

CYBERSECURITY TECHNICIAN CAREER LAUNCH PROGRAM PROPOSAL

Clark College & PeaceHealth Collaboration

Collaborators

Clark College PeaceHealth PROPOSED PROGRAM

CYBERSECURITY TECHNICIANCAREER LAUNCH PROGRAM

PROGRAM CIP 11.1003

PROGRAM EPC (Legacy)

PLAN CODE CISCYBAS

NAICS Code 541519

Please note: Registered Apprenticeship programs become automatically endorsed for Career Launch. You need not submit an application.

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Genei	rieve Howard		4/23/2021
Chief Academic Officer			Date

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Associate Director, College Relations and Policy Guidance

Education Division

Washington State Board for Community and Technical Colleges

Office: 360-704-4397 Cell: 360-791-6026

Applications reviewed monthly and are due the first business day of the month.

Electronic submissions only to scopeland@sbctc.edu

Program Checklist

P1. Program description including length of program in years and total hours (including split between classroom and worksite).

<u>Program Description</u>: The Cybersecurity Bachelor of Applied Science (C-BAS) prepares graduates for a high-demand field using the latest technology and hands-on learning. During the program, students learn how to secure network infrastructure, acquire skills needed to earn industry certifications, training you can adept to emerging industries (e.g., artificial intelligence, programmable sensors, big data analytics), and critical thinking and effective workplace communication. The program curriculum meets guidelines of National Initiative for Cybersecurity Education.

The C-BAS has two tracks:

- 1) Full-time option, in which students take an average of 15 credits each term for six terms. Students attend classes at Clark just two evenings a week in evening hybrid classes, and a third course that is fully online aimed to provide educational upskill/reskill opportunities for students who are employed and/or have additional non-academic responsibilities.
- 2) Part-time option, in which students take an average of 10 credits each term. This nine quarter sequence allows students to balance non-academic responsibilities (e.g., work, family) while upskill or reskilling for this high-demand field.

Length of Program: 6 quarters, 18 months.

Total Hours: 1080 hours.

P2. Estimated number of hours per week at worksite and in classroom (this approach may shift throughout the program).

Hours per week at worksite: 30 hours.

Hours per week in classroom: 13.5 hours in classroom; 4.5 hours in structured lab environment.

P3. Demonstration of labor market demand for specified skills/career in local region

The Cybersecurity Technician Career Launch Program addresses the occupations within Computer and Information Analysts (15-121X).

Clark College's service district includes Clark, Skamania, and Klickitat counties. Within the service district, there were 822 jobs in 2020. There are 58 annual openings, with only 44 annual completions in this region; this creates an annual workforce shortage of 14. From January 2020 to Mar 2021, there were 926 unique job postings – from 248 employers. This represented 162 jobs posted per month, which resulted in 24 monthly hires, indicating increased demand to address workforce needs. Additionally, there is an expected 18.6% growth in the next 10 years for this occupation, resulting in an additional 153 jobs for the region.

Clark College is located within the Portland-Hillsboro-Vancouver metropolitan area, which means that the economic region includes a broader six county region (Clark, Skamania, Klickitat, Multnomah, Washington and Clackamas). From January 2020 to Mar 2021, there were 7,728 unique job postings – from 1,152 employers. This represented 1,387 jobs posted per month, which resulted in 185 monthly hires, indicating increased demand to address workforce needs. Additionally, there is an expected 12.8% growth in the next 10 years for this occupation, resulting in an additional 837 jobs for the region. Therefore, the Cybersecurity Technician Career Launch Program creates intentional career pathways for new and incumbent workers to address this workforce shortage.

P4. Projected count of student enrollment, student completion, and anticipated employer participation for 5 years, post-pilot.

	Year 0 (2020-21)	Year 1 (2021-22)	Year 2 (2022-23)	Year 3 (2023-24)	Year 4 (2024-25)	Year 5 (2024-25)
Student Headcount	48	60	88	88	88	88
Full-Time Equivalent Student (FTES)	60	75	110	110	110	110
Completion	36	45	66	66	66	66
Employer Participation	1	1	2	3	3	4

The Cybersecurity BAS Program is starting Fall 2020, with an intentional alignment with industry-based internship opportunities to support work-based learning. Fall 2020 started two full cohorts of students (24 students in each cohort, for a total of 48 students), based on a completely full waitlist for the first cohort. Moving forward, there will be 2 cohorts conducted per year (Fall start and Spring start), based on emerging student and employer demand.

The initial Career Launch Endorsement is sought with PeaceHealth, as they are committed to providing 2 student internships at a time, with up to 4 total per year depending on length of internship (6-12 months). Additional employers are being established to provide students with multiple workbased learning opportunities.

P5. Concise description of development process to create the Career Launch program (e.g., who was involved, when, how was the program piloted, etc.)

The Clark College Cybersecurity BAS (C-BAS) was envisioned initially as a response to a national call to action for a cybersecurity workforce and guidelines form NIST (National Institute of Technology) around the skills and abilities needed. These needs aligned with the existing strengths Clark College had in delivering a well-known long running Associate level Network Technology program. This was affirmed by the college SWOT (Strengths, Weaknesses, Opportunities, and Threats) report, and also based on emerging employer demand in the region. Increased demand for cybersecurity technician/analyst knowledge, skills, and abilities across all industry sectors.

Professor Hughes has prior business relationships with and industry connections with employers and employees in high tech throughout the region. He has been engaged with PeaceHealth and other area employers for several years as he was responsible for the Cybersecurity program development and launch. Early on they had expressed an interest in supporting the program, that they found it to be a valuable program for the community and for their business in particular and committed to working with professor Hughes to partner with the college to support the success of the students through job shadow experiences, paid internships, and providing guest speakers.

P6. Signed letter of endorsement from all relevant partners, stakeholders and regional networks (including employers, labor organizations, academic institutions, community-based organizations, individuals, and other relevant stakeholders in support of the proposed Career Launch program). Regional network endorsement preferred.

Letters enclosed on subsequent pages are from the following partners:

- Clark College
- Educational Service District 112 (Regional Network)
- Career Connect Southwest

PeaceHealth endorsement of the Career Launch Program are included in Employer Commitment Letters for I-R9 on Page 13.



April 26, 2021

To the Career Launch Endorsement Review Team:

I write this letter to affirm Clark College's institutional commitment to the Cybersecurity Technician Career Launch Program, with the initial collaboration with PeaceHealth. This program provides students with industry-defined curriculum and meaningful, high-quality on-the-job experience during their educational experience.

I am proud to say that this program also supports Clark College's strategic plan in the core themes of academic excellence, social equity and economic vitality as well as the values of social justice, partnerships, and innovation. The Cybersecurity Technician Career Launch Program exemplifies this commitment through implementation of this creative and agile strategy to enhance student learning, and alignment of the Cybersecurity Program to meet regional workforce needs.

The Cybersecurity Technician Career Launch Program is applying for endorsement between Clark College and PeaceHealth. Students concurrently enroll in the Clark College Cybersecurity Program and work at PeaceHealth. To ensure that all students have the resources to address academic and non-academic issues, Clark College provides dedicated wrap-around student support to meet their individualized needs. This comprehensive program, with intentional integration of course curriculum and work-based learning opportunities to successfully enter the workforce with the knowledge, skills and abilities to be successful as a cybersecurity technician.

Building on the intensive industry collaboration with PeaceHealth, the collaboration between Clark College and PeaceHealth will provide additional career pathways for students to support local industry. Upon endorsement, all levels of leadership here at Clark College are confident that the implementation will continue to support the region's need for cybersecurity technicians well into the future.

Sincerely,

Dr. Karin Edwards

President

Clark College



COUNTIES

CLARK COWLITZ KLICKITAT PACIFIC SKAMANIA WAHKIAKUM

To the Career Launch Endorsement Review Team:

LEANNE BREMER
ANN CAMPBELL
RICHARD GRAHAM
MARK HOTTOWE
MARILYN KOENNINGER
DARLENE STICKEL
STEVE WRIGHTSON

BOARD OF DIRECTORS

ESD 112 is excited to support the Cybersecurity Technician Career Launch Project, with collaboration between Clark College and PeaceHealth.

SUPERINTENDENT

TIM MERLINO

At ESD 112, we recognize the need for

April 29, 2021

- Private/public partnerships that provide students with a career pathways that also provide competitive candidates to meet our business needs
- Meaningful, high-quality on-the-job experience, with defined competencies and skills gained through experience.
- Curriculum developed in partnership with employers and industry, to ensure state-of-theart curriculum is aligned with occupations in-demand.
- Dedicated wrap-around student support to ensure students have the resources to be successful in academic and non-academic issues.
- Alignment of pathways from K-12 through postsecondary education and career trajectory.
- Career pathways for incumbent workers to upskill for career trajectory.

The Cybersecurity Technician Career Launch Project is an exemplary program, providing students with meaningful, high-quality on-the-job experience that is concurrent with aligned academic curriculum.

On behalf of ESD 112, we commit to working with the Cybersecurity Technician Career Launch Project to make this program successful in the following specific ways:

- Convene and support Career Connect Intermediaries and other local partners in the region
- Help them achieve their outcomes related to Career Launch endorsement and participation of young people in Career Launch activities
- Ensure equitable inclusion of youth of color, low income youth, youth from rural communities and youth with disabilities.

The impact of this program is vital to meeting our regional workforce needs and we support endorsement of this exemplary program.

Sincerely,

Tim Merlino Superintendent



To the Career Launch Endorsement Review Team:

The Career Connect Southwest Network is excited to support the Cybersecurity Technician Career Launch Project, with collaboration between Clark College and PeaceHealth.

At Career Connect SW, we recognize the need for:

- Private/public partnerships that provide students with a career pathways that also provide competitive candidates to meet our business needs
- Meaningful, high-quality on-the-job experience, with defined competencies and skills gained through experience.
- Curriculum developed in partnership with employers and industry, to ensure state-ofthe-art curriculum is aligned with occupations in-demand.
- Dedicated wrap-around student support to ensure students have the resources to be successful in academic and non-academic issues.
- Alignment of pathways from K-12 through postsecondary education and career trajectory.
- Career pathways for incumbent workers to upskill for career trajectory.

The Cybersecurity Technician Career Launch Project is an exemplary program, providing students with meaningful, high-quality on-the-job experience that is concurrent with aligned academic curriculum.

On behalf of Career Connect SW, we commit to working with the Cybersecurity Technician Career Launch Project to make this program successful in the following specific ways:

- Support to analyze labor market
- Develop K-16 guided pathway aligned to jobs
- Recruiting and engaging private and public sector organizations
- Raise students' awareness of different career options
- Ensure equitable inclusion of youth of color, low income youth, youth from rural communities and youth with disabilities.

The impact of this program is vital to meeting our regional workforce needs and we support endorsement of this exemplary program.

Vickei Hrdina

Vicksi Hrdina

Director of Career Readiness & STEM Initiatives Teaching and Learning

P7. Description of resources, supports, or other processes to recruit and support students from underserved backgrounds; or create an implementation plan to do so.

Once students enroll in the program, Clark College offers a variety of supports to assist students from marginalized populations in achieving their educational and professional goals – including the following:

- Appreciative Advising Model that supports students in a holistic manner. All new students are assigned an Academic Advisor who assists with academic and non-academic supports throughout their journey at Clark College.
- Workforce Education Services provides a variety of supports to assist low-income students to include, alternative financial aid, access to subsidized childcare, maintenance of public benefits while in school, emergency grants, and assistance in preventing homelessness. Students receive assistance in barrier removal and connections to internal and external resources.
- Disability Support Services (DSS) office assist students with disabilities in pursuing their educational goals. Clark College is committed to assuring that its services, programs, and activities are accessible to individuals with disabilities.
- The Office of Diversity and Equity is committed to serving marginalized populations. The Diversity Center, is a safe space for students to study, meet new people and experience a sense of belonging.
- The Penguin Pantry supports a healthy college community by reducing hunger on campus and connecting students to essential resources.
- Career Services provides a wide array of resources that can assist students with job search skills and securing full-time employment and internships. There are a variety of Student Success Workshops that are offered throughout the academic year to assist students with their professional development, academic success and personal development.

Industry-Related Checklist

I-R1. Address of worksite(s) where Career Launch students will complete supervised training.

PeaceHealth System Services 1115 SE 164th Avenue Vancouver, WA 98683

I-R2. Hourly wage for Career Launch participants.

Participants start at minimum wage, and can include increases pay rates as skills advance.

I-R3. List of entry-level positions and associated job descriptions for which a Career Launch student would be eligible for upon completion.

INFORMATION SECURITY ASSOCIATE

SUMMARY: Participates in the evaluation and implementation of information security-related policies, procedures, standards, controls and technologies across PeaceHealth.

Collaborates with team members and caregivers from adjacent departments, such as Information Technology (IT), Compliance, Legal, Privacy, Communications and Operations. Contributes to the successful delivery of project outcomes and administration of information security-related technology systems as directed by others. Collects and organizes detailed information to support reporting and presentation requirements.

KNOWLEDGE, SKILLS, ABILITIES:

KNOWLEDGE, SKILLS, ADILITIES:			
QUALIFICATIONS			
EDUCATION:	 Associate's degree in Computer Science, Healthcare Information Technology, or relevant field preferred. Equivalent knowledge, training, education, and/or experience may substitute for degree. 		
EXPERIENCE / TRAINING:	 Minimum of two (2) years of experience in information security, IT, compliance, or a related field required. 		
KNOWLEDGE / SKILLS / ABILITIES:	 Ability to work independently and manage day-to-day assignments with routine supervision and guidance. Good written and oral communications skills. Ability to understand information in various forms such as textual, graphical and statistical. Ability to collect and analyze data to guide decision making while under potentially intense pressure to address security incidents. Ability to work collaboratively with team members. a broad range of constituencies and respond to their needs and collaborate effectively towards solutions. Ability to work on matters of high sensitivity and confidentiality with both professionalism and discretion. Awareness of common information security tools, methodologies, frameworks, and regulations. 		

I-R4. List of specific skills and competencies required for completion of Career Launch program, with demonstrated alignment to entry-level positions, job descriptions, and average local salary ranges.

Specific skills and competencies for the Career Launch program are aligned with industry-recognized credentials from CompTIA, Cisco and Python Institute.

Course	Description	Professional Standards/Industry Certification
NTEC 321 Enterprise Networking Foundation	This course provides a wide overview of computer networking concepts. Students learn to configure, manage, and maintain essential network devices. Implement network security, standards, and protocols. Troubleshoot network problems and create virtualized networks.	CompTIA Network+.
NTEC 361 Cybersecurity Programming Foundation	Students learn to use the Python programming language to accomplish coding tasks related to the basics of programming and the fundamental notions and techniques used in object-oriented programming.	PCAP (Certified Associate in Python Programming) from the Python Institute
NTEC 364 IoT Foundation: Connecting Things	The course explores how nearly every object can be connected to the Internet. From washing machines to an airplane's jet engine, even organic items like crops and cows. Students learn the basis of this exciting and emerging field using hands-on activities to model securely connecting sensors to cloud services over IP networks and collecting data in an end-to-end IoT (Internet of Things) system.	
NTEC 365 Big Data & Analytics Foundation	The course explores modern, real-time applications, IoT (Internet of Things) systems and the data they collect. Students learn how to collect, store, and visualize data obtained from IoT sensors and to use data analytics to gain insights from the intelligence produced.	
NTEC 371 Cybersecurity Foundation	This course provides a wide overview of cybersecurity concepts and places an emphasis on mitigating specific security issues. Students apply what they learn through extensive hands-on lab activities.	CompTIA Security+
NTEC 472 Cybersecurity Penetration Testing	This course covers the penetration testing and vulnerability assessment and management. Students learn skills necessary to determine the resiliency of a network against attacks. How to customize assessment frameworks to effectively collaborate on and report findings. And best practices to communicate recommended strategies to improve the overall state of IT security.	CompTIA PenTest+.
NTEC 473 Cybersecurity Analyst	The course covers the behavioral analytics skills to identify and combat malware, and advanced persistent threats. Students learn to perform data analysis and interpret the results to identify vulnerabilities, threats and risks to an organization. Configure and use threat-detection tools. And to secure and protect applications and systems within an organization.	CompTIA CySA+

Course	Description	Professional Standards/Industry Certification
NTEC 475 Cybersecurity Operations	The course focuses on how to monitor, detect and respond to cybersecurity threats. Students learn cryptography, host-based security analysis, security monitoring, computer forensics, attack methods and incident reporting and handling.	Cisco CyberOps Associate
NTEC 499 Capstone Project	The capstone project integrates and synthesizes competencies from across the degree program. Each project consists of a technical work proposal, the proposal's implementation, and a post-implementation report that describes the student's experience in developing and implementing the capstone project.	

For the aligned positions, the entry-level hourly wage is at or higher than \$28 (10th percentile of wage earners).

I-R5. Employer attests that Career Launch program is in compliance with required federal, state, and local regulations.

Attestation is included in PeaceHealth Employer Letter (See I-R9, page 13).

I-R6. Employers will outline a student supervision and mentorship model.

Employer agrees to provide exemplary supervision of participating student employees:

- 1. Provide job orientation concerning cybersecurity department procedures during scheduled work hours.
- 2. Provide training, guidance and supervision of the intern/extern.
- 3. Assign sufficient quality work (based on technical evaluation areas) to occupy the intern during scheduled hours.
- 4. Accurately complete time sheets and list accomplishments of the intern/extern on a regular basis.
- 5. Adhere to all health and safety codes.
- 6. Evaluate the intern's/extern's progress at appropriate points during his or her work-based learning/externship.

I-R7. Description of common career pathway(s) beginning with entry-level position specified with demonstration of likely salary growth over specified time period.

TECHNICIAN INTERNSHIPS

- -HS Diploma or GED
- -Minimum wage, with option to increase with increased knowledge and skills.

ENTRY-LEVEL CYBERSECURITY TECHNICIAN

-Employers meet/exceed PDX/VAN median rate of \$25/hr.

EXPERIENCED CYBERSECURITY TECHNICIAN

-Employers meet/exceed PDX/VAN median rate of \$40/hr.

I-R8. Demonstrated competency alignment with relevant professional standards for specified entry-level positions when applicable.

Professional standards for Cybersecurity Technicians are articulated with industry-recognized credentials from CompTIA, Cisco and Python Institute. Upon completion of the program, students are prepared to complete each of the following industry certifications:

- CompTIA Network+
- PCAP (Certified Associate in Python Programming) from the Python Institute
- CompTIA Security+
- CompTIA PenTest+
- CompTIA CySA+
- Cisco CCNA CyberOps

Alignment of specific courses with industry-recognized credentials is outlined in IR-4.

I-R9. Signed letter from employer partner.

Displayed on Page 13.



To the Career Launch Endorsement Review Team:

PeaceHealth is pleased to collaborate with Clark College and its Cybersecurity program for endorsement of the Cybersecurity Technician Career Launch Program. This collaboration between Clark College and PeaceHealth provides students with meaningful, high-quality on-the-job experience that is concurrent with aligned academic curriculum.

At PeaceHealth, we promote personal and community health, relieve pain and suffering, and treat each person in a loving and caring way. Based in Vancouver, Washington, we are a not-for-profit Catholic health system offering care to communities in Washington, Oregon and Alaska. With approximately 16,000 caregivers, we are a medical group practice with more than 1,100 providers and 10 medical centers serving both urban and rural communities throughout the Northwest.

Like other companies in the region, we find it challenging to find employees with the cybersecurity education, skills, and abilities needed to securely maintain and grow our company. We believe that this Cybersecurity Technician Career Launch program has and will continue to produce an additional workforce with needed cybersecurity skills and hands-on experiences.

Within an endorsed program, PeaceHealth commits to endeavoring to make the Cybersecurity Technician Career Launch Program successful in the following specific ways. PeaceHealth will:

- Comply with required federal, state, and local regulations for the Cybersecurity Technician Career Launch Program;
- Recruit students into the program through community partnerships with K-12, Clark College, and community-based organizations;
- Provide exemplary student supervision and mentorship that allows program participants to gain confidence and skills needed to successfully transition into the workforce;
- Consider using the program as an option to skill up PeaceHealth's own employees; and
- Provide program participants and graduates with career advancement opportunities, as applicable.

Regional industry needs employees with fundamental cybersecurity competencies. We strive with Clark College to build the best Cybersecurity Technician Career Launch Program that will fully support industry and future workforce needs. This program clearly supports our mission, too. By helping to provide students with the knowledge and exposure to industry needs, support of this Career Launch program offers PeaceHealth an opportunity to identify high-quality potential graduates with work-ready cybersecurity skills.

We look forward to continuing this effort with Clark College through the endorsement of the Cybersecurity Technician Career Launch Program.

Sincerely,

Executive Vice President & General Counsel

Academic-Related Checklist

A-R1. List of academic institution(s) providing career-aligned instruction for Career Launch program.

Clark College

A-R2. Curriculum scope and sequence aligned to skills and competencies provided in employment checklist.

Program outcomes are overarching skills that are emphasized and reinforced throughout several courses in a specific program; they are measurable statements that define what students should know or be able to do by the end of a certificate or degree at Clark College. After successful completion of this program, students will be able to:

- Plan, implement, administer, and support enterprise information technologies and systems.
- Analyze the security vulnerabilities of an organization's information technology resources.
- Plan and implement security measures and practices for an organization's information technology resources.
- Evaluate organization needs, and use those to plan the implementation of information technology systems.

Cybersecurity does not have a course associated with the cybersecurity cooperative work experience. This partnership is modeled after the Mechatronics / SEH America program, in which students are hired as employees with the industry partner — and continue with the integrated employment throughout their education pathway. Therefore, connection and coordination between employer and program faculty are conducted outside the formal course-based approach.

Cybersecurity Course Sequence, Endorsed by Advisory Committee

General Education Requirements	(45 credits required)	
Communication Skills	,	
ENGL& 235	Technical Writing	5
CMST 310	Organizational Communication	5 5
Quantitative/Symbolic Reasoning		
PHIL& 120	Symbolic Logic	5
Humanities		
CMST& 230	Small Group Communication	5
PHIL 420	Ethics In Management	5
Social Science		
ECON 110	Introduction To The Global Economy	5 5
SOC 315	Organizational Behavior	5
SOC 800	SOC Electives	1-99
SOC 900	SOC Electives	1-99
SOC 290	Special Projects	1-5
Natural Science		
ENVS 109	Integrated Environmental Science	5
ENVS 430	Sustainability & Environmental Practices	5
Qualifying AA/AAT/AAS General	Education Requirements	
Communication Skills		
ENGL& 101	English Composition I	5
Computational Skills		
Any generally transferable compu	itational course with Intermediate Algebra as a	
prerequisite		
Human Relations		
Course Options		
Major Area Requirements		
NTEC 321	Enterprise Networking Foundation	5
NTEC 361	Cybersecurity Programming & Scripting	5
	Foundation	
NTEC 364	lot Foundation: Connecting Things	5
NTEC 365	Big Data & Analytics Foundation	5
NTEC 371	Cybersecurity Foundation	5
NTEC 472	Cybersecurity Penetration Testing	5
NTEC 473	Cybersecurity Analyst	5
NTEC 475	Cybersecurity Operations	5 5 5
NTEC 499	Capstone Project	
Qualifying AA/AAT/AAS degree		75
Total Credits Required		180

A-R3. Demonstration of student supports (e.g. mentoring, advising, financial aid, tutoring) available for Career Launch students enrolled in the course.

There are a number of supports available to Career Launch students to assist them in achieving academic success at Clark College:

- Clark College has implemented the Appreciative Advising Model that supports students in a holistic manner. This is an intentional collaborative practice of asking positive, open-ended questions that help students optimize their education experiences and achieve their dreams, goals, and potentials. All new students are assigned an Academic Advisor who assists with academic and non-academic supports throughout their journey at Clark College.
- Peer Mentors Clark College Peer Mentor Programs provide an opportunity for students to help others connect to Clark and community resources, navigate the college, and work toward academic goals.
- Student Success Programs offers a variety of supports to students to include: strategies for balancing classes, work and personal responsibilities, access to college and community resources, assistance with developing and achieving academic goals, and one-on-one support from the Clark College Student Success Coach.
- Tutoring Services is designed to provide individualized attention that facilitates student learning and academic success. Tutors will help students develop skills and confidence to become a stronger, more independent learner. Students who come in for tutoring may also access computers, software, handouts, reference materials, and other resources.
- Financial Aid is available to provide students with a variety of funding supports to help cover the cost of education expenses to include tuition, fees, books and supplies. The Financial Aid Office is available to assist students in understanding financial aid options, to include student loans, grants, work study and scholarships.

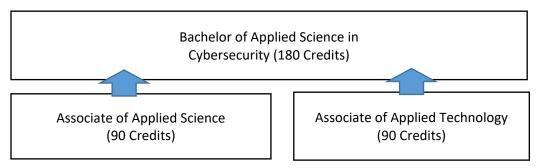
Each paid internship opportunity at PeaceHealth is provided to all students enrolled in the program of study, through class announcements and faculty/student interactions. To support students from underserved backgrounds to apply for the PeaceHealth internship position, students are connected with Career Services for the development of a high-quality industry resume, mock interviews, and resources to build confidence in preparing to meet with the industry partner. A major barrier to student access to internships is lack of social capital to make these connections, particularly for first-generation and low-income students. By establishing connections with employer partners, the goal is to minimize the barrier of student networking to secure this meaningful, high-quality paid internships that build critical work skills. Another barrier is 'imposter syndrome', where students lack confidence in their skills to meet employer needs. The Cybersecurity Program works to connect course-level learning outcomes with employer-defined competencies – particularly in alignment with the National Institute of Cybersecurity Education (NICE) framework of entry-level cybersecurity technician competencies. This intentional weaving of course competencies to work expectations alleviates some of the barriers to student skill perceptions and self-confidence.

Once a student is placed with the employer, faculty engage with employer to establish defined feedback loops on student performance, as well as opportunities to bolster curriculum to meet emerging needs. Quarterly check-ins provide support to underserved students populations, including retention in program and at employer site. This connection between employer and program faculty build a coordinated approach to ensuring underserved students are successful once placed into the meaningful, paid work experience. Additionally, a new "Workforce & Student Engagement Liaison" is currently in the hiring process. This position will provide a single point-of-contact to support employer and student connections to these paid work experiences – including but not limited to recruitment into and support throughout the paid work experience. This position will also build out training on diversity, equity and inclusion principles for employers providing paid work experience. This training and support will educate employers about how to holistically support student interns – particularly those from underserved backgrounds.

A-R4. Number of postsecondary credits provided and / or credential earned upon completion of program.

Upon completion of the program, students will earn the Bachelor of Applied Science (BAS) Cybersecurity degree (180 credits, including 90 credits from the qualifying AAS/AAT degree).

A-R5. Demonstrated curricular alignment with relevant professional and / or academic standards associated with coursework and credential, when applicable.



Upon completion of the Bachelor of Applied Science (BAS) Cybersecurity degree, students will have completed 35 credits of General Education Requirements, as required by accreditation through the Northwest Commission on Colleges and Universities (NWCCU):

- 10 credits of Communication (ENGL&235 // CMST 310),
- 5 credits of Quantitative/Symbolic Reasoning (PHIL&120)
- 5 credits of Humanities (PHIL 420),
- 10 credits of Social Science (ECON 110 // SOC 315), and
- 5 credits of Natural Science (ENVS 430).

Professional standards for Cybersecurity Technicians are articulated with industry-recognized credentials from CompTIA, Cisco and Python Institute. Upon completion of the program, students are prepared to complete each of the following industry certifications:

- CompTIA Network+
- PCAP (Certified Associate in Python Programming) from the Python Institute
- CompTIA Security+
- CompTIA PenTest+
- CompTIA CySA+
- Cisco CCNA CyberOps

A-R6. Details of potential for current or future partnerships and/or scalability of the program within and across sectors and/or geographic locations (e.g. articulation, degree pathways), when applicable.

Once endorsed, this program plans to expand capacity with additional employer collaborations – particularly if expanded capacity (e.g., space and resources) were available.

Clark College is willing share lessons learned and collaboration structure to other community colleges in the state interested in offering this program.