PHASE II PROGRAM PROPOSAL

PROGRAM TITLE: EXPANDING ACCESS TO CAREERS IN A TECHNOLOGY-DRIVEN ECONOMY

WIP CATEGORY: DIGITAL INFRASTRUCTURE AND TECHNOLOGY

PSG SPONSOR/S: DR. JOE SCHAFFER AND DR. KIM DALE

PROGRAM CO-LEADS:

DR. KARI BROWN-HERBST AND BRYAN WILSON AT LARAMIE COUNTY COMMUNITY COLLEGE

DR. CLIFFORD WITTSTRUCK, BETH GARD, AND AMY MURPHY AT WESTERN WYOMING COMMUNITY COLLEGE

INSTITUTION/S: LARAMIE COUNTY COMMUNITY COLLEGE AND WESTERN WYOMING COMMUNITY COLLEGE

PRESIDENT(S)/AGENCY DIRECTOR SIGNTATURES

Presidents/Agency Directors from all participating institutions or agencies must sign off on this proposal in order for the full proposal to be reviewed for consideration of Phase II funding. Signature indicates that the President/Director has reviewed the application and acknowledges the program component as a priority for their institution or agency. Components that include multiple institutions and agencies should include signatures from all.

NAME: Dr. Joe Schaffer

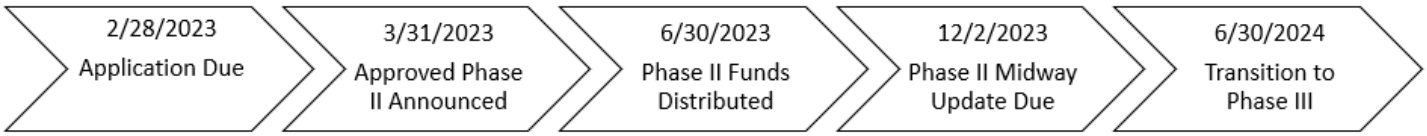
SIGNATURE: _____

NAME: Dr. Kim Dale

SIGNATURE: _____

A project charter is a formal, succinct document describing a project - or in WIP language, a "component" - in its entirety. The Project Management Institute (PMI) defines a project charter as "a document issued by the project initiator or sponsor that formally authorizes the existence of a project, and provides the project manager with the authority to apply organizational resources to project activities." Therefore, the WIP component charters are project charters that carry the association with WIP, assignment of component leads/co-leads, have the authority tied to a sponsoring institution and PSG member, and authorization to expend resources to accomplish the goals and objectives described within.

The following sections include relevant details needed to support the decision-making for the funding of WIP Phase II projects. Should funding be awarded, this application will serve as the foundation for the component's project charter that will guide the work of the project in the entirety of Phase II. Proposals will be reviewed and final funding decisions will be made by Governor Gordon. Questions about this proposal should be directed to Lauren Schoenfeld (lauren.schoenfeld@wyo.gov). Phase II will follow the below timeline unless changes are identified and approved.



Submission Requirements

- **Proposals are to be submitted to Lauren Schoenfeld at lauren.schoenfeld@wyo.gov by 5:00 pm on February 28, 2023.**
- **Only fully completed proposals (including a proposed budget) are submitted, they will be reviewed for participation in Phase II.**
- **Please include any and all justification, including regular data reports and strategic plans, to support the workforce and economic needs associated with your proposal.**

1. COMPONENT INFORMATION

1.1. Phase I Continuation: Select the type of Phase II component you are proposing. If a Phase I project, please complete section 1.2.

[X] Not a Phase I Project

☐Component was funded in Phase I and Phase II will continue current component progress

☐ Component was funded in Phase I and Phase II will provide a new direction building on current progress

1.2. Summary of Phase I (if applicable). Provide a brief description of Phase I progress, key deliverables, metrics that were met, and how Phase II funding would progress this work further.

Not Applicable

1.3. Description: Provide a brief description of the component. Please include the scope of the project in Phase II, the component's importance to the institution/s and state, and the problem you are trying to solve and/or the opportunity to be leveraged. Please also include how the proposal ties into your current strategic or academic plan.

When it comes to digital technology, the future is arriving faster than expected. With nearly daily news updates regarding advancements in artificial intelligence, compounded with never-ending reports of cybersecurity breaches, the importance of remaining at the forefront of technological advancement

will be paramount for Wyoming businesses. In response, the computing foundation established with the UW School of Computing boasts of a collaboration across all nine higher education institutions in Wyoming. The WIP I-supported initiative aimed to expand computing capabilities through new programming in order to diversify the state's economy with a talented and highly trained workforce ready to step into the demands of this ever-changing field.

Directly related to this endeavor, and equally impactful to the state's economy is this proposal to relaunch a Computer Science curriculum at Laramie County Community College (LCCC) with a focus in Artificial Intelligence (AI). This project represents programmatic expansion in a discipline not currently present in Wyoming's higher education portfolio, which serves to diversify our economy through a workforce prepared for success in the digital economy. It also ties directly into Goal One and Goal Two of LCCC's Strategic Plan 2030, which addresses becoming the best-known higher education opportunity within 350-miles of Cheyenne, and offering innovative programming with viable paths for social mobility.

Additionally, as the information technology era continues to be at risk with hackers, companies are in need to ensure their infrastructure is secure with the addition of Cybersecurity Technicians. Western Wyoming Community College (Western) intends to meet this increasingly important need throughout Wyoming with the launch of a Cybersecurity program. As this will be a new program for Western, the College has already begun discussions with employers to identify their needs which align well with the Bureau of Labor Statistics regarding growth within this occupation. As curriculum is being designed at Western, employers will be asked to participate in the process to ensure the final product meets the needs of our industry partners. The hypothesis of Western's evidence-based training strategy is that education and training tied to nationally portable, industry-recognized credentials, and aligning curriculum to those credentials, presents students with opportunities to directly connect to high-growth, high-wage jobs.

The collaborative approach taken by LCCC and Western will increase higher education programming in Wyoming and access to training in support of diversifying our economy. Programming and students served at both institutions will benefit from the *playbook* of experiences and best-practices developed through the collaborative approach in the WIP-I initiative focused on Software Development. In particular, the planning around shared students, credit recovery, and shared delivery which continue to be addressed in the Software Development project will be foundational for LCCC and Western as they seek to engage other higher education institutions in the proposed programs of study outlined below. Both institutions are working beside national initiatives that will help position Wyoming as a leader in the delivery of excellence in computer education. Support for this endeavor is expressed in Attachment A.

<u>LCCC Component Description:</u>

National demands for skills in Artificial Intelligence are increasing quickly and there are currently not enough qualified candidates to meet this demand. Job opportunities in machine learning, data analysis, software engineering, research, and data science are broadly available, both nationally and locally. LCCC has had limited instruction in Computer Science since 2021 and we have not had curricular opportunities to address this increasing need. Having been unsuccessful in recruiting a full-time faculty member, LCCC has relied on adjunct faculty to deliver a small foundational set of courses in this area.

In our desire to understand opportunity and demand associated with Computer Science, we have engaged with national leaders Intel and Dell who reached out to our college directly as candidates for their AI for the Workforce program. As the first AI member institution in Wyoming, LCCC will join community colleges in 35 states in preparing AI-skilled employees for work in such fields as Agriculture, Energy, Education, Telecommunications, and Transportation.

AI for the Workforce Program Goals include:

- **Gain Technical Confidence in AI** – Equip the future workforce with the technical confidence to learn and apply AI skills independently.
- **Enhance Employability for AI-Related Jobs** – Build necessary technology, career growth and social skills for AI for jobs ahead.
- **Produce Evidence for Employment** – Demonstrate solutions through AI projects capturing industrial or social impact.

Based on the content provided as part of this national initiative, LCCC proposes to redesign the current computer science program to include artificial intelligence curriculum, resulting in a new degree and the first AI program in the state. Equipment is requested to supplement the needs of the program in order to launch a state-of-the-art AI learning laboratory. Finally, marketing and outreach will be a necessary component to inform potential students about the opportunity to learn AI at LCCC. Ultimate goals of this project are to increase enrollment in the program at LCCC, increase computer science content opportunities for high school students, increase the number of students transferring to the School of Computing at the University of Wyoming, and ultimately increase opportunities for direct job placement in Wyoming.

Western Component Description:

In designing curriculum, Western establishes an Advisory Board for each area. This advisory board establishes what the education outcomes should be to ensure they align with the needs of industry. As curriculum is developed, industry partners are providing expectation and guidance in the design of the material. Advisory board members also assist in the recruitment of potential candidates for instruction. It is instrumental to hire an individual with the industry experience so as the employer partners who are working on the design and development of the program feel comfortable that the delivery of the curriculum will be fulfilled. Many of the courses in development can be used as part of a hybrid or online model and provide a foundation for Western's blended learning format. All curricula utilized and developed has/will be validated by industry and aligned to industry standards and competencies. Additionally, and fundamental to this request, is the proven success of the LCCC Cybersecurity program. LCCC offers an Associate of Applied Science as well as a stackable certificate in Cybersecurity. Both programs are supported by Microsoft and as part of this collaborative approach, both LCCC and Western can utilize the existing expertise to replicate programmatic success across Wyoming. Furthermore, and as a result of collaboration represented in this proposal, the established cyber range foundational to authentic learning experiences in LCCC's program will provide remote learning opportunities for Western's Cybersecurity students engaged in simulations throughout their program.

Western will develop and implement a plan for supporting the transferability and articulation of industry recognized certification courses and academic credit across the various programs proposed. Western will create career pathways for eligible workers and other adults wishing to further their education. The program will be based on participants completing the related industry certifications which can then be assessed to identify the appropriate credit curriculum module to which that certification aligns.

At the core of the delivery of the cybersecurity education and training experiences in Western's component are 1) virtual laboratory environments that allow for hybrid/online instruction, 2) a student success team delivering individualized interventions through the employment of technology-enabled student tracking, and 3) a program of study designed to ensure students earn stackable credentials valued by employers. Additionally, the fast-track programming, while benefitting from the first three core aspects above, will employ 4) a learning community model and 5) contextualized math and writing skills into the technical subject matter. All five aspects of the instructional delivery and student support methods of this proposed approach are rooted in empirical research and educational theory from current literature on postsecondary education.

The goal for the AAS in Cybersecurity at Western will be a technical degree option for students who wish to work in the rapidly changing cybersecurity world. It will provide hands-on networking, systems, web technologies, databases, and defensive and offensive cybersecurity training. Engaging classes and a dynamic curriculum will help students develop fundamental skills to graduate from the program ready to use their knowledge in the workplace. Training through simulated lab environments will allow students to practice and apply skills throughout the curriculum, making them ready to make impactful changes for their companies.

Ultimately, Western seeks to establish a Cybersecurity Center which will serve as a central hub for joint cybersecurity information, resources, and coordinated efforts to serve the College and community needs. With the assistance of our cybersecurity faculty, advisory committee members, and local industry, Western will pursue the joint National Security Agency (NSA) and Department of Homeland Security (DHS) Center of Academic Excellence in Cyber Defense (CAE-CD) designation. This is a nationally recognizable program for US Department of Education accredited colleges and Western will develop the first Wyoming center with this designation.

Western's Cybersecurity Center will strive to provide the Western's service area (Sweetwater, Sublette, Lincoln, Carbon, and Uinta Counties), the other colleges in the state, and the State of Wyoming with academic and research leadership, collaboration, innovation, and outreach in this critical field by focusing our academic, research, workforce development, and technology innovation activities to advance Western's position as a leading college in cybersecurity and related fields.

1.4. Constraints & Risks: Please describe the constraints (the restrictions or limitations the team may face as it relates to time, money, and equipment) and risks (an uncertain event or condition that could have one or more effects on the component's progress and ability to meet metrics). It is the co-leads job to manage these limitations and risks and balance constraints with available resources to ensure component success.

Risks and constraints are identified for both institutions in the table below. Collaboration among the members of the working group and in concert with their regional partners is planned to mitigate these concerns. Both institutions accept that these are inherent risks in the current economic environment. A risk management plan will be established to circumvent all risks to ensure project success. Incorporating two project co-leads, will also help alleviate leadership risks.

Laramie County Community College	**Western Wyoming Community College**
CONSTRAINTS	
Program Approval Degree program approval timelines for all partners locally, at the state level, and with our national accrediting body.	**Employee** Identifying qualified instructors who will leave a higher salary in industry than what Western can offer.
Supply chain issues Supply chain pressures pertaining to needed computer equipment.	**Supply chain issues** Supply chain pressures pertaining to needed computer equipment.
RISKS	
Employee Limited applicant pool may create an extended faculty search. We've mitigated this risk through a recent wage analysis to ensure salary is appropriate and in line with regional trends.	**Employee** Limited applicant pool that meets the qualifications for adjuncts and full time faculty with significant professional development that meets the NSA designation.
Collaborator availability Availability of faculty from identified collaborators to attend the Train the Trainer development.	

2. Objectives, Activities, and Metrics

2.1. Objectives: List the key objectives that will guide the work of this component through Phase II. Objectives should be SMART: Specific, Measurable, Attainable, Realistic, and Time-bound.

Objectives for LCCC's component include:

1. **Create the first program in Artificial Intelligence in Wyoming:** We will redesign the existing Associate of Science degree in Computer Science. The new program will utilize curriculum created from the Intel/Dell national initiative for Artificial Intelligence to be the first in Wyoming. The program will lead a student to either direct job placement or prepare them for advanced-standing upon transfer to the University of Wyoming.
2. **Create a state-of-the-art AI learning laboratory:** In partnership with Intel and Dell, LCCC STEM faculty and colleagues in our Integrated Technology Services department will identify the equipment and system upgrades necessary create a state-of-the-art learning laboratory that will engage learners in a designated classroom or remotely to meet the needs of our diversified student body. This creates access to the AI programming for rural and remote students throughout Wyoming.
3. **Build foundational skills around AI in high school and get students into a STEM pathway:** In conjunction with our K-12 partners through concurrent and dual enrollment opportunities

we will develop foundational skills around Artificial Intelligence through pre-college enrollment. Intentional positioning of foundational curriculum in high schools creates industry awareness and curiosity while also building industry-to-student relationships for authentic learning experiences. This awareness, curiosity, and relationship building, when coupled with impactful interactions with LCCC's STEM Pathway Coordinator and faculty will lead students to pursue STEM specifically as they prepare for their entrance to higher education.

4. **Increase number of transfer students to UW:** Ensure a pathway to the University of Wyoming that guarantees advanced-standing in the School of Computing for transfer students.
5. **Job placement in Wyoming after graduation:** Increase opportunities for direct job placement upon graduation from the program.

Objectives for Western's project are:

1. **Participate in the working group's collaborative:** Western recognizes the mutual benefits that come from engagement with our peers across the state and we are committed to working beside our peers at LCCC in our Cybersecurity program development, facility creation, and delivery. This will increase the expertise in both programs and will further other established statewide initiatives rooted in common course numbering and common curriculum. This approach will also increase the accessibility of programming from both institutions for students who historically have not had access due to geographic and timebound constraints.

2. **Perform outreach and recruitment:** Western's service area, the State of Wyoming, and the surrounding states will learn of our programming through such channels as the Workforce Services, Veterans Administration Centers, Wyoming's Department of Employment Security, high schools, and BOCES/BOCHES. We will create partnerships with local non-profit and community-based organizations such as local chambers of commerce, Climb Wyoming, United Way, and others to promote the career pathway as a cybersecurity technician, which is a high-growth, high-demand, and high-wage occupation. This regional awareness will assist with student recruitment and will further engage industry partners in the program's development and continuous improvement.

3. **Engage industry partners with all students:** Establish work-based learning/internship opportunities for students. These opportunities will educate students on the security of enterprise systems to support the security of small and large-scale organizations and companies including, but not limited to government, nuclear, and other manufacturing operations.

4. **Assist with post-completion planning:** Western will assist graduates with job placement through career fairs and facilitated workshops to promote job readiness and career counseling. These efforts will include, but not be limited to:
   - Career Exploration/Assessment
   - Resume
   - Job Search
   - Interviewing
   - Networking Opportunities with Industry Partners
   - Apprenticeship Opportunities

2.2. **Measurable Activities:** Map out the major events of the component, including the completion of key deliverables that are necessary for the component to meet the stated objectives. Explain what will be accomplished during each semester and include information about who is responsible for completion.

Fall 2023

Measurable Activities	Expected Completion	Responsible Party
Adjunct Faculty position posted	July 2023	Western Human Resources
Faculty recruitment and hiring	August 2023	LCCC Human Resources, Dean Bryan Wilson, Program Director Dr. Erin Nitschke
Signed License Agreement with Intel/Dell	August 2023	LCCC Dr. Kari Brown-Herbst; Bryan Wilson
Adjunct Faculty position filled	August 2023	Western Human Resources, Dr. Wittstruck, Gard, Murphy, WWCC Board of Trustees
Curriculum Development for the cybersecurity courses	October - January 2023	Western Cybersecurity Faculty, Gard
Curriculum Development Meetings w/ Intel/Dell	December 2023	LCCC New Faculty Member, Dean Wilson, Intel/Dell Partners
Meetings w/K12 partners to determine dual/concurrent enrollment opportunities	December 2023	LCCC New Faculty Member, Bryan Wilson, K12 partners
Meetings w/University of Wyoming to determine degree and transfer options	December 2023	LCCC Faculty Member, Dean Wilson, UW partners
Advisory Committee meetings for industry guidance on curriculum/technology requirements	December 2023	LCCC Faculty Member, Dean Wilson, Advisory Committee members, industry partners
Marketing begins to announce the new program	Fall 2023 semester	Western's Marketing Department

Spring 2024

Measurable Activities	Expected Completion	Responsible Party
Marketing Recruitment Plan Launched	Spring 2024 semester	Western Murphy, Marketing Department, Industry Partners
Curriculum Development	January 2024	Western Cybersecurity Instructor, Gard
Curriculum Approved by Western's Curriculum Committee	February 2024	Western Curriculum Committee
Program submission for approval to LCCC Academic Standards Committee	April 2024	LCCC New Faculty Member, Dean Wilson
Program submission for approval to LCCC President's Cabinet	April 2024	LCCC New Faculty Member, Dean Wilson, Dr. Brown-Herbst
Program submission for Approval to LCCC Board of Trustees (two meetings)	May and June 2024	LCCC New Faculty Member, Dean Wilson, Dr. Brown-Herbst

Summer 2024

Measurable Activities	Expected Completion	Responsible Party
Program submission for approval to WCCC	July 2024	LCCC Dr. Brown-Herbst
Program submission for approval to HLC and US Department of Education	August 2024	LCCC Dr. Brown-Herbst, Vice President, Performance and Planning, Dr. Dustin Eicke
Train the Trainer – in person training for faculty	August 2024	LCCC One faculty member each from LCCC, UW and Laramie School District #1
Determine necessary equipment and all IT components necessary for classroom and virtual environment	August 2024	LCCC New Faculty Member, Integrated Technology Services department personnel
Develop marketing plan	August 2024	LCCC New Faculty Member, Marketing & Communications
Marketing campaign continues for recruitment	Summer 2024	Western Marketing Department, Murphy, Industry partners

Fall 2024

Measurable Activities	Expected Completion	Responsible Party
Initial Cohort Begins Instruction	August 2024	Western Admissions/Registration Office
Launch Marketing Campaign for Degree Program	Launch Fall 2024 – continue through spring	LCCC New Faculty Member, Marketing & Communications
Faculty training	Ongoing	LCCC 3 trained trainers from UW, LCCC, and LCSD1 will provide training
Equipment purchases and delivery	December 2024	LCCC New Faculty Member, Integrated Technology Services department personnel, Contracting & Procurement
Outreach and recruitment continue	Ongoing	Western Recruiters, Cybersecurity Instructor, Industry partners

Spring 2025

Measurable Activities	Expected Completion	Responsible Party
Incorporation of AI coursework with K-12 partners	March 2025	LCCC New Faculty Member, K12 partners
Set up equipment and establish classroom environment	May 2025	LCCC New Faculty Member, Integrated Technology Services department personnel
Initial Cohort Completes the Certificate	May 2025	Western Graduation Office
Outreach and recruitment continue	Ongoing	Western Recruiters, Cybersecurity Instructor, Industry partners

Summer 2025

Measurable Activities	Expected Completion	Responsible Party
Outreach and recruitment continue	Ongoing	Western Recruiters, Cybersecurity Instructor, Industry partners
Work-based learning/internship offered	Summer 2025	Western Cybersecurity Instructor, Murphy

Fall 2025

Measurable Activities	Expected Completion	Responsible Party
Second Cohort Begins Instruction	August 2025	Western's Admissions/Registration Office
Program launch; first students enrolled at LCCC	August 2025	LCCC School of Arts & Sciences personnel
Outreach and recruitment continue	Ongoing	Western's Recruiters, Cybersecurity Instructor, Industry partners

Spring 2026

Measurable Activities	Expected Completion	Responsible Party
Outreach and recruitment continue	Ongoing	Western Recruiters, Cybersecurity Instructor, Industry partners
Initial Cohort Completes the AAS degree	May 2026	Western Graduation Office

Provide any additional context or information about the timeline of the component below.

These timelines are dependent on successfully addressing the constraints and risk factors identified in section 1.4. A risk management plan will be completed as part of a project plan if funding is awarded. Though not included in the measurable activities above, additional deliverables from LCCC include the development of internship opportunities (Spring 2027) and the first transfer students to UW and direct job placement anticipated by Fall 2027.

2.3. **Success Metrics:** Elaborate on the objectives stated above and identify the specific, quantifiable, and measurable criteria that define the success of this component. Success metrics should include at least one PSG-approved WIP metrics included in the dropdown list below. When selecting a metric please elaborate on how the metric will be measured in the context of the proposed work of the component. Metrics can align with more than one objective. See Appendix A for complete list of Component metrics.

Objective	Metric & Demonstration of Success in Context of the Program Component's Objective
All Objectives LCCC and Western	**Program is aligned to local and/or state needs** The redesigned Computer Science program at LCCC and the Cybersecurity program at Western will both be developed through industry collaboration. LCCC's AI focus will be established through in-depth communication with Dell/Intel as part of their initiative to align closely with the needs of the region and state.

LCCC Objective 1: Create the first Wyoming AI degree program *Western Objective 2: Perform outreach and recruitment*	**New educational program stood up-Digital/Technology; Number of students enrolled** LCCC's new program will focus on Artificial Intelligence which is an emerging technology field and no programs offer this curriculum in the State. The newly established program will enroll at least 20 students in each semester with anticipated growth each year based on the success of the program. At Western the newly established Cybersecurity program will enroll 18 students (100% capacity) in each semester.
LCCC Objective 2: Create a state-of-the-art AI learning laboratory *Western Objective 1: Participate in the working group's collaborative*	**Number of courses that are not offered traditionally - online, hybrid, night classes** The purchase of necessary computers as well as an increased capacity for the virtual environments at both institutions will provide for face-to-face and distance environments that are adequate to reach students across the state.
LCCC Objective 3: Build foundational skills around AI in high school and get students into a STEM pathway *Western Objective 2: Perform outreach and recruitment*	**Recruitment? New students, capacity reached - waitlist?** Exposure to Artificial Intelligence curriculum early in a student career will increase curiosity and provide the bridge from K-12 to higher education. Through the delivery of an intentional introduction to AI and development of foundational skillsets for success in this field, high school students will have an excellent history upon which to build their entry to the College, as well as early entry to the STEM pathway and success in this degree. The Cybersecurity program at Western will employ community, regional, and industry outreach to identify and inform a pipeline to this new opportunity.
LCCC Objective 4: Increase number of transfer students to UW	**Transition to higher education/degree to UW** The degree in artificial intelligence is a new offering at LCCC and as such it is expected to increase the number of students transferring to the UW School of Computing. The degree path will be designed similarly to the Software Development programming sponsored in WIP Phase I.
LCCC Objective 5: Job placement in Wyoming after graduation *Western Objective 4: Assist with post-completion planning*	**Job placement after graduation; Average wage of jobs** LCCCs degree will have an off ramp for students wishing to pursue qualified and direct entry into the workforce. According to JobsEQ, jobs linked to Artificial Intelligence have added 534 jobs in Wyoming in the past 3 years. Additionally, JobsEQ expects that in Wyoming approximately 931 newly trained AI workers will be needed over the next 7 years. The average median salary for AI Jobs in Wyoming is $95,000 which is much higher than the national average. Western predicts that 75% or 16/17 students will be gainfully employed in the industry upon graduation from the Cybersecurity program.
Western Objective 3: Engage industry partners with all students	**Number of internships/apprenticeships created** Western aims to provide at least 2-3 internship opportunities the first year with a goal to add an additional 2-3 internships each year until all

	students can be afforded the opportunity to receive experience in the field prior to graduation. All internship awards will be application-based.

2.4. Connection to WIP Metrics: All WIP components lead to the long-term success of WIP. Please select ALL applicable long-term WIP metrics from the dropdowns and elaborate on how this component will lead to the advancement of the stated metric. See Appendix B for longer-term WIP metrics.

Wyoming business expansions (# Jobs)
Business relocation
Job placement after graduation
Diversification of Economy – 2-5 years

Artificial Intelligence is an emerging sector of the technology industry. Wyoming is favorable for the technology industry as seen in the recent booms of data centers and technology businesses. For example, in the past three years Microsoft has opened three new facilities and is in the process of building five more. LUNAVI has more than doubled its' operations, and there are several data center proposals currently being reviewed by Cheyenne LEADS, the Cheyenne-Laramie County Corporation for Economic Development.

This new program at LCCC will provide a workforce that will be favorable for any employer in the Artificial Intelligence sector or associated disciplines in the digital economy to look at for relocation or expansion to this region. According to information provided by Dell, there is a $15.7 trillion potential AI-based contribution to the global economy by 2030, with a $997.77 billion market size by 2028. And AI adoption is still in the early stages. Only 6% of organizations have implemented AI, while 95% believe they will benefit from AI adoption. With a trained and available workforce, plus a lucrative environment for data, businesses that look at Wyoming will find the benefits of relocating here to be immense.

Similarly, and with the rise of new technologies, cybersecurity has become a top concern for all companies – large or small. The future of cybersecurity is dependent on how many people are going to be using the internet and how much data they are going to be sharing, and as we know, that number is not decreasing. As the world continues to become more connected, the need for cybersecurity becomes greater. Companies who invest in cybersecurity technicians will have a better chance to protect their infrastructure from threats and have a greater opportunity for success.

A trained workforce is the key to any company's success, and data integrity is an essential commodity. In order to preserve this information, companies need the skilled workforce who can help them secure it. Western is providing this opportunity with the new Cybersecurity program.

Cybersecurity has an average salary of $73,790 in the State of Wyoming according to the Bureau of Labor Statistics. Employment of information security analysts is projected to grow 35 percent in the state from 2021 to 2031, much faster than the average for all occupations.

Approximately 19,500 openings for information security analysts are projected each year, on average, over the decade. Many of those openings are expected to result from the need to replace workers who transfer to different occupations or exit the labor force, such as to retire.

Average wage of WIP Program graduates
Diversification of economy
Retention of Wyoming graduates

According to JobsEQ, the median wage for jobs in Wyoming that are linked to artificial intelligence is $95,000. This is compared to an all-occupations estimate in Wyoming of $45,600 as a median annual wage. Graduates of the envisioned program will receive valuable skills for in-demand jobs leading to wages benefiting their livelihood, as well as providing for economic diversification for the state as a whole. Similarly, graduates choosing to continue their education in AI will have a defined entry to the UW School of Computing. As Bachelor's students at UW, LCCC's AI graduates will have access to the rich data environment supported by WIP and the research-based training and partnerships envisioned in the School of Computing. Finally, through the virtualized environment developed for the LCCC program access to the AI program will be easily achieved by students throughout Wyoming. With options to pursue a clearly defined path to workforce and/or advanced-standing in the state's only university, Wyoming's students will have numerous incentives to stay in the state and contribute to the economic diversification in all regions of Wyoming.

Similar to the artificial intelligence program at LCCC, Western's graduates will have the necessary skills to gain employment in industry, and the students will earn an average annual salary of $73,790. For those students who would like to continue their education at the University of Wyoming, they will have a clear pathway to the UW School of Computing allowing them to continue their educational journey with access to the same data resources and partnerships referenced above.

2.5. **Evaluation:** How will the success of this component be evaluated? What data will be collected to determine if the component is having the desired impact?

Both institutions will apply procedurally defined assessment of their respective programs. At LCCC success of the new AI program will be evaluated through LCCC's annual program assessment process and our comprehensive academic program review process. Through both processes data is gathered relating to the success of the program. Notable measures include: student demand and enrollment, student retention and persistence, student completion, number of jobs available to students in Wyoming, job placement after completion, and student transfer rate to the University of Wyoming. Additional evaluations will be provided at the K-12 level to determine the success of increased opportunities associated with this program for students in high school, and several of these same metrics will be used in conjunction with assessment processes utilized by our K-12 partners.

Western's Cybersecurity program will be evaluated based on the following:

1. Recruitment/Enrollment. We plan to recruit and enroll 18 students each year to participate in the Cybersecurity program. This outcome will be measured by the completion of the online enrollment process to major in the Cybersecurity program. Once the courses begin, attendance rosters will be used to monitor their enrollment.

2. Graduates. The anticipated graduation rate is 75% of the students enrolled either earning the Certificate of Completion, the AAS degree, or both. This outcome will be measured by those who successfully complete the program; disaggregating for credential type will be measured as well. Documentation of a student's success would be awarded on their transcript.

3. Placement. The anticipated job placement rate is 75% of the students. This outcome will be measured by verification from the employer.

3. Component Stakeholders

3.1. Program Component Lead(s): Who will be the main contact(s) for the component? Is there a plan if one of the leads must leave the program?

In order to successfully implement all of the proposed objectives, project leads at both colleges will develop a coordinated working group to share best practices, co-create curricula, aid in problem solving, and provide general project support throughout the process. The main contacts for the LCCC component will be Bryan Wilson, Dean, School of Arts & Sciences; Dr. Erin Nitschke, Program Director, Sciences; and the yet to be identified full-time faculty member. Western's main contacts will be Dr. Cliff Wittstruck and Amy Murphy. With a sizable team focused on successful completion of this project, if one member leaves there will continue to be contacts to ensure communication and forward progress of the team. Additionally, all positions held by these personnel would be rehired in the event of someone leaving the institution.

3.2. Working Group: List the component's working group members, respective institutions, key responsibilities. The working group should include both members that are both internal and external to the institution(s) involved. Think of those affected both directly and indirectly by the work of the component and who will have input on the work and outcome of the component but may not necessarily be represented on the component team.

Working Group Members	Institutions	Key Responsibilities
Bryan Wilson	LCCC	LCCC Co-Lead of Project
Unidentified Faculty Member	LCCC	LCCC Co-Lead of Project
Dr. Erin Nitschke	LCCC	LCCC Co-Lead of Project
Amy Murphy	Western	Western Co-Lead of Project
Dr. Kari Brown Herbst	LCCC	LCCC Executive Sponsor
Dr. Cliff Wittstruck	Western	Western Executive Sponsor
Beth Gard	Western	Western School Chair
Consultant (to be identified; consultation to date has been with Dr. Gabrielle Allen)	University of Wyoming	Transfer partner, UW School of Computing
Consultant (to be identified; consultation to date has been with Dr. Bryan Shader)	University of Wyoming	Transfer partner, Computer Science, UW
Lindsey Stutheit	LCSD#1	Curriculum assistant, Laramie County School District #1, Cheyenne High Schools

Adam Keizer	LCSD#1	Curriculum assistant, Laramie County School District #1, Cheyenne High Schools
Julie Calkins	LCSD#1	Curriculum partner, Computer Science, Cheyenne schools

3.3. Working Group Communications Plan: Please explain how the working group will work effectively across institutions to communicate with one another, meet key milestones, and meet the component's objectives and deliverables.

The working group for this proposal will consist of personnel from both LCCC and Western. As is indicated throughout the narrative, both institutions will engage with regionally based partners in the development of their respective programs. While institutional teams will complete much of their work independently, the Project Leads will ensure the working group meets regularly as the programs are developed and launched. It is anticipated that the working group will meet virtually, though opportunities for engagement such as the annual Articulation Summit and/or shared professional development may be sought as well.

To communicate to the entire AI team at LCCC a standard cadence of meetings will be established with a common agenda created. This will allow for progress updates for all milestones and objective completions. Additionally, LCCC will host a shared virtual workspace where all official documents and resources will be housed and accessible to outside entities as needed.

Western's School Chair, Beth Gard, and colleague Amy Murphy will serve as the primary communicators to the College's industry partners as well as the current students. There will be quarterly newsletters sent to the industry partners providing updates on the program. In addition, we will have at least three meetings with the industry partners in-person as well as the option for remote attendance to ensure we are obtaining their input. The student communication plan will be established up front with our students through the syllabus, and the students will be provided contact information for Gard.

3.4. Industry/Business Partnership and Engagement: Please explain how industry partners (current and future partnerships) will be leveraged to advance the component's progress.

It is a partnership with business/industry that gave way to the AI opportunity for LCCC, and we are currently working with Intel and Dell to advance this opportunity through their national initiative, AI for the Workforce. Intel/Dell approached LCCC as they sought a higher education partner interested in working beside other institutions and their corporate sponsors to envision various ways to deploy the provided curriculum. Through the course of several foundational conversations, LCCC determined AI was an area not addressed at other colleges in Wyoming. We further determined that the partnership with Intel and Dell was an opportunity to reestablish the Computer Science curriculum at the College while also serving a greater need in Wyoming as a newly established career path to workforce and a defined transfer path to UW's School of Computing. As an AI initiative member, LCCC is provided a robust curriculum with the flexibility to adjust the curriculum to meet the needs of the project and the State of Wyoming. The expertise and needs of our local partners will be instrumental in structuring the provided curriculum to best fill the skillset gaps in our region.

Additionally, and noted below, LCCC will continue to engage other industry/businesses throughout the development of the project. Currently, it is difficult to avoid reading or hearing about Artificial Intelligence (AI). The launch of ChatGPT has put a national spotlight directly on AI. With this launch many businesses such as Bing and Microsoft have increased their research and development to bring AI to the fingertips of the general public. With this increased focus, we are confident business and industry partners will be looking for graduates who have a background in AI.

LCCC has well established partnerships with technology businesses through our Information Technology Pathway. We hope to continue to engage these partners and seek their advice as we incorporate Intel's AI curriculum into the state's degree program mix. The AI program will also build and regularly engage an advisory committee. These partnerships will aid in our ability to identify authentic job-based experiences for our students. This approach will mirror what Western practices in their engagement with a program's Advisory Board. Western will specifically target initiatives to design outreach materials to market and recruit employees of local business and industry to help educate prospective students in outreach efforts.

3.5. K-12 Partners: Please explain how and which K-12 partners will be involved in the component and support to the overall success of the project.

LCCC's K-12 partners will be integral to the completion of the project. The vision of the project is to ensure that some of the AI curriculum is deployed in the K-12 schools with whom we currently team on concurrent and dual enrollment. To do this, we will have K-12 partners engaged in every step of the project. Laramie County School District #1 has already made a commitment to ensure that we will have members from the district on our team. Additionally, we have had preliminary talks with Albany County School District #1 to also engage them in the development of the project to also have curriculum taught within the Albany County School District. Communication and partnership with additional school districts may occur as the project progresses.

Western has an active Outreach division that has partnerships with all of our high schools in the service area, and we will be working together to develop new initiatives specifically targeting the high school populations in an effort to recruit a greater percentage of our in-district high school populations who enjoy working with their hands to seek the opportunity to enter the career pathway of a Cybersecurity Technician. Initiatives will also include increased involvement with parents/guardians of high school students. Western will work to increase the number of concurrent/dual-enrolled courses made available to high school students who are interested in pursuing this career pathway.

3.6. Community Partners: Please explain how and which community partners will be involved in the component and support to the overall success of the project.

Success of the AI project component will be reliant upon engagement between LCCC and our community partners. Project personnel will work closely with local Chambers to better understand the technology business needs. This will help in our development of engaging more business and industry partners, as well as ensuring the AI curriculum provides for their specific needs. As part of the intent of this project is to provide authentic job-based experiences for students, collaboration with community partners will be critical. Another critical community partner we will engage is Cheyenne LEADS. Cheyenne has seen a boom in economic development in the technology industry. We have a well-established partnership with LEADs, and can leverage this partnership to engage with potential technology businesses as they seek to establish opportunities in Southeast Wyoming.

In Western's Cybersecurity component, a number of non-profit, community-based organizations, such as local chambers of commerce, Climb Wyoming, United Way, and others, will be involved in assisting in the marketing and outreach of the Cybersecurity program. These entities will provide supportive services including assistance with job placement; help for participants to overcome barriers to successfully completing training and securing employment; and, financial coaching.

Western will partner with a variety of agencies including Wyoming Works, Wyoming Workforce Services, the Veterans Services Office, Manufacturing Works, Life Skills Wyoming, Serve Wyoming, and the High Desert Human Resources Association to help students with a variety of necessary "soft" skills to improve their employability. Many of these non-profit organizations promote personal and professional growth and development opportunities which are vital for a student to succeed. These partnerships will improve students' interpersonal and networking skills to help them become more confident in presenting themselves to potential employers. These relationships have already been incredibly valuable to Western's current students making the transition from student to professional or those returning students transitioning into a different field.

These partnerships will also ensure we are being inclusive of all residents in our service area and throughout the State. These partnerships allow for additional student support services, and we want to make sure all of our students are successful. Western relies on these partners to help provide these support services which complements the student services provided at the College.

4. Marketing, Funding, & Sustainability

4.1. Marketing & Communication Plan: Explain how critical information will be delivered to both internal and external stakeholders throughout the project, by who, and at what frequency.

LCCC will communicate the status of the working group's progress quarterly to executive teams from all institutions. This will be done via a progress report produced by the co-leads. Multiple meeting agendas will be created to fit different types of meetings with different stakeholders of the project. Minutes will be taken at these meetings and shared with stakeholders.

The LCCC Marketing & Communications team will develop a targeted strategic campaign in partnership with the associated institutions. The plan would include traditional digital marketing including display ads, display retargeting and keywords paired with static and video social advertising on YouTube, Facebook, Instagram, etc. The digital campaign would be enhanced with some traditional mail and print marketing. The traditional print marketing would be especially key with our various partner institutions.

A targeted audience of both traditional and non-traditional students, built from purchased and public data/lists centered on interest in attending college and the program, would be used to advertise directly to targets as well create look-alike audiences for additional targets. The new program marketing could be deployed as a strong, single push in the spring or split between smaller campaigns in the fall and spring. The campaign would likely run for three- or four-months total. Interest in the program would be tracked on at least a monthly basis and ads tested and switched out to maximize performance. Ultimately, those we deliver ads to will be tracked through our enrollment system. Once they have requested more information, potential students are added to our CRM where they receive regular communication from our Enrollment Services team. Western's marketing and communication

plan will be an ongoing activity that occurs throughout the entire award cycle. The internal team responsible for making this happen consists of the Cybersecurity Instructor, Gard, Murphy, and the Marketing Department. There will be opportunities to promote this program through traditional media such as newspaper, radio, and signage. The promotion will include the reference that programmatic funding has been provided by the Wyoming Innovation Partnership (WIP). On-site signage will be used on campus and any printed handouts given to students. In addition, we would be sure to discuss this program on-air with the local/statewide radio stations.

We would focus our efforts on grass-roots marketing to promote the Cybersecurity program on signage as well as any handouts. We would be sure to give WIP prominence on all printed marketing materials. In addition, we would mention our partnership and the opportunities made available through this grant during all media outreach.

Western would maximize our online presence to promote our program through our website, social media channels as well as our newsletter. We utilize Facebook, Twitter, Instagram, and YouTube social media channels. We would be sure to promote the program. In addition, we would feature boosted posts as another method. In addition, we would tag our industry and community partners, and the feeder schools involved, which would increase the audience as the post gets shared. We also have a substantial database that we send our electronic newsletter to our industry partners. In this newsletter, we would promote the partnership and grant opportunity made possible through WIP. There are also excellent opportunities to include photo galleries and program updates. In regards to the website, we have a wide audience that visits our website for information about programs and events. We would be sure to give recognition to WIP through brand-recognition with the use of logo on all marketing materials.

4.2. Budget: Submit the supplied budget template with the completed charter. If opting to utilize an indirect cost formula the maximum indirect cost rate will be 20%.

☐ There will be carry over of Component's Phase I funding into Phase II. If so, please explain how those funds will be used on the attached budget template.

There are no carry over funds. The budget is attached.

4.3. Funding Sources: What is the primary source/s of funding for the component? If external sources will be used in conjunction with WIP funding, please explain.

WIP Phase II funding will be the primary source of funding for the start-up and operations for both programs discussed in this proposal. External funding is provided to LCCC in the form of an in-kind donation from Intel/Dell for the AI specific curriculum, as well as a possible grant from Dell that could total as much as $40,000. As noted in the sustainability plan below, Western will also rely on support from industry partners for monetary and equipment donations. Funds are requested for three years to successfully launch and fully establish these programs.

4.4. Sustainability Plan: Please provide a brief sustainability plan that demonstrates how additional financial resources, if needed, will be acquired upon the completion of Phase II to sustain this component and demonstrate how other key factors (enrollment, industry demand, etc.) will support the long-term sustainability of this component.

Sustainability for the overall project components will be supported by each college and anticipated enrollments in the programs. Continued collaboration with industry and community partners will ensure that the programs remain up-to-speed and continually advance with the ever-evolving dynamics of this industry. The full-time faculty positions will be moved to general funds at each college after the WIP start-up salary is exhausted. Funds for equipment replacement will be built into operating budgets to ensure realistic replacement for equipment, and each college will work with industry partners for monetary and equipment donations to assist in ongoing program costs. Finally, minimal course fees will be applied to aid in a revenue stream to offset some of the pressures imposed by the new programs on operating budgets.

AMERICAN ASSOCIATION OF COMMUNITY COLLEGES

February 25, 2023

The Honorable Mark Gordon
Governor of Wyoming
C/O Lauren Schoenfeld
State Capitol
200 West 24th Street
Cheyenne 82002-2060

RE: Letter in Support of LCCC/WWCC WIP Phase II Proposal

Dear Governor Gordon:

It is my pleasure to submit this letter in support of the collaborative proposal between Laramie County Community College (LCCC) and Western Wyoming Community College (WWCC) for Phase II funding in the Wyoming Innovative Project (WIP) initiative. I want to applaud and commend you for the vision you have in creating WIP, and believe this proposal will indeed help you attain that vision in Wyoming.

The American Association of Community Colleges (AACC) is the nation's voice for its more than 1000 community and technical colleges and the millions of students who turn to us for better lives. An area of significant focus for AACC are partnerships with major tech industry leaders such as Microsoft, Google, Dell, and Intel. From these partnerships great programs have emerged such as our *Cyber Skills for All* work with Microsoft and the *Artificial Intelligence Innovation Network* (AIIN) program led collaboratively between Dell and Intel.

LCCC is among the first cohort of Cyber Skills for All institutions and a leader in that space. The ability to scale this work in Wyoming through a partnership with WWCC is ripe with potential. We have also helped connect LCCC to the Dell/Intel AAIN program, positioning the institution well to build this level of programming and knowledge-base for your great state.

I would highly encourage you to support this proposal.

Sincerely,

Walter G. Bumphus
President and CEO, American Association of Community Colleges

c: Dr. Joe Schaffer, President, Laramie County Community College
Dr. Kim Dale, President, Western Wyoming Community College

One Dupont Circle, NW ■ Suite 700 ■ Washington, DC 20036 ■ T: 202.728.0200 ■ F: 202.223.9390 ■ www.aacc.nche.edu

February 27, 2023

The Honorable Mark Gordon
Governor of Wyoming
C/O Lauren Schoenfeld
State Capitol
200 West 24th Street
Cheyenne 82002-2060

RE: Letter in Support of LCCC WIP Phase II Proposal

Dear Governor Gordon:

Intel is proud to support the collaborative proposal between Laramie County Community College (LCCC) and Western Wyoming Community College (WWCC) for Phase II funding in the Wyoming Innovative Project (WIP) initiative. I commend you for your vision in creating WIP and believe this proposal will help attain that vision in Wyoming.

Intel (Nasdaq: INTC) is an industry leader. Inspired by Moore's Law, we continuously work to advance the design and manufacturing of semiconductors to help address our customers' greatest challenges. Intel has committed to expanding digital readiness to reach 30 million people in 30,000 institutions in 30 countries. This commitment is part of the company's 2030 Goals s that underscore Intel's aim to make technology fully inclusive and to expand digital readiness to people worldwide. Intel's corporate responsibility commitment to positive global impact is embedded in its purpose to create world-changing technology that enriches the lives of every person on the planet.

Intel recognizes the crucial need to develop digital readiness skills in the US workforce, including skills in the application and knowledge of artificial intelligence. That is why we created the *AI for Workforce* program, to prepare current and future workers with key skills in Artificial Intelligence (AI). Intel provides over 500 hours of AI content to community colleges, professional training for faculty, and implementation guidance. Community colleges use this content to develop AI certificates, augment existing courses, or launch full AI associate degree programs for students. AI for Workforce launched in the US in 2020, and over 75 schools in 35 states have joined the program.

In partnership with the American Association of Community Colleges (AACC) and Dell Technologies, we are focused on expanding to all 50 states to enhance artificial intelligence education across community and technical colleges. As such, we are excited about the

prospect of working with Laramie County Community College (LCCC) as our first partner institution in Wyoming. Our initial conversations with LCCC and their vision for incorporating AI into their curriculum are energizing.

I highly encourage you to support this proposal.

Sincerely,

Cristina Ortiz

Government Partnerships and Initiatives -US Director

Global Government Affairs

Intel Corporation

LARAMIE COUNTY SCHOOL DISTRICT 1

LCSD#1 Department of Instruction
Career & Technical Education
Coordinator Lindsey Stutheit

February 25, 2023

The Honorable Mark Gordon

Governor of Wyoming

C/O Lauren Schoenfeld State Capitol

200 West 24th Street

Cheyenne 82002-2060

RE: Letter in Support of LCCC WIP Phase II Proposal

Dear Governor Gordon:

It is my pleasure to submit this letter in support of the collaborative proposal between Laramie County Community College (LCCC) and Western Wyoming Community College (WWCC) for Phase II funding in the Wyoming Innovative Project (WIP) initiative. I want to applaud and commend you for the vision you have in creating WIP, and believe this proposal will indeed help you attain that vision in Wyoming.

Laramie County School District #1 (LCSD#1), has a long, and prosperous relationship working with LCCC. More recently we have established goals to better align curricula that provides opportunities for our students to accelerate their path to college and career readiness through the expansion of dual and concurrent enrollment offerings aligned with eight distinct career pathways.

One of those pathways is Information Technology. Through this proposal, we will partner with LCCC to Create a successful pipeline of students from our schools through concurrent and dual enrollment opportunities in introductory Artificial Intelligence skillsets. The intentional positioning of foundational curriculum in high schools creates industry awareness and builds industry-to-student relationships for authentic learning experiences that jump start programmatic requirements through pre-college enrollments.

I would highly encourage you to support this proposal. Please know, if you do fund this proposal, LCSD#1 is poised and ready to be an active partner in helping build this pathway to exceptional careers in the digital and tech industry.

Sincerely,

Lindsey J. Stutheit – LCSD#1 Career & Technical Education Curriculum Coordinator

c: Dr. Joe Schaffer, President, Laramie County Community College