

CAREER LAUNCH ENDORSEMENT REVIEW (CLER) APPLICATION

INSTITUTION: Columbia Basin College (CBC) and Pasco School District (PSD)

PROPOSED PROGRAMS: Career Connect Tech (CCT) with an emphasis in:

AAS in Cyber Security

CIP: 11.1003

EPC: 506

NAICS Code: 541519

or

AAS in Information Technology

CIP: 11.0103

EPC: 516

NAICS Code: 541512

PROGRAM LEVEL (CHECK ALL THAT APPLY):

- High school Diploma
- College Certificate
- College Associate Degree
- College Bachelor Degree
- Industry Recognized Certificate(s)

CONTACT INFORMATION

Columbia Basin College

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Chief Academic Officer

1/25/2021

Date

Pasco School District

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Title: Superintendent

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Chief Academic Officer

1/22/2021

Date

PROGRAM CHECKLIST

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

Beginning in Fall 2021, CBC and PSD will be launching one of Washington State's first Career Connect Tech (CCT) programs based on the Pathways in Technology Early College High School (P-TECH) model. In the CCT program, high school students (beginning in 9th grade) will have the opportunity to select a high-demand, STEM-focused career pathway and take college credits free of charge. At the end of the program, students graduate with both a high school diploma and an industry-recognized Associate degree, in addition to gaining relevant workplace skills in on-the-job training environments.

CBC has selected the Associate of Applied Science (AAS) degrees in Cyber Security and Information Technology (IT) to serve as the pilot degree programs for the CCT. To meet the requirements of the CCT program, CBC will introduce a new work-based learning component into each of these degrees in the form of a new 3-credit internship course that will be required for all CCT students. The new courses will be incorporated into the Cyber Security and IT degrees beginning Fall 2021.¹ A summary of program length/hours is shown in Table 1.

TABLE 1
Program Description (beginning Fall 2021)*

Program Title	Length of Program	Total Hours	Classroom Hours	Work-Based Learning Hours
CCT with an emphasis in Cyber Security or IT	4-6 years	2,200 – 2,800	2,040 – 2,670	130-160

** Students have four years to complete their high school diploma. They may take an additional two years to complete the AAS degree, or they may complete both the high school diploma and AAS degree in four years. The total number of hours will vary depending on how much dual credit CCT students choose to take advantage of.*

P2. Estimated number of hours per week at worksite and in classroom.

CCT students will be eligible to enroll in the internship course after completing the first year of their AAS degree. For the internship course, students will spend all of their time (approximately 20 hours per week) at the worksite and no hours in the classroom.

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

The AAS in Cyber Security prepares students for positions such as Cyber Security Specialists and Technicians, Cybercrime Analysts, and Incident Analysts/Responders. Students who wish to continue with their postsecondary education can enroll in CBC's BAS in Cyber Security program, which prepares them for positions such as Information Security Analysts, Cyber Security Consultants, and Cyber Security Engineers.

The AAS in Information Technology prepares students for careers as Technical Support Specialists and Network System Administrators. Students who wish to continue with their postsecondary education can enroll in CBC's BAS in Information Technology program, which prepares them for careers such as Computer and Network Managers, Software Developers, Database Administrators, and Business Intelligence Developers.

According to the Washington State Employment Security Department, the majority of these positions are defined as "in demand" in PSD's and CBC's service area of Benton and Franklin Counties (see Table 2).

¹ If course space is available after all CCT students have enrolled, non-CCT Cyber Security and IT students will also be eligible to enroll in the new internship course. CBC is working to expand employer partnerships and eventually hopes to provide internship opportunities for all Cyber Security and IT students, but presently, internship availability is only guaranteed for CCT students. Consequently, only CCT students will participate in the Career Launch program.

TABLE 2
Labor Market Demand Summary for Benton-Franklin Area*

SOC Code	Occupation	Total Jobs (2019)	Projected Average Annual Openings (2023-2028)	Projection Definition
Cyber Security				
15-1212	Information Security Analysts	127	46	In demand
Information Technology				
11-3021	Computer and IS Managers	189	70	In demand
15-1211	Computer Systems Analysts	363	121	In demand
15-1232	Computer User Support Specialists	353	130	In demand
15-1242	Database Administrators	Insufficient data		
15-1244	Network & Computer Systems Administrators	169	57	Not in demand
15-1252	Software Developers	628	199	In demand
15-1299	Computer Occupations, Other	138	63	In demand
TOTAL		1,967	686	-

* Source: WA Employment Security Department (2020), Occupations in Demand List (Pending Recommendations).

CBC is the only educational program within our service area to offer AAS in Cyber Security and AAS in Information Technology degrees. With only 27 AAS in Cyber Security completions in 2020, and five AAS in Information Technology graduates, the College cannot currently keep up with the workforce demand.

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

A summary of projected enrollment, completions, and employer participation for the CCT program is summarized in Table 3.

TABLE 3
Projected Enrollment, Completions, and Employer Participation

Measurement	Baseline	Year 1 (2021-22)	Year 2 (2022-23)	Year 3 (2023-24)	Year 4 (2024-25)	Year 5 (2025-26)
Student headcount	0	50	100	150	200	225
Completion	0	0	0	0	12	25
Employers	0	3	3	3	5	5

Enrollment

Historically, college access programs in Washington State have presented unique challenges to students with barriers such as transportation, college entrance exams, and discretionary income to support books and materials. Because CCT removes these barriers, the program is projected to appeal to student populations that have historically been excluded, and PSD estimates that approximately 50 ninth-grade students will enroll in the CCT program per year (see attached Letter of Support). CCT students will begin enrolling at CBC in Year 3, when the first freshman cohort from Fall 2021 reaches their junior year.

Completion

In contrast with other college access programs, CCT provides wraparound services and allows for blended coursework experiences, so that students have the option to graduate with their high school and postsecondary degree in four years, but may also take up to six years to finish their postsecondary credential. Paid work experiences, industry mentorship opportunities, and worksite visits will also provide relevant content support for their program and encourage both persistence and completion.

In addition to the CCT-specific supports, CBC is currently in process of adopting a case management advising model as part of our Guided Pathways efforts. Two full-time Completion Coaches are assigned to the School of

Computer Science, and these positions are specifically geared toward increasing student retention and degree/certificate completion. Completion Coaches meet with Computer Science students on at least a quarterly basis to review students' progress and discuss their academic plans for successfully completing the program. CCT students will receive this same level of case management advising as general CBC students, in addition to the supports provided by their high school counselors.

As a result of these supports, PSD and CBC are hopeful that CCT students will maintain, if not surpass, the historical completion rates of other dual-enrollment students. CBC's Running Start student population completion rates are as follows:

- 25% complete both their high school diploma and AA degree in four years
- 50% complete their AA degree or transfer to a four-year program in five years
- 67% complete their AA degree or transfer to a four-year program in six years
- 20% do not complete their AA degree or transfer to a four-year program

Given the above, CCT completion numbers are estimated based on 25% of the first cohort completing in Year 4, and another 25% of the first cohort, as well as 25% of the second cohort completing in Year 5.

Employer Participation

Three industry partners, Pacific Northwest National Laboratory (PNNL), Hanford Mission Integration Solution (HMIS), and LIGO Hanford Observatory have committed to providing internships to CCT students (see attached Letters of Support). CBC's Computer Science department is also in the process of developing internship partnerships with Amazon and Microsoft, and is hopeful that these internships will be available by the time CCT students begin their internship courses in Year 4.

Additionally, CBC's Computer Science program is deeply connected to the workforce through its Advisory Board, which consists of nine different employers who provide guidance on the skills and competencies needed for relevant occupations, related labor market needs, and the courses/curriculum necessary to meet these needs. Several Advisory Board members and other industry partners, including ANR Group, Inc., PNNL, Benton County PUD, Energy Northwest, HMIS, and GESA Credit Union have historically provided internships to CBC Cyber Security and IT students.

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

CCT Program

The P-TECH model, the basis of Washington's CCT program, has been a national and international success. Since its inception in the state of New York in 2011, P-TECH has expanded to over 200 schools in 11 U.S. states and 24 countries. Washington State chose to pursue this program for three primary reasons:

1. Programs are founded on equity and provide college as well as industry access to historically underrepresented populations.
2. Programs align education across systems to create a seamless learning experience for students that leads to relevant, portable, and financially significant credentials
3. Programs respond to the workforce needs of local industries

In 2017, the Washington State Commission on Hispanic Affairs (CHA), whose work includes developing efforts in education systems to reduce barriers for communities furthest from opportunity, was tasked with identifying innovative communities that could pilot the CCT program. The Tri-Cities area, PSD, and CBC, were selected based on requests from local STEM employers for recruiting and developing talent within the Tri-Cities, and both the District's and College's commitment to academics, diversity, and innovation.

Cyber Security

CBC's AAS and BAS Cyber Security degrees were created in 2013 in direct response to industry demand

within the service area. PNNL approached the CBC President with a need for qualified Cyber Security professionals who could gain hands-on experience at PNNL during their degree program and would not want to leave the Tri-Cities after only a few years. To assist in program startup, PNNL donated \$118,000 for new technology. CBC also partnered with Battelle, a global STEM research and development organization hired by the Department of Energy to manage and operate PNNL, and Lockheed Martin, a self-described cyber security company that provided the cyber security for the Department of Energy and its Hanford Site contractors, as well as many other programs throughout the area. Representatives from these organizations pledged to assist current instructors with increasing their cyber security knowledge and skills, serve on the Advisory Board, and provide highly skilled cyber security professionals as adjunct faculty members. Both the AAS and BAS degrees were created over the summer of 2013 and first offered in Fall 2013. The AAS degree provides foundation-level cyber security coursework, while the BAS is a combination of the two-year Cyber Security AAS degree, a project management course, 300 and 400 level cyber security courses, and 60 credits of general education requirements.

Information Technology

CBC’s AAS and BAS Information Technology degrees were launched in Fall 2018 to meet current and future employment needs in CBC’s service area and in direct response to requests from the Computer Science Advisory Committee. Advisory committee members, including PNNL, HMIS, HAPO Community Credit Union, and GESA Credit Union were heavily involved in degree and curriculum development. Members felt strongly that while the degree should include coursework to provide students with specialized skills, the degree name should not include a specialization. Coming from their experience in hiring IT employees, the members stated that if the degree name was too specific, a student qualified for work beyond that specialization might not be called for an interview and/or hired. Similar to the Cyber Security degree, the AAS in IT degree provides the foundational coursework, and the BAS is a combination of the two-year IT AAS degree; a project management, Management theory, or Leadership course; 300 and 400 level IT courses; and 60 credits of general education requirements.

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 of endorsement are attached.

P7. Description of resources, supports, or other processes to recruit and support students from underserved backgrounds (e.g. including students of color, students from low income families, English language learners, students with disabilities, foster students, students experiencing homelessness, students from single parent homes, and other populations that face barriers to employment); or create an implementation plan to do so.

For the pilot years of the CCT program, all students participating in the CCT program will be PSD students enrolled in New Horizons High School (NHHS), which serves as the alternative option for high school students in PSD. Like the rest of the district, NHHS serves a large population of underrepresented students (see Table 4).

**TABLE 4
Enrollment Characteristics for PSD***

Region	Total Students	Enrollment Characteristics (%)			
		Students of Color	Low-Income	ELL Students	Migrant
New Horizons HS	200	84%	74%	32%	8%
Pasco School District	19,226	76%	73%	34%	7%
Washington State	1,141,998	48%	47%	12%	2%

* Source – Washington State OSPI 2019-2020 Report Card

Using a trauma-informed approach, NHHS offers a variety of both academic and non-academic supports for students, including:

- Academic interventions provided during a designated time during the school day, allowing students to get the support they need in their classes in a timely manner
- On-site drug/alcohol and mental health counseling in partnership with Comprehensive Mental Health
- Free breakfast and lunch provided to all students, regardless of income qualifications
- Additional supports for students in foster care through partnerships with Treehouse
- On-site food pantry supplied by bi-weekly deliveries from Second Harvest
- Teen Parent program and on-site day care
- Afterschool and Saturday academic supports

As a federally-designated Hispanic-Serving Institution serving one of Washington State’s only Hispanic-majority counties (Franklin County, 52.8% Hispanic), CBC is dedicated to providing educational opportunities to students of color from diverse and underserved backgrounds. CBC has a tremendous amount of resources to support low-income and underrepresented students, including CBC Foundation scholarships, a food pantry; child care assistance; an emergency assistance fund to assist with short-term housing, transportation, or health care needs; and a holiday adopt-a-family program. CBC’s Disability Support Services Center provides accommodations for students with disabilities, including adaptive technology to support a broad range of disabilities.

On-campus support programs are also available for specific types of students, including:

- Basic Food, Employment, & Training (BFET) – provides financial, advising, enrollment, and ongoing support services for low-income students enrolled in workforce education programs
- College Assistance Migrant Program (CAMP) – provides academic, career, financial, and support services for first-year students from migrant/seasonal farmworker backgrounds
- Student Support Services (SSS) – provides academic advising, financial literacy, educational counseling, tutoring, and career/transfer planning services for low-income, first generation students and students with disabilities
- Mathematics, Engineering, Science Achievement (MESA) – provides educational support services, cultural events, and campus visits for underrepresented students preparing for university-level studies in STEM fields

INDUSTRY-RELATED CHECKLIST

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

Employers who are committed to partnering with PSD and CBC to provide internships for CCT students are listed in Table 5.

**TABLE 5
Work-Based Learning Employer Partners**

No.	Employer	Address
1.	Battelle/PNNL	902 Battelle Blvd, Richland, WA 99354
2.	Hanford Mission Integration Solution	2490 Garlick Blvd, Richland, WA 99354
3.	LIGO Hanford Observatory	127124 N Route 10, Richland, WA 99354

I-R2. Hourly wage for Career Launch participants.

Interns typically start at a wage ranging from \$15-\$20 per hour with regular pay increases 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.

Positions available to AAS graduates and links to respective job descriptions are included in Table 6.

**TABLE 6
Career Launch Positions and Job Descriptions**

Employer	Position and Link to Job Description
AAS in Cyber Security	
ANR Group, Inc.	Student Intern
Bechtel Corporation	Cyber Security Engineer Intern
Netsimco	Cyber Security Support Analyst I
PNNL	IT Cyber Security Specialist
AAS in Information Technology	
ANR Group, Inc.	Assembly Line Maintenance Technician
DXC Technology	Advisor System Administrator
Oldcastle Materials	IT Field Services Technician
Wildland	Junior Software Developer

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

Program learning outcomes and how these align to the job descriptions provided above are shown in Table 7.

**TABLE 7
Program Learning Outcomes and Alignment to Current Job Descriptions**

Program Outcomes (both Cyber Security and IT)	Alignment to Job Descriptions
1. Analyze a problem and identify/define the computing tools and techniques relevant to its solution	<ul style="list-style-type: none"> ▸ WiFi Network Deployment and Troubleshooting ▸ Understanding of Domain Controllers, Active Directory, Microsoft DNS ▸ Handling end-user desktop support requests including issues relating to their specific IT environment ▸ Run diagnostics to resolve customer reported issues ▸ Problem Solving - Identifies problems; determines accuracy and relevance of information; uses sound judgment to generate and evaluate alternatives, and to make recommendations ▸ Analytical skills to critically evaluate the information gathered from multiple sources, reconcile conflicts, and decompose high-level information into clear potential deliverables
2. Develop an efficient algorithm to solve a given problem	<ul style="list-style-type: none"> ▸ Review software applications and establish testing requirements ▸ Perform software and database operability evaluations ▸ Perform software design, development, and testing
3. Recognize/define concepts of computer systems, databases, security, hardware, software, programming languages, and networks	<ul style="list-style-type: none"> ▸ Ability to acclimate to new IT environments quickly, including becoming familiar with new applications ▸ Knowledge of Managing Network Firewalls, Switches, and Routers ▸ Virtualization Experience with VMWare and Hyper-V ▸ Maintain cognizance of any changes to assigned software applications and databases

TABLE 7 (cont).
Program Learning Outcomes and Alignment to Current Job Descriptions

Program Outcomes (both Cyber Security and IT)	Alignment to Job Descriptions
4. Understand the professional, ethical, and societal issues and responsibility	<ul style="list-style-type: none"> ▸ Respond to customer issues via phone, email, and computer chat ▸ Follow-up with customers to ensure issues are resolved ▸ Attention to Detail - is thorough when performing work and conscientious about attending to detail ▸ Set high standards of performance for self and others
5. Write, present, and use interpersonal skills to effectively communicate with customers, supervisors, and coworkers	<ul style="list-style-type: none"> ▸ Maintains clear and concise documentation of all work performed ▸ Oral Communication - Expresses information (for example, ideas or facts) to individuals or groups effectively, taking into account the audience and nature of the information (for example, technical, sensitive, controversial); makes clear and convincing oral presentations; listens to others, attends to nonverbal cues, and responds appropriately. ▸ Works with clients and customers to assess their needs, provide information or assistance, and resolve problems; knows about available products and services; is committed to providing quality products and services. ▸ Ability to facilitate meetings with individuals and/or groups to gather, understand and articulate their business needs

Average salaries for the primary cyber security and IT positions are outlined in Table 8.

TABLE 8
Average Salaries

SOC Code	Occupation	Average Annual Salaries		
		Benton-Franklin	Washington State	United States
AAS in Cyber Security¹				
N/A	Cyber Security Specialist/Technician	Insf. Data	Insf. Data	\$89,000
N/A	Cyber Crime Analyst	Insf. Data	Insf. Data	\$93,000
N/A	Incident Analyst/Responder	Insf. Data	Insf. Data	\$85,000
AAS in Information Technology²				
15-1211	Computer Systems Analysts (Junior)	\$63,560	\$66,300	\$55,180
15-1232	Computer User Support Specialists	\$54,703	\$57,574	\$52,270
15-1242	Database Administrators (Junior)	Insf. Data	\$67,440	\$51,800
15-1244	Network & Computer Systems Administrators	\$78,583	\$90,792	\$83,512
15-1252	Software Developers (Junior)	\$66,990	\$79,570	\$64,240

¹ Source: Cyber Seek Career Pathways at <https://www.cyberseek.org/pathway.html>

² Economic Modeling Specialists Intl. (EMSI) (2020.4) Occupation Overview – Bureau of Labor Statistics QCEW Employees and O*Net OnLine at <https://www.onetonline.org/find/>

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

See attached letters of endorsement.

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

CCT students will apply for a variety of internships based on their chosen degree option. At the worksite, students will complete meaningful tasks such as working with multiple computer languages (e.g., C, C++, Python,

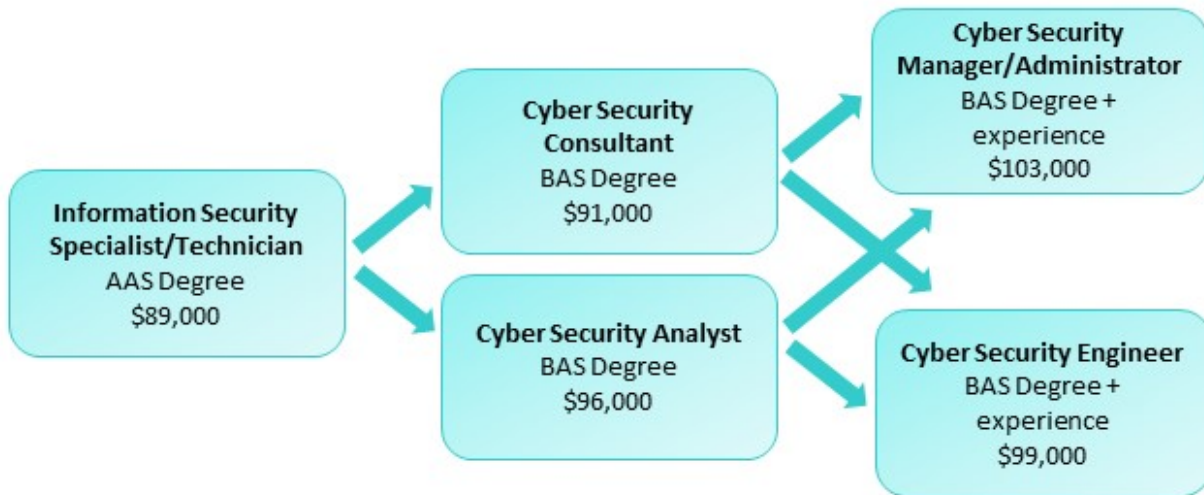
and Linux), using configuration management tools to ensure systems are running properly, and automating deployment of servers under the supervision and mentorship of experienced personnel. Each intern will be assigned a worksite supervisor/mentor to provide guidance on activities and augment their educational studies.

Students will work with their worksite supervisor and a college faculty member to complete the internship course requirements. These will include daily and weekly work reports, bi-weekly conferences to review work performance, continuous improvement processes, personal mentoring/coaching, and a final report on their workplace experience and how the internship experience will benefit their future employment.

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

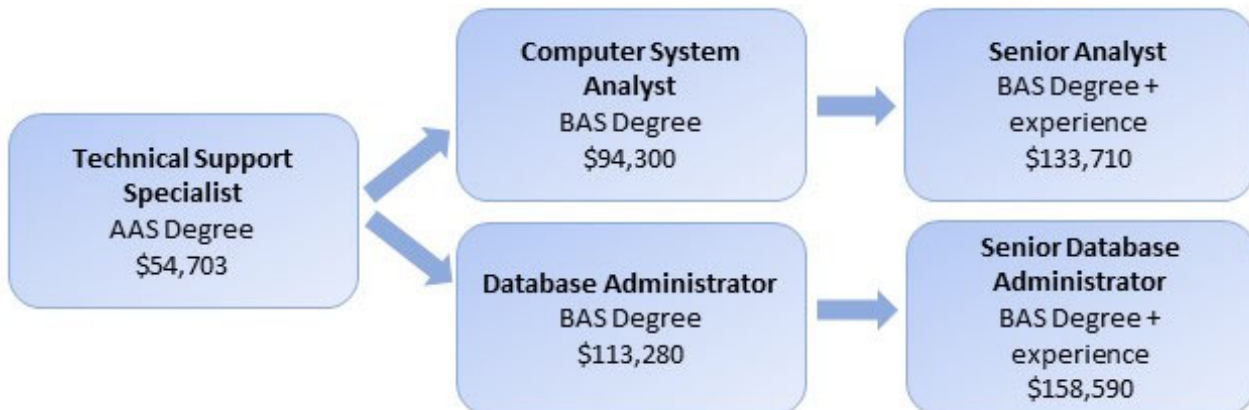
Cyber security and IT career pathways are shown in Figures 1 and 2.

FIGURE 1 - Cyber Security Career Pathways*



*Source: Cyber Seek Career Pathways at <https://www.cyberseek.org/pathway.html>

FIGURE 2 - IT Career Pathways*



*Source: O*Net OnLine at <https://www.onetonline.org/find/>

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

Both the AAS in Cyber Security and IT degrees provide students with the training, academic studies, and valuable hands-on experience necessary for employment in the cyber and IT industries. The Computer Science program

has brought national attention through its designation as a National Center of Academic Excellence 2 Year (CAE2Y) from the National Security Agency (NSA) and the U.S. Department of Homeland Security (DHS). This designation is given to schools whose degrees have proven a commitment to excellence in the field of Information Assurances and Cyber Defense Education. A requirement of this designation is to prove that eleven of the required knowledge units, defined by the NSA and DHS within the Nice framework, are being taught in the degrees. Courses in the AAS in Cyber Security and IT degrees were mapped to the following knowledge units:

- | | |
|--|---|
| 1. Basic Data Analysis (Core) | 6. IA Fundamentals (Core) |
| 2. Basic Scripting (Core) | 7. Intro to Cryptography (Core) |
| 3. Cyber Defense (Core) | 8. IT System Components (Core) |
| 4. Cyber Threats (Core) | 9. Networking Concepts (Core) |
| 5. Fundamental Security Design Principles (Core) | 10. Policy, Legal, Ethics and Compliance (Core) |
| | 11. Systems Administration (Core) |

I-R9. Signed letter from employers partners attesting that Career Launch completers will be ready for specified entry-level jobs, including an optional, non-binding commitment estimating number of Career Launch completers they plan to interview/hire over the first three years of the program.

See attached letters of endorsement.

ACADEMIC-RELATED CHECKLIST

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

Pasco School District and Columbia Basin College

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

A scope and sequence of courses for CCT student’s high school diploma and the degree pathways for both the AAS in Cyber Security and IT degrees are attached.

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

In addition to the population-specific support programs and services listed in P7, PSD and CBC offer a wide variety of support services for all enrolled students.

Pasco School District

- PSD is 1:1 in technology devices. All students have laptops checked out to them. Hotspots are also available to students who do not have access to reliable internet at home
- Postsecondary and career choices support through High School and Beyond planning
- Academic counseling and academic advising
- Competency based education that allows students to work at their own pace while receiving needed supports and timely intervention
- PBIS supports
- Free breakfast and lunch for all students

Columbia Basin College

- The Counseling/Advising Center assists students in their personal, educational, and professional growth and planning. AAS in Cyber Security and IT students receive academic advising specified to their degree completion directly from the School of Computer Science Completion Coaches.

- ▶ The Academic Success Center provides student's free drop-in and online tutoring in writing, math, accounting, biology, chemistry, physics, and Spanish. The Center is equipped with computers and printers for student use, as well as whiteboards and group study areas.
- ▶ The Library has 220 laptops available for student checkout. Additionally, the Library and online library databases provide articles necessary for both lower and upper level courses. The School of Computer Science will regularly communicate with the library to ensure that all Cyber Security and IT course materials including textbooks and reading lists are up-to-date and available.
- ▶ The Financial Aid department provides workshops and assistance applying for federal and state financial aid. Once students have submitted their applications, Financial Aid staff work with students to build a financial aid package that is an optimum combination of grants, scholarships. Student employment, and loans based on the students eligibility and program rules.
- ▶ The CBC Foundation offers a variety of student scholarships based on factors including academic achievement, field of study, and financial need. In 2018-19, the Foundation awarded over \$1.1 million in scholarships.

High school counselors, CBC Computer Science Completion Coaches, faculty, and staff will be responsible for directing students to the appropriate services and resources for successful completion of their degree.

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

Upon completion of the AAS in Cyber Security program, students will complete a total of 90 - 91 credits. Upon completion of the AAS in IT program, students will complete a total of 90 - 91 credits.

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

For both the AAS in Cyber Security and AAS in IT degrees, students completed 20-21 credits of General Education Requirements, as required by accreditation through the Northwest Commission on Colleges and Universities (NWCCU) with identified outcomes in the areas of communication and computation that align with and support program goals or intended outcomes. Additionally, students complete 70 credits of major and major support courses. A complete list of courses for the AAS in Cyber Security degree is available at <https://catalog.columbiabasin.edu/current/programs/cyber-security-aas.html>, and a complete list of courses for the AAS in IT degree is available at <https://catalog.columbiabasin.edu/current/programs/information-technology-aas.html>.

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.

CBC was recently selected to participate in the Career Connect Washington program to collaborate with Amazon Web Services (AWS) Educate. CBC Computer Science faculty have completed AWS-hosted training sessions geared toward helping faculty update Computer Science course curriculum with cloud-based proprietary content. The revised curriculum, which will be finalized by the end of Winter 2021, is intended to help prepare students for entry-level job requirements in cloud careers with input from employers to address specific desired knowledge, skills, and abilities. While Amazon policy does not allow for providing specific commitment letters, a letter showing Amazon's general support for the CCT program's Career Launch endorsement is attached.

Additionally, after the initial pilot program, there is potential that the CCT model could be replicated throughout the Tri-Cities area and expanded into other industries. Preliminary discussions have included an agriculture-based program in Kennewick and a health sciences program in Richland.



December 15, 2020

Columbia Basin College (CBC)
2600 North 20th Avenue
Pasco, Washington 99301

ATTN: Dr. Michael Lee, Vice President for Instruction

RE: Support for Career Launch Endorsement Application for CBC's and Pasco School District's Career Connect Tech (CCT) Programs

Washington State Board for Community & Technical Colleges

On behalf of Pacific Northwest National Laboratory (PNNL), we are pleased to support CBC's application for Career Launch Endorsement with the Washington State Board of Community and Technical Colleges. CBC's compliance with required federal, state, and local regulations in its Associate of Applied Sciences (AAS) in Cyber Security and Information Technology degree programs, ensures that it meets our training and staffing standards. The ability to scaffold the AAS into a Bachelor of Applied Science (BAS) at CBC is an additional incentive for our participation, as we can support the student through their formative technical skill development and know they have a seamless pathway to more advanced training.

I believe that our mission and purpose align with the goals of this proposal which aims to provide a sustainable pathway for these critical positions within the STEM ecosystem. PNNL internships provide paid experiential learning for students, where they receive mentorship from our scientific and technical staff members, learn the organization's processes and procedures, and gain the unique experience of working in and understanding the national laboratory system. Students must meet the minimum qualifications, sit for an interview, and be hired through a competitive process in order to participate in the PNNL internship programs.

Upon review of the AAS in Cyber Security and AAS Information Technology Degree programs, program participants will be eligible to apply for PNNL internships while their programs are in progress. Those students that choose to continue into the BAS programs, would be eligible to apply for entry-level and beyond positions upon graduation. Our organization is prepared to offer successful graduates, who meet our employment qualifications, interviews and potential employment based on our hiring needs.

We look forward to continuing our partnership with CBC to develop the future diverse STEM workforce. Please contact me if you have any questions.

Sincerely,

A handwritten signature in cursive script that reads "Evangelina Shreeve".

Evangelina Galvan Shreeve
Director, Office of STEM Education



Division of Physics,
Mathematics and Astronomy
*Laser Interferometer Gravitational-Wave
Observatory*

Michael Landry
LIGO Hanford Observatory
P.O. Box 159, Richland WA
(509) 372-8133
mlandry@caltech.edu

Dec 11, 2020

Dr. Michael Lee, Vice President for Instruction
Columbia Basin College
2600 North 20th Avenue
Pasco, Washington 99301

RE: Support for a Career Launch Endorsement Application for CBC and Pasco School District's Career Connect Tech (CCT) Program

Dear Dr. Lee,

The Laser Interferometer Gravitational-wave Observatory (LIGO) is an astronomical observatory that searches our universe for astrophysical and cosmological sources of gravitational waves. Funded by the National Science Foundation (NSF), LIGO is a national facility that provides opportunities for the broader scientific community to participate in detector development, data analyses, and searches for gravitational waves in periodic campaigns known as observation runs. To fulfill its mission, LIGO employs people in a wide variety of STEM careers, including computer science. Computer scientists help to ensure LIGO data is protected and properly transmitted to collaborators around the world.

LIGO Hanford Observatory fully supports the application by Columbia Basin College (CBC) for Career Launch Endorsement with the Washington State Board of Community and Technical Colleges. Their AAS in Cyber Security and Information Technology degree programs comply with the required local, state, and federal regulations and meet our training and staffing needs.

LIGO could provide intern opportunities for IT Help, server room management and improvement, system administration tasks and monitoring, and writing software. Interns should have at least a basic knowledge of common operating systems (Windows, OS X, and Linux), and would be selected based on their skill sets and current needs, with an understanding that LIGO staff will provide training on the job. Interns would have the opportunity to learn how to automate deployment of servers and use configuration management tools to ensure systems are running properly. They would be exposed to



working with multiple computer languages including C, C++, Python, and Linux shell scripting. We currently pay interns approximately \$16/hr.

Upon review of the AAS in Cyber Security and Information Technology curriculum and work-based learning components, it is clear that graduates of these programs will be prepared for entry-level positions such as Network Administrator, Software Engineering, and Systems Administrator. We are prepared to offer successful graduates who meet our employment qualifications interviews and potential employment in these positions based on our hiring needs.

We at LIGO Hanford Observatory look forward to continuing our longtime partnership with CBC to provide internship opportunities and achieve our common goal of creating a pipeline of highly skilled computer science graduates to meet our region's workforce demands.

Best regards,



Michael Landry
Head, LIGO Hanford Observatory



December 10, 2020

Columbia Basin College
2600 North 20th Avenue
Pasco, Washington 99301

ATTN: Dr. Michael Lee, Vice President for Instruction

RE: **Support for Career Launch Endorsement Application
CBC and Pasco School District Career Connect Tech (CCT) Program**

Dear Dr. Lee,

Hanford Mission Integration Solutions will be operating the Hanford Mission Essential Services Contract at the Hanford Site, effective January 25, 2021. HMIS will provide Hanford Site services including, security and emergency services, land management services, infrastructure maintenance, operations and upgrades, information technology services and more.

HMIS fully supports CBC's application for Career Launch Endorsement with the Washington State Board of Community and Technical Colleges. Their AAS in Cyber Security and Information Technology degree programs comply with the required local, state, and federal regulations and meet our training and staffing needs.

The program will enable HMIS Information Management to hire promising students in Information Technology and Cyber Security as interns with the objective of developing them into permanent employees upon graduation from college. Student interns perform meaningful job assignments to augment their education and develop skills in the work environment under the supervision and mentorship of experienced personnel. Student interns generally work 20 hours each week and receive between \$15 and \$20 per hour as compensation.

HMIS internship positions for Career Launch may be competed as positions will be limited. Students must complete an application and participate in interview(s). Interns must also meet the following criteria:

- At least 18 years of age.
- A U.S. citizen.
- A current full-time student enrolled in the Career Launch program.
- Maintain an overall GPA of 3.0 (on a 4.0 scale) during their experience.
- Committed to staying in school through graduation. NOTE: Full-time employment is discouraged prior to completion of schooling.
- Proven, acceptable performance on previous student employment assignments (when applicable).



- Appropriate business attire for the work experience.

Each intern will be assigned a manager/mentor to provide guidance on activities that align with the student's educational studies. In some cases, management/mentorship may be split between multiple personnel. Responsibilities of the manager/mentor and intern include:

- Determining expectations.
- Conducting regular meetings and evaluations.
- Ensuring thorough knowledge of work assignments.

In reviewing the Information Technology and Cyber Security curriculum combined with practical experience gained in the workplace, it is clear that student interns graduating from these programs will be well prepared for entry-level positions in Information Management such as Software Engineer, Cyber Security Analyst, and Computer System Administrator. Software Engineers participate in all aspects of software development, including requirements analysis, design, implementation, testing, and maintenance. To protect computer systems and enable continued site operations, Cyber Security Analysts perform engineering and analysis activities involving risk assessment, security testing, intrusion detection, incident response, vulnerability management, and secure system development. Computer System Administrators keep information systems running and are responsible for operating system support, database administration, application support, configuration management, and network administration. We are prepared to offer successful graduates who meet our employment qualifications interviews and potential employment in these positions based on our hiring needs at the time.

We look forward to our ongoing partnership with CBC, providing internship opportunities and helping achieve our joint goal of creating a pipeline of highly skilled graduates to meet our region's workforce demands.

Sincerely,

Reneé Brooks, Communications Manager
Hanford Mission Integration Solutions
(509) 373-0857 or Renee_L_Brooks@rl.gov



STATE OF WASHINGTON
COMMISSION ON HISPANIC AFFAIRS
COMISIÓN DE ASUNTOS HISPANOS

December 4, 2020

Dr. Bernal Baca
Chair

Lina Alvarez
Vice-Chair

Brian Moreno
Vice-Chair

Lola Flores

Candice Garza

Jessica Hernandez

Lili Navarrete

Dr. Randy Nuñez

Dr. Rodrigo Renteria
Valencia

María Sigüenza
Executive Director

Dr. Michael Lee
Columbia Basin College
2600 North 20th Ave
Pasco, Washington 99301

Dear Dr. Lee:

I write to you in support of Columbia Basin College's application for Career Launch Endorsement via the Washington State Board of Community and Technical Colleges. The Commission recognizes the importance of Career Connect Tech, the program which you have worked to pilot alongside Pasco School District and various industry partners, such as the Pacific Northwest National Laboratory.

Columbia Basin College, a Hispanic Serving Institute, is uniquely positioned to open doors for their students via an innovative program such as Career Connect Tech. This program takes a holistic approach: it allows for students to achieve success at their own pace; provides opportunities such as cost-free classes and materials; and removes any potential barriers to participation that programs like running start or college in the high school do not. Furthermore, the built-in mentorship and internship programs allow for students—traditionally without access to these types of opportunities—to have a first-in-line chance at employment with local industry program partners.

We know Columbia Basin College is pivotal in helping Hispanic/Latino students pursue post-secondary education and CHA stands ready to support Columbia Basin College on their efforts to implement the Career Connect Tech program.

Sincerely,

María Sigüenza
Executive Director



Amazon Web Services, Inc. ▪ 410 Terry Avenue N. ▪ Seattle, WA 98109

January 6, 2020

Dr. Michael Lee
Vice President for Instruction
Columbia Basin College (CBC)
2600 North 20th Avenue
Pasco, Washington 99301

Re: Letter of Support for the Career Launch Endorsement for CBC's and Pasco School District's Career Connect Tech (CCT) Program

To Whom It May Concern:

Amazon Web Services, Inc. (AWS) is very pleased to support you in your efforts to respond to the subject pursuit.

AWS offers commercially available, web-scale computing services that help organizations avoid much of the heavy-lifting typically associated with launching and growing successful applications. These services are based on Amazon's own back-end technology infrastructure and incorporate over a decade and a half of experience building one of the world's most reliable, scalable, and cost-efficient web infrastructures. The use of AWS will provide you with access to expertise in large-scale distributed computing and operations and will enable your applications to be robust and scalable.

AWS values and appreciates the opportunity to support Columbia Basin College and Pasco School District, and we look forward to a long and productive relationship. If you have any questions, or require additional information, please contact Lindsay Hopkins, Program Manager for AWS Educate, at lhop@amazon.com or 310-614-3251.

Sincerely,

Amazon Web Services, Inc.

A handwritten signature in black ink, appearing to read "Shannon Lowther". The signature is fluid and cursive, written over a horizontal line.

Shannon Lowther
Senior Manager, Worldwide Public Sector Contract Management



PSD to CBC Pathway—Computer Science



High School Graduation Requirements for the Class of 2021-23:

English Language Arts (4 credits)	Mathematics (3 credits)	Science (3 credits, w/ 2 lab credit)	Social Studies (3 credits)	Health (.5 credits) and Fitness (1.5 credits)	World Languages (2 credits; 1 may come from 8 th grade)	Arts (2 credits)	CTE or Occupational Education (1 credit)	Electives or Personalized Pathway (4 credits; .5 in Financial Literacy)
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Traditional Academic Plan:

	1st Class			2nd Class			3rd Class			4th Class			5th Class		
	Tri 1	Tri 2	Tri 3	Tri 1	Tri 2	Tri 3	Tri 1	Tri 2	Tri 3	Tri 1	Tri 2	Tri 3	Tri 1	Tri 2	Tri 3
9th Grade	English	English	Elective English or General Elective	Algebra I	Algebra I	Elective Math or General Elective	PE	PE	PE	World Language	World Language	Microsoft Office Specialist I /CTE Dual Credit	Biology	Biology	Art
10th Grade	English	English	Elective English or General Elective	Geometry	Geometry	Elective Math or General Elective	Contemporary World History, Problems or Geography	Contemporary World History, Problems or Geography	Health	World Language	World Language	Microsoft Office Specialist III	Microsoft Office Specialist II /CTE Dual Credit	Chemistry	Chemistry
11th Grade	English	English	Elective English or General Elective	Algebra II	Algebra II	Elective Math or General Elective	US History I	US History II	Social Media	Robotics	Nano-technology	Applications in Nano-technology	Web Design	Web Design	Art
12th Grade	English	English	Elective English or General Elective	Principles of Computer Science I	Principles of Computer Science II	Financial Literacy /CTE Dual Credit	Civics	Social Studies Elective	Applied Math	Tri Tech Skill Center /CTE Dual Credit	Tri Tech Skill Center /CTE Dual Credit	Tri Tech Skill Center /CTE Dual Credit	Tri Tech Skill Center /CTE Dual Credit	Tri Tech Skill Center /CTE Dual Credit	Tri Tech Skill Center /CTE Dual Credit

Accelerated Academic Plan:

	1st Class			2nd Class			3rd Class			4th Class			5th Class		
	Tri 1	Tri 2	Tri 3	Tri 1	Tri 2	Tri 3	Tri 1	Tri 2	Tri 3	Tri 1	Tri 2	Tri 3	Tri 1	Tri 2	Tri 3
9th Grade	English	English	Elective English or General Elective	Algebra I	Algebra I	Elective Math or General Elective	PE	PE	PE	World Language*	World Language*	Microsoft Office Specialist I /CTE Dual Credit	Biology	Biology	Art
10th Grade	English	English	Elective English or General Elective	Geometry	Geometry	Elective Math or General Elective	Contemporary World History, Problems or Geography	Contemporary World History, Problems or Geography	Health	AP Psychology	AP Psychology	AP Psychology	Chemistry	Chemistry	Microsoft Office Specialist II /CTE Dual Credit
11th Grade	English /CiHS	English /CiHS	English /CiHS	Algebra II/ Pre-Calc AP	Algebra II/ Pre-Calc AP	Algebra II/ Pre-Calc AP	US History I	US History II	Financial Literacy /CTE Dual Credit	Floriculture	Floriculture	Art	Principles of Computer Science I	Principles of Computer Science II	Social Media
										Art	Art				
12th Grade	English /CiHS	English /CiHS	English /CiHS	AP Computer Science	AP Computer Science	AP Computer Science	Civics	Social Studies Elective	Robotics	Running Start +	Running Start +	Running Start +	Running Start +	Running Start +	Running Start +



* The accelerated academic plan assumes students have acquired 1.0 credit towards the World Language requirement from Middle School.

+ Recommended Running Start classes could include: CS 102, CS 117, CS 118, CS 228, CS 150, CS&131, CMST& 210

CTE Dual Credit = Career and Technical Education Dual Credit

CiHS = College in the High School

Floriculture/Art class is a dual equivalency class (2 for 1!)

CBC AAS IN CYBER SECURITY AND IT DEGREE PATHWAYS

PLAN YOUR PATH

SCHOOL OF COMPUTER SCIENCE

START HERE!
Computer Science
Program

AAS Cyber Security
Degree

1 Build a summer course into your path!

COURSE	CREDITS	COMPLETED
ENGL& 101	5	<input type="checkbox"/>
MATH& 141/142/144/146/148/151	5	<input type="checkbox"/>
CS 101	5	<input type="checkbox"/>
		<input type="checkbox"/>
		<input type="checkbox"/>
		<input type="checkbox"/>
TOTAL	15	

5

COURSE	CREDITS	COMPLETED
CS 223	5	<input type="checkbox"/>
CS 232	5	<input type="checkbox"/>
CMST 101/110/210/220/260	5	<input type="checkbox"/>
		<input type="checkbox"/>
		<input type="checkbox"/>
		<input type="checkbox"/>
TOTAL	15	

2

COURSE	CREDITS	COMPLETED
CS 102/131	5	<input type="checkbox"/>
CS 106	5	<input type="checkbox"/>
CS 150	5	<input type="checkbox"/>
		<input type="checkbox"/>
		<input type="checkbox"/>
		<input type="checkbox"/>
TOTAL	15	

6 Don't Forget! Submit your grad app!

COURSE	CREDITS	COMPLETED
CSIA 200	5	<input type="checkbox"/>
CSIA 250	5	<input type="checkbox"/>
CS 117	2	<input type="checkbox"/>
CS 118 or	3	<input type="checkbox"/>
CS 217 (internship)	3	<input type="checkbox"/>
		<input type="checkbox"/>
TOTAL	15	

3

COURSE	CREDITS	COMPLETED
CS 202/162	5	<input type="checkbox"/>
CS 206	5	<input type="checkbox"/>
CS 228	5	<input type="checkbox"/>
		<input type="checkbox"/>
		<input type="checkbox"/>
		<input type="checkbox"/>
TOTAL	15	

7

COURSE	CREDITS	COMPLETED
		<input type="checkbox"/>
		<input type="checkbox"/>
		<input type="checkbox"/>
		<input type="checkbox"/>
		<input type="checkbox"/>
		<input type="checkbox"/>
TOTAL		

4 Identify your transfer college and speak to an advisor!

COURSE	CREDITS	COMPLETED
CS 221	5	<input type="checkbox"/>
PSYC& 100+/SOC& 101/SOC&201	5	<input type="checkbox"/>
CS 231	5	<input type="checkbox"/>
		<input type="checkbox"/>
		<input type="checkbox"/>
		<input type="checkbox"/>
TOTAL	15	

8

COURSE	CREDITS	COMPLETED
		<input type="checkbox"/>
		<input type="checkbox"/>
		<input type="checkbox"/>
		<input type="checkbox"/>
		<input type="checkbox"/>
		<input type="checkbox"/>
TOTAL		

CAREER AND TRANSFER OUTLOOK

Do you like working with data, working with details like writing program code, collecting and analyzing information to make decisions, and helping to keep companies and individual's data safe? In the School of Computer Science, students explore courses that lead to developing your own mobile app, creating innovative computer games for all ages, using cloud-environments for creative e-portfolios, composing front-end and back-end applications, and creating web pages, just to name a few. Our programs include degrees within Computer Science, Cyber Security, and Information Technology.

90-91
Total Degree Credits

CONGRATULATIONS, YOU'VE FINISHED!

This worksheet is a tool to help you plan your academic path at CBC. Plan your path today by calling an advisor at 509.542.5505!

PLAN YOUR PATH

SCHOOL OF COMPUTER SCIENCE

START HERE!
Computer Science
Program

AAS Information Technology
Degree

1 Build a summer course into your path!

COURSE	CREDITS	COMPLETED
ENGL& 101	5	<input type="checkbox"/>
MATH& 141/142/144/146/148/151	5	<input type="checkbox"/>
CS 101	5	<input type="checkbox"/>
		<input type="checkbox"/>
		<input type="checkbox"/>
		<input type="checkbox"/>
TOTAL	15	

5

COURSE	CREDITS	COMPLETED
CS 236	5	<input type="checkbox"/>
CS 250	5	<input type="checkbox"/>
CMST 104/110/210/220/260	5	<input type="checkbox"/>
		<input type="checkbox"/>
		<input type="checkbox"/>
		<input type="checkbox"/>
TOTAL	15	

2

COURSE	CREDITS	COMPLETED
CS 102/131	5	<input type="checkbox"/>
CS 106	5	<input type="checkbox"/>
CS 150	5	<input type="checkbox"/>
		<input type="checkbox"/>
		<input type="checkbox"/>
		<input type="checkbox"/>
TOTAL	15	

6 Don't Forget! Submit your grad app!

COURSE	CREDITS	COMPLETED
CS 225	5	<input type="checkbox"/>
CS 117	2	<input type="checkbox"/>
CS 118 or	3	<input type="checkbox"/>
CS 217 (internship)	3	<input type="checkbox"/>
PSYC& 100/SOC&101/SOC&201	5	<input type="checkbox"/>
		<input type="checkbox"/>
TOTAL	15	

3

COURSE	CREDITS	COMPLETED
CS 202/162	5	<input type="checkbox"/>
CS 206	5	<input type="checkbox"/>
CS 228	5	<input type="checkbox"/>
		<input type="checkbox"/>
		<input type="checkbox"/>
		<input type="checkbox"/>
TOTAL	15	

7

COURSE	CREDITS	COMPLETED
		<input type="checkbox"/>
		<input type="checkbox"/>
		<input type="checkbox"/>
		<input type="checkbox"/>
		<input type="checkbox"/>
		<input type="checkbox"/>
TOTAL		

4 Identify your transfer college and speak to an advisor!

COURSE	CREDITS	COMPLETED
CS& 141	5	<input type="checkbox"/>
CS 221	5	<input type="checkbox"/>
CS 232	5	<input type="checkbox"/>
		<input type="checkbox"/>
		<input type="checkbox"/>
		<input type="checkbox"/>
TOTAL	15	

8

COURSE	CREDITS	COMPLETED
		<input type="checkbox"/>
		<input type="checkbox"/>
		<input type="checkbox"/>
		<input type="checkbox"/>
		<input type="checkbox"/>
		<input type="checkbox"/>
TOTAL		

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Do you like working with data, working with details like writing program code, collecting and analyzing information to make decisions, and helping to keep companies and individual's data safe? In the School of Computer Science, students explore courses that lead to developing your own mobile app, creating innovative computer games for all ages, using cloud-environments for creative e-portfolios, composing front-end and back-end applications, and creating web pages, just to name a few. Our programs include degrees within Computer Science, Cyber Security, and Information Technology.

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