STATE BOARD FOR COMMUNITY AND TECHNICAL COLLEGES
FEBRUARY, 2024
STATEMENT OF NEED
BACHELOR OF SCIENCE
COMPUTER SCIENCE

LOWER COLUMBIA COLLEGE

TABLE OF CONTENTS

Cover Page — Statement of Need

Program Information

Institution Name: Lower Columbia College

Degree Name: Bachelor of Science in Computer Science

    CIP Code: 11.0701

Name(s) of existing technical associate degree(s) that will serve as the foundation for this program:

    Degree: Associate in Science - Transfer (AS-T) Computer Science

        CIP Code: 11.0701

        Year Began: 1998

Proposed Start Implementation Date: Fall 2025

Projected Enrollment (FTE) in Year One: 20

Projected Enrollment (FTE) by Year: 30

Funding Source: State FTE.

Mode of Delivery

Single Campus Delivery: Lower Columbia College.

Off-site: internships & work-based learning

Distance Learning: Hybrid and online methods of instruction will be utilized.

Statement of Need

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

Contact Information (Academic Department Representative)

Name: Tamra Gilchrist

Title: Dean of Instruction

Address: 1600 Maple Street, Longview, WA 98632

Telephone: (360) 442-2621

Email: tgilchrist@lowercolumbia.edu

Chief Academic Officer signature

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

X *Kristen Finnel*
Kristen Finnel (Jan 30, 2024 17:13 PST)   01/30/24

Chief Academic Officer

Dr. Kristen Finnel; Vice President of Instruction

Criteria 1

Relationship to institutional role, mission, and program priorities.

According to the Bureau of Labor Statistics' Employment Projections 2020-2030, the computer science workforce is projected to grow much faster than average, both statewide and nationally.

The proposed Bachelor of Science Computer Science (BSCS) pathway and degree supports the mission, vision and values of Lower Columbia College. The mission of Lower Columbia College is to influence lives in ways that are local and global, traditional and innovative. Lower Columbia College is committed to enriching students through curriculum, student clubs and activities, campus resources, events, and service opportunities.

> Mission: The mission of Lower Columbia College is to ensure each learner's personal and professional success, and influence lives in ways that are local, global, traditional and innovative.

Lower Columbia College's vision is community focused. Centrally situated in a rural community, Lower Columbia College acts as a pillar for the Lower Columbia Region. Through collaborative partnerships with individuals and organizations within the community, Lower Columbia College offers educational programs and services that support economic development. Currently, there is an economic development need for baccalaureate prepared employees, and the college is committed and working diligently to address that need.

> Vision: Our vision is to be a powerful force for improving the quality of life in our community.

The proposed BSCS degree aligns with Lower Columbia College's Strategic Plan: Workforce and Economic Development to: provide quality professional/technical education for employment, skills enhancement, and career development; partner with business, community groups, and other educational entities to provide workforce development and customized programs and services. A component of Lower Columbia College's strategic initiative for workforce and economic development is to ensure that all students have access to viable career pathways, and expand the bachelor of applied science degree programs to enhance degree attainment. The goal is to increase the number of adults with bachelor's degrees in Cowlitz and Wahkiakum counties as well as raise the number of local professionals qualified to fill high-demand positions with area employers.

The Lower Columbia region has one of the higher ratios of residents earning an associate degree in our state, but one of the lowest percentages of residents completing a bachelor's

degree. According to the 2021 Census Bureau Quick Facts, (U.S. Census, 2021), only 17% of residents residing in the Lower Columbia College service district have obtained a bachelor's degree, which is less than half of the state average of 36.7%. Offering a locally available BSCS degree removes psychological, social, financial, and physical barriers for students and increases academic and career options for the residents in the Lower Columbia College service district.

Criteria 2

Support of the statewide strategic plans.

Currently, Lower Columbia College AAS, AAS-T, and AS-T graduates have limited options for transferring to universities to earn a baccalaureate degree. The proposal to offer an additional baccalaureate degree in the region is clearly aligned with the Washington Student Achievement Council's (WSAC) 2021 Strategic Action Plan as well as the Washington State Board for Community and Technical College's (SBCTC) Mission Study. The WSAC 2021 Strategic Action Plan recommends actions designed to produce the educational attainment goals that all Washington adults will earn a high school diploma and 70% will hold a postsecondary credential.

The 2021 WSAC Strategic Action Plan Key Takeaways: (Quoted)

> Education and training beyond high school is essential. Some credentials beyond a high school diploma are increasingly essential to earn a living wage and avoid the worst impacts of an economic downturn. Lifetime earnings, for instance, are almost double for those with a bachelor's degree than those with only a high school diploma.

> All sectors of society shape public attitudes on educational pathways. Washington's high school graduates are less likely to continue their education than students across the country and in California, Virginia and Mississippi. We cannot rely on high schools and colleges alone to increase participation in higher education. College going choices are shaped by many other societal factors and messages.

> Student success is shaped by factors outside the classroom. Students face many different types of costs beyond tuition and fees. Earnings loss due to class and study time comes on top of the costs of housing, food, childcare, transportation, and other needs. These financial burdens can derail students even when financial aid covers their full tuition and fees.

> Racial and ethnic disparities appear throughout educational pathways. WSAC is prioritizing racial equity as a necessary part of our goal to increase student

postsecondary credential attainment to 70 percent for Washington state residents who are Black, Indigenous, Latino, Native Hawaiian, and Pacific Islander, regardless of immigration status. Today, only 50 percent or less currently have a postsecondary credential. Enrollment patterns differ by race and ethnicity across institutions and programs.

The proposed BSCS degree supports the SBCTC mission goals outlined in the Mission Study and Washington Student Achievement Council (WSAC) policies and goals for higher education as articulated in the Strategic Master Plan for Higher Education. The SBCTC's Mission Study (2022) identified Washington State's "Most Urgent Need: Educating more people to higher levels of skill and knowledge." The Mission Study identifies strategies to increase the number of baccalaureate-educated adults as a means to strengthen the economy and serve workforce needs for a more highly educated and skilled workforce. According to the SBCTC, community and technical colleges play an important role in producing baccalaureate degree graduates in Washington State. The SBCTC advocated for community and technical college applied baccalaureate programs to help:

- Meet state goals for increasing the overall number of baccalaureate degrees awarded to 42,400 per year. The community and technical college system will need to increase the number of students who transfer to a baccalaureate program to 22,000 by 2030 including 1,400 baccalaureate degrees awarded.
- Expand the workforce mission of community and technical colleges to serve the needs of local and state employers.
- Increase educational pathways for professional and technical associate graduates who have been limited in their ability to apply credits toward a bachelor's degree. The workforce student population consists of a large portion of people of color, older working adults and people who are place bound (especially women) with family responsibilities.

The development and implementation of a BSCS degree at Lower Columbia College will help to address these challenges locally by:

- Closing the opportunity gap for underrepresented populations and re-engaging adult learners.
- Building upon the strengths of the institution's computer science associate degree program and allowing students to continue along the educational continuum.
- Providing students in the workforce an opportunity to obtain a baccalaureate degree without jeopardizing current employment and dislocating their families.
- Helping close education affordability gaps. Students in Southwest Washington need access to a four-year education at an affordable rate to progress toward the state's attainment goals of providing economic benefits for our residents and a talented workforce to meet the state's economic needs.

Lower Columbia College serves a more impoverished and diverse population which is less

likely to be educated than the average population in Washington State. Cowlitz County experiences one of the higher rates of poverty in Washington State (12.2%) (Pathways 2020). In Cowlitz County, children ages birth to four experience high levels of poverty at 27% compared to 16% for the state overall. Additionally, the proportion of public-school students who are homeless in Cowlitz County is 4.9 % as compared to 3.6% for the state of Washington. Cowlitz County continues to have one of the highest percentages of citizens who rely on food benefits in the state (Pathways 2020). Overall, these statistics demonstrate the significant socioeconomic challenges faced by families in our service district and indicate the high level of need present on our campus and in our community.

Lower Columbia College students who come from under-represented populations are less likely to transfer and continue higher education pursuits. While the growing percentage of living-wage jobs in the post-recession economy requires at least some postsecondary education, there is no local access to a four-year institution within the Cowlitz-Wahkiakum County service district or without a substantial commute.

The Workforce Southwest Washington strategic planning group is focused on sector work in healthcare, technology and construction.

Criteria 3

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

Out of 12 workforce development areas in Washington State, the Southwest WDA (including Clark, Cowlitz, and Wahkiakum Counties) will be one of the fastest growing CS related work areas over the next 10 years at 2.7%. LCC's proposed Bachelor of Science in Computer Science degree will address the software developer employment and education gap in Washington State. The BSCS will prepare students for careers in the job areas of Computer Science (CIP Code 11.0701), Computer Programming (CIP Code 11.0201), and Computer Systems Analysis (CIP 11.0501). The region selected is based on a 60-mile radius from Lower Columbia College and includes Cowlitz, Wahkiakum and Clark counties. Employer data presented in this section is derived from a partnership with Artemis Connection, a management consulting firm that helps clients build high-impact, executable strategies that reach ambitious goals, develop teams, and strengthen organizations. LCC and Artemis Connection hosted an on-campus focus group for regional employers and collected data through surveys. The surveys conducted and feedback from the focus group revealed a strong interest (85%) in hiring LCC graduates that received a BS in a technical field.

The average pay for the specified careers is $139,172. The average salary in Cowlitz County in 2021 was $85,000, presenting an economic advantage for LCC BSCS graduates to make 50% more than the county average. In 2021, there were a total of 17,136 jobs with a projected 2021-2031 growth of 3.30%. The forecasted number of job openings in Southwest Washington is 1,316. See table 3.1 for forecasted regional employment data.

Table 3.1 Forecasted Regional Employment Growth

Occupation	Southwest WDA (Clark, Cowlitz, and Wahkiakum Counties)			
	Total Estimated Employment 2021	Forecasted Total Estimated Employment 2031	Forecasted Average annual growth rate 2021-2031	Forecasted Total Growth Rate (2021-2031)
Computer and Information Systems Managers	508	730	4.37%	43.70%
Computer Occupations	6,322	8,812	3.94%	39.39%
Computer Systems Analysts	785	1,164	4.83%	48.28%
Computer and Information Research Scientists	38	53	3.95%	39.47%
Computer Network Support Specialists	218	277	2.71%	27.06%
Computer User Support Specialists	990	1,325	3.38%	33.84%
Computer Network Architects	198	253	2.78%	27.78%
Database Administrators	143	193	3.50%	34.97%
Computer Programmers	102	131	2.84%	28.43%
Computer Occupations, All Other	735	990	3.47%	34.69%
Data Scientists	53	86	6.23%	62.26%
Computer Hardware Engineers	31	43	3.87%	38.71%
Computer Science Teachers, Postsecondary	10	11	1.00%	10.00%
Computer Numerically	37	44	1.89%	18.92%

Controlled Tool Programmers				
	Average Yearly % Growth (Southwest WDA)		**3.02%**	**30.16%**

Washington State University-Vancouver campus is the only institution in LCC's service area with a Bachelor of Science in Computer Science. A total of 53 students graduated from WSU-V's program in 2021.

LCC's region has a gap of 1,263 unmet Bachelor of Science in Computer Science jobs per year. Bachelor of Science in Computer Science graduates only satisfy 4% of job openings per year regionally.

Table 3.2 Regional Demand

Area	# WA State Programs offering BSCS	# Annual Program Completers with BSCS Degree	# of Annual Job openings (2021)	Unmet Need	% Unmet Need
Regional	1	53	1,316	1,263	96%

Please refer to Appendix C for the Supply/Demand Gap Rubric.

In addition to the regional demand for computer science graduates, the BSCS degree would prepare students for remote computer science job opportunities across the state and country. This will increase the annual job openings for LCC's graduates, and have a positive impact on the state-wide shortage of software developers.

Criteria 4

Baccalaureate program builds from existing professional and technical degree programs offered by the institution.

LCC has offered computer science related academic programs including data processing and computer information systems since 1966. Currently, the college offers the Associate in Science-Track 2 - Computer Science concentration degree, a program that has been in existence since 1998. Currently, 41 students are enrolled in this program. Additionally, LCC offers other technology-related associate degrees such as Information Technology. With additional coursework, students in this associate degree program would also be potential candidates for the Bachelor of Science in Computer Science degree. Forty-seven students

are enrolled in Information Technology degree programs.

A Bachelor of Science in Computer Science would be a highly desirable next step for these students. A student survey of these students in October of 2023 revealed that 85% of those taking the survey were likely to enroll in a Bachelor of Science in Computer Science at LCC if it was offered (see Appendix B, Student Surveys). Table 4.1 contains the number of LCC students enrolled in the computer science associate degree and the information technology associate degree.

Table 4. 1. Historic LCC Computer Science and Information Technology Enrollment

Program	CIP	Unduplicated Enrollment				
		18-19	19-20	20-21	21-22	22-23
Computer Science - AST	11.0701	68	50	30	29	37
Computer Science AS-T (WSU-V)	11.0701	1	2	3	4	4
Information Technology Systems AAS-T	11.1003	6	4	2	3	6
Information Technology Systems AAS	11.1003	38	50	33	46	41
Total Enrollment		113	106	68	82	88
Total Enrollment Unduplicated across all programs		110	103	67	81	86

LCC will develop the BSCS program as a four-year degree and provide a 2+2 program option for students who have completed an associate's degree. These students would be able to finish their Bachelor of Science in Computer Science with an additional two years of full-time study. Additional future expansion includes developing pathways for students who have completed other associate degrees to provide multiple pathways for attaining a Bachelor of Science in Computer Science at LCC.

Criteria 5

Student demand for the program within the region.

To assess local student demand for a Bachelor of Science degree in Computer Science, LCC partnered with a consulting organization, Artemis Connection, an opportunity made possible via grant funding from the SBCTC and Amazon, to support research and development of a BSCS degree including evaluating student interest.

Surveys were conducted with current students and recent graduates from LCC's computer

science related educational tracks as well as students enrolled in local K-12 school district programs (8th-12th grade). A total of 82 responses were received with 31 responses from the associate level and 51 responses from the K-12 level. See appendices A and B to view the survey results. Participants were also asked questions regarding course modality and location preferences. Overall, responses indicated strong support for program development. Key findings included:

- 85% of college-level respondents indicated interest in pursuing a technology related bachelor's degree with 65% specifically indicating computer science as their program of choice.
- 85% of college-level respondents indicated that they were 'very likely or likely' to apply/enroll in a BSCS offered by LCC.
- 62% of college-level respondents prefer a bachelor's degree offered in Cowlitz County.
- 41% of K-12 level respondents indicated interest in applying/enrolling in a BS/CS offered by LCC.
- Top reasons K12 level students are interested in a BSCS are making more money (45.7%), liking computer science courses/interested in software development (32.6%), and interested in programming/robotics (30.4%).
- Students ideal program is well known/respected
- Top reasons for college level respondents pursuing a BSCS degree include Career Advancement (76%) and increased earning potential (72%) and pursue a passion of interest (80%).
- 44% indicated a preference for hybrid modality.
- 54.9% of college-level respondents are 30+ years of age.

It is expected that students will initially enroll in LCC feeder programs, primarily the CS-AST, or transition from the Information Technology AAS, and then move directly into the BSCS program. Total enrollment in the BSCS is expected to continuously increase with each cohort as the addition of a new program will bring increased visibility of all programs.

LCC also plans to attract additional students and talent to the program via strong partnerships with local districts. Lower Columbia is a rural college with unique area needs. With the low bachelor's degree attainment rates, it is important for LCC to offer programs to the community that provide access and opportunities for students to pursue degrees and careers that will increase their standard of living.

LCC has established strong partnerships with local K-12 districts and offers several different options for dual credit. Over the past two years, the college, as a proud partner with Kelso high School, developed a model for LCC to serve as a center for skill development by offering specialized education programs in areas not currently available in local districts or expanding instruction beyond what districts are able to offer due to limited facilities or lack of qualified instructors. The addition of a local BSCS degree will allow the college and

surrounding K-12 programs to continue developing shared programs, improve the quantity and quality of current programs resulting in stronger pathways and ensuring a stronger pipeline for enrollment and ultimately meet local workforce needs. LCC has also established a partnership with Career Connect Southwest and ESD 112. The Executive Director of Career Connect SW STEM Network, Vickei Hrdina attended LCC's BSCS focus group and showed strong support for the development of the degree pathway. In a letter of support, Vickei writes, "As critical members of the Career Connect SW STEM Network, LCC has proven to be a leader in responding to the needs of our community, students, and employers. The proposal for this new degree pathway has been data driven and community informed and will fill a critical gap in the postsecondary readiness of our local youth." The letter of support is found in Appendix D. Currently, 293 students are enrolled in district computer science related feeder programs. See Table 5.1.

Table 5.1 High School Student CS Enrollment by School District

High School	CS % Enrollment	CS Headcount*	CS Related Coursework	Distance from LCC
RA Long and Mark Morris (Longview)	3% & 1.9%	48	AP CS Principles Intro to CS	1 mile
Kelso	5.3%	83	AP CS Various tech related	2 miles
Kalama	25.5%	95	Computer Applications	10 miles
Toutle Lake	23.7%	51	Business Technology	15 miles
Woodland	1.5%	10	AP CS Principles, Computer Programming	20 miles
Wahkiakum	3.3%	6	AP CS Principles	20 miles
		293 total students		

*Headcount rounded

Based on LCC's current CS enrollment levels presented in Table 4.1 (in Criteria 4), combined with potential student interest based on the survey results and potential incoming high

school students, LCC anticipates enrollments in the BSCS degree to initially start with 22 students and grow to 30 by the fifth year of implementation.

Table 5.2 Projected Annual Enrollment

Academic Year	Projected Annual Enrollment (Unduplicated headcount)
2025-2026	22
2026-2027	24
2027-2028	26
2028-2029	28
2029-2030	30

Criteria 6

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

Lower Columbia College's proposed BSCS is being designed to serve place-bound working adults and students who, for various reasons (work, family responsibilities, financial constraints, etc.), may not be able to relocate or travel to further their education. The degree will provide students the opportunity to earn a bachelor's degree at an affordable cost within their own community.

Based on the results from the survey of students, former students, and employers, courses will be offered primarily hybrid and will be supported with eLearning resources through the College's Learning Management System (currently CANVAS). Online modalities will also be utilized to provide additional options and flexibility for students. Face-to-face times will occur in the late afternoon or early evening to best meet the needs of students. This approach offers the flexibility of online content delivery combined with in-person opportunities to connect, discuss, and apply concepts which improve the learning experience and retention. The request for hybrid instructional models has become even more evident given the circumstances recently faced due to COVID-19. While the college was able to continue instruction of workforce programs online, most students in AAS programs have and continue to express a strong desire to return in person wherever feasible.

The goal of the BSCS degree is to provide versatile options for students so that they may be able to complete the program while fulfilling their current responsibilities. Lower Columbia College's faculty are strong advocates and have significant experience with prior learning assessment. Opportunities for granting credit for prior learning will be explored to give students the ability to utilize the knowledge and experience gained through work and life experiences or industry recognized credentials to accelerate through courses upon

demonstrating mastery of learning outcomes.

The BSCS degree will provide individuals in the region the opportunity to earn an affordable bachelor's degree focused on the knowledge and skills sought by local employers while avoiding the cost of earning a degree far from home. This is especially important for place-bound, historically under-represented, and underserved students in Lower Columbia College's service district since there is no four-year institution within 40 miles.

Similar Programs

Currently no four-year institutions within LCC's service district exist; however, LCC has established strong partnerships with several universities through the development of the Lower Columbia Regional University Center. The Center is located on the Lower Columbia College campus and was established in 2013 with the goal of increasing the number of adults with bachelor's degrees within Cowlitz and Wahkiakum counties. While the Center has played a valuable role in expanding access to traditional transfer students, those with workforce degrees are still lacking in options at the baccalaureate level.

Of the University Center partners, Washington State University-Vancouver, Grand Canyon University (GCU), and Western Governors University (WGU) offer BSCS programs. The programs at GCU and WGU are offered fully online. In addition, students have expressed a strong desire and preference for hybrid options blending online with face-to-face contact, something that is not currently available with the University Center partner programs.

Centralia College offers a BSCS degree as part of the AppConnect consortium. Clark College is in the development phase with plans to launch a BSCS degree in fall of 2024. Historically, Southwest Washington community colleges have worked collaboratively to provide for regional needs and will continue to do so. Lower Columbia College is open to collaborating on general education requirements, identifying specialized areas by programs in the region and adopting any common courses as they are developed. Lower Columbia College will work collaboratively to advise and support students needing financial aid consortium agreements and collaborate on support services for any dual enrolled students.

As state resources are maximized, student and family resources are inherently affected. Students in need of financial aid would require less aid due to less cost for tuition, the potential to remain employed, and decreased ancillary costs of education associated with traditional models. Employers with tuition reimbursement programs would benefit from the reduced educational costs, and employers who do not have such programs might be more willing to consider providing tuition assistance.

Pathways Considerations

K-12 Pathways and Partnerships

Lower Columbia College has developed strong partnerships with local K-12 districts to offer high school students pathways into technology careers including the opportunity to earn college credit through the CTE Dual Credit program. LCC has a specific articulation agreement with Longview School District, but the course is open to any high school student within Lower Columbia College's service district, for their Microsoft IT Academy 1 and 2 course. Students earning a B or better in the course are eligible for academic credit as outlined in tables 6.1 and 6.2 below:

Table 6.1: Microsoft IT Academy I Dual Credit Courses

Course	Credits
BTEC 100: Computer Keyboarding	3
BTEC 104: Introduction to Business Technology	5
CS 110: Introduction to Microcomputer Applications	3
*BTEC 111: Word Processing I **OR** *BTEC 145: Intro to Word	5
*BTEC 131: Intro to Spreadsheets	5
*BTEC 146: PowerPoint Fundamentals	2

Table 6.2: Microsoft IT Academy II Dual Credit Courses

Course	Credits
CS 110: Introduction to Microcomputer Applications	3
*BTEC 111: Word Processing I **OR** *BTEC 145: Intro to Word	5
*BTEC 131: Intro to Spreadsheets	5
*BTEC 146: PowerPoint Fundamentals	2

Program Collaborations

Center of Excellence
Lower Columbia College is collaborating with the Center of Excellence for Education to support research for data related to the BSCS degree including assistance obtaining local transfer student information to other colleges by degree.

Workforce Development Council and Community Workforce Advisory partnerships
Lower Columbia College has strong and long-standing relationships with Workforce Southwest (WDC) as well as several other established community advisory councils that serve the region such as the Lower Columbia STEM Network and Longview-Kelso Chamber Education Foundation. These committees are composed of local leadership from an executive level all the way down to a coordination level and have representation from business and industry from all major sectors, government, K12, social service agencies, mental health, healthcare and tribal representation. While the scope of work varies, all groups share a common goal of improving and strengthening the local community with key

central strategies aimed at improving Career and Technical Education. Much of this work supports career-connected learning and building strong pathways from K12 through higher education. Lower Columbia College is the primary training provider within the service district. All workforce partners have expressed their support for Lower Columbia College in developing the BSCS and are eager to aid wherever needed.

Lower Columbia Regional University Center

The Lower Columbia Regional University Center was established in 2013 with the goal of increasing access to baccalaureate and master's level degree programs locally. In 2013, Cowlitz and Wahkiakum counties were at half the state average (16% locally; 32% WA State) for people 25 and older with baccalaureate degrees despite the high number of associate degree attainment.

As stated previously, Lower Columbia College has strong partnerships with four-year institutions as part of the Lower Columbia Regional University Center. All partners have expressed their support for the local development of an BSCS degree.

Why Expansion is Necessary and Unique Aspects of the Proposed Program

The addition of an BSCS degree at Lower Columbia College is greatly needed to expand higher education opportunities in an area that has no computer science/information technology baccalaureate granting institution within a 40-mile radius. The degree will be especially important for place-bound students who do not have access to other institutions of higher education and first-generation students from historically under-represented groups that currently transfer at low rates.

Sixteen percent of residents live below the poverty threshold and 32.28% live below 185% of the poverty threshold (Poverty in Working Washington) is a clear indicator of the need for local educational program in order to meet students where they are and assist them in moving into not just living wage jobs but high demand/high wage careers with opportunities for growth progression. Low incomes and limited access to resources including higher education are major issues for local students which is why the BSCS is essential in offering pathways for workforce students to move into positions so greatly needed to support local employer needs.

The BSCS will provide students with the knowledge and skills needed by local employers within Lower Columbia College's service district, as well as employers offering remote employment opportunities. In addition, Lower Columbia College will deliver the program in a hybrid and flexible format designed to meet the needs of working adults and professionals who currently have limited opportunities for furthering their education.

Offering hybrid/online delivery is important for several reasons. In a face-to-face context,

the student and instructor both benefit from seeing expressions (facial, hand movements/gestures and body language). This information is essential, especially for workforce students whose natural learning style tends to lean toward "hands-on" education, for practicing the ability to interpret body language such as seeing a confused or concerned look or recognizing a "light bulb" moment. These interactions between students and the instructors are essential for strengthening the learning environment with the added benefit of providing students with a sense of belonging and support. These collaborations also provide students with a chance to practice essential skills and recognize behaviors needed for success in leadership, supervisory, and managerial positions. A local BSCS option will also help remove psychological, social, financial, and physical barriers and add steppingstones to increase access to higher education especially for students needing flexibility while pursuing higher education.

Overall, the BSCS program will benefit the state and maximize its resources by:

- Increasing the total number of bachelor's degree recipients in both the region and state and assisting the state in reaching its baccalaureate completion targets while also fulfilling critical emerging shortage in the local workforce.
- Providing opportunities for place-bound students in rural communities by offering courses in a hybrid/online format. Offering working adult students online or hybrid classes that will contribute to efficient use of resources and classroom space.
- Collaborating with other colleges serving the SW Washington region to offer students multiple options and access to additional educational specializations and options.

Criteria 7

Promoting equitable opportunities for students, including historically marginalized students.

Traditionally underrepresented students face many barriers to accessing a baccalaureate-level program. Many students are place bound, have childcare and work obligations, may lack basic skills and an academic plan, and lack financial resources for a baccalaureate program. Financial concerns negatively influence retention of students, especially low-income students and financial constraints are often the biggest barriers to full-time enrollment. Balancing school with family responsibilities, childcare costs, and work schedules are some reasons for not completing a degree.

Table 7.1: LCC Student Demographic Data

Student Enrollment Demographics				
2021-2022	**All (# & %)**		**State Funded**	
Unduplicated student headcount	4040	100%	3236	80%

Female students	2611	70%	2214	71%
Male students	1138	30%	898	29%
Part-time	2297	49%	2040	52%
Full-time	2347	51%	1913	48%
First Gen	2052	68%	1795	69%
Asian	117	3%	106	3%
American Indian/Alaska Native	37	1%	34	1%
Black or African American	78	2%	72	2%
Hispanic or Latino	572	15%	481	15%
Native Hawaiian or Other Pacific Islander	14	<1%	13	<1%
White	2740	72%	2223	71%
Two or More Races / Other Race	231	6%	205	7%
Students of color (Subtotal)	1049	28%	911	29%
Economically disadvantaged	1833	45%	1756	54%

Student recruitment and support implementation plan

The BSCS program will actively recruit traditionally underrepresented students, including students of color and low-income students, using strategic marketing and outreach strategies. Lower Columbia College currently utilizes partnerships with local high schools to recruit traditionally underrepresented students. Lower Columbia College's Outreach Navigator focuses on supporting our underrepresented ELL students. Having resources available in multiple languages helps connect families and support students entering academic programs.

The program design will be a key component in recruiting traditionally underrepresented students. They will have access to a local, affordable, high-quality BSCS program. The program cost will be significantly less than a four-year university in the area. The program will champion working students and design cohort models to support them. Holistic admission processes, including options for assessment of prior learning, and consideration of work and life experiences will promote diversity within BSCS cohorts as well as equity in the admission process. Services below will help increase persistence through the program.

Resources and support for students of color and low-income students

Students complete New Student orientation where they are introduced to entry advisors and student services staff. Entry advisors share informative degree/program information materials with new BSCS students. Entry advisors will help students with registration for any

missing courses required for graduation. Online and on-campus orientation offerings are available each week during open registration. Campus resources, campus life, financial aid, student accounts, registration services, advising, degree options, and first quarter registration are covered. Detailed degree program planners and advising instructions are provided to students during New Student Orientation. Students who have attended Lower Columbia College previously are required to participate in a New Student Orientation if they have not taken classes in 2 years or more.

In consideration of the unique program expectations and the specific requirements set forth, students applying for and admitted into the BSCS program will need individualized and personalized academic advising services. Lower Columbia College has a director of bachelor degree programs who will work closely with the BSCS full-time faculty. These positions will comprise the core of the advising team for the BSCS program. This team is responsible for helping applicants and newly admitted candidates navigate the entrance, registration, class scheduling, clinical practice, and graduation processes.
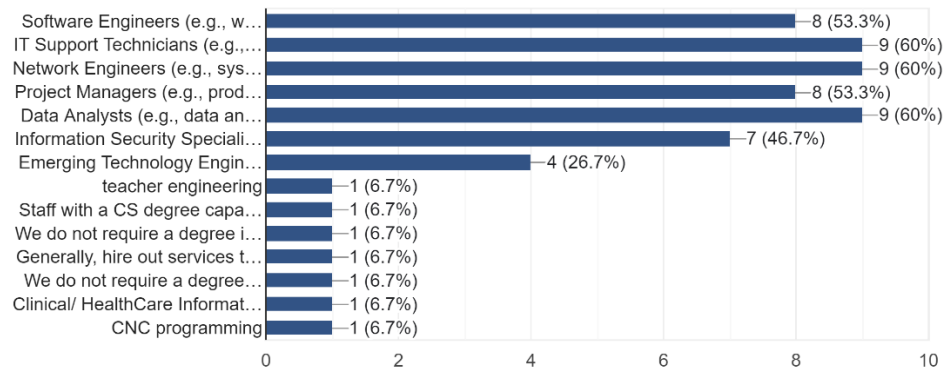
Student Services & Retention

LCC's Student Services Departments offer a variety of support to help marginalized students navigate the application and admissions process and will continue this support throughout the BSCS program. The Counseling, Advising and Career Centers offer various resources designed to assist students to achieve academic success, acquire skills for employment, improve personal well-being, and develop effective skills for interacting in a diverse environment. The director of bachelor degree programs will meet with Student Services departments regularly and shares important program information and maintains communication with Financial Aid, Disability Support Services, Career Services, Advising, Registration, Counseling, and Student Programs (TRiO, WorkFirst, Opportunity Grant, Worker Retraining, etc.). The director of bachelor degree programs will also help students navigate financial aid, including access to scholarships, grants, and other funding opportunities. LCC's food pantry, Food for Thought, works to reduce hunger within our campus community and to reduce the effects of food insecurity on student success. The veterans program provides outstanding veteran support services and encouragement to our student Veterans to ensure program completion. The Veterans Affairs Office assists all eligible veterans, reservists, dependents, and VA chapter 31 students. BSCS candidates are eligible for VA-approved funds.
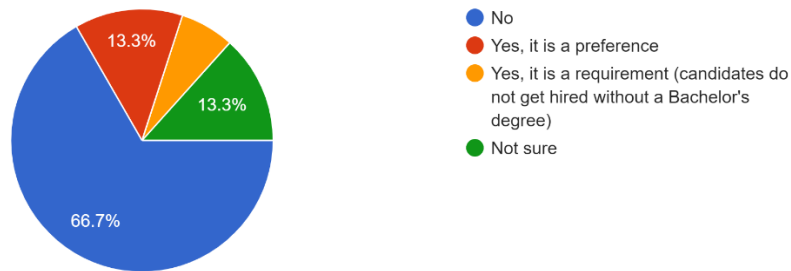
Appendix A
BSCS Employer Survey

1. What types of roles in your organization typically require employees with a degree in technical fields? (Select all that apply)

15 responses

Role	Count
Software Engineers (e.g., w…	8 (53.3%)
IT Support Technicians (e.g.,…	9 (60%)
Network Engineers (e.g., sys…	9 (60%)
Project Managers (e.g., prod…	8 (53.3%)
Data Analysts (e.g., data an…	9 (60%)
Information Security Speciali…	7 (46.7%)
Emerging Technology Engin…	4 (26.7%)
teacher engineering	1 (6.7%)
Staff with a CS degree capa…	1 (6.7%)
We do not require a degree i…	1 (6.7%)
Generally, hire out services t…	1 (6.7%)
We do not require a degree…	1 (6.7%)
Clinical/ HealthCare Informat…	1 (6.7%)
CNC programming	1 (6.7%)

2. If a candidate is hired without a technical Bachelor's degree (e.g., in IT or Computer Science), do you typically require them to obtain one while employed? (Select one)

15 responses

- No — 66.7%
- Yes, it is a preference — 13.3%
- Yes, it is a requirement (candidates do not get hired without a Bachelor's degree)
- Not sure — 13.3%

2a. What is the usual timeframe for obtaining the degree? (Select one)

2 responses

- Less than 1 year
- 1-2 years — 50%
- 2-4 years — 50%
- Over 4 years
- Not applicable
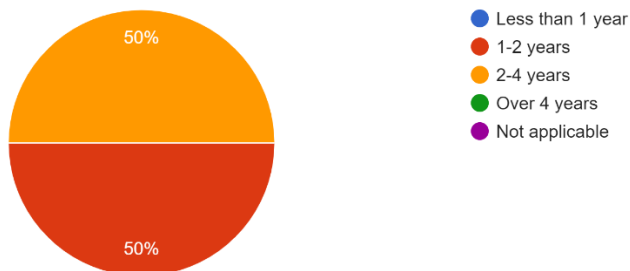
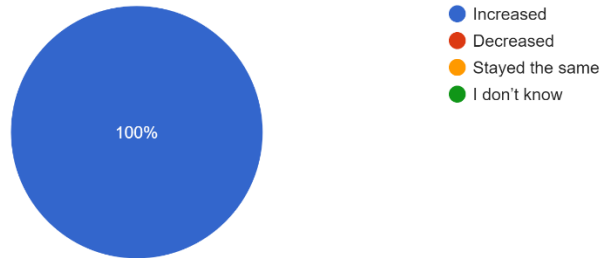2c. In the past 5 years, has the value of a Bachelor's degree in technical fields increased or decreased based on your organization's requirements? (Select one)
3 responses

- Increased
- Decreased
- Stayed the same
- I don't know

100%

3. How many job openings are currently available in your organization for individuals holding a Bachelor's degree in a tech-related field, such as IT or Computer Science? (Please choose one)
15 responses

- 0
- 1-5
- 6-10
- 10-20
- 21 or more
- I don't know

26.7% 13.3% 53.3%
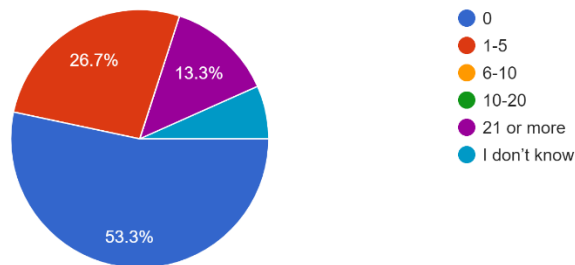
4. What are your expectations for the demand for tech-related Bachelor's degree holders in your organization(s) over the next 3 years? (Select one)
15 responses

- Increase
- Stay the same
- Decrease
- I don't know

33.3% 60%
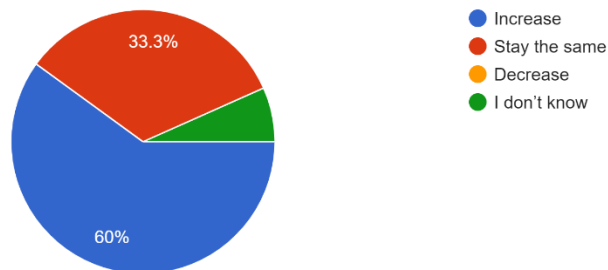
5. Among tech-related Bachelor degrees, are there any specific programs that are most sought after by your organization currently? (Select all that apply)

15 responses

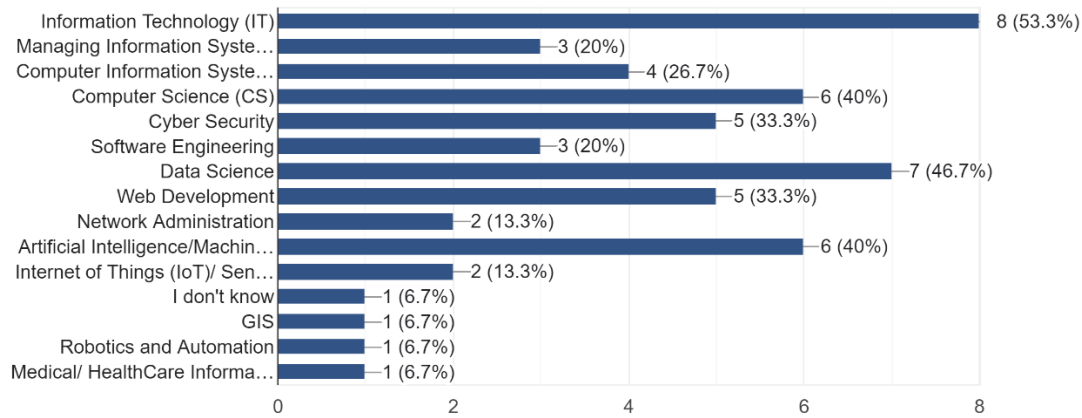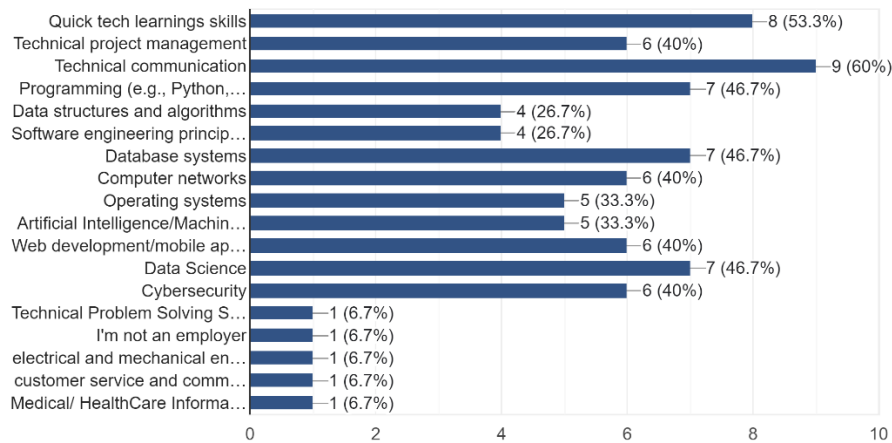| Category	Value
Information Technology (IT)	8 (53.3%)
Managing Information Syste…	3 (20%)
Computer Information Syste…	4 (26.7%)
Computer Science (CS)	6 (40%)
Cyber Security	5 (33.3%)
Software Engineering	3 (20%)
Data Science	7 (46.7%)
Web Development	5 (33.3%)
Network Administration	2 (13.3%)
Artificial Intelligence/Machin…	6 (40%)
Internet of Things (IoT)/ Sen…	2 (13.3%)
I don't know	1 (6.7%)
GIS	1 (6.7%)
Robotics and Automation	1 (6.7%)
Medical/ HealthCare Informa…	1 (6.7%)

6. What technical skills and abilities do you value when considering candidates with BS degrees in your organization? (Select up to 5)

15 responses

Category	Value
Quick tech learnings skills	8 (53.3%)
Technical project management	6 (40%)
Technical communication	9 (60%)
Programming (e.g., Python,…	7 (46.7%)
Data structures and algorithms	4 (26.7%)
Software engineering princip…	4 (26.7%)
Database systems	7 (46.7%)
Computer networks	6 (40%)
Operating systems	5 (33.3%)
Artificial Intelligence/Machin…	5 (33.3%)
Web development/mobile ap…	6 (40%)
Data Science	7 (46.7%)
Cybersecurity	6 (40%)
Technical Problem Solving S…	1 (6.7%)
I'm not an employer	1 (6.7%)
electrical and mechanical en…	1 (6.7%)
customer service and comm…	1 (6.7%)
Medical/ HealthCare Informa…	1 (6.7%)

7. What non-technical skills and abilities do you value when considering candidates with BS degrees in your organization? (Select up to 5)
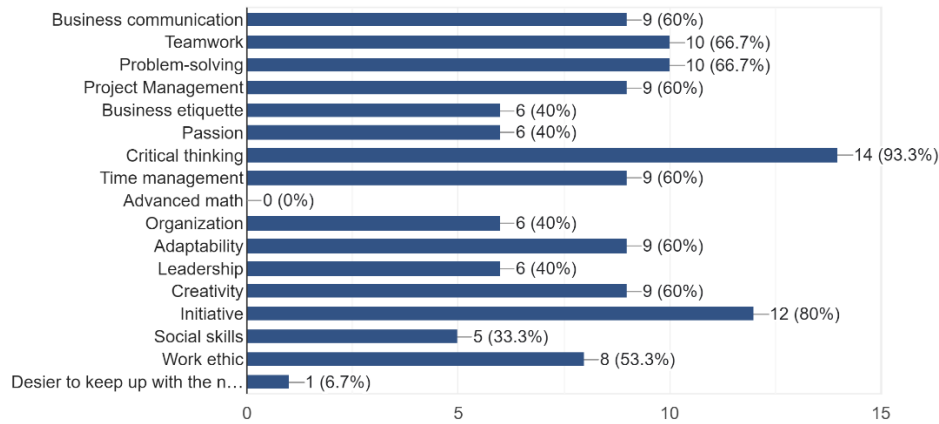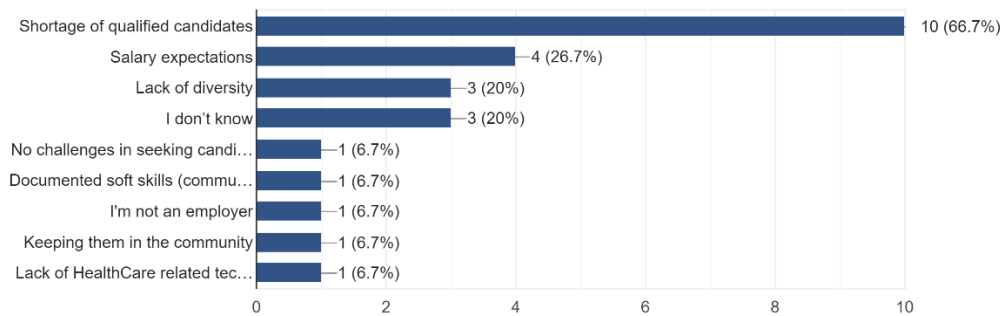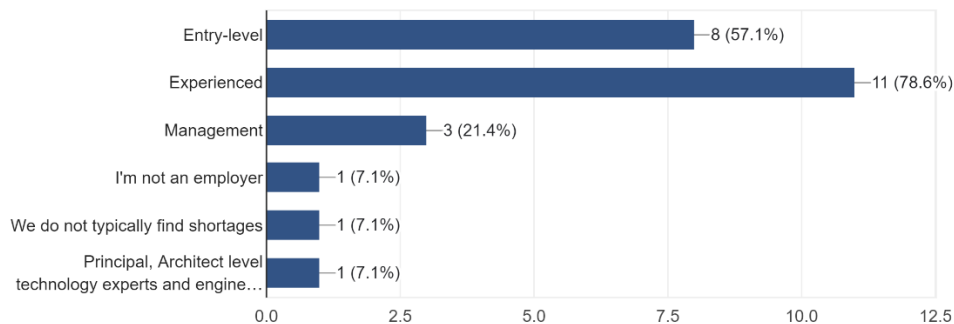
15 responses

Skill	Value
Business communication	9 (60%)
Teamwork	10 (66.7%)
Problem-solving	10 (66.7%)
Project Management	9 (60%)
Business etiquette	6 (40%)
Passion	6 (40%)
Critical thinking	14 (93.3%)
Time management	9 (60%)
Advanced math	0 (0%)
Organization	6 (40%)
Adaptability	9 (60%)
Leadership	6 (40%)
Creativity	9 (60%)
Initiative	12 (80%)
Social skills	5 (33.3%)
Work ethic	8 (53.3%)
Desier to keep up with the n…	1 (6.7%)

8. Do you have any challenges when seeking candidates with a Bachelor's level degree in technical fields? (Select one)

15 responses

Challenge	Value
Shortage of qualified candidates	10 (66.7%)
Salary expectations	4 (26.7%)
Lack of diversity	3 (20%)
I don't know	3 (20%)
No challenges in seeking candi…	1 (6.7%)
Documented soft skills (commu…	1 (6.7%)
I'm not an employer	1 (6.7%)
Keeping them in the community	1 (6.7%)
Lack of HealthCare related tec…	1 (6.7%)

8a. Where do you find shortages in candidates with technical Bachelor's degrees?

14 responses

Level	Value
Entry-level	8 (57.1%)
Experienced	11 (78.6%)
Management	3 (21.4%)
I'm not an employer	1 (7.1%)
We do not typically find shortages	1 (7.1%)
Principal, Architect level technology experts and engine…	1 (7.1%)

8b. Is your organization hiring students from community colleges, and why? (Select one)
14 responses

Category	Value
Yes, for skill diversity	2 (14.3%)
Yes, for cost-effectiveness	3 (21.4%)
Yes, due to availability of local candidates	5 (35.7%)
Yes, for other reasons	5 (35.7%)
No	4 (28.6%)
I don't know	3 (21.4%)
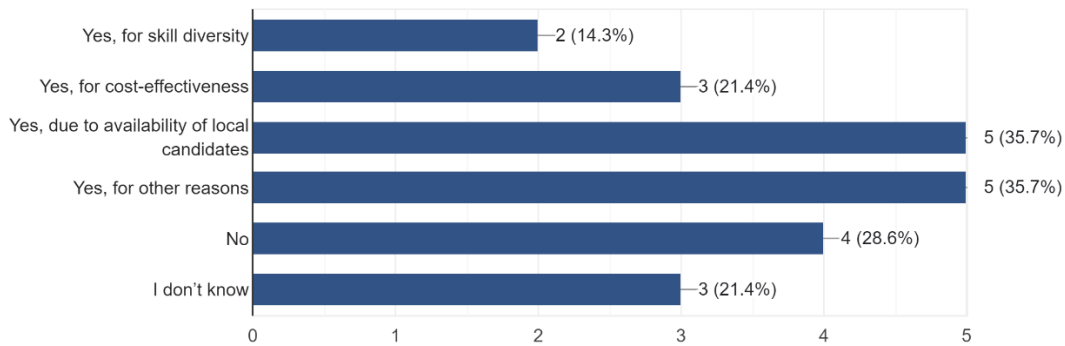
9. Does your organization approach DEI (diversity, equity and inclusion) when hiring candidates with technical degrees? (Select one)
15 responses

Pie chart:
- No
- Yes — 73.3%
- I don't know
- very important to us but lack of qualified applicants impacts our approach

13.3%
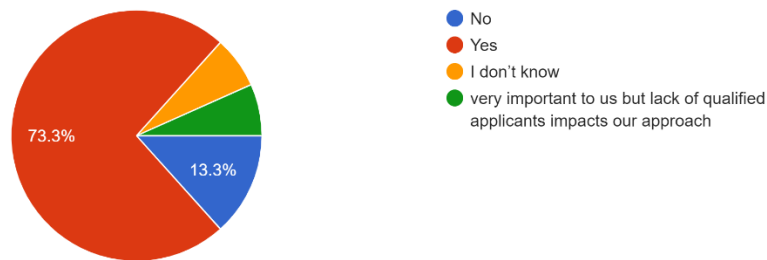
9a. What types of DEI programs or initiatives do you currently have in place? (Select all that apply)
11 responses

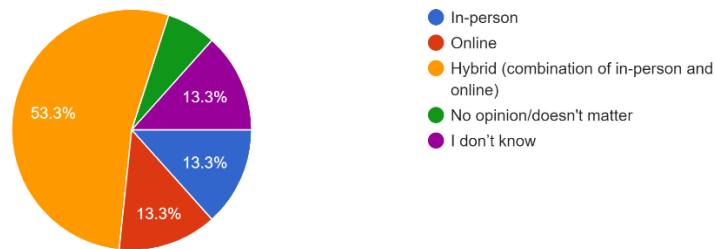| Category	Value
Diversity recruitment programs	7 (63.6%)
Employee resource groups (ER…	2 (18.2%)
Employee DEI trainings	8 (72.7%)
Mentorship or sponsorship pro…	4 (36.4%)
Regular DEI surveys	1 (9.1%)
DEI community engagement	4 (36.4%)
DEI internship programs	1 (9.1%)
I don't know	0 (0%)
Required	1 (9.1%)
Attending DEI related job fairs	1 (9.1%)
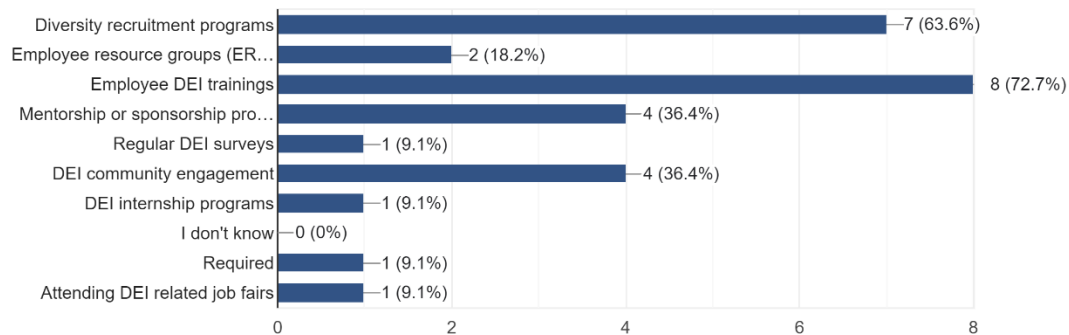
10. What emerging technology trends do you foresee shaping the skills and qualifications needed for candidates with technical degrees in the next 5-10 years? (Select all that apply)
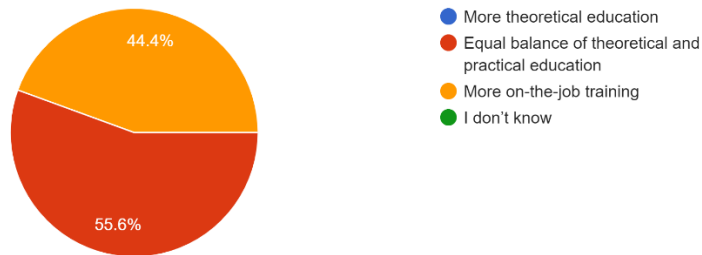
15 responses

Category	Value
Artificial Intelligence/Machine L…	12 (80%)
Blockchain applications	0 (0%)
Internet of Things (IoT)/Sensors	4 (26.7%)
Augmented/Virtual/Extended R…	4 (26.7%)
Cybersecurity	10 (66.7%)
Big Data and Analytics	9 (60%)
Robotics/Automation	6 (40%)
I don't know	1 (6.7%)
Medical/ HealthCare Informatic…	1 (6.7%)
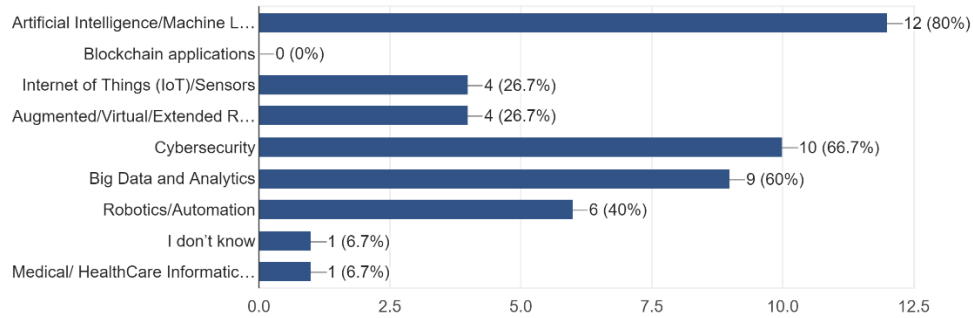
11. What course delivery types would best meet your company's operations and employees' learning needs? (Select one)

15 responses

- In-person — 13.3%
- Online — 13.3%
- Hybrid (combination of in-person and online) — 53.3%
- No opinion/doesn't matter
- I don't know — 13.3%

If "Hybrid," please answer the following: 11a. What is your ideal balance between theoretical education and on-the-job training for employees wit...l degrees entering your organization? (Select one)
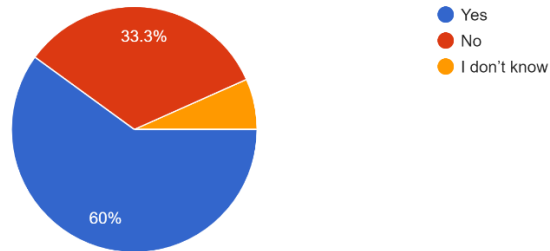
9 responses

- More theoretical education
- Equal balance of theoretical and practical education — 55.6%
- More on-the-job training — 44.4%
- I don't know

12. Does your organization offer any financial support or incentives to employees pursuing technical Bachelor's degrees while working for your organization?
15 responses

- Yes
- No
- I don't know

33.3%

60%

Financial Support follow-up questions

12a. What is the maximum financial support amount provided per employee pursuing a technical Bachelor's degree? (Please specify in dollars if known)

6 responses

90%
No specific number. We have a pool of funds for tuition reimbursement
Up to full program costs
unknown - while it is offered, no one has taken advantage of the program.
Depends on function/role
$3,000 reimbursement per year

12b. Are there any specific requirements for employees receiving financial support? (Select all that apply)
8 responses

| Requirement	Count
Minimum employment duration…	4 (50%)
Repayment agreements (e.g., r…	2 (25%)
Degree level (e.g., Associate or…	0 (0%)
Degree types (e.g., CS, IT, Net…	3 (37.5%)
Educational institutions (e.g., s…	0 (0%)
Alignment to job role (e.g., spe…	5 (62.5%)
I don't know	0 (0%)
Full time employment or at leas…	1 (12.5%)
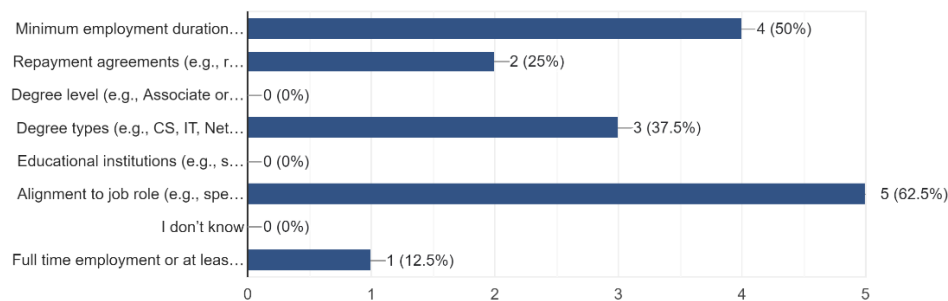
13. To what extent does practical experience, such as internships or co-op programs, factor into your hiring decisions for candidates with new technical degrees?
15 responses

- Not a factor
- Slight factor
- Moderate factor
- Significant factor
- Extremely significant factor
- I don't know

66.7%
26.7%
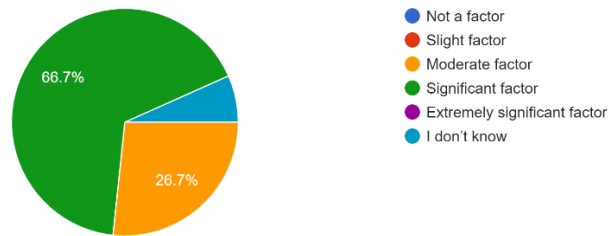
14. Does your organization have existing partnerships or collaborations with educational institutions that facilitate graduates' transition into your workforce?
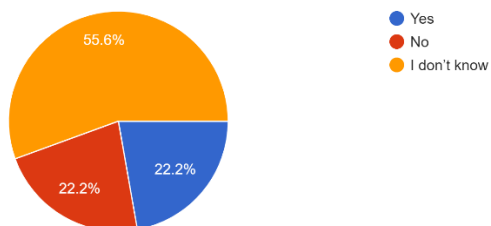15 responses

- Yes
- No
- I don't know

60%
13.3%
26.7%
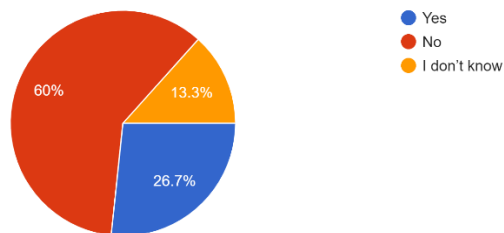
14a. Is your organization interested in collaborating with LCC to increase students' practical experience? (e.g., with internships or co-op programs)
4 responses

- Yes
- No
- I don't know

25%
75%
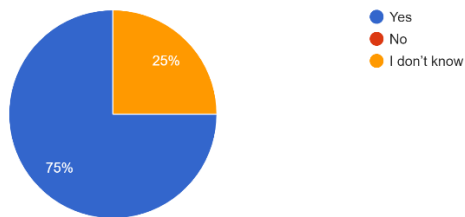
14b. Would your organization be able to host students for cooperative internships?
9 responses

- Yes
- No
- I don't know

55.6%
22.2%
22.2%

Appendix A
BSCS Employer Survey

Program Questions

15. Which of the below courses are most important according to industry standards and your organization's needs?

15 responses

> core courses

> English and a college/pro level, Computer and Network Security, Data Analysis and Visualization

> Programming Language, Operating Systems, Computer Networks

> Professional Conduct, all core courses, all elective courses

> machine learning, software engineering principles, robotics,

> Programming languages , Ethics in computer science, Programming with C++

> Ethics in Computer Science

> I am a big believer in actually shipping software to real users. Almost everything listed is important, but until the rubber meets the road and you're dealing with real users, it's theoretical. Thus, some sort of project that gets real users is going to be a forcing

16. Would your organization be interested in hiring LCC graduates with a Bachelor's degree in technical fields? (e.g., in IT or Computer Science). If... the 'other' option (e.g., types and nr of positions)

15 responses
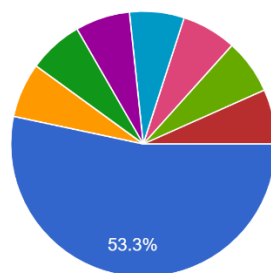
- Yes, please add more info in the other option below
- No, please add more info in the other…
- Not sure, please add more info in the…
- IT data governance, analysis, and pre…
- Yes, if they could also get a teaching c…
- The way that my company works is w…
- We would like to explore the potential…
- Not relative to our work, but would abs…
- Possibly but this is something our coll…

53.3%

17. What other recommendations do you have for LCC to better prepare Bachelor's degree graduates in technical fields for careers in your industry?

15 responses

skills (verbal and in writing), and strong relationship-building skills.

Continue meetings and communicating with surveys like this.

Offer some components of a Bachelors in Business curriculum (Courses like Intro to Communication, Business Communication, Intro to Public Speaking, Intro to Project Management, Time management). These types of courses are essential to soft skill development, which can be lacking in the tech world at times. Perhaps invite some local tech employees (or managers) to speak to students either virtually or in person about their day to day, types of tasks they perform in their roles, how to handle tough user situations, etc. It's great to hear straight from the source, when thinking about future career paths as a college student.

students need to be able to either(or all of) maintain, or design hardware and software

I am also interested in partnering with LCC in the employment of CS staff with the hope we could have a College in the High School CS class at a Longview High school

Have an ability for a student to earn credit from on the job experience.

18. Are you in support of the program direction, and are you willing to serve as an active member of the program advisory committee? Please add your e-...r' section if you are willing to become a member.
15 responses
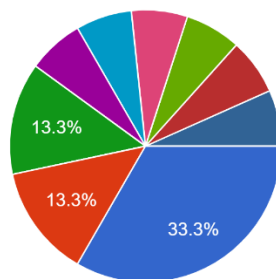
- Yes, I support the program direction a…
- Yes, I support the program direction b…
- No, I do not support the program direc…
- Not sure
- tkalimanis@cowlitzpud.org
- david.wallis@ci.longview.wa.us
- hello@jamon.dev
- kenneth.taylor@bluescope.us

1/2

19. In conclusion, do you have any additional insights, comments, or suggestions related to technical degree programs and industry needs that you'd like to share with us?

10 responses

Thank you for the invite. Great information was shared. As a '30 something' tech professional, it is nice to give back to the younger folks in this tech realm and perhaps help them develop as professionals or encourage them to join the field in the future. I am happy to help out LCC in the future in any way I can even if it's just talking to students about life in the tech space. (chrisareu@gmail.com)
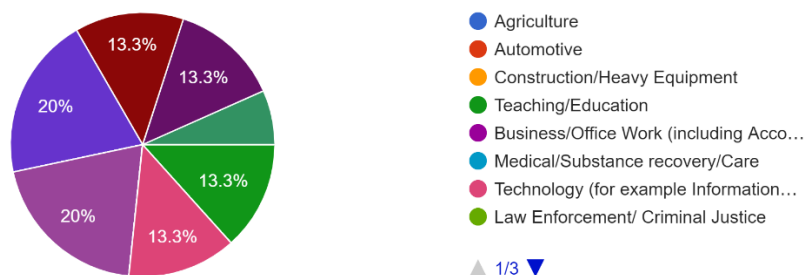
Let's make this happen.

I think it's wonderful that LCC is headed this direction. If it had been available in 2000 when I attended LCC I would have for sure done it. I still, to this day, do not have a CS degree.

Heavy industry is rapidly having to adopt technology solutions to stay competitive and to ensure worker safety. Process automation, robot integration, advanced data analytics, automated cranes and conveyance, predictive machine maintenance and health monitoring software, warehouse management technology; etc. Helpdesk workers and network administrators are available everywhere however technology professionals that can handle the bigger problems and complex solutions is valuable and desired. Providing education and training to individuals within this community in support of local industry and the local economy should be a desired outcome and

20. In which industry does your organization operate?
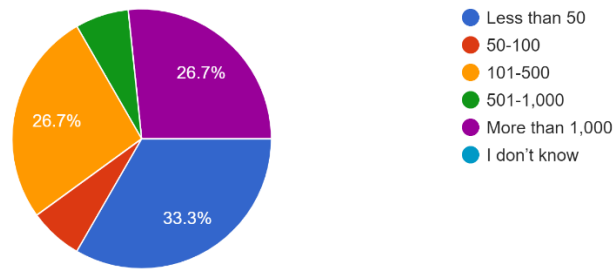
15 responses

- Agriculture
- Automotive
- Construction/Heavy Equipment
- Teaching/Education
- Business/Office Work (including Acco…
- Medical/Substance recovery/Care
- Technology (for example Information…
- Law Enforcement/ Criminal Justice

△ 1/3 ▽

21. How many employees does your organization currently have?
15 responses

Legend:
- Less than 50
- 50-100
- 101-500
- 501-1,000
- More than 1,000
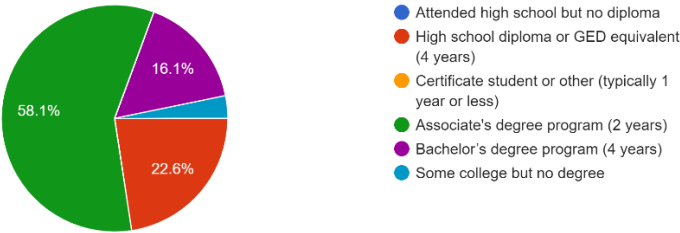- I don't know

(Pie chart values: 33.3%, 26.7%, 26.7%, 26.7%)

Appendix B
BSCS College Student Survey

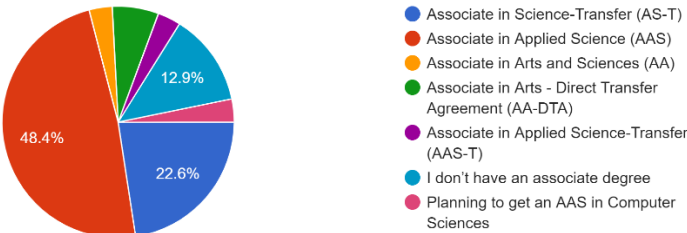1. What is your highest level of education completed or currently pursuing?
31 responses

- Attended high school but no diploma
- High school diploma or GED equivalent (4 years)
- Certificate student or other (typically 1 year or less)
- Associate's degree program (2 years)
- Bachelor's degree program (4 years)
- Some college but no degree

58.1%
22.6%
16.1%

2. Please indicate the colleges or universities you are currently attending or have previously attended.
31 responses

3 (9.7%) | 1 (3.2%) 1 (3.2%) 1 (3.2%) | 12 (38.7%) | 1 (3.2%) 1 (3.2%) 1 (3.2%) 1 (3.2%) 1 (3.2%) | 2 (6.5%) | 3 (9.7%) | 1 (3.2%) 1 (3.2%) 1 (3.2%)

LCC — Lcc — Lower Columbia College — Lower Columbia College, Mt… — Lower Columbia College, W… — Lower Columbia college — Previously Washington State… — Will a…
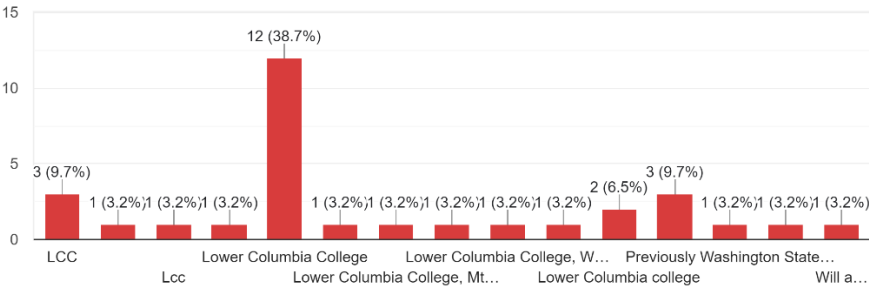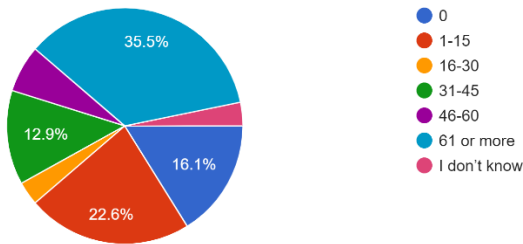
3. Which Associate's degrees have you previously earned, are earning, or plan to earn in the future?
31 responses

- Associate in Science-Transfer (AS-T)
- Associate in Applied Science (AAS)
- Associate in Arts and Sciences (AA)
- Associate in Arts - Direct Transfer Agreement (AA-DTA)
- Associate in Applied Science-Transfer (AAS-T)
- I don't have an associate degree
- Planning to get an AAS in Computer Sciences

48.4%
22.6%
12.9%

4. How many college credits have you earned?
31 responses

- 0
- 1-15
- 16-30
- 31-45
- 46-60
- 61 or more
- I don't know

35.5%
16.1%
22.6%
12.9%

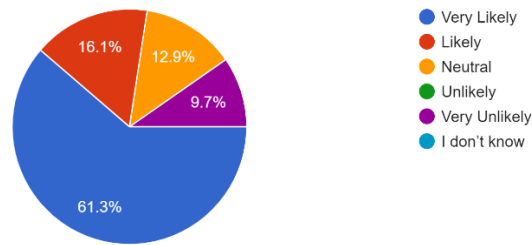# Appendix B
BSCS College Student Survey

5. How interested are you in pursuing a Bachelor's degree in the next 5 years?
31 responses

- ● Very Likely
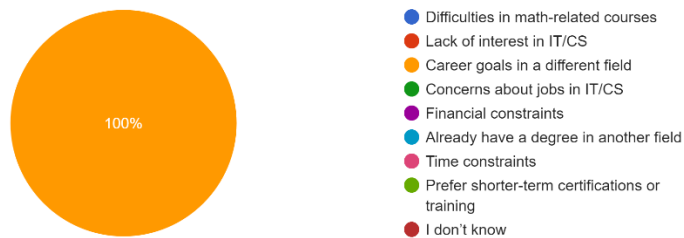- ● Likely
- ● Neutral
- ● Unlikely
- ● Very Unlikely
- ● I don't know

16.1% 12.9% 9.7% 61.3%

6. How interested are you in a Bachelor's degree in a tech-related field? (for example, IT or Computer Science)?
28 responses

- ● Very Likely
- ● Likely
- ● Neutral
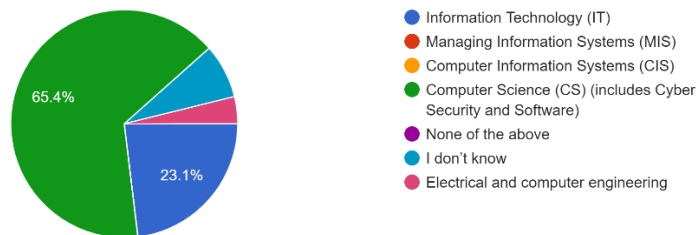- ● Unlikely
- ● Very Unlikely
- ● I don't know

17.9% 7.1% 67.9%
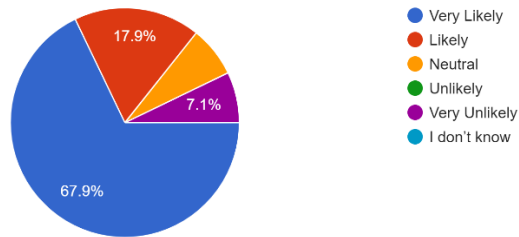
6a. You mentioned that you are not interested in a Bachelor's degree in a tech related field. What are your main reasons?
2 responses

- ● Difficulties in math-related courses
- ● Lack of interest in IT/CS
- ● Career goals in a different field
- ● Concerns about jobs in IT/CS
- ● Financial constraints
- ● Already have a degree in another field
- ● Time constraints
- ● Prefer shorter-term certifications or training
- ● I don't know

100%

7. Which of the following Bachelor's degrees in a tech related field would you be most likely to pursue?
26 responses

- ● Information Technology (IT)
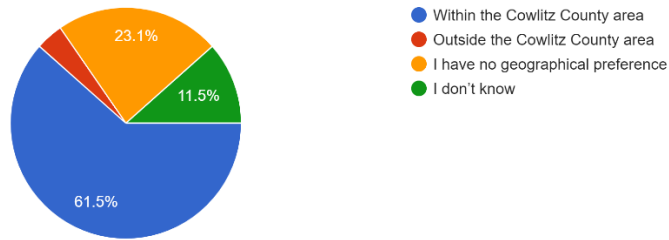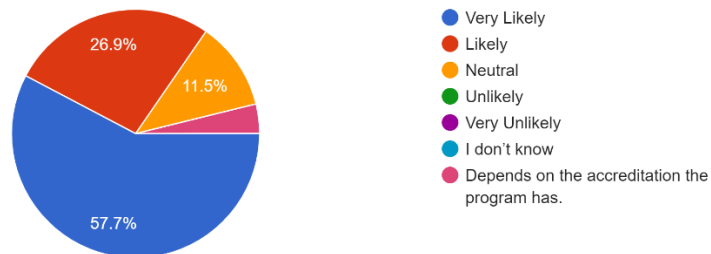- ● Managing Information Systems (MIS)
- ● Computer Information Systems (CIS)
- ● Computer Science (CS) (includes Cyber Security and Software)
- ● None of the above
- ● I don't know
- ● Electrical and computer engineering

65.4% 23.1%

8. Where would you like to get your Bachelor's degree?
26 responses

- ● Within the Cowlitz County area
- ● Outside the Cowlitz County area
- ● I have no geographical preference
- ● I don't know

23.1%
11.5%
61.5%

9. If Lower Columbia College offered a Bachelor's degree in Computer Science, would you be interested in applying?
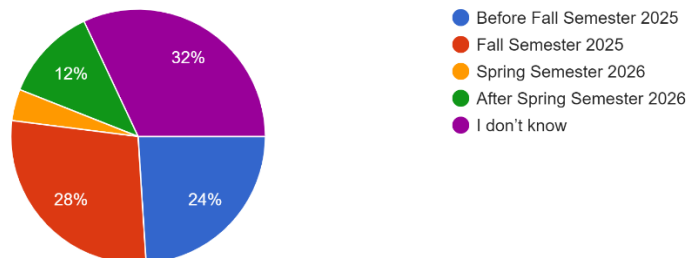26 responses

- ● Very Likely
- ● Likely
- ● Neutral
- ● Unlikely
- ● Very Unlikely
- ● I don't know
- ● Depends on the accreditation the program has.

26.9%
11.5%
57.7%

Interest in LCC follow-up questions

9a. You mentioned that you are not interested in a Bachelor's degree in Computer Science at Lower Columbia College. What are your <u>main reasons</u>?

1 response

I'm currently in the process of pursuing a degree in cybersecurity, and am looking for colleges that can meet the standards as listed here https://www.nsa.gov/Academics/Centers-of-Academic-Excellence/

10. When would you like to start a Bachelor's degree program?
25 responses

- ● Before Fall Semester 2025
- ● Fall Semester 2025
- ● Spring Semester 2026
- ● After Spring Semester 2026
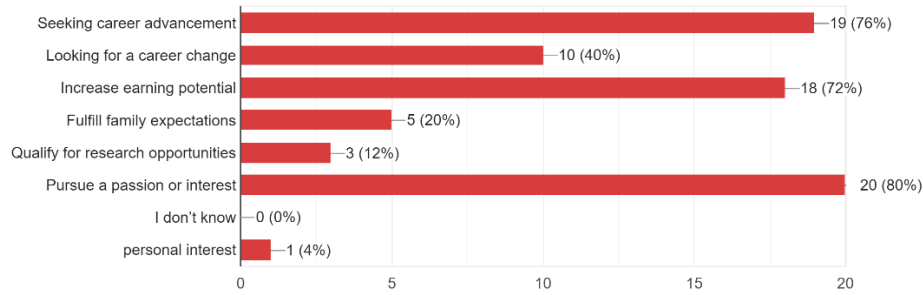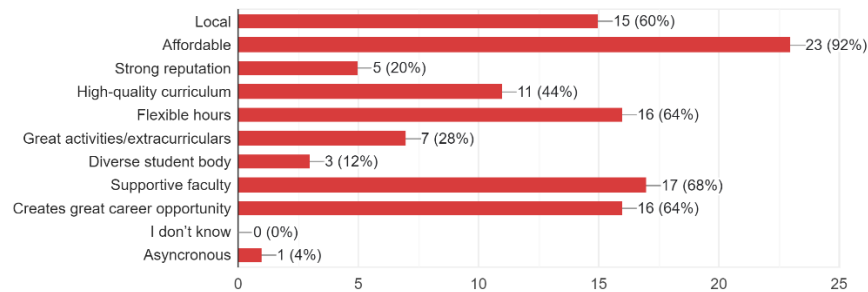- ● I don't know

12%
32%
28%
24%

Appendix B
BSCS College Student Survey

11. What are your top five reasons for considering a Bachelor's degree in a tech-related field?
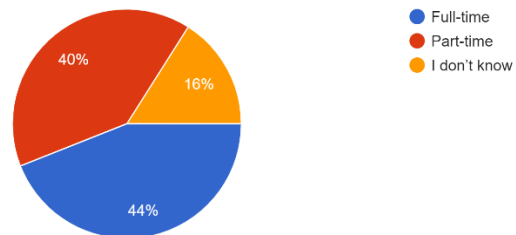25 responses

Reason	Value
Seeking career advancement	19 (76%)
Looking for a career change	10 (40%)
Increase earning potential	18 (72%)
Fulfill family expectations	5 (20%)
Qualify for research opportunities	3 (12%)
Pursue a passion or interest	20 (80%)
I don't know	0 (0%)
personal interest	1 (4%)

12. How would you describe your ideal Bachelor's program? Please choose up to five options.
25 responses

Option	Value
Local	15 (60%)
Affordable	23 (92%)
Strong reputation	5 (20%)
High-quality curriculum	11 (44%)
Flexible hours	16 (64%)
Great activities/extracurriculars	7 (28%)
Diverse student body	3 (12%)
Supportive faculty	17 (68%)
Creates great career opportunity	16 (64%)
I don't know	0 (0%)
Asyncronous	1 (4%)

13. Would you prefer to study full-time or part-time?
25 responses

- Full-time — 44%
- Part-time — 40%
- I don't know — 16%

14. How do you prefer to attend classes?
25 responses

- In person — 24%
- Online — 28%
- Hybrid (mix of in person and online) — 44%
- I don't know
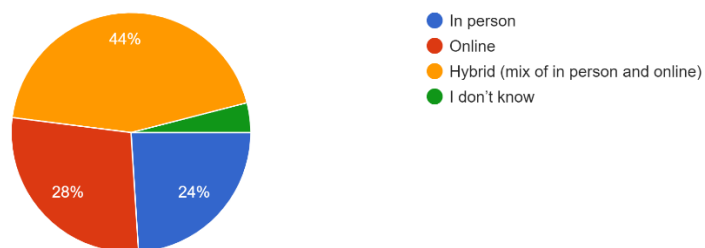
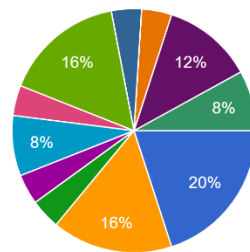15. What is your current work status?
25 responses
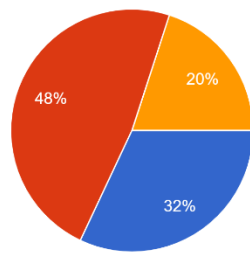
- I don't work
- Full-time employed
- Part-time employed

48%
20%
32%

16. What is the field of your current profession?
25 responses

- Student
- Agriculture
- Automotive
- Construction/ Heavy Equipment
- Teaching/Education
- Business/Office Work (including Acco…
- Medical/Nurse's Assistant
- Technology (for example Information…

16%
12%
8%
8%
20%
16%

◢ 1/3 ▼

17. What would be your primary career goals after completing a tech-related Bachelor's degree?
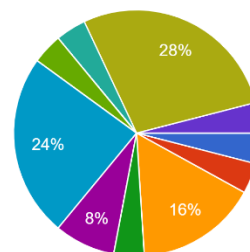25 responses
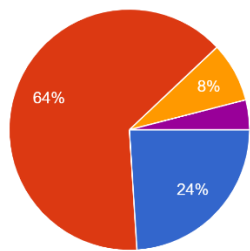
- Pursue further education (for example Master's or Ph.D)
- Secure a full-time job in my field of study
- Start my own tech-related business or venture
- Explore freelance or gig opportunities
- I don't know

64%
8%
24%

18. What is your desired job, role, or title in a tech-related field?
25 responses

- Systems Administrator
- Network Engineer/Architect
- Cybersecurity Analyst/Consultant
- IT Project Manager/ Consultant
- Database Administrator
- Software Developer/Engineer
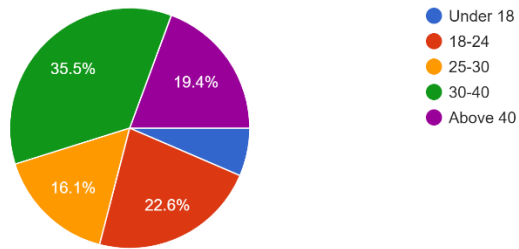- Web Developer/Designer and UX/UI…
- Machine Learning Engineer

28%
24%
8%
16%

◢ 1/2 ▼
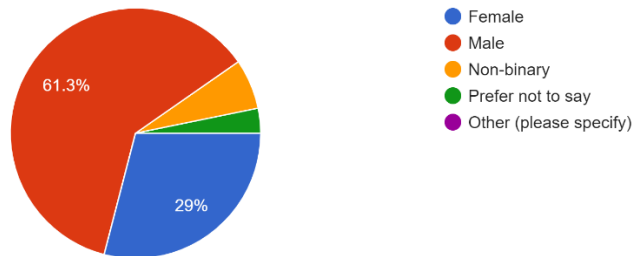
Appendix B
BSCS College Student Survey

How old are you?
31 responses

🔵	Under 18
🔴	18-24
🟠	25-30
🟢	30-40
🟣	Above 40

35.5%
19.4%
16.1%
22.6%

What is your gender?
31 responses

🔵	Female
🔴	Male
🟠	Non-binary
🟢	Prefer not to say
🟣	Other (please specify)

61.3%
29%

What is your race/ethnicity?
31 responses

🔵	White/Caucasian
🔴	Black/African American
🟠	Hispanic/Latino
🟢	Asian/Pacific Islander
🟣	Native American/Alaska Native
🔵	Multicultural
🔴	Other (please specify)
🟢	Prefer not to say

83.9%
9.7%
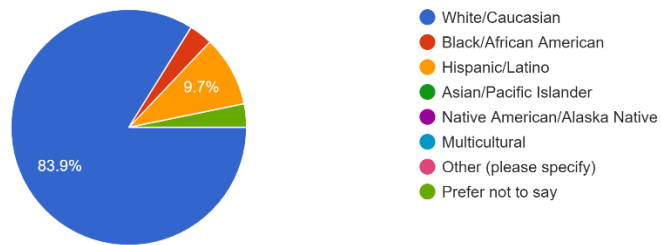
What is your current family situation?
30 responses

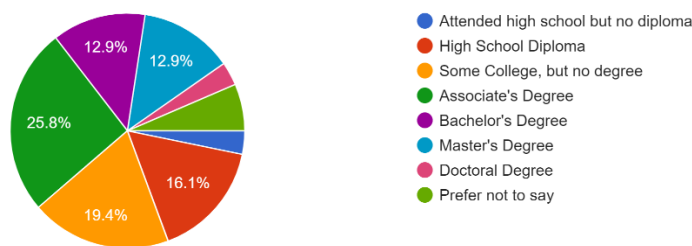|	
🔵	Single
🔴	Single with kids
🟠	In a relationship without kids
🟢	In a relationship with kids
🟣	Prefer not to say

36.7%
23.3%
10%
26.7%
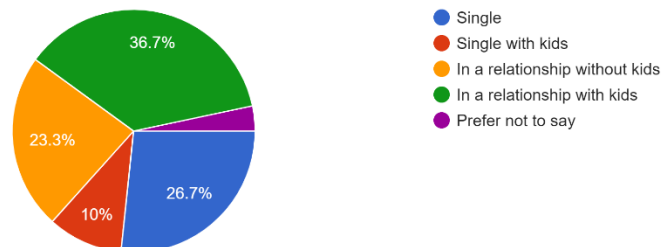
Appendix B
BSCS College Student Survey

What is the highest degree level attained by any member of your household?

31 responses

- Attended high school but no diploma
- High School Diploma
- Some College, but no degree
- Associate's Degree
- Bachelor's Degree
- Master's Degree
- Doctoral Degree
- Prefer not to say

12.9% 12.9% 25.8% 16.1% 19.4%

Appendix C
Supply/Demand Gap Rubric

Applied Baccalaureate Degree Supply/Demand Gap Rubric for Colleges

College Name: Lower Columbia College	
Program Name: Bachelor of Science Computer Science	
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)	The BSCS will prepare students for careers in the job areas of Computer Science (CIP Code 11.0701), Computer Programming (CIP Code 11.0201), and Computer Systems Analysis (CIP 11.0501). The region selected is based on a 60-mile radius from Lower Columbia College. In 2021, there were a total of 17,136 jobs with a projected 2021-2031 growth of 3.30%. The forecasted number of annual job openings in Southwest Washington is 1,316.
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).	Washington State University-Vancouver campus is the only institution in LCC's service area with a Bachelor of Science in Computer Science and graduated 53 in 2021.

EDUCATIONAL SERVICE DISTRICT 112

January 29, 2024

State Board of Community and Technical Colleges
Re: Lower Columbia College BSCS degree

Dear Board Members,

I am writing in support of Lower Columbia Colleges' proposed new Bachelor of Science degree in Computer Science. As critical members of the Career Connect SW STEM Network, LCC has proven to be a leader in responding to the needs of our community, students, and employers. The proposal for this new degree pathway has been data-driven and community informed and will fill a critical gap in the postsecondary readiness of our local youth to prepare them for careers in Information Technology, Software development, cybersecurity along with many other in-demand occupations.

Prospective students in Wahkiakum and Cowlitz counties face very limited training opportunities within a reasonable distance and at an affordable cost. In addition, the need for talent in our rural communities is increasing as employers realize the demand for more well-trained computer science professionals, and others are seeking to move away from strictly remote personnel to a more local talent base. These are concerns that I have heard in participating in the advisory for the development of this new degree, and I have seen LCC's responsiveness to this need.

In addition, the school districts in Wahkiakum and Cowlitz counties offer very little in the K12 computer science preparatory pathways. The strength of our existing partnerships through K12 and LCC, including dozens of employer's partners will help our region to shift to a more informed and rigorous career exploration and preparation pathway that will align with LCC's new BSCS program.

In summary, I wholeheartedly endorse Lower Columbia College's proposal for a new BSCS degree program. It will provide critical supports to our local employers, students and families and as well as provide an endpoint for the alignment of K12 experiences. These programs are the core of our local Network, providing well-lit pathways that allow our communities to thrive and keep our students close to their families with a bright and economically mobile future.

Please do reach out should you have any additional questions.

Sincerely,

Vickei Hrdina

Vickei Hrdina
Executive Director, Career Connect SW STEM Network