the field is needed. | NA |
| **For supply gap:** Provide employer survey results for local supply  for the targeted occupation job title(s) to support that there is a gap or that employers anticipate a gap in the number of qualified applicants that will be available to fill jobs with the new  requirements. Survey requirements are listed below. | NA |
| \* Demand is defined by state law as “***an occupation with a substantial number of current or projected employment opportunities.***”  \*\*Applications may include information related to more than one option (i.e., labor market data to support the local demand for the  occupation and a local employer survey to support that there is a gap in the number of qualified applicants available to fill jobs). | |

**Survey Requirements:**

To verify/support supply demand your survey should include at least 25 individual employer responses. If there are not 25 employers in the area, you should cover the employers who comprise at least 75% of the identified employment base. Provide a copy of the survey with the aggregated results as an appendix. The **survey must address** the following general questions (you may edit the wording to suit your survey):

1. **Do you have anticipated demand for application job title(s)? (If this is a new or emerging job title, include a brief description of specific job duties.)**
2. **If there is demand, how many positions do you currently have open? How many do you anticipate having open in the next 3 years?**
3. **Is a bachelor’s degree a requirement or preference for this position? Requirement: Y or N Preference: Y or N**
4. **Do you have difficulty finding Bachelor’s degree level applicants for this position? (If yes- explain)**
5. **Will the proposed program assist you in finding qualified applicants to fill the position(s)?**

# Appendix B- Survey Results

**Student Survey (Spring 2020):**

*n=97 Responses/ N=750 Students*

1. Do you intend to get a bachelor’s degree?

**72% responded “Yes”**

1. Are you interested in pursuing a bachelor’s degree in the computer and technology field?

**80% responded “Yes**

1. If Skagit Valley College offered a bachelor’s degree in Application Development or Data Analytics would you consider applying?

**75% said “Ye s”**

***70% said they would apply for Application/Software Development Degree 50% said they would Apply for Data Analytics Degree***

***Sample of explanations given by students/graduates:***

*-“I already have B.S. in computer science and currently getting an M.S. I think it's a great idea.”*

*-“I'm already attending WSU, but would have considered applying if you already had such a program before.”*

*-“Not sure of my major but I think offering these types of classes would be beneficial”*

*-“My answers only reflect my personal needs, as I already had a BA. I do think a software B.S. offering would very likely be desirable to many people”.*

**Employer Survey (Spring 2020)**:

*n= 17 Responses/ N=31 employers*

1. Do you have anticipated demand for application and software developers?

**81% responded “Yes”**

1. You have indicated that you have anticipated demand for application and software developers. How many positions do you currently have open?

**21 positions currently open**

1. How many do you anticipate having open in the next 3 years?

**103 open positions over the next 3 years**

1. Is there a bachelor's degree requirement for this position?

**7% responded “Yes”**

1. Is Bachelor’s degree a preference for this position?

**92% responded “Yes”**

1. Do you have difficulty finding bachelor’s degree level applicants for this position? (If yes then please explain below)

**46% responded “Yes”**

***Sample of explanations for difficulty in finding applicants given by employers:***

*-“Those with bachelor degrees tend to migrate to larger urban centers where incomes and resources (and cost of living) are significantly higher.”*

*-“Overall Software engineering and management are hard to recruit for locally. Not a lot of supply.”*

*-“Finding quality people is the real issue. We've found that having a degree is a minor indicator of success. However, if the curriculum is good, a degree can*

*provide a foundational understanding that can help graduates adapt to future changes better than those without a degree.”*

*-“Most applicants are self-taught or graduates from bootcamp style code schools.”*

1. Will the proposed Bachelors of Applied Science in Application Development program assist you in finding qualified applicants to fill the position(s)?

**62% responded “Yes”**

1. Do you or anyone in your agency have interest in participating in an Advisory Committee for this program?

**54% responded “Yes”**