MONTGOMERY COLLEGE PROCUREMENT OFFICE

Dated: November 13, 2014

ADDENDUM #2

PURPOSE OF ADDENDUM:

1. **Change Section 2.3 (Development and Delivery Schedule) items g and h to read:**

    g. Prepare Annual Performance Reports (APR) for submission to the project director, incorporate needed changes, and ensure timely submission to the funding agency. {October 30, 2015, October 30, 2016, October 30, 2017 and October 30, 2018}

    h. Deliver formal year-end evaluation reports, incorporating APR and evaluation data with the goal of linking findings and results to ongoing program improvements. {October 30, 2015, October 30, 2016, October 30, 2017 and October 2018}

*************************ALL ELSE REMAINS UNCHANGED****************************

PLEASE SIGN BELOW TO ACKNOWLEDGE RECEIPT OF ADDENDUM AND RETURN WITH BID RESPONSE.

NOTE: BID ADDENDA WILL NOT BE ACCEPTED BY FACSIMILE.

_____   _____
Company Name   **Authorized Signature**

_____   _____
Date   **Typed Signature**

MONTGOMERY COLLEGE PROCUREMENT OFFICE

Dated: November 12, 2014

ADDENDUM #1

PURPOSE OF ADDENDUM:

1.   **Change Section 2.3 (Development and Delivery Schedule) items g and h to read:**

g. Prepare Annual Performance Reports (APR) for submission to the project director, incorporate needed changes, and ensure timely submission to the funding agency. {October 30, 2015, October 30, 2016 and October 30, 2017}

h. Deliver formal year-end evaluation reports, incorporating APR and evaluation data with the goal of linking findings and results to ongoing program improvements. {October 30, 2015, October 30, 2016 and October 30, 2017}

2.   **Change Section 3.2 (Evaluation Criteria) to read:**

"Grant program evaluation vendors will be evaluated on the following criteria categories:"

3.   Replace Section 4.2 (Required Submittals), I with the following:

I.   Technical Proposal
- Description of Services offered by Bidder
- Transmittal Letter
- Statement of Qualifications
- References
- Subcontractor List (if applicable)
- Contractor Information Form

4.   To provide attached RFP questions and answers

**************************ALL ELSE REMAINS UNCHANGED****************************

PLEASE SIGN BELOW TO ACKNOWLEDGE RECEIPT OF ADDENDUM AND RETURN WITH BID RESPONSE.

NOTE: BID ADDENDA WILL NOT BE ACCEPTED BY FACSIMILE.

_____   _____
Company Name   **Authorized Signature**

_____   _____
Date   **Typed Signature**

RFP QUESTIONS AND ANSWERS

Question:	Answer:
What is the anticipated modal duration of the planned Cyber Technology Certificate?	One year
Will students be permitted to enroll in the Cyber Technology Certificate program and the two AAS Certificate programs only at the start of the Fall and Spring academic terms, or are more frequent starts permitted? If more frequent starts are permitted, what is the anticipated schedule?	We anticipate more cohort starts for the Cyber-Technology Certificate program than the traditional term starts. We will expect to have that flexibility for the unemployed workers, especially, to get them accelerated and onto the pathway.)
The description of "System for Tracking and Reporting Outcome Measures" on page 38 of the RFP – as well as the following discussion on "Plan to Address Gaps in Tracking" – suggest that the lead institution will be providing the third party evaluator one (or more) files that provide all necessary raw data to complete the analysis of outcomes detailed in Table 17. Can you confirm that the third party evaluator will not be responsible for soliciting identified, student-level outcomes data from institutions, FEDES, and state UI systems and then linking those data to create an analytic data set?	The third party evaluator will NOT be responsible for soliciting these data. We will have partners on board to collect data -- the Employment Scorecard provider, David Stevens at U-Balt, which is DLLR's repository for wage-record data, and, DLLR itself is a partner on the grant. An MIS system and MIS coordinator will be responsible for collecting data and providing it to the third-party evaluator.)
What is the preferred comparison cohort for this evaluation? Do you want to compare participant outcomes between the previous and current cohort of participant? Is there a reason why you would want the previous comparison group to be from the two years rather than one year?	The preferred comparison cohort would be a cohort that has time to achieve outcomes of credentials, associate degrees, transfers, internships, or jobs. Thus the 2 years ago sample group. We would not like to conduct a comparison cohort of current or entering students, because in effect, we would be denying one group the full effect of employer-driven programming, and connections to internships and jobs. This could be unfair to entering students.
Can we use or adapt existing instruments and scales for the work on this project or is there an expectation that a new set of surveys would developed from scratch?	Existing instruments can be adapted, as long as the adapted survey has direct relevance to our project. We would want to review new or adapted tools.
What is the start date on this program evaluation?	The third-party evaluator begins work as soon as possible after the results of the RFP, and the approval of our Board of Trustees. If things move apace, we would go for approval at the December or January board meeting. A February 1 2015 start date or earlier is likely.

RFP QUESTIONS AND ANSWERS-continued

Does the TAACCCT grant allows participants be given incentives for responding to surveys?	No
Will this contract be fixed price or will a cost-reimbursable grant be issued?	Fixed price. Invoices for services performed.
Please clarify the dates in the deliverables schedule?	The grant timeline is October 1, 2014 – September 30, 2018. There are report deliverables throughout. Summary reports at the end of each year. Monthly reports to Montgomery College so that we can include activity in our reports to the federal DOL
Is there a page limit on the proposal	No
Is the proposal being evaluated entirely based on the statement of qualifications, past performance, and pricing without regard to the description of services?	Yes
The bullets in 4.2 (I) do not include a description of the services to be provided, but 4.2.1 requests a detailed description of services. Is the description of services considered to be a part of the statement of qualifications?	See addendum item #3
The consortium budget provides roughly $1 million for the third party evaluation. How much of that was spent on the evaluation design? Is the full remainder available to the evaluator, or are some funds set aside for use by MCC?	The full amount remains, approximately $250K a fiscal year affected or prorated only by the time of year the vendor begins work.
On page 6 of the RFP it states that CPAM anticipates serving approximately 1,800 participants over the course of the grant. Page 36 and 37 of Attachment G: Proposal Narrative indicate that CPAM will serve 3,000 individuals (500 in Year 1, 1,200 in Year 2, and 1,300 in year 3). For the purposes of budgeting and evaluation design, can Montgomery College clarify the number of individuals to be served?	3,000 served and 2,000 who hit performance outcomes of credentials, internships, jobs.

*************END OF QUESTIONS AND ANSWERS**************

![Montgomery College logo] **Montgomery College**

REQUEST FOR PROPOSAL

<u>915-008</u>

Montgomery College USDOL TAACCCT Grant Program Evaluation

All bid responses MUST BE RECEIVED in the Procurement Office BY 3:00 PM local time on **November 18, 2014**.

Bids will not be accepted via facsimile or electronic mail.

Prices must remain firm for: **120 Days after bid opening date, but prior to contract award.**

Bid Bond Requirements: **NA**

Performance, Labor and
Material Bond
requirements: **NA**

Pre-bid / Pre-proposal
conference: **NA**

Minority vendors are encouraged to respond to this bid solicitation.

<u>Important: Your quotation will be jeopardized if any portion of this inquiry is not complete. No bid/proposal will be accepted after the date and time stated above.</u>

Patrick Johnson, CPPB
Director of Procurement

NOTE: Prospective Bidders who have received this document from a source other than the Issuing Office should immediately contact the Issuing Office and provide their name and mailing address so that amendments to the Bid/RFP or other communications can be sent to them. Failure to contact the Issuing Office may result in non-receipt of important information.

TABLE OF CONTENTS

SECTION I – BID INFORMATION

1.1   INTENT
It is the intent of this Request for Proposal to provide Montgomery College with USDOL TAACCCT grant program evaluation services in accordance with terms and conditions listed herein. In the event that a special condition is contradictory to a general condition, the special condition shall prevail.

1.2   PROPOSAL DUE DATE
All responses to this Request for Bid are due in the Montgomery College Office of Procurement, 900 Hungerford Drive, Room 110, Rockville, Maryland 20850 by 3 p.m. on **November 18, 2014**, and must be clearly identified and marked as pertaining to this request. No facsimile or email transmissions will be accepted. No responses will be accepted after this date and time. In the event that the College is closed on the bid opening date due to an emergency, the bid will be opened at the stated time on the next open business day, unless the Bidder is notified otherwise.

1.3   CONTACT INFORMATION
For purchasing or technical questions about this solicitation, please contact **Patrick Johnson at** patrick.johnson@montgomerycollege.edu

1.4   QUESTIONS DEADLINE DATE
The deadline for submitting questions is **November 11, 2014**. No questions will be accepted after this date.

1.5   AWARD
An award will be made in the best interest of the College to the highest ranked, most responsible, responsive Bidder who can meet the terms, conditions, and specifications of this solicitation.
The evaluation for award will be made on the basis of payment to the supplier in NET 30 DAYS from the date an acceptable invoice is received by Montgomery College. Payment discounts, if offered, will be taken when appropriate, but will not be considered in the evaluation for award.

1.6   PERIOD OF PERFORMANCE
The period of performance for this contract will be from the effective date of the awarded contract through September 30, 2018 and includes all necessary start-up, implementation, and close-out activities. Purchase Orders will be issued throughout the term of the contract as the budget term allows. Payment will be made in quarterly intervals for services, and travel expenses invoiced. Applicants should note that USDOL may award no-cost extensions for additional periods of time up to one (1) year.   In this event, deliverables will be updated, additional compensation negotiated and the period of performance extended for the length of the approved extension(s).

1.7   PRICING
The price(s) offered on the Price Proposal must include all charges and costs (including shipping) incurred in the delivery and implementation of this procurement. No allowance will be made at a later date for additional charges due to the Bidder's omission.

In addition, all Bidders must hold their bid prices for 120 days after bid opening date, but prior to contract award date. In the event that the awarded Contractor is unable to perform the contract, the College reserves the right to re-bid the contract or to award the contract to the next lowest Bidder.

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SECTION I – BID INFORMATION - continued

1.8   BID EVALUATION
Bids submitted in response to this solicitation will be evaluated as follows:

1.8.1   Bidder is responsible – Bidder demonstrates ability to provide products and/or services that can meet or exceed requirements. The following criteria will be used to determine responsibleness:
   1.8.1.1   Bidder has the equipment, ability, and experience to perform the work as stated in the specifications listed in this bid.
   1.8.1.2   Bidder is financially stable.
1.8.2   Bidder is responsive – Bidder follows bid submission instructions and provides all requested materials. The following criteria will be used to determine responsiveness:
   1.8.2.1   Bidder has favorable references that can confirm its ability to provide the products and/or services as stated in the specifications listed in this bid.
   1.8.2.2   Bidder has provided all documentation and samples requested in the Specifications/Scope of Work.

1.9   REJECTION
The College reserves the right to reject any or all offers received as a result of this bid. Offers may be rejected for any of the following reasons: Bidder fails to;

1.9.1   Meet the mandatory specifications and requirements.
1.9.2   Respond in a timely fashion to a request for additional information, data, etc.
1.9.3   Supply appropriate and favorable client references.
1.9.4   Complete the Price Proposal page.
1.9.5   Sign the bid.
1.9.6   Demonstrate that it is qualified to carry out the obligations of the contract and to implement and support the work specified herein.
1.9.7   Provide samples and/or demonstration materials that are representative of the quality level sought by the College.

1.10   SUBCONTRACTORS
Bidders must submit the names and addresses of all subcontractors to be retained for this project. The College reserves the right to reject.

1.11   FAILURE TO SUBMIT
Failure to provide any of the above items may deem a bid proposal non-responsive.

1.12   TOBACCO POLICY
Montgomery College is a tobacco free institution. Use of tobacco products is prohibited in all indoor and outdoor College-owned facilities and facilities leased and controlled by the College as well as at meeting or conferences sponsored by the College. This use prohibition extends to Contractors' employees, agents, subcontractors and vendors.

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SECTION I – BID INFORMATION - continued

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1.13 INSURANCE REQUIREMENTS
The Contractor shall maintain such insurance as will indemnify and hold harmless the College from Workmen's Compensation and Public Liability claims for property damage and personal injury, including death, which may arise from the Contractor's operations under this contract, or by anyone else directly or indirectly employed by him/her.

The Vendor shall maintain insurance in force at all times during the term of this agreement, with an insurance carrier approved or licensed to do business in the State of Maryland acceptable to the College, and with the following minimum insurance coverage.
Workers compensation Insurance covering the Vendor's employees
as required by Maryland State law.

Commercial General Liability Insurance, excluding automobiles
Owned or hired by the Vendor, with limits as follows:
Bodily Injury and Property Damage:
$1,000,000 combined single limit of bodily injury and property
damage
-Contractual Liability – Premises and Operations
-Independent Contractors

Comprehensive Automobile Liability -
Providing bodily injury and property damage coverage for owned
Vehicles and non-owned vehicles with a combined single limit of $1,000.000.

Additional Insured -   Montgomery College shall be endorsed as an additional Insured on all
liability policies.

These coverage's and limits are to be considered minimum requirements under this Agreement and shall in no way limit the liability or obligations of the Vendor. The insurance shall provide that policy coverage will not be cancelled, altered or materially changed without a sixty (60) calendar day notice to the College by registered or certified mail. The insurance shall not be limited to claims made only while the policy is in effect. The Vendor shall furnish the College with a certificate of insurance as evidence of the required coverage. The Vendor shall provide liability insurance coverage for material and/or equipment stored for the College for which the Vendor has received payment in an amount of that equaling its replacement value. Such insurance shall specifically identify the materials and/or equipment and shall name the College as an additional insured. The Vendor shall provide the College with evidence of such insurance.

In the event that the Vendor's insurance is terminated, the Vendor shall immediately obtain other coverage and any lack of insurance shall be grounds for immediate termination of the agreement.

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SECTION II–BACKGROUND/SCOPE OF WORK

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2.0   BACKGROUND

The *Cyber Pathways Across Maryland* (CPAM) Consortium will create linkages to and develop mechanisms for clear, cohesive, career pathways, from basic education, through college, leading to good jobs for Marylanders who are TAA workers, veterans, un- and under-employed, and other at-risk adults.   Throughout the grant, Montgomery College will facilitate a comprehensive evaluation of the CPAM project through a third-party evaluation using a quasi-experimental comparison-cohort mixed-method evaluation model. The evaluation will be designed to measure the impacts or outcomes of CPAM's services, learning innovations, and analyze the implementation process. CPAM will also build sustainable evidence-based practices, profile lessons learned, and highlight best practices that may be used to replicate and expand the program.

Data Collection and Data Sources Use. Data for the impact evaluation will come from college records and data, surveys of students and staff, and third party administrative databases such as Unemployment Insurance wage records, federal government civilian employee data extracts, and the Maryland Higher Education Commission's enrollment and degree information systems. Data for the implementation study will come from interviews and calls with staff and other key stakeholders as well as surveys and focus groups with students.

Study Methodology and Rationale. The outcome / impact evaluation will require the use of a comparison-cohort mixed-method evaluation methodology, which is the most appropriate design. Such an approach is required because of: 1) The number of TAA-eligible workers, veterans, un-employed and under-employed residents of the State of Maryland; 2) CPAM's focus on program development, implementation, and improvement; and 3) For comparison purposes, the likely availability of both current and past valid cohorts of students, who will not have utilized grant-funded services.

Outcomes for Comparison. The outcomes analysis will measure the impact of grant activities on program completion, retention, and certification rates; credential attainment; career placement, employment retention and average earnings for those who retain employment.

Source and Size of Comparison Group. CPAM anticipates serving approximately 1,800 participants over the course of the grant. The comparison group, equivalent in number to the size of the treatment group, will be comprised of CPAM cohorts who commenced their studies two years prior to each treatment cohort. The treatment cohort will consist of those students who begin their studies and are exposed to the program's interventions. With this sample size, it will be possible to detect very small effect sizes (<.05), substantially lower than the Department of Education's standard of .25 as a "substantively important" effect. In addition, we will have sufficient sample size to examine differences between subgroups (e.g., by gender, age, or race).

SECTION II –BACKGROUND/REQUIREMENTS-continued

Assignment to Comparison Group. As described above, a quasi-experimental comparison cohort evaluation will be conducted due to ethical considerations in withholding treatment to targeted at-risk adults. The proposed evaluation will compare a non-random cohort of participants who receive CPAM's services to participants enrolled in similar programs of study prior to implementation of the Consortium program. This will enable evaluators to examine the outcomes achieved by students who receive the benefit of the CPAM's program as compared to those who received services prior to this program's enhancements.

2.1 SCOPE OF WORK/REQUIRMENTS

a. Build evaluation plan on the distinction and synergy between a) USDOL Performance Management requirements and b) Grant proposal Programmatic Evaluation requirements. Performance Management measures emphasize 100% compliance with USDOL requirements. The Programmatic Evaluation focuses on the proposed work and assesses the implementation of key elements such as: cohort enrollment; block scheduling; compressed classroom time; hybrid delivery; embedded student support; employer linkages; contextualized remediation within the programs (STEM Bridge); student persistence and completion.

b. Employ a utilization approach to evaluation that will provide the CPAM useful information that will assist in programmatic decision-making and grant success.

c. Assign a senior-level evaluator with a doctoral degree from an accredited university who will oversee the grant program evaluation, and a Masters-level designated evaluator to provide primary evaluation services.

d. Provide trained and educated staff to assist with evaluation activity, including data collection.

e. Have available expertise in the areas of research design, measurement, benchmarking, test and survey construction, data analysis, and reporting.

f. Provide technical assistance as needed in areas related to program evaluation, including data collection, analysis, and use, with a commitment to accuracy, relevancy, and timeliness.

g. Implement an evaluation that adheres to the Program Evaluation Standards of the Joint Commission on Standards for Educational Evaluation and to the Guiding Principles of the American Evaluation Association (AEA) for Systematic Inquiry.

SECTION II –BACKGROUND/REQUIREMENTS-continued

2.2. PROGRAM EVALUATION PROCESS REQUIREMENTS

2.2.1 Orientation and Monitoring

    a. Facilitate initial grant evaluation meeting with CPAM and partners to verify approach, evaluation questions, design, and methodology.

    b. Provide team-oriented approach to grant evaluation that coordinates with grant implementation and management.

    c. Participate in initial grant orientation meetings and relevant follow-up meetings for program monitoring (at least twice annually).

    d. Make adjustments to the evaluation plan, data collection strategies, and reporting formats based on CPAM input and compile baseline information for monitoring progress and administrative reporting.

2.2.2 Evaluation Instruments

    a. Develop evaluation instruments that are tailored to match project activities, answer key evaluation questions, and report on objectives.

    b. Provide any needed testing or training in the use of evaluation instruments to be used by project participants.

    c. Submit any adjusted instruments or plans to the CPAM for approval prior to implementation.

2.2.3 Data Collection and Analysis

    a. Collect, analyze, and present results from data collection activities (e.g. surveys, interviews, focus groups) each semester.

    b. Triangulate information from a variety of qualitative and quantitative data sources to produce results that are creditable and based on a convergence of evidence.

    c. Review annual performance data for accuracy.

    d. Use online survey technology, web-based data collection, management and analysis programs, and software packages for analysis of quantitative and qualitative data.

    e. Provide a staff member to handle data management.

> **SECTION II –BACKGROUND/REQUIREMENTS-continued**

2.2.4   Evaluation Reporting

      a. Provide timely and useful feedback for the purpose of informing decisions, including interim reports, End-of-Year Reports, survey briefs, snapshots, and in-person briefings.
      b. Prepare Annual Performance Reports (APR) for submission to the project director, incorporate needed changes, and ensure timely submission to the funding agency.
      c. Develop formal year-end evaluation reports, incorporating APR and evaluation data with the goal of linking findings and results to ongoing program improvements.

2.2.5   Consultation and Dissemination of Evaluation Results

      a. Provide ad hoc consultation to the project director on matters related to program evaluation and the use of evaluation results to inform program improvements.
      b. Provide assistance in identifying effective methods for disseminating evaluation results to key stakeholders.

2.3   DEVELOPMENT AND DELIVERY SCHEDULE

a. Facilitate initial grant evaluation meeting with CPAM and partners to verify approach, evaluation questions, design, and methodology. {15 days from contract award}
b. Develop evaluation implementation plan. {30 days from contract award}
c. Develop evaluation instruments that are tailored to match project activities, answer key evaluation questions, and report on objectives. {45 days from contract award}
d. Provide any needed testing or training in the use of evaluation instruments to be used by project participants. {60 days from contract award}
e. Provide monthly progress reports to the project director {30 days following the end of each month}
f. Collect, analyze, and present results from data collection activities (e.g. surveys, interviews, focus groups) each semester. {30 days following semester end}
g. Prepare Annual Performance Reports (APR) for submission to the project director, incorporate needed changes, and ensure timely submission to the funding agency. {October 30, 2012, October 30, 2013 and October 30, 2014}
h. Deliver formal year-end evaluation reports, incorporating APR and evaluation data with the goal of linking findings and results to ongoing program improvements. {October 30, 2012, October 30, 2013 and October 30, 2014}

SECTION II –BACKGROUND/REQUIREMENTS-continued

2.4 DELIVERABLES

The deliverables will include annual summary briefs (Program Year 1-3) and three main reports: one (1) Final Evaluation Design Report, outlining the full scope and methodology for evaluation implementation; one (1) Interim Report to be delivered at the end of Program Year (PY) 2, which will include progress toward outcomes, qualitative impacts on participants, lessons learned to date, methodologies employed, and recommendations for program modifications, if any; and one (1) Final Program Report to be delivered at the end of PY 4 that will include all the components of the summary reports as well as the results of the comparison group assessment. Montgomery College will submit these deliverables to the U.S. Department of Labor, Employment and Training Administration (DOL ETA).

2.5 MONTGOMERY COLLEGE RESPONSIBILITIES INCLUDE THE FOLLOWING:

- Identify a primary point of contact;
- Provide relevant documents or links to documents, including but not limited to those identified in Scope of Work, General Specifications {1};
- Provide updates from U.S. Department of Labor that may impact the evaluation process;
- Provide access to CPAM grant staff at MONTGOMERY COLLEGE and the contact information for appropriate personnel at CPAM member institutions; and
- Review all draft materials and provide timely feedback.

2.6 AWARDED CONTRACTOR'S RESPONSIBILITIES INCLUDE THE FOLLOWING:

- Submit a comprehensive budget reflecting all costs associated with the activities described herein;
- Identify a project point of contact;
- Provide MONTGOMERY COLLEGE with monthly progress reports and participate in scheduled project meetings and/or conference calls through the term of the agreement; and
- Throughout the term of the agreement, invoice MONTGOMERY COLLEGE on a quarterly basis for work delivered during the quarter and in compliance with federal regulations.
- Have a thorough understanding of policies and guidelines that affect the evaluation of federally-funded and other grant programs.
- Deliver a team-oriented, participatory approach to grant evaluation in collaboration with those involved in grant implementation and management.
- Assign sufficient staff members to the project, including a Ph.D.-level evaluator to oversee grant program evaluation, a Masters-level evaluator to provide primary evaluation services, and support staff to handle data management or assist in evaluation activity, all with a commitment to provide close, ongoing collaboration with a CPAM grant project director and partners.
- Deliver sufficient staff with needed expertise in the various areas of grant evaluation (including but not limited to research design, data collection, evaluation instrument construction, data analysis, and data reporting) in order to provide timely and effective service during the life of the grant. While the CPAM has not specified the number of employees needed for most federal grants, the Contractor shall explain how many staff they intend to use for a typical evaluation project and justification for proposed staffing levels in their proposal.

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SECTION II –BACKGROUND/REQUIREMENTS-continued

- Provide on-site assistance, as well as regular e-mail, phone contact and ad hoc consultation to the project director related to program evaluation and the use of data for informed decision-making.

2.5   BIDDER QUALIFICATIONS REQUIREMENTS:

- Bidding firm must have at least four (4) years experience evaluating higher education institution grants.
- Bidding firm must have a least four (4) years experience evaluating Federal Department of Labor and Education grants.

2.6   PREFERRED QUALIFICATIONS

- TAACCCT grant evaluation experience

SECTION III –PROPOSAL EVALUATION AND AWARD

3.1 EVALUATION

3.1.1 Process
All proposals submitted will first be examined for responsiveness and completeness by the College evaluation team. Those proposals which do not clearly respond to the proposal submission requirements may be rejected at the discretion of the College. Award will be made to the highest ranked bidder based on ALL evaluation criteria listed below.

3.2 EVALUATION CRITERIA
Online catalog vendors will be evaluated on the following criteria categories:

Item	Criteria Area	Maximum Available Points
3.2.1	Statement of Qualifications	60
3.2.2	Past Performance	15
3.2.3	Pricing	25
	Total Possible Score:	**100**

3.3 REJECTION OF PROPOSAL
The College reserves the following rights to be exercised at the College's sole discretion:

a.   To make such investigation as deemed necessary to determine the qualifications of the Bidder and to determine the ability of the Bidder to perform the desired scope of services. The Bidder will furnish to the College all such information and data as the College may request. The College reserves the right to reject any offer if the evidence submitted by, or investigation of, such Bidder fails to satisfy the College that such Bidder is properly qualified to carry out the obligations of the contract and to complete the scope of services contemplated herein. The College reserves the rights to restrict requesting proposals to such Bidders who the College determines are qualified by experience and finances to successfully perform the scope of services. Conditional bids will not be accepted.

b.   To reject any or all proposals and to make awards in the best interest of the College, in the name of the Board of Trustees. The College also reserves the right to cancel the Request for Proposals in its entirety.

c.   To accept or reject any item of proposal.

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SECTION IV –REQUIRED SUBMITTALS

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4.1   PROPOSAL SUBMISSION
A submittal consisting of the Technical Proposal and Required Submittals are required when responding to this Request for Proposal. **One (1) original, six (6) copies of the Technical Proposal to this RFP are required**. **In addition, one (1) original Price Proposal shall be submitted in separately sealed envelope and identified as such.** Proposals will be certified, signed and dated by a bona fide agent of the Bidder and include minority classification if applicable.   All envelopes must identify that the submission is a response to the RFP and must be marked with the Bidder's name and address, the RFP number, and the opening date and time. Failure to include all required submittals may render the proposal non-responsive. The College will reject any offer without an authorized signature.

4.2   REQUIRED SUBMITTALS

  I.   Technical Proposal
- Transmittal Letter
- Statement of Qualifications
- References
- Subcontractor List (if applicable)
- Contractor Information Form

  II.   Price Proposal

The proposal should be organized using the following outline.

4.2.1   TECHNICAL PROPOSAL
This section must contain a detailed description of the services offered by the Bidder in response to this RFP. The information submitted by the Bidder must provide sufficient detail to allow College evaluators gain a comprehensive and clear understanding of the Bidder's capabilities.

4.2.2   TRANSMITTAL LETTER
The transmittal letter must be prepared on the Bidder's business stationery. The letter must introduce the company and give a brief history of the organization and the contact person responsible for the project. The letter should summarize the key points of the proposal; must indicate the Bidder's understanding of the College's requirements; and demonstrate the Bidder's ability to provide the requested services. The letter **must be signed** by an individual authorized to represent the Bidder for this RFP.

SECTION IV–REQUIRED SUBMITTALS -continued

4.2.3 STATEMENT OF QUALIFICATIONS

This contract requires specialized services. Bidder's statement of qualifications must address the following:

- Professional qualifications and technical competence of the firm, subcontractors, and staff proposed for the performance of the required services.
- Previous demonstrated experience
- Bidder's corporation/organization size, financial information, web presence, length of time the organization has been providing the services listed, and key business relationships.

4.2.4 REFERENCES (Past Performance)

The proposal must include the names and telephone numbers of three references. Cited references must be able to confirm, without reservation, the Bidder's ability to provide these services in accordance with the requirements in this RFP. The College reserves the right to reject a proposal based on an unsatisfactory reference; to request additional references or contact any site using the Bidder's services; and to require a site visit to one or more of the Bidder's reference locations.

4.2.5 SUBCONTRACTORS

Each Bidder must list the subcontractors to be used in the performance of this contract. The College reserves the right to approve or disapprove any subcontractor who will be performing work related to this project.

In addition, if an online catalog vendor needs to adopt a technology partner's solution, they would have to manage the additional relationship, since it is tied in with the catalog. That partner would be considered a subcontractor of the online catalog vendor and any costs associated with that partner's resources must be itemized in the vendor's Price Proposal.

4.2.6 PRICE PROPOSAL

The price(s) offered on the Price Proposal must include all charges and costs including travel and other reimbursable costs incurred in the delivery of this procurement

SECTION V – PRICE PROPOSAL

ITEM	DESCRIPTION	TOTAL PRICE
001	TAACCCT Program Evaluation, **Year 1 total cost**	$_____YR
002	TAACCCT Program Evaluation, **Year 2 total cost**	$_____YR
003	TAACCCT Program Evaluation, **Year 3 total cost**	$_____YR
004	TAACCCT Program Evaluation, **Year 4 total cost**	$_____YR
	GRAND TOTAL	$_____

OPTIONAL ITEMS:

Related Consulting Fees As Needed	$_____HR*

*If multiple labor categories exist, please include all categories and associated labor rates for each.

Note to vendor: Submitted price must be inclusive of all costs associated with all requirements listed herein.

By signing below, your firm agrees to provide said goods and/or services as specified and that those goods and/or services shall be provided or performed in accordance with the bid specifications, stipulations and terms and conditions specified and that your firm has read and agrees to the College terms, conditions, stipulations, and specifications and any College approved or authorized exceptions and that your firm will adhere to said terms and conditions in any contract resulting.

_____   _____
Company Name   Name

_____   _____
Title   Authorized Signature and Date

ATTACHMENT A – REFERENCES

REFERENCE 1	
Company Name	
Street Address	
City, State, Zip Code	
Contact Person	
Title	
Telephone #:	
Service Dates	

REFERENCE 2	
Company Name	
Street Address	
City, State, Zip Code	
Contact Person	
Title	
Telephone #:	
Service Dates	

REFERENCE 3	
Company Name	
Street Address	
City, State, Zip Code	
Contact Person	
Title	
Telephone #:	
Service Dates	

Please note: References listed must be able to confirm the Bidder's ability to provide the services requested in this bid document.

References submitted by: _____

<div align="center">Company Name</div>

ATTACHMENT B – CONTRACTOR INFORMATION FORM

B.1 I/We offer the terms, delivery and pricing for the requested products/services, and certify that I am a bona fide agent, authorized to make offers on behalf of the firm.

B.2 Minority Contractor: Yes ☐ No ☐

If yes, please specify minority classification ☐

B.3 Price adjustment (is ☐ is not ☐) necessary for other public agencies as listed.

B.4 Please list any exceptions taken to any terms and conditions listed in the bid. Please note any exceptions taken may affect the award of a contract or purchase order.

B.5 Please provide the following information

Company Name		Years in Business	
Federal Tax Number:		Dun & Bradstreet Number	
Street Address:		City, State, Zip Code	
Telephone Number		Fax Number:	
Contact Person:		Title:	
Cell Number:		E-Mail Address:	

Company Name   Name

Title   Authorized Signature and Date

ATTACHMENT C – NO BID RESPONSE FORM

Please be advised that our company does not wish to submit a bid in response to the above-captioned bid for the following reason(s):

☐ Too busy at this time

☐ Not engaged in this type of work

☐ Project is too large or small

☐ Cannot meet mandatory specifications (Please specify below)

☐ Other (Please specify)

_____

_____

_____

Company Name	Name
Street Address	Authorized Signature and Date
City, State, Zip	Title

Please return to:	Montgomery Community College Office of Procurement 900 Hungerford Drive, Room 110 Rockville, Maryland 20850-1733

ATTACHMENT D – CONDITIONS AND INSTRUCTIONS

ACCEPTANCE PERIOD
The selected Contractor(s) must agree to an acceptance trial period of performance not to exceed ninety (90) consecutive calendar days. During the 90-day acceptance period, the Contractor's performance must be consistent with the specifications contained herein and the Contractor's bid. Failure to satisfy the "acceptance trial period of performance" may result in cancellation of the contract. In the event that the Contractor fails to meet all requirements, the College shall declare the Contractor's services unacceptable and the Contractor in default, and terminate all agreements, written or verbal, without penalty or obligation to the College. Further, should there be any dispute/discrepancy on acceptability of said service, decisions made by the College will prevail and be final.

ADDENDA The College reserves the right to amend or add to this bid at any time prior to the bid due date. If it becomes necessary to change or add to any part of this bid, the Procurement Officer will furnish an addendum to all prospective Bidders listed as having received a copy of this bid. All addenda will be identified as such and will be sent by mail, email, or fax transmittal.

ADDITIONAL ORDERS Unless it is specifically stated to the contrary in the bid response, the College reserves the option to place additional orders against a contract awarded as a result of this solicitation at the same terms and conditions, if it is mutually agreeable.

ASSURANCE OF NON-CONVICTION OF BRIBERY The Bidder hereby declares and affirms that, to its best knowledge, none of its officers, directors or partners and none of its employees directly involved in obtaining contracts has been convicted of bribery, attempted bribery or conspiracy to bribe under the laws of any state or the Federal government.

AUDIT Bidder shall permit audit and fiscal and programmatic monitoring of the work performed under any contract issued from this solicitation. The College shall have access to and the right to examine and/or audit any records, books, documents and papers of Bidder and any subcontractor involving transactions related to this agreement during the term of this agreement and for a period of three (3) years after final payment under this agreement.

AWARD CONSIDERATIONS Awards of this bid will be made to the lowest responsible Bidder conforming to specifications with consideration being given to quantities involved, time required for delivery, purpose for which required, responsibility of bidder and its ability to perform satisfactorily with consideration to any previous performance for Montgomery College. A bid may be awarded at the sole discretion of the College in the best interest of the College. Prompt payment discounts will not be considered in bid evaluation. All discounts other than prompt payment are to be included in bid price.

BEHAVIOR OF CONTRACTOR EMPLOYEES The College is committed to providing a work and study environment that is free from discrimination and harassment on the basis of race, color, religious creed, ancestry, national origin, age, sex, marital status, handicap, pregnancy, or status as a disabled veteran or veteran of the Vietnam era. Behavior contrary to this philosophy, which has the purpose or effect of creating an intimidating, hostile, or offensive environment, will not be tolerated by the College, and it is the Contractor's responsibility to ensure that such behavior by its employees, agents, and subcontractors does not occur. The policy extends to maintaining an environment free from sexual harassment. Therefore, sexual advances or sexual remarks, requests for sexual favors, and other verbal or physical conduct of a sexual nature must not be condoned or permitted by the Contractor. This prohibition extends to such harassment within the employment context as well as harassment of students, staff, and visitors to the College. It should be assumed that all sexual behavior by the Contractor's employees, agents, and subcontractors on any campus or facility of the College, whether owned, operated, maintained or leased by the College, is improper and unwelcome.

BID AND PERFORMANCE SECURITY If bid security is required, a bid bond or cashier's check in the amount indicated on the bid cover must accompany each bid and be made payable to Montgomery College. Corporate or certified checks are not acceptable. Bonds must be in a form satisfactory to the College and underwritten by a company licensed to issue bonds in the State of Maryland. If bid security fails to accompany the bid, it shall be deemed unresponsive, unless the Director of Procurement deems the failure to be non substantial. Such bid bonds or checks will be returned to all except the three (3) lowest Bidders within five (5) days after the opening of bids, and the remaining checks or bid bonds will be returned to all but successful Bidder(s) within forty-eight (48) hours after award of contract. If a performance bond is required, the successful Bidder must submit an acceptable performance bond in the designated amount of the bid award, prior to award of contract. All bid bonds will be returned to the successful Bidder(s) within forty eight (48) hours after receipt of the performance bond.

BIDDING INSTRUMENTS Bidding instruments include the bid, addenda, general terms and conditions, contract terms, and specifications. Bids should be prepared simply and economically, and should provide a straightforward, concise description of the Bidder's capabilities to satisfy the requirements of the bid. Emphasis should be on completeness and clarity of content. The Bidder will bear any and all costs incurred in the preparation and submission of bids.

BRAND NAMES Brand name materials used in these specifications are known and acceptable. Bids including proposals to use alternate brands are invited as long as they are of equal type and equal or better quality. The burden of proof that alternate brands are in fact equal or better falls on the Bidder, and proof must be to the College's satisfaction.

CARE OF PREMISES Precautions taken for safety and protection shall be in accordance with the mandatory requirements of the safety codes prevailing within the jurisdiction in which the work is to be performed. During the performance of the contract, the Contractor shall take the necessary precautions to protect all areas upon which or adjacent to which work is performed as a part of this contract. Any damage caused as a result of Contractor's neglect, directly or indirectly, shall be repaired to the College's satisfaction at the Contractor's expense.

CANCELLATION Montgomery College reserves the right to cancel this bid solicitation or to reject all bids received, if the College's Director of Procurement, in accordance with procedures approved by the College's President, determines that it is fiscally advantageous or in the best interest of the College to cancel the bid.

COMPLIANCE WITH LAWS Bidder agrees to comply, at no additional expense, with all applicable Executive orders, Federal, State, bi-county, regional and local laws, ordinances, rules and regulations in effect as of the date of this agreement and as they may be amended from time to time, including but not limited to the equal employment opportunity clause set forth in 41 CFR 60-250.4.

CONFLICT OF INTEREST No employee of the College or of the State of Maryland, or any department, commission, agency or branch thereof whose duties as employees include matters relating to or affecting the subject matter of this bid shall, while an employee, become or be an employee of the party or parties contracting with the College, the State of Maryland, or any department, commission, agency or branch thereof.

ATTACHMENT D –CONDITIONS AND INSTRUCTIONS

CONTINGENT FEES   Bidder hereby declares and affirms that neither it nor any of its representatives has employed or retained any person, partnership, corporation, or other entity, other than a bona fide employee or agent working for the Bidder, to solicit or secure a contract, and that it has not paid or agreed to pay any person, partnership, corporation, or other entity, other than a bona fide employee or agent, any fee or any other consideration contingent on the making of a contract as a result of this solicitation.

CONTRACT AMENDMENTS   The College, without invalidating the contract documents, may submit a written request to order extra work or to make changes to the agreement by altering, adding to, or deducting from the work, and the contract sum shall reflect such changes. Price adjustments must be accepted, in writing, by Montgomery College before the supplier performs additional work on the project.

The Contractor cannot accept purchase requests for products or services that are not covered in this contract or make changes to the scope of work unless a price for those products or services has been negotiated with the College, and the Contractor has received a signed contract amendment from the Procurement Office.

CONTRACT DEADLINES   The Contractor is contractually obligated to meet all agreed upon deadlines. Failure of the Contractor to meet any deadline is grounds for termination by default. If the Contractor defaults, the College reserves the right to assess liquidated damages and/or make an open market purchase.

CONTRACT DOCUMENTS   Unless otherwise noted, the general conditions of this bid, the Contractor's bid, and the signed purchase order form the contract. Contractors requiring a signed contract form separate and apart from the foregoing are to submit the contract with their bid. The Contractor's contract form will be examined and evaluated along with the Contractor's bid and, at the College's option, may be utilized as the contract.

CONTRACTOR IDENTIFICATION   Contractor's employees are required to wear identification badges and/or carry picture identification when they are on College grounds.

CONTRACT TERMINATION   The contract may be terminated for any of the following reasons:

> Failure of the Contractor to meet the mandatory requirements as described in this bid.
> Failure of the Contractor to meet required deadlines.
> Failure of the Contractor to resolve problems in a timely manner.
> Lack of College funding.

CONTRACTORS   This bid invitation is extended to individuals or firms as primary Contractors, and the Contractor will execute the work specified with bona fide employees. The Contractor is responsible for ensuring that the supervisor, lead worker, and subcontractors can communicate in English. Subcontractors cannot assume the primary award of this contract on behalf of the primary Contractor nor can the awarded Contractor be relieved of its obligation or responsibility to this contract. The College reserves the right to reject any subcontractor.

DELIVERY AND PACKING   All prices quoted must include delivery. All goods delivered under this contract shall be packed in accordance with accepted trade practices. No charges may be made over and above the bid price for packaging, or for deposits or containers unless specified in the bid. No charge will be allowed for cartage unless by prior written agreement. Complete deliveries must be made by the successful bidder to the designated location as indicated on the Montgomery College purchase order. A packing slip shall be included in each shipment. All deliveries must be prepaid and must be delivered to each location designated on purchase order at no additional cost. DELIVERIES MUST BE MADE TO THE SPECIFIED LOCATION. NO COLLECT SHIPMENTS OR SIDEWALK DELIVERIES WILL BE ACCEPTED.

DELIVERY OF BIDS   Sealed bids must be received in the Procurement Office by the date and time specified in the bid in order to be considered. NO LATE BIDS OR PROPOSALS WILL BE ACCEPTED. Late bids will be returned to the Bidder unopened. Bids submitted by mail must be addressed to the Procurement Office, Montgomery College, 900 Hungerford Drive, Suite 110, Rockville, Maryland 20850, and clearly marked to indicate the bid number, title and opening date. Hand delivered bids will be accepted only at the Procurement Office, Montgomery College, Room 110, 900 Hungerford Drive, Rockville, Maryland 20850.

ERRORS IN BIDS   Bidders are assumed to be informed regarding conditions, requirements, and specifications prior to submitting bids. Failure to do so will be at the Bidder's risk. Bids already submitted may be withdrawn without penalty prior to bid opening. Errors discovered after bid opening may not be corrected. In the case of an error in price extension, the unit price will govern. The intention of the Bidder must be evident on the face of the bid.

FAILURE TO DELIVER   If the Contractor fails to comply with any established delivery requirements, the College reserves the right to make an open market purchase of required items and to assess, as liquidated damages, the difference between the contract price and the actual cost incurred by the College and to invoice charges to the Contractor.

INDEMNIFICATION   The Contractor shall be responsible for any loss, personal injury, expense, death and/or any other damage which may occur by reason of Contractor's acts, negligence, willfulness or failure to perform any of its obligations under this agreement. Any acts, negligence, willfulness or failure to perform any of the Contractor's obligations under this agreement, on the part of any agent, director, partner, servant or employee of Contractor are deemed to be the Contractor's acts. Contractor agrees to indemnify and hold harmless the College and its trustees, employees, agents and students from any claim, damage, liability, injury, expense, and/or loss, including defense costs and attorney's fees, arising directly or indirectly out of Contractor's performance under this agreement.

Accordingly, the College shall notify Contractor promptly in writing of any claim or action brought against the College in connection with this agreement. Upon such notification, Contractor shall promptly take over and defend any such claim or action. The College shall have the right and option to be represented in any such claim or action at its own expense. This indemnification provision shall survive the termination and/or completion of this agreement.

HAZARDOUS AND TOXIC SUBSTANCES   Bidder must comply with all applicable Federal, State, County and bi-county laws, ordinances and regulations relating to hazardous and toxic substances, including such laws, ordinances and regulations pertaining to access to information about hazardous and toxic substances, and as amended from time to time. Bidder shall provide the College with a "Material Safety Data Sheet" or in the case of a controlled hazardous waste substance, a hazardous waste manifest for all hazardous chemicals listed or subsequently added to the Chemical Information List in compliance with applicable laws, ordinances and regulations.

INSPECTION OF PREMISES   If a site visit is recommended or required, each Bidder is responsible for visiting the site(s) prior to submitting a bid in order to observe the existing conditions affecting the work, and to obtain precise dimensions of the area(s) involved. No allowance will be made to the successful Bidder, at a later date for additional work required because of his or her failure to visit the site and/or to obtain the exact dimensions. Discrepancies, if any, must be reported to the College.

INSURANCE   If a contract results from this bid, the Contractor shall maintain such insurance as will indemnify and hold harmless the College from Workmen's Compensation and Public Liability claims for property damage and personal injury, including death, which may arise from the Contractor's operations under this contract, or by anyone directly or indirectly employed by him/her.

ATTACHMENT D –CONDITIONS AND INSTRUCTIONS

MARYLAND PUBLIC INFORMATION ACT Bidder recognizes that the College is subject to the Maryland Public Information Act, Title 10 of the State Government Article of the Annotated Code of Maryland. Bidder agrees that it will provide any justification as to why any material, in whole or in part, is deemed to be confidential, proprietary information or trade secrets and provide any justification of why such materials should not be disclosed pursuant to the Maryland Public Information Act.

MINORITY PARTICIPATION Pursuant to Board Resolution #87-83, adopted on July 20, 1987, it is the policy of Montgomery College to encourage minority businesses to provide goods and services for the performance of College projects. Minority businesses are defined as firms that are 51% owned and controlled by a member of a socially or economically disadvantaged minority group, which includes African Americans, Hispanics, Native Americans, Alaskan Natives, Asians, Pacific Islanders, women, and the mentally or physically disabled.

NON-ASSIGNMENT AND SUBCONTRACTING Bidder shall not assign any contract or any rights or obligations hereunder without obtaining prior written consent of the College. No contract shall be made by Bidder with any other party for furnishing the services to be performed under a contract issued from this solicitation without the written approval of the College. These provisions will not be taken as requiring the approval of the contract of employment between Bidder and its personnel.

NON-COLLUSION Bidder certifies that it has neither agreed, conspired, connived, or colluded to produce a deceptive show of competition in the compilation of the bid or offer being submitted herewith; Bidder also certifies that it has not in any manner, directly or indirectly, entered into any agreement, participated in any collusion to fix the bid price or price proposal of the Bidder or offeror herein or any competitor, or otherwise taken any action in restraint of free competitive bidding in connection with the contract for which the bid or offer is submitted.

NON-DISCRIMINATION Bidder assures the College that, in accordance with applicable law, it does not, and agrees that it will not discriminate in any manner on the basis of sex, race, age, color, creed, national origin, religious belief, handicap, marital status, or status as a disabled veteran or veteran of the Vietnam era. Bidder further agrees to post in conspicuous places notices setting forth the provisions of the nondiscrimination clause and to take affirmative action to implement the provisions of this section. Bidder further assures the College that, in accordance with the Immigration Reform and Control Act of 1986, it does not and will not discriminate against an individual with respect to hiring, or recruitment or referral for a fee, of the individual for employment or the discharging of the individual from employment because of such individual's national origin or in the case of a citizen or intending citizen, because of such individual's citizenship status.

NON-DISCRIMINATION POLICY The College is committed to providing a work and study environment that is free from discrimination and harassment on the basis of race, color, religious creed, ancestry, national origin, age, sex, marital status, handicap, pregnancy or status as a disabled veteran or veteran of the Vietnam era. Behavior contrary to this philosophy, which has the purpose or effect of creating an intimidating, hostile, or offensive environment, will not be tolerated by the College, and it is the Contractor's responsibility to ensure that behavior by its employees, agents, and subcontractors does not occur. This policy extends to maintaining an environment free from sexual harassment. Therefore, sexual advances or sexual remarks, requests for sexual favors, and other verbal or physical conduct of a sexual nature must not be condoned or permitted by the Contractor. This prohibition extends to harassment within the employment context as well as harassment of students, staff and visitors to the College. It should be assumed that all sexual behavior by the Contractor's employees, agents and subcontractors on any campus or facility of the College, whether owned, operated, maintained or leased by the College, is improper and unwelcome. Contractor will also insure that all technicians who work with College users exhibit a high degree of professionalism in their dealings with those users.

NON-VISUAL ACCESS The bidder or offeror warrants that the information technology offered under this bid or proposal (1) provides equivalent access for effective use by both visual and nonvisual means; (2) will present information, including prompts used for interactive communications, in formats intended for both visual and nonvisual use; (3) if intended for use in a network, can be integrated into networks for obtaining, retrieving, and disseminating information used by individuals who are not blind or visually impaired; and (4) is available, whenever possible, without modification for compatibility with software and hardware for nonvisual access. The bidder or offeror further warrants that the cost, if any, of modifying the information technology for compatibility with software and hardware used for nonvisual access will not increase the cost of the information technology by more than 5 percent. For purposes of the regulation, the phrase "equivalent access' means the ability to receive, use, and manipulate information and operate controls necessary to access and use information technology by nonvisual means. Examples of equivalent access include keyboard controls used for input and synthesized speech, Braille, or other audible or tactile means used for output."

NOTICE TO CURE The College reserves the right to cancel the contract if the Contractor's performance is unsatisfactory to the College. It is understood, however, that if at any time during the term of the contract, performance is deemed to be unsatisfactory, the College shall so notify the Contractor in writing, and the Contractor shall correct such unsatisfactory conditions within thirty (30) calendar days from receipt of such notification. If such corrections are not made within the specified period, the College may terminate the contract.

PATENTS Bidder guarantees that the sale and/or use of the goods offered will not infringe upon any U.S. or foreign patent. Bidder will at his/her own expense, indemnify, protect and save harmless the College, its trustees, employees, agents and students with respect to any claim, action, cost or judgment for patent infringement, arising out of the purchase or use of these goods.

PREPARATION OF BID Bids submitted must be hand signed by an authorized agent of the company submitting the bid. Notification of award will be made by "Notice of Intent to Award" and/or purchase order. A bidder may attach a letter of explanation to the bid for clarification. Bidders will be required, if requested by Montgomery College, to furnish satisfactory evidence that they are, in fact, bona fide manufacturers of or dealers in the items listed, and have a regularly established place of business. The College reserves the right to inspect any Bidder's place of business prior to award of contract to determine Bidder responsibility.

PRODUCT TESTING DURING TERM OF CONTRACT Goods delivered under any contract resulting from this Request for Bid may be tested for compliance with specifications stipulated herein. Any shipment failing to meet or comply fully with the specification requirements will be rejected. The cost of testing a representative sample of an order or shipment for acceptance shall be borne by the College unless the order is rejected for failure to meet specifications or purchase description. In such cases of rejection, the cost of testing will be charged back to the Contractor.

RECORD RETENTION If awarded a contract, Contractor shall maintain books and records relating to the subject matter of this agreement, including but not limited to all charges to the College, for a period of three (3) years from the date of final payment under this agreement.

REFERENCES Bidder must provide at least three references from former or current clients who can confirm the Bidder's experience with projects that are similar in size or scope. All reference information must include the company's name and address and the contact's name and telephone number. The references provided must be able to confirm, without reservation, the Bidder's ability to provide the level of services requested in this solicitation. References from other higher education institutions or government agencies are preferred but not required.

ATTACHMENT D –CONDITIONS AND INSTRUCTIONS

REGISTRATION OF CORPORATIONS NOT REGISTERED IN THE STATE OF MARYLAND   Pursuant to 7-202 et. Seq. of the Corporation and Associations Article of the Annotated Code of Maryland, corporations not incorporated in the State of Maryland shall be registered with the State Department of Assessments and Taxation, 301 West Preston Street, Baltimore, Maryland 21201 before doing any interstate or foreign business in this State. A copy of the registration or application for registration may be requested by the College.

REJECTIONS AND CANCELLATIONS   Montgomery College reserves the right to accept or reject any or all bids in whole or in part for any reason. The College reserves the right to waive any informality and to make awards in the best interest of the College. The College also reserves the right to reject the bid of any Bidder who has previously failed to perform adequately on a prior award for furnishing goods and/or services similar in nature to those requested in this bid. The College may cancel this solicitation in whole or in part, at its sole discretion.

RIDER PROVISION FOR MONTGOMERY COUNTY PUBLIC SCHOOLS AND MONTGOMERY COUNTY   The Bidder agrees when submitting the bid that it will make available to every office and department of the Montgomery County Public Schools and the Montgomery County Government the same bid prices, terms and conditions offered during the term of contract. Orders will be placed directly by these agencies.

RIGHT TO STOP WORK   If the College determines, either directly or indirectly, that the Contractor's performance is not within the specifications, terms or conditions of this bid and/or that the quality of the job is unacceptable, the College has the right to stop the work. The stoppage of work shall continue until the default has been corrected and/or corrective steps have been taken to the satisfaction of the College. The College also reserves the right to re-bid this contract if it is decided that performance is not within the specifications as set out.

SAMPLES AND CATALOG CUTS   If samples are required, Bidder shall be responsible for delivery of samples to location indicated. All sample packages shall be marked "Sample for Procurement Office, Bid No.___" and each sample shall be tagged or marked. Failure of the Bidder to clearly identify samples as indicated may result in rejection of bid. The College reserves the right to test any materials, equipment or supplies delivered to determine if the specifications have been met. Samples will not be returned.

SIGNATURE   Each bid must show the full business address and telephone number of the Bidder and be signed by the person or persons legally authorized to sign such contracts. All correspondence concerning the bid and contract, including the bid summary, copy of contract, and purchase order, will be mailed or delivered to the address shown on the bid. NO BID WILL BE ACCEPTED WITHOUT ORIGINAL SIGNATURE.

SPECIFICATIONS AND SCOPE OF WORK The specifications listed herein may or may not specify all technical requirements which are needed to achieve the end result. When accepting the award, the Contractor assumes the responsibility of accomplishing the task requested in this document. Any omission of parts, products, processes, etc. in the specifications are the responsibility of the Contractor and the College will not bear the responsibility of their omission. If omissions in the specifications are discovered and these omissions will impact the contract price then it is the responsibility of the Bidder to note these omissions, in writing, prior to accepting the award. If these omissions are not noted prior to award then the Contractor's silence is deemed as full and complete acceptance and any additional costs will be borne by the Contractor.

TAXES   The College is exempt from Federal and Maryland taxes. Exemption Certificates are available upon request. Bidder shall be responsible for the payment of any and all applicable taxes resulting from any award and/or any activities hereunder, including but not limited to any applicable amusement and/or sales taxes.

TERMINATION BASED ON LACK OF FUNDING Any contract awarded as a result of this solicitation will be subject to funding and continued appropriation of sufficient funds for the contract. For purposes of this solicitation, the College's appropriating authority is deemed to be the Board of Trustees of Montgomery College. Insufficient funds shall be grounds for immediate termination of solicitation.

TERMINATION FOR DEFAULT   If an award results from this bid, and the Contractor has not performed or has unsatisfactorily performed the contract, payment shall be withheld at the discretion of the College. Failure on the part of the contractor to fulfill contractual obligations shall be considered just cause for termination of the contract and the Contractor is not entitled to recover any costs incurred by the Contractor up to the date of termination.

TERMINATION FOR THE CONVENIENCE OF THE COLLEGE   The performance of the work or services under a contract as a result of this solicitation may be terminated in whole or in part, whenever the President of Montgomery College shall deem that termination is in the best interest of the College. Such determination shall be at the sole discretion of the President. In such event, the College shall be liable only for payment in accordance with the payment provisions of the contract for work or services performed or furnished prior to the effective date of termination. Termination hereunder shall become effective by delivery to contractor of written notice of termination upon which date the termination shall become effective.

USE OF CONTRACT BY OTHER EDUCATIONAL INSTITUTIONS   While this bid is prepared on behalf of Montgomery College, it is intended to apply to other Maryland educational institutions and public agencies in Montgomery County, Maryland and State of Maryland as listed below:
• Montgomery County Public Schools
• Montgomery County Government
• Montgomery County Housing Opportunities Commission
• Maryland-National Capital Park & Planning Commission
• Washington Suburban Sanitary Commission
• Maryland State Colleges and Universities

Unless the Bidder takes an exception, the resulting awarded items will be available to all agencies listed. Should a price adjustment be necessary to include any other public agency, the Bidder must so note on the Contractor Information Form. Exception for Montgomery County Public Schools will not be accepted. Purchase requests and funding from other agencies will be the responsibility of those agencies.

WARRANTY   Bidder expressly warrants that all articles, material and work offered shall conform to each and every specification, drawing, sample or other description which is furnished to or adopted by the College and that they will be fit and sufficient for the purpose intended, merchantable, of good material and workmanship, and free from defect. Such warranty shall survive a contract and shall not be deemed waived either by the College's acceptance of said materials or goods, in whole or in part, or by payment for them, in whole or in part. The Bidder further warrants all articles, material and work performed for a period of one year, unless otherwise stated, from date of acceptance of the items delivered and installed, or work completed. All repairs, replacements or adjustments during the warranty period shall be at Bidder's sole expense.

ATTACHMENT E – Mid-Atlantic Purchasing Team Rider Clause

USE OF CONTRACT(S) BY MEMBERS COMPRISING Mid –Atlantic Purchasing Team

Extension to Other Jurisdictions
The [issuing jurisdiction] extends the resultant contract (s), including pricing, terms and conditions to the members of the Mid-Atlantic Purchasing Team, as well as all other public entities under the jurisdiction of the United States and its territories.

Inclusion of Governmental & Nonprofit Participants (Optional Clause)
This shall include but not be limited to private schools, Parochial schools, non-public schools such as charter schools, special districts, intermediate units, non-profit agencies providing services on behalf of government, and/or state, community and/or private colleges/universities that required these good, commodities and/or services.

Notification and Reporting
The Contractor agrees to notify the issuing jurisdiction of those entities that wish to use any contract resulting from this solicitation and will also provide usage information, which may be requested. The Contractor will provide the copy of the solicitation and resultant contract documents to any requesting jurisdiction or entity.

Contract Agreement
Any jurisdiction or entity using the resultant contract (s) may enter into its own contract with the successful Contractor (s). There shall be no obligation on the party of any participating jurisdiction to use the resultant contract (s). Contracts entered into with a participating jurisdiction may contain general terms and conditions unique to that jurisdiction. Including, by way of illustration and not limitation, clauses covering minority participation, non-discrimination, indemnification, naming the jurisdiction as an additional insured under any required Comprehensive General Liability policies, and venue.

Mid Atlantic Team

	Alexandria, Virginia		Fairfax, Virginia		Metropolitan Washington Airports Authority
	Alexandria Public Schools		Fairfax County, Virginia		Metropolitan Washington Council of Governments
	Alexandria Sanitation Authority		Fairfax County Water Authority		Montgomery College
	Annapolis City		Falls Church, Virginia		Montgomery County, Maryland
	Anne Arundel County		Fauquier County Schools & Government		Montgomery County Public Schools
	Anne Arundel School		Frederick, Maryland		Prince George's County, Maryland
	Arlington County, Virginia		Frederick County, Maryland		Prince George's Public Schools
	Arlington County Public Schools		Gaithersburg, Maryland		Prince William County, Virginia
	Baltimore City		Greenbelt, Maryland		Prince William County Public Schools
	Baltimore County Schools		Harford County		Prince William County Service Authority
	Bladensburg, Maryland		Harford County Schools		Rockville, Maryland
	Bowie, Maryland		Howard County		Spotsylvania County Government & Schools
	BRCPC		Howard County Schools		Stafford County, Virginia
	Carroll County		Herndon, Virginia		Takoma Park, Maryland
	Carroll County Schools		Leesburg, Virginia		Upper Occoquan Service Authority
	Charles County Public Schools		Loudoun County, Virginia		University of the District of Columbia
	Charles County Government		Loudoun County Public Schools		Vienna, Virginia
	City of Fredericksburg		Loudoun County Water Authority		Washington Metropolitan Area Transit Auth.
	College Park, Maryland		Manassas, Virginia		Washington Suburban Sanitary Commission
	District of Columbia Government		City of Manassas Public Schools		Winchester, Virginia
	District of Columbia Public Schools		Manassas Park, Virginia		Winchester Public Schools
	District of Columbia Water & Sewer Auth.		Maryland-National Capital Park & Planning Comm.		

MONTGOMERY COLLEGE - OFFICE OF PROCUREMENT
RFP TITLE: Montgomery College USDOL TAACCCT Grant Program Evaluation
RFP NUMBER: 915-008
RFP CLOSING DATE: November 18, 2014

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ATTACHMENT F – DOL SILICITATION

Please go to the link below to view DOL solicitation:

http://www.doleta.gov/grants/pdf/SGA-DFA-PY-13-10.pdf

Trade Adjustment Assistance Community College and Career Training Grant Program
Project Narrative

Cybercrime costs the nation an estimated $445 billion annually, underscoring the need for a well-trained cyber security workforce.[1] For Maryland, cyber security is especially critical. It is a hub in the nation's knowledge-based economy and home to over 50 major federal and commercial agencies and research facilities that all rely on a workforce that has received up-to-date cyber security training.[2] Creating career pathways in cyber security and fostering job growth has been a state priority in Maryland for years, yet connected training programs and career linkages to good-paying jobs that require some college or an associate's degree have not existed up to this point. The Cyber Technology Pathways Across Maryland (CPAM) Consortium represents the first truly statewide coordinated partnership of Maryland's community colleges (see Table 1) to offer cyber security training to TAA-impacted workers, veterans, the un- and underemployed, and other low-skilled adults--including women and minorities who are underrepresented in the field. CPAM will offer on-ramps for these groups to a training system featuring accelerated programs, hands-on experience, and solid links to employers and jobs to allow workers to gain the skills and competencies needed to build talent in an industry suffering from large and persistent hiring gaps.

Table 1: Participating Institutions	
College	Counties Served
Montgomery College (lead)	Montgomery
Allegany College of Maryland	Allegany (MD), Bedford (PA), and Somerset (PA)
Anne Arundel Community College	Anne Arundel
Baltimore City Community College	Baltimore City; and statewide as a Maryland State Agency
Carroll Community College	Carroll
College of Southern Maryland	Calvert, Charles, and Saint Mary's
Community College of Baltimore County	Baltimore County
Frederick Community College	Frederick
Garrett College	Garrett
Hagerstown Community College	Washington
Harford Community College	Harford
Howard Community College	Howard
Prince George's Community College	Prince George's
Wor-Wic Community College	Worcester, Wicomico, and Somerset

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[1] Julianne Pepitone, "Cybercrime Costs Businesses $445 Billion and Thousands of Jobs: Study," NBC News, June 6, 2014,.
[2] Including the National Security Agency, the National Institute of Standards and Technology, U.S. Cyber Command, and Defense Information Systems Agency headquarters, as well as many private firms.

(1) Statement of Need.

(a) Serving the Education and Training Needs of TAA-Eligible Workers. (i) Impact of Foreign Trade.

In fiscal year 2012 (the most recent year available), Maryland certified 13 TAA petitions, representing 444 new trade-impacted workers.[3] The majority of recent TAA certifications resulted from the closure of RG Steel in 2011. Most TAA certifications have been in central Maryland, which has the largest population and greatest manufacturing activity. Table 2 lists select TAA certifications since October 2010.

Table 2: TAA Certifications in Maryland				
TAW #	Company	Location	Decision Date	Workers Impacted
83311	Worthington Industries, Inc.	Baltimore	4/7/2014	54
83286	Yale Sportswear Corporation	Federalsburg	1/2/2014	10
83008U	Quest Diagnostics	Baltimore	10/25/2013	250
82496D	Luke Paper Company	Luke	5/9/2013	42
82099	Air Products and Chemicals Inc.	Sparrows Point	11/28/2012	14
82031	Kinder Morgan Bulk Terminals, Inc.	Baltimore	11/13/2012	54
82030	KT-Grant, Inc.	Sparrows Point	11/9/2012	15
81974	Maryland Pig Services L.P.	Sparrows Point	10/25/2012	14
81841	Heidtman Steel Products	Baltimore	8/10/2012	20
81768	AMG Resources Corporation	Baltimore, MD	8/7/2012	11
81766	Sensata Technologies, Inc.	Cambridge	7/12/2012	41
81725	JDS Uniphase	Germantown, MD	6/26/2012	39
81713	Siemens Baltimore Facility	Sparrows Point	7/12/2012	40
81656	Phillips Food, Inc.	Baltimore	7/3/2012	100
81239	The Fechheimer Brothers Company	Grantsville	1/27/2012	54
80309	Cadmus Journal Services, Inc.	Columbia	9/14/2011	56
75067A	JLG Industries, Inc.	Hagerstown	3/9/2011	15
74919	RG Steel Sparrows Point LLC	Sparrows Point	2/9/2011	2,500
74175	JPMorgan Chase	Frederick	11/23/2010	600

The closure of the RG Steel plant affected around 2,500 workers immediately, but ripple effects continue. It has impacted thousands of workers at supporting organizations that never recovered from the loss. Other occupations in textile and paper production and information technology support have been outsourced to countries including China, India, Mexico, Pakistan, and Vietnam. A round of recent layoffs was in clinical lab services, which impacted 250 workers in 2013; positions were outsourced to a partner organization.

Relative to the number of individuals affected, Maryland receives relatively low levels of TAA funding.[4] To increase capacity, CPAM proposes technology-enabled and online training solutions, including a virtual

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[3] Trade Adjustment Assistance for Workers, Fiscal Year 2012 Report to the Committee on Finance of the Senate and Committee on Ways and Means of the House of Representatives.

[4] Trade Adjustment Assistance for Workers, Fiscal Year 2012 Report to the Committee on Finance of the Senate and Committee on Ways and Means of the House of Representatives. 0.42% of total TAA Funds available to states to serve 0.54% of impacted workers.

internship platform, virtual labs, and a cyber security careers assessment tool that will help workers see how their knowledge/skills translate to cyber security jobs. These will benefit TAA-impacted workers, veterans, un- and underemployed, and low-skilled workers within Maryland and around the nation.

(ii) Education and Training needs of TAA Workers. According to the Maryland Dislocation Services Unit, dislocated trade workers in Maryland are on average white and male. The average age is 51.1, and 45% have a high school diploma. Their average tenure with their employer prior to dislocation is 236 months (nearly 20 years), and wages during the quarter prior to layoff were $10,241. Table 3 shows a brief overview of the skills and educational attainment of TAA-impacted workers, based on knowledge of the industries and occupations in which they worked, and the potential barriers they face to future employment.

Table 3: Education and Training needs of TAA Impacted Workers			
Industries affected	Skills	Educational attainment	Barriers to employment
Manufacturing—metal, paper, machine, clothing (Design Engineer, Quality Inspector, Shipping & Receiving Clerk, General Laborer, Crew Chief, Supervisor & Manager, Powder Coater, Electrician, Forklift Operator, Sales Representative, Project Manager, Maintenance Technician, Administrator)	Operation Monitoring; Critical Thinking; Reading Comprehension; Active Listening; Equipment Maintenance; Monitoring; Complex Problem Solving; Operation and Control; Quality Control Analysis Repairing machines or systems	On-the-job training; vocational certificates; some associate's degrees.	Long term tenure means less understanding of education/training options; lack of confidence to return to school; low reading and math proficiency; comparable jobs have mostly moved out of Maryland
Other manufacturing (Clerks, Assembly Workers, Controller, Machine Operators, Warehouse Staff)	Time Management; Monitoring; Judgment and Decision Making; Operation Monitoring; Quality Control Analysis; Reading Comprehension; Service Orientation; Speaking; Active Learning and Listening.	High school diploma, on-the-job training.	Large number of workers over 50; lack of technological knowledge; skills sets out of date and/or non-transferrable to other jobs; comparable jobs not available in the community

Because of their generally lower educational attainment level and long tenure in previous positions, TAA workers face barriers to entry in postsecondary programs. To address the long length of time out of school, CPAM bridge programs (contextualized remediation) build in modules on reading, math, computer literacy, and soft skills to help participants become college ready quickly. Some participants will require GED preparation before entering for-credit postsecondary programs. Many will have obligations that demand flexible schedules and formats. To address barriers that could affect outcomes, CPAM offers solutions that include self-paced and online courses and labs, computer literacy built into foundational credentials,

accelerated training options, internships and other opportunities that link participants to employers while in college, and comprehensive (in-person and online) academic and career coaching supports so that students receive guidance during their entire time in CPAM programs. Programs will be made accessible to target populations statewide on member college campuses and by offering online and virtual content—including courses, labs, internships, and coaching.

(iii) Partnerships with Applicable Cooperating State Agencies. Throughout project conception and planning, CPAM has maintained active communication with Maryland's Department of Labor, Licensing, and Regulation's (DLLR) Dislocation Services Unit, which manages TAA certifications for the state and coordinates with local workforce offices to ensure services delivery. The Manager of the Dislocation Services Unit shared insights on this population and its needs and provided analysis that influenced project design. Representatives from DLLR and the Dislocation Services Unit have committed to meet regularly with the Project Manager to discuss project effectiveness in serving Trade-impacted workers.

Maryland has a Governor's Workforce Investment Board (GWIB) and 12 local Workforce Investment Areas across the State overseen by Local Workforce Investment Boards (LWIB). CPAM has received commitment of ongoing support from the GWIB, LWIBs, and One-Stop centers to ensure that workforce development programs complement project activities and provide seamless services that benefit the region, utilize existing resources to minimize duplication/overlap, and meet community employment training needs.[5] The workforce system and DLLR will engage with CPAM through Project Navigators, who will be co-located at campuses and workforce offices in each community. Workforce partners have committed to offer services to augment CPAM activities and support student success, including benefits eligibility determination, outreach/intake, assessment, career training information, job search/placement, and labor market information. They have further committed to perform diagnostic testing, career planning and

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[5] The only WIB not represented under this Consortium is the Upper Shore Workforce Investment Board, which covers a predominantly rural of far northeastern Maryland where the demand for IT and cyber security jobs is not strong.

counseling, job searches, and supporting internship/job training matching. LWIBs will designate

representatives to serve on the CPAM Advisory Council (colleges, workforce system, employers, and other

partners), which will utilize reports by the third-party evaluator and lead college to conduct formal data and

project reviews and will serve as a means of communication between partners and CPAM.

CPAM workforce support includes agencies that serve veterans and the military, another priority group.

These agencies include the Fort Meade Alliance, Walter Reed National Military Medical Center, and the

Intelligence Community Campus. They will refer eligible military and veterans, support the development of

veteran-specific career pathways and competency models, and contribute to a system for awarding credit

for military experience. Agencies will help veteran participants to make informed decisions about programs,

find financial assistance, and connect to additional resources, including housing/mental health services.

(b) Evidence of Job Opportunities in the Targeted Industries and Occupations. (i) Evidence of

Employer Demand for Targeted Industries and Occupations. Maryland is the 19th most populous state,

yet ranks sixth among states for total cyber security job postings and second in the nation for per capita

postings.[6] In 2014, Maryland has 131,399 jobs in IT, 49% above the national average.[7] Job postings

related to STEM fields comprised 42% of all postings in the state last year, with 133,909 total postings,

16,869 that did not require a bachelor's degree, and 12,245 in entry-level IT.[8] In 2013, Maryland had

10,627 postings in cyber security.[9] Cyber security job growth has been huge— 94% between 2007 and

2013— and is expected to continue to grow rapidly.[10] Table 4 shows a sample of high-growth jobs for

which CPAM program graduates will qualify, including hourly earnings, current jobs, and projected growth.

Table 4: Targeted High-Growth Occupations in IT*					
NAICS	Occupations	Median Hourly Earnings†	2014 # Jobs	2010-2020 % Change	2010-2020 # Openings ‡

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[6] Real-Time Insight into the Market for Entry-Level STEM Jobs, Burning Glass, February 2014. 18.1 jobs per 10,000 residents.

[7] Economic Modeling Services, Inc.

[8] "Real Time Insight into the Market for Entry-Level STEM Jobs," Burning Glass, February 2014.

[9] Only its neighbor, Virginia, posted more jobs on a per capita basis.

[10] "The Growth of Cyber Security Jobs," Burning Glass. From an analysis of actual job postings. Burning Glass generates job posting data by visiting 32,000 sites to collect postings. Cyber security remains a priority of state government; job growth is expected to continue long into the future. Governor O'Malley and the General Assembly expanded the Cybersecurity Tax Credit in 2014 to $4 million, a 33 percent increase over 2013, which is expected to attract even more IT-sector organizations to the state.

54, 51, 92	Information Security Analysts	$46.37	3,371	33%	1,558
54, 51, 92	Computer Systems Analysts	$39.04	12,205	23%	4,632
54, 51, 92	Web Developers	$32.44	3,158	22%	1,270
54, 51, 92	Computer User Support Specialists	$24.08	14,156	22%	5,216
54, 51, 92	Computer Network Support Specialists	$31.24	5,151	6%	1,187
54	Audio and Video Equipment Technicians	$19.84	1,449	6%	271
54	Electronics Engineering Technicians	$19.69	3,644	3%	936
Total			43,134		15,070

* QCEW, Non-QCEW, and Self-Employed; † From Economic Modeling Services, Inc.; ‡ Includes new and replacement positions.

There are thousands of family-sustaining cyber security jobs for which a professional certificate or associate's degree are sufficient. Even for entry-level positions in targeted occupations, median earnings average $25.43 an hour in Maryland, compared to $14.49 for all entry-level jobs.[11] Real time job listings show that demand for cyber security is strong, including among CPAM's employer partners. In June 2014, the Maryland Workforce Exchange listed 747 positions related to cyber security that require an associate's degree or less.[12] The Montgomery County Office of Economic Development reports that there are 20,000 unfilled cyber security jobs in Maryland located within commuting distance of most potential CPAM participants. While the industry is highly dynamic and long-term hiring projections are difficult, 37 employers have committed to the CPAM project, many of whom will have significant hiring needs in cyber security-related positions over the grant period. For instance, Lockheed Martin anticipates hiring between 50-100 new people in cyber security annually statewide. A number of employers statewide predict smaller but steady annual new job demand, including HP (10 per year), Peninsula Regional Medical Center (35 over the grant period), and STG (40 over 3 years). Among employer partners capable of projecting hiring needs over the grant period, they predict over 1,500 new jobs requiring the knowledge and credentials CPAM will offer. Employer partners have also committed to interviewing qualified CPAM graduates.

(ii) Understanding of Skills Required in the Targeted Industries and Occupations. Table 5 depicts O*Net education levels and knowledge/skills required for select cyber security-related occupations.

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[11] Economic Modeling Services, Inc.
[12] Maryland Workforce Exchange, https://mwejobs.maryland.gov.

Table 5: Knowledge/Skills and Educational Levels Needed for Sample High-Demand Cyber Security-Related Occupations		
Occupations	Credential	Necessary Training Knowledge/Skills
Information Security Analysts	**Bachelor's Degree**: Desired; **2-Year Degree**: Adequate for 43% of positions; **Certificate and/or Work Exp.**: Adequate for some positions	Computers and electronics, telecommunications, administration, education and training, communications and media, customer service, critical thinking, problem solving, decision making, time management, active learning, monitoring, deductive and inductive reasoning, oral and written comprehension/expression
Computer Systems Analysts	**Bachelor's Degree**: Desired; **2-Year Degree**: Adequate for about 30% of positions; **Certificate and/or Work Exp.**: Adequate for some positions	Computers and electronics, customer and personal service, mathematics, engineering and technology, administration and management, critical thinking, oral and written comprehension, systems analysis, problem solving, decision making, programming, systems evaluation, information ordering, deductive/inductive reasoning
Web Developers	**Bachelor's Degree**: Not needed; **2-Year Degree**: Adequate for most positions; **Certificate and/or Work Exp.**: Adequate for many positions	Computer and electronics, customer and personal service, design, communications and media, mathematics, programming, critical thinking, operations analyst, active listening, program solving, active learning, decision making, monitoring, deductive/inductive reasoning, oral and written comprehension/expression
Computer User Support Specialists	**Bachelor's Degree**: Not needed; **2-Year Degree**: Adequate for most positions; **Certificate and/or Work Exp.**: Adequate for many positions	Computer and electronics, customer service, telecommunications, clerical, administration management, engineering and technology, active listening, reading, critical thinking, problem solving, time management, active learning, instructing, judgment and decision-making, oral and written comprehension, information ordering, problem sensitivity
Computer Network Support Specialists	**Bachelor's Degree**: Not needed; **2-Year Degree**: Adequate for most positions; **Certificate and/or Work Exp.**: Adequate for many positions	Computer and electronics, mathematics, administration, reading, critical thinking, problem solving, systems analysis, problem solving, judgment and decision-making, systems evaluation, oral and written comprehension, deductive/inductive reasoning
Audio and Video Equipment Technicians	**Bachelor's Degree**: Not needed; **2-Year Degree**: Adequate for most positions; **Certificate and/or Work Exp.**: Adequate for many positions	Computer and electronics, communications and media, telecommunications, customer service, engineering and technology, education and training, critical thinking, monitoring, active listening, problem solving, judgment and decision making, information ordering, written and oral comprehension, problem sensitivity, deductive reasoning
Electronics Engineering Technicians	**Bachelor's Degree**: Not needed; **2-Year Degree**: Adequate for most positions; **Certificate and/or Work Exp.**: Adequate for many positions	Computer and electronics, engineering and technology, design, customer service, mechanical, mathematics, problem solving, critical thinking, monitoring, troubleshooting, active learning, operation monitoring, repairing, deductive reasoning, oral and written comprehension/expression

CPAM is designed to provide training in knowledge, skills, and abilities (KSAs) identified by the National Initiative for Cybersecurity Education (NICE) for occupations in the cyber security sector associated with positions at the training/experience level provided by an associate's degree or below.[13] To ensure that CPAM adapts its programs to a changing industry, key partners in the sector strategy will participate in quarterly curriculum reviews and regular meetings convened by the CPAM Advisory Council and industry partners, such as the National CyberWatch Center and the Tech Council of Maryland.

(c) Gap Analyses. (i) Significant Gaps in Existing Education and Career Training Programs. In designing the proposed program, CPAM members conducted a statewide community outreach process that included meeting with and soliciting input from 2-year and 4-year postsecondary institutions, other

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[13] For example, entry-level cyber security workers should demonstrate competencies in required hardware and software, and understanding of principles of information technology, databases and applications, networks, telecom, wireless and mobility, software development and management, user and customer support, digital media and visualization, compliance, risk management, security and information assurance.

TAACCCT consortia,[14] employers, industry organizations, state and local workforce agencies, various state government agencies,[15] and the community. Montgomery College also compiled internal institutional data from member colleges to analyze the occupational and educational landscape. The gap analysis included research on other previously-funded TAACCCT projects to assess best practices and lessons learned. The review found significant gaps, as detailed in Table 6.

(ii) Gaps' Impact on Ability to Effectively Serve Target Population. Table 6 provides an overview of the gaps identified and their impact on CPAM's ability to serve TAA-eligible workers and other adults.

Table 6: Gap Analysis	
Area 1: Limitations in number of students served/enrolled	
Gap Detail	**Gap Impact**
Coaching and job placement services are uneven across Consortium members	Insufficient coaching staffing means that some students do not receive much one-on-one education and career supports
Limited capacity for recruitment and marketing to potential students	General lack of understanding of cyber program offerings and their accessibility, suitability, and advantages among TAA workers; a sense among adult workers that IT programs are not accessible for someone who has been out of school
Demographic breakdown of cyber program participants and workers does not mirror Maryland's population	Only 32% of the IT workforce is women (holds true across IT-related occupations), while just under half of the target population is female.
Students opt for for-profit programs thinking they are a quicker option	Students enroll in programs that are higher in cost and do not necessarily meet their needs.
Inconsistent application of prior learning assessments	Lack of statewide system of PLA reduces students' ability to accelerate their progress through a program of study
High numbers of target populations who do not have a GED	Students may not enroll in college without having a diploma or GED; lack of a GED is perceived to be a large hurdle (takes too long) to entering into a postsecondary program, particularly for low income adults
Area 2: Limitations in faculty expertise and facility infrastructure	
Gap Detail	**Gap Impact**
Shortage of trained faculty	Limited capacity to expand program offerings and capacity in line with demand, especially in Western and Southern Maryland
High employee turnover	Low wages for highly trained technical faculty result in high turnover; unable to attract and retain highly qualified faculty
Area 3: Limitations in the content and quality of available courses	
Gap Detail	**Gap Impact**
Uneven availability of cyber certification programs among members; lack of responsiveness to a changing industry	Lack of infrastructure at some member colleges has meant they have not been able to develop programs in line with economic demands; limited online offerings have further limited students' access to programs
Existing programs sometimes "compete"	Difficulties articulating Computer Science and Cyber Security programs between community colleges and 4-year institutions
Lack of work-based learning opportunities	Students do not gain on-the-job training or have access to professional mentors prior to graduation; internship programs are uneven between member colleges
Incomplete competency mapping of the sector, particularly for entry-level occupations	Not able to match knowledge, skills, and abilities in academic programs with those required in the workplace

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[14] CPAM has three previously-funded TAACCCT projects involved in this Consortium: Anne Arundel- Round 1, Prince George's Community College - Round 2, and Community College of Baltimore County - Round 3.
[15] The state TAA office, representatives from the Maryland Department of Labor, Licensing, and Regulation, the Maryland Higher Education Commission, the State Secretary of Education, and the Office of the Governor.

	Some occupations are saturated with too many graduates, while others are underserved
Individual colleges do not have the capacity to collect and analyze data to ensure that programs offered align with employer demands	Some occupations are saturated with too many graduates, while others are underserved

Area 4: High program attrition; Low retention and completion rates	
Gap Detail	Gap Impact
Students struggle to pay for school due to unforeseen circumstances	The longer it takes for a student to complete in a program of study, the higher the opportunity and financial costs and the more likely he/she will not finish
Uneven availability of academic and career advisement across the state	Students, particularly those who have been out of school for some time, become overwhelmed by choices, and do not understand program requirements. Many students do not have the background or support systems in place to make the choices that will help them select the best program and navigate school
Students struggle to complete developmental education requirements	Delayed start of technical programs means a higher likelihood that students will not complete a program of study due to cost, time required, or unforeseen circumstances

Area 5: Infrastructure Limitations	
Gap Detail	Gap Impact
Limited access to technology/equipment required for adequate training	Hindered ability to provide relevant world experience because equipment is outdated. Students need access to current PCs and Macs, servers, switches, routers, firewalls, packet analyzers, spam filters, and many other pieces of networking equipment employed in modern network infrastructures.

Area 6: Lack of Coordination/Communication between Industry and Education	
Gap Detail	Gap Impact
Limited ability to target participants	No statewide coordination mechanism for identifying potential students and recruiting them into programs
Limited ability to track participant outcomes	Colleges and employers do not have sufficiently robust data for informed decision-making
Programs not aligned with employer needs	Working in matching competencies with employment opportunities has been incomplete
Gap between the level of skill employers desire and what community colleges can provide	Potential candidates are not made aware of employment/career opportunities that candidates with some college or an associate's degrees can fill

CPAM will ensure that all participating colleges have the lab equipment that employers state is needed for to up-to-date training. For colleges with limited numbers of students, adoption of virtual labs will allow for quality training without the cost of fully outfitting physical labs. This proposal represents the first truly statewide attempt for Maryland to forge connections between workers and cyber security resources to address the hiring gap in cyber security. CPAM will expand organization and capacity among state entities to serve targeted groups through a coordinated career pathways system led by a sectoral strategy.

(2) Methodology and Workplan

The CPAM consortium brings together a critical mass of statewide community colleges, employers, industry representatives, workforce agencies, and other groups to provide a linked career pathway system of training and supports for Trade-impacted workers, veterans, un- and underemployed, and low-skilled adults leading to good paying cyber security jobs. The proposed project is guided by five strategies, see Table 7.
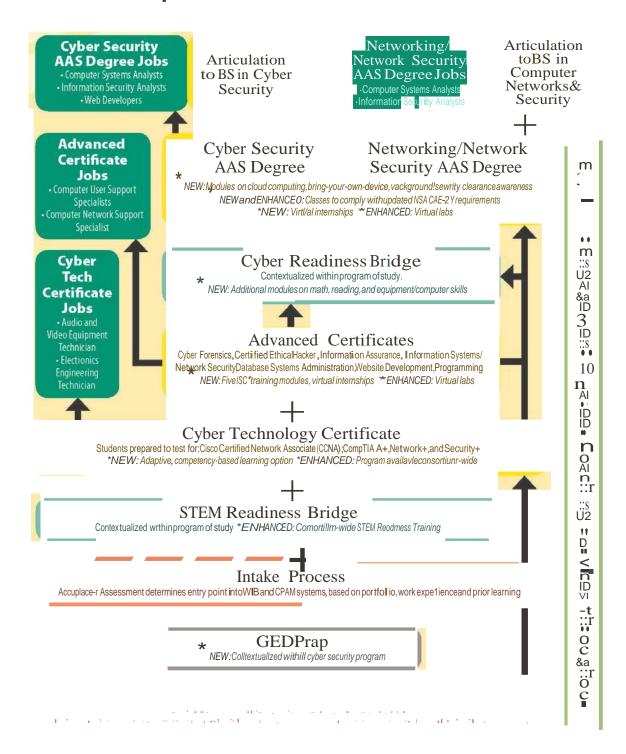
Table 7: Career Pathways Across Maryland Consortium Guiding Strategies
1. Build an easily navigable statewide Career Pathways system that actively engages stakeholders and features on-ramps to training and off-ramps to good jobs for workers of all educational and skill levels

2.	Create a statewide system of student supports that address academic and non-academic needs, leading to better retention, and accelerates student outcomes through a variety of proven strategies.
3.	Connect information and communication to assist participants in making informed choices and allow for data driven analysis to inform Consortium decision-making, continuous improvement, and planning
4.	Employ technology to strengthen programming and delivery and increase statewide access to high-quality coursework, instruction, simulations and labs, and work-based learning opportunities
5.	Construct strategic partnerships that engage, employers and leverage resources to create a durable network of relationships that meet the needs of employers, students, and other stakeholders over time

The design employs a sector-based approach to build a connected career pathways system that offers accelerated training founded in both proven-effective and innovative methods. The figure below illustrates how participants will move through the program, gaining credentials that qualify them for family-sustaining wage jobs. Completers will earn a one-year foundational certificate, adapted from TAACCCT Round 1 grantee the National STEM Consortium, which prepares students to test for basic industry credentials and for entry-level jobs. This certificate will be embedded in two redesigned AAS tracks, Cyber Security or Networking, allowing students to accelerate through a two-year degree. The AAS tracks will be enhanced to align with revised NSA guidelines for Security & Information Assurance programs. Participants may also lattice specialized certificates, which are modularized and aligned to industry standards, to qualify for more specialized jobs. Students will participate in labs and internships throughout the program to give them hands-on experience and to make connections to employers while still in school. Virtual labs and internship platforms will equalize access to opportunities for students around the state, including in more remote areas. Depending on program of study, graduates will be qualified to enter cyber jobs at a range of levels, from Technician to Information Security Analyst. Project Navigators at each campus will interface between the workforce and college systems to ensure that all participants are informed of the benefits and expectations of the program and receive the academic and non-academic supports needed to stay on track to graduate. An Experiential Learning Coordinator will support internships and develop an expanding network of employers to connect graduates to good jobs. CPAM programs will articulate to state 4-year institutions, including with University of Maryland University College (UMUC) for online B.S. programs in Cybersecurity and Computer Networks and Security, for students who choose to continue with college.

Cyber Security AAS Degree Jobs
- Computer Systems Analysts
- Information Security Analysts
- Web Developers

Articulation to BS in Cyber Security

Networking/ Network Security AAS Degree Jobs
- Computer Systems Analysts
- Information Security Analysts

Articulation toBS in Computer Networks& Security

Advanced Certificate Jobs
- Computer User Support Specialists
- Computer Network Support Specialist

Cyber Security AAS Degree
NEW: Modules on cloud computing, bring-your-own-device, vackground! sewrity clearance awareness
NEW and ENHANCE0: Classes to comply with updated NSA CAE-2Y requirements
NEW: Virtl/al internships *ENHANCED: Virtual labs

Networking/Network Security AAS Degree

Cyber Tech Certificate Jobs
- Audio and Video Equipment Technician
- Electronics Engineering Technician

Cyber Readiness Bridge
Contextualized within program of study.
NEW: Additional modules on math, reading, and equipment/computer skills

Advanced Certificates
Cyber Forensics, Certified EthicalHacker, Information Assurance, Information Systems/ Network SecurityDatabase Systems Administration, Website Development, Programming
NEW: Five ISC*training modules, virtual internships *ENHANCED: Virtual labs

Cyber Technology Certificate
Students prepared to test for: Cisco Certified Network Associate (CCNA); CompTIA A+, Network+, and Security+
NEW: Adaptive, competency-based learning option *ENHANCED: Program availavleconsortiunr-wide

STEM Readiness Bridge
Contextualized wrthin program of study *ENHANCED: Comorti!lm-wide STEM Reodrness Training

Intake Process
Accuplace-r Assessment determines entry point into WIB and CPAM systems, based on portfol io, work expe1ience and prior learning

GEDPrap
NEW: Colltextuallzed withill cyber security program

(a) Evidence-Based Design. (i) Review of Evidence for Program Design. CPAM colleges conducted a

thorough review of evidence, which formed the basis for project design. Table 8 provides an overview of

the supporting evidence and its strength for each project strategy.

Table 8: Review of Evidence for Program Design	
1. Build an easily navigable statewide Career Pathways system that actively engages stakeholders and features on-ramps to training and off-ramps to good jobs for workers of all educational and skill levels	Evidence
Stacking and latticing credentials within career pathways leads to higher completion rates[16]	Strong
Contextualizing developmental education leads to improved and accelerated learning[17]	Strong
Prior Learning Assessments (PLA) result in better outcomes through reducing the time for adults to earn a degree; 13% of PLA students earned an associate's degree, compared to 6% of non-PLA students[18]	Strong
Aligning training with career pathways models through developing systems of portable, stackable credentials results in more efficient training that satisfies supply-side and demand-side labor market needs[19]	Moderate
Contextualized developmental education leads to improved learning outcomes and accelerated progress[20]	Moderate
Competency-based education reorients the educational process toward demonstrated mastery and can build a bridge between academics and employers[21]	Preliminary
2. Create a statewide system of student supports that address academic and non-academic needs, leading to better retention, and accelerates student outcomes through a variety of proven strategies.	Evidence
Intrusive advising leads to a higher likelihood that students will complete degrees and certificates[22]	Strong
Intrusive advising, simplifying college structure to allow for easier navigation of the system, and integrating advising with instruction can improve outcomes[23]	Moderate
The wrap-around coaching model represents a cost-effective means of improving retention and completion when compared with other means, such as increasing financial aid[24]	Moderate
3. Connect information and communication to assist participants in making informed choices and allow for data driven analysis to inform Consortium decision-making, continuous improvement, and planning	Evidence
Use of state data systems to measure postsecondary student performance and track outcomes for nontraditional and low-income students, improves student outcomes[25]	Strong
Data-driven strategies to target adult students (returning adult population; partnerships, communication and marketing campaign for outreach; transfer credits, and prior learning assessment), in particular those with prior college credit, increase postsecondary graduation rates[26]	Moderate

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[16] Davis Jenkins and Madeline Joy Weiss. (2011) Charting Pathways to Completion for Low-Skilled Community College Students. Community College Research Center Working Paper Number 34.

[17] David Jenkins, Cecilia Speroni, et. al. (2010) A Model for Accelerating Academic Success of Community College Remedial English Students: Is the Accelerated Learning Program Effective and Affordable? Community College Research Center Working Paper Number 21.

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[19] Austin, J.T., Mellow, G.O., Rosin, M., and Seltzer, M. (2012). Portable, Stackable Credentials: A New Education Model for Industry-Specific Career Pathways; Moving Beyond the Count: Maryland's Skills to Compete Initiative, a case study. 2011.

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Data-driven academic programs support connections to careers after graduation[27]	Moderate
4. Employ technology to strengthen programming and delivery and increase statewide access to high-quality coursework, instruction, simulations and labs, and work-based learning opportunities	**Evidence**
Online methods are effective in teaching adult learners because of the emphasis on autonomy, self-direction, and contextualized learning[28]	Strong
Hybrid strategies produce the same outcomes as classroom learning[29]	Strong
Simulations enhance student learning in STEM subjects and when coupled with additional student supports[30]	Moderate
Adaptive learning technologies that allow students to self-pace studies and personalize content accelerate student learning better than traditional learning environments[31]	Moderate
Online learning based in competencies supports enhanced student learning[32]	Moderate
Adaptive learning supports better student learning and higher completion rates[33]	Preliminary
5. Construct strategic partnerships that engage, employers and leverage resources to create a durable network of relationships that meet the needs of employers, students, and other stakeholders over time	**Evidence**
Sector strategies result in higher earnings and better outcomes for program graduates than traditional training programs[34]	Strong
Sectoral employment development can be effective at helping low-income workers find and advance in well-paying jobs while increasing employer engagement to build more effective economies[35]	Strong
Work-based-learning improves skills development and enhances student professional development[36]	Moderate
Internships/Apprenticeships align worker demand with supply and facilitate learning to reduce on the job training time[37]	Moderate
The benefits to workers, in future earnings and aligning skills with employer need, of participating in an internship program outweigh participation costs from forgone earnings[38]	Moderate

(ii) Appropriate Evidence for Program Design. CPAM is designed around five strategies (Table 7) and is based on a thorough review of effective educational delivery models and evidence-based strategies (Table 8). The Consortium reviewed existing programs, including other TAACCCT-funded consortia, to design a project that serves TAA-impacted workers, veterans, un- or underemployed, and other low-skilled adults in non-duplicative ways. The review shows strong evidence of the effectiveness of prior learning assessments to accelerate progress, incorporating online teaching and technology into programs, taking sector-based and career pathways approaches to program building, supporting programs with wrap-around/intrusive

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[33] Newman, Stokes and Bryant. (2013) Learning to Adapt: A Case for Accelerating Adaptive Learning in Higher Ed. Education Growth Advisors.

[34] Maguire, Sheila, Freely, Joshua, et. Al., Tuning into Local Labor Markets, Findings from the Sectoral Impact Study, Workforce Strategies Initiative at the Aspen Institute, 2011, http://www.aspenwsi.org/resource/tuning-local-labor-markets-exec-sum/

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[36] Simons, L., et. al. (2012) Lessons Learned from Experiential Learning: What do Students Learn from Practicum/Internship? International Journal of Teaching and Learning in Higher Education, 24(3).

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[38] Lehrman, R. I. (2012). Can the United States Expand Apprenticeships? Inst. for the Study of Labor, Policy Paper No. 46

advising, and contextualizing basic education. Promising preliminary evidence includes adaptive learning to accelerate progress, that competency-based learning improves outcomes, and that internships can link students to jobs after graduation. Preliminary evidence of importance to CPAM because of its geographic specificity includes that generated by the National STEM Consortium (Round 1 TAACCCT grantee).

(iii)Use of Evidence in Program Design. CPAM program design was informed by the above review of evidence and constructed to fit within the National Cybersecurity Workforce Framework, developed by The National Institute of Standards and Technology's National Initiative for Cybersecurity Education (NICE).[39] Eight CPAM members are designated NSA Center for Academic Excellence in Two-Year Cyber Security & Information Assurance Education schools,[40] and Anne Arundel and Howard Community Colleges are designated National Centers of Digital Forensics Academic Excellence by the Defense Cyber Crime Center. These standards grounded CPAM's design in best practices to advance cyber security-related disciplines. Finally, the National CyberWatch Center is a critical partner, offering resources, courses and materials, and national connections.[41] CPAM will work with its evaluator to establish an effective review and reporting process that allows for activity tracking and continuous improvement, while generating documentation to allow for replication. Table 9 shows a how evidence was used in CPAM's design.

Table 9: Use of Evidence in CPAM Design	
Guiding Strategy	Use of Evidence
1. Build an easily navigable statewide Career Pathways system that actively engages stakeholders and features on-ramps to training and off-ramps to good jobs for workers of all educational and skill levels	**Replicate and Adapt strong evidence** that contextualized education leads to accelerated learning: A contextualized GED prep program that *replicates* the i-BEST model; contextualized bridges to accelerate college readiness and improve access to postsecondary training that *adapts* an existing model from the National STEM Consortium **Adapt strong evidence** that stacking and latticing credentials within a career pathways system improves completion: College cyber security curricula that *adapts* existing models into a system of embedded and stackable credentials leading from a foundational certificate to associate's degrees, with short-term specialized stackable certificates built in that lead to specific occupations
2. Create a statewide system of student supports that address academic and non-academic needs, leading to better retention, and accelerates student outcomes through a variety of proven	**Adapt strong evidence** that intrusive and wrap around coaching models improve outcomes: Project Navigator co-located at colleges and workforce offices to expand institutional capacity to support students; online point-of-need email/chat coaching system; advising built into student decision points from intake to graduation; Experiential Learning Coordinator (*new* in Maryland) will support navigation of internships and jobs, and connect students with work-based learning **Replicate strong evidence** that state data systems improve student tracking and outcomes:

[39] The National Initiative for Cybersecurity Education, http://csrc.nist.gov/nice/. The framework lists 32 areas of cybersecurity work, within seven categories: Operate & Maintain, Protect & Defend, Investigate, Collect & Operate, Analyze, Securely Provision, and Oversight & Development.
[40] The highest concentration of so designated community colleges of any state: Anne Arundel, Hagerstown, Harford, Howard, and Prince George's Community Colleges; College of Southern Maryland; Community College of Baltimore County; and Montgomery College.
[41] It is housed at Prince George's Community College, a CPAM member.

	strategies.	CPAM will build a management information system (MIS) that links program data and the workforce system to allow for tracking of participant performance and outcomes and formal data reviews; third party evaluator will provide technical support to ensure a strong data analysis system
3.	Connect information and communication to assist participants in making informed choices and allow for data driven analysis to inform Consortium decision-making, continuous improvement, and planning	**Replicate strong evidence** that prior learning assessments result in better outcomes and reduce time to degree: Member colleges will develop and adopt a statewide PLA system, reducing time to degree, simplifying transfers, and awarding credit for experience in a uniform manner **Adapt strong evidence** that data driven strategies support adult learners: A new connected coaching system will provide participants with support on program decision making, including interpreting data and understanding how PLA accelerates learning, the pros and cons of taking self-paced coursework, and how skills and experiences align with cyber security jobs; Create an *innovative* interactive cyber careers assessment to support determining which cyber career fit. **Adapt moderate evidence** that data driven academic programs connect to careers after graduation: Programs regularly modified to support best practices and changing industry demand; *New* Employment Results Scorecard will allow students to make informed decisions
4.	Employ technology to strengthen programming and delivery and increase statewide access to high-quality coursework, instruction, simulations and labs, and work-based learning opportunities	**Adapt strong evidence** that online and hybrid models improve student learning: Employ online learning throughout all programs, as computer literacy is essential to cyber security; use of learning modules to augment instructor capacity at small colleges, create new online lectures (for "flipped classrooms"). *Adapt* Assurance certificate to a competency based and modularized format **Replicate moderate evidence** that simulations enhance learning: Expand virtual labs capability **Adapt moderate evidence** that work-based learning improves skills development and reduces on-the-job training time: Hire an Experiential Learning Coordinator for outreach and ensure ongoing student opportunities; launch an *innovative and new* virtual internship portal that tracks student progress and connects them to opportunities with employer partners, either in person or virtually **Innovative preliminary evidence** that competency-based education is effective: Pilot a Cyber Technology certificate and redesign the Information Assurance certificate on an adaptive platform
5.	Construct strategic partnerships that engage, employers and leverage resources to create a network of relationships that meet the needs of employers, students, and other stakeholders over time	**Replicate strong evidence** that sector strategies can help workers find and advance in good jobs: Advisory Council and communities of practice will create a structure for regular project evaluation, formal data reviews, and continuous improvement so programs continue to align with needs **Replicate strong evidence** that sector strategies improve earnings: Linking employers to students through an *innovative and new* virtual internship platform will create direct engagement and allow for employers to review student progress, learning, and conduct informal program reviews

(b) Career Pathways. Maryland currently does not have a connected career pathways system, and on-ramps to cyber security jobs for many low-skilled adults have been limited. Further, Maryland's TAA office reports that TAA workers do not have an understanding of how cyber security jobs are accessible to them, and employers report that career-ready knowledge, skills, and abilities are often more important than a bachelor's degree-–signaling points of disconnect. CPAM will offer a new statewide solution to these problems through extensive outreach and offering a clear sequence of industry-aligned and accelerated training that leads to progressively higher-skilled and higher-wage jobs in growing occupations.

(i) Accelerated Completion of Remedial Coursework. CPAM accelerates and contextualizes remedial coursework in two ways: by offering STEM and Cyber Readiness bridge programs for participants who have a GED or diploma, but who test below college ready, and by piloting a contextualized GED

preparation program in cyber security. Member colleges will adapt the National STEM Consortium's[42] STEM bridge strategy, which is currently only offered at Anne Arundel Community College. It consists of 2 components: STEM Readiness (3, 1-credit courses that integrate basic skills, workforce skills, computer skills, and job readiness training within technical pathways) or a STEM Foundations course (which fast tracks participants who test below college ready in 12-15 weeks). CPAM will also develop a new Cyber Readiness Bridge program, modeled on the NSC STEM bridge, to prepare participants for AAS degrees in Cyber Security or Networking. It will feature modules on math, reading, and equipment/computer literacy aligned to AAS degree requirements to address the skills required for workforce success.

Many TAA-impacted and other workers do not possess a GED or equivalent, presenting a barrier to entry to postsecondary training programs.[43] CPAM will pilot a GED preparation program, based on a successful program already in place in Maryland (Mi-BEST, modeled on Washington State's i-BEST).[44] It will contextualize learning through cyber-specific content adapted from available materials or developed with employers to ensure relevancy. After passing the GED, students will have on-ramps to the CPAM foundational certificate. CPAM will scale the GED program upon evidence of success in supporting students in entering cyber security postsecondary programs of study.[45] CPAM anticipates that it will accelerate the path to college and provide valuable technical knowledge in a pre-postsecondary program.

(ii) Specific Services and Career Guidance. Those students who do not have the resources or knowledge to self-navigate through a higher education system require comprehensive supports. CPAM's gap analysis revealed that target groups face multiple barriers to program retention, completion, and employment due to factors such as time out of school, educational level, unfamiliarity with technology, and

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[42]Anne Arundel Community College was lead on a Round 1 TAACCCT grant and is a CPAM member.

[43]Around 11% of residents have less than a high school diploma, but this proportion is higher among unemployment insurance claimants and in some regions of the state. Nearly 18% and 68% of unemployment insurance claimants on the lower Eastern Shore have no diploma.

[44]The MI-BEST program adapts the Washington State I-BEST model to help participants earn a high school diploma and a trade certificate simultaneously, but it does not link to postsecondary education.

[45] Carroll College is currently piloting an I-BEST GED program with A+ certification preparation embedded, but the program does not provide ramps to postsecondary education. In Carroll County, 51% of unemployment insurance claimants have less than a high school diploma, signaling a need this program. Labor Force, Demographic and Jobs Overview, March 2014, Department of Labor, Licensing, and Regulation.

family commitments. CPAM will employ an advisory team model that emphasizes progress toward professional goals in coaching interactions and that will connect and leverage recruitment, assessment, and job navigation infrastructure in the workforce system. CPAM will also develop a new cyber career pathways navigation to help potential participants understand how their skills align with cyber jobs. To ensure strong connections, CPAM Project Navigators will co-locate on colleges and workforce offices and conduct outreach.[46] All participants will undergo an intake process, which will involve assessments, career planning support, and entry into workforce and CPAM systems for comprehensive tracking. Counselors will maintain contact with students via phone, email, and/or text. The CPAM web portal will have an email/chat feature for coaching at the point and time of need. To provide career guidance and connect students to internships and jobs after graduation, an Experiential Learning Coordinator will manage CPAM's internship system, conduct outreach to employers, and ensure that all students have chances to participate in work-based learning. CPAM staff will conduct regular analysis of student-level analytics on performance and progress to ensure that they receive the supports required to stay on track and meet completion goals.

(iii) Prior Learning Assessments. Maryland does not have a uniform system of Prior Learning Assessment (PLA) for postsecondary education, which has led to uneven application of PLA statewide. CPAM colleges will develop a consortium-wide system of PLA that will accelerate progress by awarding college-level credit for experiential learning to reduce time in programs and simplify transfers between/ among institutions and between non-credit and for-credit programs. PLA will support students by placing them in the appropriate classes and reducing duplication of work, to increase engagement while decreasing program cost to participants. Prior learning will be assessed through portfolio and resume review,[47] review of past college courses and transcripts, standardized examinations, recognition of American Council on Education-evaluated learning experience and military training, credit by departmental exams, and credit

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[46] To ensure support of participants, they will complete an intake process and register with the Maryland Workforce Exchange. Participants will then have access to DLLR's labor market information, real-time jobs listings, and tools such as a resume builder; Coaches will guide system use.
[47] Counselors will help students to develop their personalized learning portfolios online at a resource such as www.learning-counts.org.

portfolios, and interviews that will assess such factors as job and military experience.[48] By the beginning of

Year 2, a PLA system will be in place that will award students up to 18 credits, allowing them to accelerate

through more than a semester of coursework. During the first year, CPAM will take the following actions to

move toward a statewide system: complete an inventory of PLA policies and practices and map their

alignment with recognized standards, coordinate among Consortium members using PLA to develop

consistent policies, and provide implementation assistance to colleges that have not used PLA. CPAM will

adhere to transfer credit mandates of the Maryland Higher Education Commission (MHEC) and align with

University System of Maryland (USM; which governs state public universities) policies. The PLA system will

be agreed upon by all participating colleges. By the end of the grant period, CPAM expects that the 2

community colleges not receiving grant funds will adopt the system because of the benefits to students.

(iv) Competency-Based Programs. Competency-based programs show preliminary but promising

evidence of supporting student success. Anne Arundel Community College will develop and pilot a

competency-based model on an adaptive learning platform with its one-year Cyber Technology certificate,

which was originally designed as a cohort model, and will allow students to self-pace. Harford Community

College will also redesign its Information Assurance certificate into a competency-based and modularized

format. These pilots will launch in Year 2 and will explore whether a self-paced approach improves student

success and accelerates progress. Participants will be selected for pilots based on intake assessment

results on their ability to self-motivate and stay on track. Proficiency will be measured by observational

methods, including task performance, exam performance, and demonstrations. The CPAM central MIS will

be equipped to produce analytics on student performance across sections and modalities, which will also

be used to evaluate pilot success and inform improvements. Instructors will collect data on progress and

compare it against the performance of students enrolled in comparison and baseline cohorts.

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[48] Tools utilized will include College Level Examination Program (CLEP) exams and DSST exams. The nationally recognized DSST Program features a suite of exams that allow students to receive college credits for learning acquired outside the traditional classroom. http://getcollegecredit.com. In cases where CLEP exams are not available, colleges will determine the most appropriate departmental exams.

(v) Modularized Curricula. Modularized content simplifies the pathway through a program for students by packaging it to reduce decision points, at which students are at greater risk of dropping out. CPAM will offer modularized curricula at every level of training to increase student ease of navigation and support program tracking by CPAM staff. The Cyber bridge programs will be offered as modularized "bundles," a new approach at most member colleges and adapted from the NSC STEM bridge model. The foundational Cyber Technology certificate, which will be adapted consortium-wide, will be fully modularized, feature compressed scheduling, and will utilize a cohort model.[49] The Information Assurance certificate will be converted to a modularized format in Year 1. Additional new modules for certificate programs will be created on bring your own device, cloud computing, and background check awareness. These were determined necessary because of the rapidly-changing nature of the topics.

(vi) Interconnected Credentials. CPAM will offer a series of easy-to-understand and navigate interconnected credentials that may be completed in two years or less, allowing participants to stack credentials as they move through a program of study (see Figure).[50] Participants will earn the following credentials by progressing through CPAM: GED (for participants of the contextualized GED pilot), an accelerated Cyber Technology certificate, and an AAS degree in either Cyber Security or Networking. The Cyber Technology certificate will be embedded within AAS degree tracks so that students can complete it and join the workforce as a technician, or accelerate through a degree in two years or less. Students may lattice additional certificates in specialized topics to the program pathway, including: Cyber Forensics, Certified Ethical Hacker, Information Assurance, Database Systems Administration, and Programming (see Figure). These credentials are the same as those used broadly in the state. The lead college will work with member colleges staff to ensure that credentials align and are connected, including full transferability from the certificate into AAS tracks. CPAM credentials will crosswalk to the knowledge, skills, and competencies

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[49] Materials are available through Carnegie Mellon's Open Learning Initiative and an adoption toolkit will be ready for use by September 2014.
[50] These include incumbent workers looking to 'cap off' their skills with a credential or the low-skilled or unemployed entering a new field.

required to gain nationally-portable industry credentials, such as CompTia A+, Network+, Security+, Cisco Certified Network Associate, and Certified Information Systems Security Professional; Linux LPI; Red Hat Linux-RHCSA/RHCE; International Society of Forensic Computer Examiners', Certified Computer Examiner, and the International Association of Computer Investigative Specialists' Computer Forensic Certified Examiner; Certified Ethical Hacker; Cyber Incident Responder –Dept. of Defense. Counselors will support participants in choosing programs that align with aptitudes and interests and with projected job demand. Consortium-wide, courses supported by grant funding will be transferable between colleges.

(vii) Employer and/or Industry Involvement. The National CyberWatch Center will support CPAM Project Navigators to convene meetings of employers and industry around the state and to identify critical competencies in a dynamic industry. These meetings will support program reviews that ensure alignment between courses and industry demands. Further, the Experiential Learning Coordinator will work with employers and partners to identify internships and job openings and will actively expand the network of employer partners over the life of the grant. The CPAM Advisory Council (including workforce, employers, and industry) will convene as a mechanism for "just-in-time" modifications that respond to employer needs. The Project Manager will coordinate with the Advisory Council and colleges to map programs across the Consortium to minimize overlap and ensure high training quality that results in nationally-portable credentials. Through the CPAMs' Advisory Council and with the support of industry partners, employers will be actively engaged in program design, implementation, and continuous improvement.

(viii) Transfer and Articulation. The new PLA system will allow for a process of non-credit to credit transfers across colleges. CPAM will also simplify transfers through standardizing the foundational cyber certificate, embedding it into AAS tracks, and through consortium-wide adaptation of core project elements.[51] CPAM will work with MHEC to abide by state regulations pertaining to transfer and articulation and with USM to ensure that policies align with those at 4-year institutions. Member colleges that offer AAS

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[51] Including the NSC's STEM Readiness, STEM Foundations, and Cyber Technology certificate programs, and the new Cyber Readiness bridge.

degrees already have articulation agreements to 4-year institutions; member colleges will expand these agreements to include CPAM programs during Year 1. All members have articulation agreements with University of Maryland University College (UMUC) for online B.S. in Cybersecurity and Computer Networks and Security programs; the lead college will work with UMUC to establish a consortium-wide articulation agreement from CPAM AAS tracks to BS degrees during Year 1.[52] Further, CPAM will work with MHEC to increase use of 2+2 articulation agreements between community colleges and public and private universities, including UMUC, in Cyber Security.

(c) Advanced Online and Technology-Enabled Learning. (i) Incorporation of Technology into Program Design/Delivery. CPAM will utilize technology to improve program quality and accessibility, advance education, and foster a statewide career pathways system. Technology strategies will include creating a cyber careers assessment tool, online modularized content, virtual internships, and piloting an adaptive learning platform with two certificate programs (Cyber Technology and Information Assurance). Technology-enabled elements will improve the learning experience by allowing for asynchronous and real-time collaboration between instructors, employers, and students.

Employers report that it is essential that participants at all levels of training have access to the technology tools and resources that will be required on the job, necessitating some lab and equipment upgrades. Member colleges will also acquire remote virtualization equipment that will allow participants to benefit from having access to simulated labs, developed by members with experience in virtualization and shared with all colleges. Virtual labs will address an infrastructure gap and provide a cost-effective means of improving accessibility to quality content statewide while reducing the need for all member colleges to outfit expensive physical labs. Those colleges with experience using technology-enabled tools will provide

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[52] UMUC specializes in providing career-relevant online higher education opportunities to professionals. It educates 95,000 students with divisions in Asia and Europe and a presence on military installations in more than 25 countries and territories.

training to those who will acquire it with grant funds.[53] These leader colleges will develop customizable open source training scenarios that can be used in penetration testing labs required for cyber coursework.[54]

The Consortium will procure an expert to adapt a virtual internship platform that will help students assess current skills and credentials, log their progress, and link to employers through in-person or virtual internships through CPAM's web-based platform. Employers will interact with students through the internship system by posting projects, problems, and internship/job opportunities and creating a mechanism for employers to reach out to participants possessing needed skills and credentials. Virtual internships will address mismatches in internship availability statewide, allowing students to engage with employers in their local communities or elsewhere if local opportunities are not available. Student progress will be logged and tracked in the system, allowing for ongoing analytics on program and student performance.

(ii) Strategies to Further Innovation in Technology-to Impact Program Outcomes Learning. The 8 NSA-designated Centers for Academic Excellence in Security & Information Assurance colleges will lead enhancements to AAS degrees so they align with updated guidelines for excellence. New tools, which will include enhanced simulations and modules, will be based in gaming and simulation environments shown to reinforce and accelerate learning. CPAM will further the understanding of technology's value in the classroom by piloting personally adaptive learning through 2 colleges, testing the theory that self-paced programs support student acceleration and success. CPAM will work with an expert to develop a linked web-based internship platform, new in Maryland, in which students will enroll as part of their intake process. Partner employers will commit to active engagement with this system as part of their CPAM commitment. The value will be threefold: providing students with a virtual resume that tracks progress, increasing employer engagement, and providing participants regardless of location with work-based learning

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[53] For instance, Hagerstown Community College is one of the few community colleges in the state that has developed a penetration testing lab (with the support of Department of Defense) that includes NetLab+ technologies. Hagerstown will provide: professional development for colleges in implementing or expanding a NetLab+ (or similar) environment. Students there log over 3,000 hours a year using virtual labs.
[54] Leader colleges for technology development and implementation will be: Anne Arundel, Hagerstown, Harford, Howard, and Prince George's Community Colleges; College of Southern Maryland; Community College of Baltimore County; and Montgomery College

experiences. Finally, CPAM will contribute to a career pathways system by creating an interactive cyber careers assessment tool to help potential participants understand what cyber careers are right for them, based on their knowledge, experience, and education. New intellectual property will be open source, will reside on a learning management system-agnostic platform, and will be replicable and scalable.

All colleges will become National CyberWatch Center members to gain access to national resources, including OER, courses, and labs through its Clearinghouse. Curricula available on the Clearinghouse align with the NICE Cybersecurity Workforce Framework, which provides a common taxonomy and lexicon by which to classify and categorize workers nationally. Member colleges will be able to adopt content from the Clearinghouse to augment internal capacity and ensure a ready source of nationally-aligned cyber educational materials. Further, curricula resources from TAACCCT consortia, Collin College's NISGTC and Arizona's Sun Corridor- Get into Energy Consortium, cyber security programs will be considered and adapted if they align appropriately with the National Cybersecurity Workforce Framework.

(d) Strategic Alignment with the Workforce System and Other Stakeholders. (i) Coordination with Governor's Economic Development and WIA-WP state workforce plans. The Office of the Governor has identified cyber security as a critical occupational area for workforce development in Maryland. Policies such as the Cyber Security Tax Credit to Qualified Maryland Cyber Security Companies and the Veterans Full Employment Act focus on the creation of job opportunities and workforce training needed to cultivate the skills and knowledge necessary to fill those jobs. The Governor's Integrated Economic Development plan identifies career pathways in 13 critical sectors, including information technology, as essential for creating a workforce that can meet the demands of a competitive high tech economy. Resources to support this sector-based approach include the Employment Advancement Right Now (EARN) Maryland initiative,[55] which provides tuition for short-term non-credit incumbent worker training in the priority sectors, and the

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[55] Funds for EARN came from a Department of Labor grant of $1 million to develop a sector driven approach to assess workforce demand in four industries - advanced manufacturing, construction, cybersecurity, and health care. $2.5 mill in state moneys have extended the program.

Maryland Initiative Integrated Basic Education and Skills Training (Mi-BEST), which provides contextualized workforce training. The State of Maryland Integrated Workforce Development plan for 2012-2017 identifies the governor's priority areas for economic and workforce development: opportunity, security, sustainability, and health. CPAM aligns with the strategic goal of opportunity, which the state tracks through three measures: 1) Recover all jobs lost during the recession; 2) Improve student achievement and college and career readiness by 25% by 2015; and 3) Increase the number of Marylanders who receive at least two years of postsecondary education by 20% before 2018.[56] Further, the Maryland College and Career Readiness Act of 2013 aligns with CPAM's goals to increase college attainment and workforce readiness. CPAM will support these by connecting and building resources into a cyber security career pathways system in cooperation with employers and industry, offering a navigable system of credentials, and strategically leveraging technology to increase access and improve outcomes for program participants. The Office of the Governor has expressed strong support of CPAM, which also aligns with the Governor's vision for enhanced statewide collaboration, including with agencies providing services to special populations.[57] Further, CPAM activities will address aims in the state's WIA-WP Operational Plan to achieve systemic workforce system improvements, including: 1) Address gaps in the current system; 2) Promote standardization across Maryland's workforce system; and 3) Provide local areas a system for measuring improvement in the area of business outreach services.

(ii) Coordination with the Public Workforce System. Creating a program that offers accelerated and targeted training in high-growth, high-demand occupations can only be accomplished through the collaborative efforts of partners. CPAM workforce partners include: Governor's Workforce Investment Board, Local Workforce Investment Boards, Department of Labor, Licensing, and Regulation (Career One-

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[56] The Maryland Department of Business and Economic Development's report to the Governor highlighted a need to align education/training programs to meet demand in cyber security. Other industries with skills gaps are advanced manufacturing, construction, and health care.
[57] Including the Maryland Departments of Disabilities (DoD), Public Safety and Corrections Services (DPSCS), and Veterans Affairs (MDVA).

Stops and Maryland Workforce Exchange),[58] and Local Economic Development Offices. Table 10 outlines workforce commitments to project development and implementation; CPAM will contract with the WIB system to fulfill program roles where existing funds are scarce. Project Navigators will also be co-housed at workforce offices to augment workforce system capacity and ensure comprehensive services delivery.

Table 10: Maryland Workforce System Commitments	
Commitment Details	**Workforce Agency**
As a lynchpin of Maryland Jobs Now, will support CPAM through overseeing that participants in its training programs are linked to statewide resources, including employers and support services (including TAA-worker and veterans services), as well as support functions listed below	Governor's Workforce Investment Board (statewide)
Program links through the Maryland Workforce Exchange system, outreach through the One-Stop system and TAA office, and ongoing data and technical support	Dept. of Labor, Licensing, and Regulation
• Serve on the CPAM Advisory Council • Refer candidates to CPAM • Co-enroll candidates to CPAM and WIA Title-I (where appropriate) • Leverage and coordinate supportive services to bolster CPAM activities (including bootcamps) • Facilitate employer engagement in the sector strategy • Support implementation of a strategy for determining employer needs and assessing the suitability of participants for CPAM • Augment college and program capacity by providing counseling and coaching to TAACCCT participants (CPAM will offer workforce system participants support through intrusive counseling, mentoring, and online advising services) • Work with program data specialists to improve tracking and reporting outcomes data for completers • Facilitate partnerships with employers • Provide coordination of college and workforce system intake and assessment processes • Work with CPAM to ensure that programs qualify for inclusion on appropriate eligible training provider lists • CPAM will offer support, counseling, and other services for CPAM and workforce system participants through Project Navigators co-located at college campuses and job centers	Anne Arundel Workforce Development Corporation
	Baltimore County Department of Economic and Workforce Development
	Frederick County Workforce Services
	Lower Shore Workforce Alliance
	Mayor's Office of Employment Development (Baltimore City)
	Mid-Maryland Workforce Investment Board
	Montgomery County Workforce Investment Board
	Prince George's County Workforce Development Corporation
	Susquehanna Workforce Network
	Tri-County Council for Southern Maryland
	Western Maryland Consortium

CPAM also has strong support from the Maryland Higher Education Commission, which is the coordinating board responsible for establishing statewide policies for Maryland public and private colleges and universities and for-profit career schools, and will coordinate with the University System of Maryland (USM) to ensure articulation between CPAM programs and 4-year public and private institutions. CPAM will build on work carried out in 2010 by a USM Cyber Security Task Force that evaluated career pathways and cyber education at 4-year institutions by extending linkages to community college training programs into a navigable system that leads to placement in good jobs for students at all educational levels.

(iii) Coordination with Philanthropic Organizations, Business-Related and Non-profit, Community-

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[58] The Director of the Office of Workforce Development oversees the state partnership with the network of 35 One-Stop Career Centers, which provide comprehensive services to both job seekers and businesses.

Based, and Labor Organizations. CPAM has the support of a variety of other organizations in its sector-based career pathways approach. Table 11 outlines these commitments to supporting CPAM success. These include leveraged resources such as job search, job placement, and supplemental support services.

Table 11: Other Partner Commitments	
Business Organizations	**Coordination Detail**
Calvert, Charles, and St. Mary's Chambers of Commerce (College of Southern Maryland)	Support program implementation; referrals; identify workplace trends; assess needs; support workforce training programs
Carroll County Business Employment Resource Center	Promote the program at One-Stops; Collaborate with the Project Navigator; Convene of One-Stop partners and industry leaders
Carroll Technology Council	Promote the program to members (at meetings and through newsletter); Collaborate with Project Navigator to assist in identifying career opportunities among members; assist in convene industry leaders
Garrett County One-Stop Job Center	Participate in meetings/planning; support and facilitate communication/collaboration; in-kind donations of staff, research, facilities, and equipment; develop job shadowing/internships
Harford County Economic Development Office	Serve on CPAM Advisory Council; provide guidance on workforce trends; offer connections to workforce and industries
Montgomery County Office of Economic Development	Leverage resources available through the National Cybersecurity Center of Excellence (in partnership with NIST and the state of Maryland); support efforts to increase recruiting, retention, and skills development.
Tech Council of Maryland	Support program design, curriculum development; advise on developing a cyber security career pathway; identify work-based learning opportunities and internships; link completers to jobs with members
Non-profit Organizations	**Coordination Detail**
Fort Meade Alliance	Convene business, government, and community agencies to support CPAM activities and workforce development
The National CyberWatch Center	Disseminate awareness information through the CyberWatch network of over 130 colleges and universities in 40 states and the District of Columbia; Meet with the Consortium Project Manager quarterly to discuss workforce trends and curriculum development; work to identify web pages that require "Background Checks and Security Clearances"
Community-Based Organizations	**Coordination Detail**
Housing Opportunities Commission	Support linking participants to affordable housing and supportive services; refer clients to CPAM program; host an IT/Cyber open house for residents; case management to support participant success
Downtown Frederick Partnership	Hold events; connect students with employers

(e) Alignment with Previously-Funded TAACCCT Projects. Three CPAM members are TAACCCT consortia: Anne Arundel Community College (Round 1, lead), Prince George's Community College (Round 2), and Community College of Baltimore County (Round 3). These colleges have been highly involved in the planning process, sharing materials and information, best practices, and challenges associated with project implementation. The CPAM consortium will adopt curricular elements developed by Anne Arundel through the National STEM Consortium. This will expand the geographic reach of successful program elements, minimize duplication, and augment the capacity and quality of training though CPAM colleges. CPAM also consulted with a Round 1 consortium led by Sinclair Community College, which adopted and

adapted a competency-based model to accelerate IT education. Sinclair will share lessons learned on the application of competency-based models in community colleges, which inform the implementation of a pilot a similar approach in Maryland through CPAM. CPAM will also refer to Sinclair's Process Guide, once finalized. Missouri CC's MoHealthWins TAACCCT consortium will share tools and templates from creating a successful statewide PLA standard.

To minimize duplication and ensure information sharing, CPAM has surveyed existing OER and resources developed by other TAACCCT grantees and has identified tools that will support activities. CPAM will consider and integrate tools and processes from Collin College's NISTGC and the Arizona Get into Energy TAACCCT consortia, both of which have cybersecurity elements. NISTGC created an IT virtual internship and has developed and implemented virtual labs; CPAM leadership will engage NISTGC and GIE-AZ to integrate best practices and lessons. CPAM will invite other TAACCCT grantees to an implementation strategy meeting to coordinate resources and employ best practices. Further, CPAM will invite other TAACCCT projects to use CPAM deliverables to expand project impact.

(f) Sector Strategies and Employer Engagement. (i) Sector Identification. Maryland has identified 13 sectors as critical to the economy because of their growth and the fact that they comprise the majority of jobs in Maryland. Cyber security jobs are important in 9 of these sectors: aerospace, bioscience, education, energy, finance and insurance, health information technology, information technology, manufacturing, and retail. CPAM has secured a critical cluster of partners (including employers, government, education, workforce development, and non-profits) that will contribute to a strong sector-based approach to cyber security workforce development. CPAM has support of at least 2 employers in each community served (see Tables 12 and 13), including employers who hire statewide and nationally. Industry support comes from the National CyberWatch Center, the Technology Council of Maryland, and the Carroll Technology Council. At the state level, the GWIB is aligned by a sector-based approach, offering statewide infrastructure that will

help connect CPAM participants to employers and good jobs.[59]

(ii) Employer and Industry Representative Engagement. CPAM received signed letters detailing roles in ongoing support of the Consortium from 37 diverse employers with cyber security needs (See Attachments). Table 12 lists their commitments to driving a cyber security sector strategy in Maryland.

Table 12: Employers and Engagement with Consortium		
Commitment: Serve on Leadership Team (CPAM Advisory Council)		
AGS Print & Marketing Communications Booz Allen Hamilton Inc. DMI Mobile Enterprise Solutions Docutrac, Inc. Garrett County Memorial Hospital GCC Technologies LLC Global Data Consultants	KEYW Leidos MedStar St. Mary's Hospital Naval Air Systems Command (NAVAIR) Ongoing Operations OPS Consulting	PSI Pax Rockwell Collins Sabre Systems Inc. Skyline Technology Solutions Southern Maryland Electric Cooperative STG Inc.
Commitment: Help Implement Program Strategies and Goals		
AgemO Technology Inc. AGS Print & Marketing Communications Booz Allen Hamilton Inc. Carroll Hospital Center Cyber Cloud Technologies DMI Mobile Enterprise Solutions Docutrac, Inc. Dunbar Cybersecurity Garrett Container Systems Inc. Garrett County Memorial Hospital GCC Technologies LLC	Global Data Consultants IBM Corporation KEYW Leidos Lockheed Martin MedStar St. Mary's Hospital Naval Air Systems Command (NAVAIR) Ongoing Operations OPS Consulting Peninsula Regional Medical Center PSI Pax	Raytheon Solipsys Rockwell Collins Sabre Systems Inc. Skyline Technology Solutions Southern Maryland Electric Cooperative SRI International STG Inc. Strategiesfirst LLC System Source Vantage Point Solutions Group Willets
Commitment: Identify and Map the Necessary Skills and Competencies for the Program		
AgemO Technology Inc. AGS Print & Marketing Communications Booz Allen Hamilton Inc. Carroll Hospital Center Cyber Cloud Technologies DMI Mobile Enterprise Solutions Docutrac, Inc. Dunbar Cybersecurity Garrett Container Systems Inc. Garrett County Memorial Hospital GCC Technologies LLC	Global Data Consultants IBM Corporation KEYW Leidos Lockheed Martin MedStar St. Mary's Hospital Naval Air Systems Command (NAVAIR) Ongoing Operations OPS Consulting Peninsula Regional Medical Center PSI Pax	Raytheon Solipsys Rockwell Collins Sabre Systems Inc. Skyline Technology Solutions Southern Maryland Electric Cooperative SRI International STG Inc. Strategiesfirst LLC System Source Vantage Point Solutions Group Willets
Commitment: Assist with Curriculum Development, Program Design, and Implementation of Project Design		
AgemO Technology Inc. AGS Print & Marketing Communications Booz Allen Hamilton Inc. Carroll Hospital Center Cyber Cloud Technologies DMI Mobile Enterprise Solutions Docutrac, Inc. Dunbar Cybersecurity Garrett Container Systems Inc. Garrett County Memorial Hospital GCC Technologies LLC	Global Data Consultants IBM Corporation KEYW Leidos Lockheed Martin MedStar St. Mary's Hospital Naval Air Systems Command (NAVAIR) Ongoing Operations OPS Consulting Peninsula Regional Medical Center PSI Pax	Raytheon Solipsys Rockwell Collins Sabre Systems Inc. Skyline Technology Solutions Southern Maryland Electric Cooperative SRI International STG Inc. Strategiesfirst LLC System Source Vantage Point Solutions Group Willets

Employer relationships will be sustained throughout the life of the grant and beyond through the Advisory

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[59] With a grant from the Department of Labor, the GWIB created the Center of Industry Initiatives, with a department for each of the 13 sectors.

Council, which will assess the program; revalidate the skills and competencies needed in cyber security jobs; review progress, outputs, and deliverables; and provide continuous improvement recommendations. CPAM will also draw on infrastructure established under the statewide EARN initiative, which awarded grants to workforce agencies and colleges to foster sector strategies in critical industry sectors, including cyber security. Employer partners have expressed strong interest in institutionalizing partnerships with CPAM colleges to continue the formal process of validating skills and competencies and updating materials and tools related to navigating career pathways as part of a long-term strategy to address the hiring gap in cyber security. Employers and colleges will also maintain partnerships through the virtual internship platform, which colleges will institutionalize upon evidence of success, and meetings facilitated by industry leaders, including the National CyberWatch Center and the Tech Council of Maryland.

(iii) Additional Role(s) of Employers and Industry Representatives. Employers have committed to a range of additional roles, including offering internships, project-based learning opportunities, and cyber competitions; recruiting students; and considering hiring/promoting qualified graduates (see Table 13). Employers will commit as leveraged resources expertise, equipment/supplies, and facilities to support students in highly relevant training. Where appropriate, employer partners will support the cost of running labs and simulations, if it shows evidence of reducing employee on-the-job training time after graduation.

Table 13: Additional Commitments Supporting a Sector Strategy		
Commitment: Consider Hiring/Promoting Qualified Graduates		
AgemO Technology Inc.	Global Data Consultants	Raytheon Solipsys
AGS Print & Marketing Communications	IBM Corporation	Rockwell Collins
Booz Allen Hamilton Inc.	KEYW	Sabre Systems Inc.
Calvert Memorial Hospital	MedStar St. Mary's Hospital	Skyline Technology Solutions
Carroll Hospital Center	Naval Air Systems Command (NAVAIR)	Southern Maryland Electric Cooperative
Cyber Cloud Technologies	Ongoing Operations	Strategiesfirst LLC
DMI Mobile Enterprise Solutions	OPS Consulting	System Source
Docutrac, Inc.	Peninsula Regional Medical Center	Vantage Point Solutions Group
Dunbar Cybersecurity	PSI Pax	
Commitment: On-the-Job Training/Internships/Mentoring		
AGS Print & Marketing Communications	GCC Technologies LLC	Peninsula Regional Medical Center
Booz Allen Hamilton Inc.	Global Data Consultants	PSI Pax
Calvert Memorial Hospital	IBM Corporation	Raytheon Solipsys
Carroll Hospital Center	Leidos	Sabre Systems Inc.
Cyber Cloud Technologies	Lockheed Martin	Southern Maryland Electric Cooperative
DMI Mobile Enterprise Solutions	MedStar St. Mary's Hospital	STG Inc.
Docutrac, Inc.	Naval Air Systems Command (NAVAIR)	Vantage Point Solutions Group

Garrett Container Systems Inc. Garrett County Memorial Hospital	Ongoing Operations	Willets
Commitment: Use of Equipment/Facilities		
Calvert Memorial Hospital Carroll Hospital Center Cyber Cloud Technologies	Garrett Container Systems Inc. GCC Technologies LLC	Lockheed Martin Raytheon Solipsys
Commitment: Recruitment		
AGS Print & Marketing Communications Booz Allen Hamilton Inc. Calvert Memorial Hospital Calvert Memorial Hospital Carroll Hospital Center	Cyber Cloud Technologies Lockheed Martin MedStar St. Mary's Hospital Naval Air Systems Command (NAVAIR) Peninsula Regional Medical Center	PSI Pax Raytheon Solipsys Sabre Systems Inc. Vantage Point Solutions Group

(g) Project Workplan. CPAM's comprehensive workplan is outlined in Table 14. It includes activities,

implementers, costs, and timeframe for each (including milestones), divided by CPAM's five strategies.

Table 14: CPAM Workplan[60]							
GENERAL IMPLEMENTATION ACTIVITIES							
Activities	Implementer	Costs		Time			Deliverables
0.1. Staff CPAM and College Programs	Member colleges	Total	$2,277,459	Start Date	BOG		Job descriptions Job postings
		Equipment	$0	End Date	BOG +6		
		Year 1	$599,985	Milestones	Interviews and selection Hires •Core staff hired within 3 months		
		Year 2	$619,674				
		Year 3	$607,692				
		Year 4	$450,107				
0.2. Procure equipment and program platforms	Project Manager, Project Navigators; member colleges	Total	$523,381	Start Date	BOG		Virtual lab system Virtual internship platform •Technology-enabled advising support •Technical reports
		Equipment	$105,477	End Date	BOG+12		
		Year 1	$193,893	Milestones	Put out RFPs Review •Selection and contracts		
		Year 2	$109,809				
		Year 3	$114,202				
0.3. Outreach campaign/ Community Awareness	Project Manager, Project Navigators, WIBS and One-Stops, member colleges, veterans organizations, philanthropic/nonprofit partners	Total	$1,357,290	Start Date	BOG		Informational materials Web portal postings •Cyber careers assessment tool
		Equipment	$0	End Date	BOG+24		
		Year 1	$431,981	Milestones	Community meetings Post information on college and partner websites •Technical assistance on assessment tool		
		Year 2	$449,006				
		Year 3	$415,182				
		Year 4	61,121				
0.4. Formalize intake process	Project Manager, Project Navigators, coaches, WIBs, member colleges,	Total	$381,739	Start Date	BOG		Intake student information form •Student data sharing consent form •Course descriptions
		Equipment	$0	End Date	BOG+6		
		Year 1	$96,607	Milestones	Formal checklist for intake, including PLA, other assessments, benefits screenings, logging into CPAM and WIB systems		
		Year 2	$109,809				
		Year 3	$114,202				
		Year 4	61,121				
STRATEGY 1: Build an easily navigable statewide Career Pathways system that actively engages stakeholders and features on-ramps to training and off-ramps to good jobs for workers of all educational and skill levels							
Activities	Implementer	Costs		Time			Deliverables
1.1. Contextualized GED program	CC, Project Manager, SMEs, WIBS	Total	$450,039	Start Date	BOG		Pilot model at Carroll College •Data reviews •Implementation toolkit for wide adoption
		Equipment	$53,375	End Date	BOG+12		
		Year 1	$130,381	Milestones	Review findings of Mi-BEST programs Survey of available modules to adapt		
		Year 2	$131,891				
		Year 3	$132,393				
1.2. Adapt	Member Colleges;	Total	$1,503,119	Start Date	BOG		Establish at member

[60] Abbreviations are. Allegany College of Maryland: ACM; Anne Arundel Community College: AACC; Baltimore City Community College: BCCC; Beginning of Grant: BOG; Carroll Community College: CCC; College of Southern Maryland: CSM; Community College of Baltimore County: CCBC; Department of Licensing, Labor & Regulation: DLLR; End of Grant: EOG; Frederick Community College: FCC; Garrett College: GC; Hagerstown Community College: HCC; Harford Community College: Harford; Howard Community College: Howard; Jacob France Institute: JFI; Maryland Higher Education Commission: MHEC; Montgomery College: MC; Prince George's Community College: PGCC; University System of Maryland: USM; Wor-Wic Community College: WCC.

		Costs		Time		Deliverables
Cyber Technology Certificate consortium wide	Project Manager; Project Navigators	Equipment	$450,175	End Date	BOG+12	colleges Resource manual
		Year 1	$566,636	Milestones	Trainings on implementation toolkit; Hiring of necessary faculty (before Yr. 2); •Pilot cohorts	
		Year 2	$385,626			
		Year 3	$143,038			
		Year 4	2,645			
1.3. New modules on developments in cyber	MC; AACC, Hagerstown, Harford, Howard, PGCC, CSM, CCBC, SMEs, Advisory Council	Total	$2,464,263	Start Date	BOG	New course modules on topics such as BYOD, cloud computing, and background check/clearance awareness
		Equipment	$134,485	End Date	BOG+12	
		Year 1	$973,708	Milestones	Survey existing resources (Yr. 1); survey employers for needs (annually); launch modules (end of Yr. 2)	
		Year 2	$677,183			
		Year 3	$653,132			
		Year 4	$25,755			
1.4. Updates to Cyber Security and Networking AAS tracks to align with new NSA guidelines	MC; AACC, Hagerstown, Harford, Howard, PGCC, CSM, CCBC, Project Manager, SMEs, Advisory Council	Total	$36,642	Start Date	BOG	New modules, additional labs to emphasize new technology and security needs •Implementation training •Articulation agreements with UMUC
		Equipment	$0	End Date	BOG+12	
		Year 1	$11,041	Milestones	Map existing curricula against new guidelines and 4-year curricula •Convene employers to ensure alignment Train faculty on updates	
		Year 2	$12,550			
		Year 3	$13,052			

STRATEGY 2: Create a statewide system of student supports that address academic and non-academic needs, leading to better retention, and accelerates student outcomes through a variety of proven strategies

Activities	Implementer	Costs		Time		Deliverables
2.1. Implement bridge programs	Member colleges; Project Manager; Project Navigators	Total	$50,224	Start Date	BOG	Adapted STEM bridge consortium wide •New Cyber bridge; adopted consortium-wide by EOG
		Equipment	$0	End Date	BOG+36	
		Year 1	$11,041	Milestones	Trainings on implementation toolkit; Implementation of Cyber bridge during year 2	
		Year 2	$12,550			
		Year 3	$13,052			
		Year 4	$13,582			
2.2. Prior Learning Assessment	Project Manager, MHEC, USM, SME, member colleges	Total	$0	Start Date	BOG	PLA documentation of existing practices •Master PLA policy document
		Equipment	$0	End Date	BOG+12	
		Year 1	$0	Milestones	Convene PLA Task Force; Master PLA document of existing practices complete •Preliminary plan submitted to MHEC/USM approval	
		Year 2	$0			
		Year 3	$0			
2.3. Comprehensive internship program	Experiential Learning Coordinator, SMEs	Total	$625,345	Start Date	BOG	Labor market interpretation support for students
		Equipment	$0	End Date	EOG	
		Year 1	$199,151	Milestones	Ongoing outreach with employers to expand/deepen partnerships •Training on virtual internship platform	
		Year 2	$204,131			
		Year 3	$208,482			
		Year 4	$13,582			
2.4. Point of need coaching	Member Colleges, Project Navigators, WIBS; Data Managers	Total	$429,222	Start Date	BOG	Online chat/email feature Project web portal that allows for student process tracking
		Equipment	$0	End Date	EOG	
		Year 1	$136,540	Milestones	Co-located Project Navigators at colleges and WIBs/One Stops •Procure expertise for online advising system Training in using available data	
		Year 2	$138,049			
		Year 3	$138,551			
		Year 4	$16,082			
2.5. Data analysis training	Project Manager, Project Data Manager, Experiential Learning Coordinator, DLLR, SMEs	Total	$172,532	Start Date	BOG	Handbook on available data sources and interpretation
		Equipment	$0	End Date	EOG	
		Year 1	$86,266	Milestones	Ongoing training for staff and faculty on accessing and interpreting data to support students	
		Year 2	$86,266			
		Year 3	$0			

STRATEGY 3: Connect information and communication to assist participants in making informed choices and allow for data driven analysis to inform Consortium decision-making, continuous improvement, and planning

Activities	Implementer	Costs		Time		Deliverables
3.1. Shared data gathering system in place	Project Manager, Project Data Manager, Project Navigators, Project Data Specialists, member colleges, SMEs	Total	$290,634	Start Date	BOG	Establish MIS consortium wide •Access, retention, and completion rates reports
		Equipment	$0	End Date	BOG+12	
		Year 1	$96,528	Milestones	Data collection and compilation system developed and launched •Ongoing data collected from colleges, departmental heads, and data departments •Quarterly and annual reports on program and on access, retention, and completion	
		Year 2	$94,659			
		Year 3	$58,756			
		Year 4	$40,692			

3.2 Create program web portal	Project Manager, Project Data Manager, Project Navigators, Project Data Specialists, member colleges, SMEs	Total	$37,668	Start Date	BOG	Provide links to all program materials
		Equipment	$0	End Date	BOG+24	• Access to virtual internships and labs system
		Year 1	$8,281	Milestones	Procure data specialist	
		Year 2	$9,412		Launch within 6 months	
		Year 3	$9,789		• Continuous improvement and expansion throughout grant period	• Employment Results scorecard
		Year 4	$10,187			
3.3. Employment Results Scorecard	Project Manager; MC, SME; JFI; DLLR	Total	$312,668	Start Date	BOG	Launch Scorecard (Yr 2) Evaluation Team report and improvement recommendations
		Equipment	$0	End Date	EOG	
		Year 1	$77,031	Milestones	Procure evaluator	
		Year 2	$78,162		Evaluator establishes comparison cohort	
		Year 3	$78,539		• Quarterly reports issued	
		Year 4	$78,937		Final report issued	
3.4. Third Party Evaluation of Program	MC; Project Manager; Evaluator	Total	$1,037,668	Start Date	BOG	Quarterly reports Final report
		Equipment	$0	End Date	EOG	
		Year 1	$258,281	Milestones	Procure evaluator	
		Year 2	$259,412		Evaluator establishes comparison cohort	
		Year 3	$259,789		• Quarterly reports issued	
		Year 4	$260,189		Final report issued	

STRATEGY 4: Employ technology to strengthen programming and delivery and increase statewide access to high-quality coursework, instruction, simulations and labs, and work-based learning opportunities

Activities	Implementer	Costs		Time		Deliverables
4.1. Launch virtual labs/simulations platform	Project Manager, Project Data Manager, Project Navigators, Project Data Specialists, member colleges, SMEs	Total	$349,224	Start Date	BOG	Colleges with Netlab+ train other colleges
		Equipment	$0	End Date	BOG+12	• New modules on penetration testing
		Year 1	$310,041	Milestones	Trainings	
		Year 2	$12,550		Adapt exiting lab materials for online platform	
		Year 3	$13,052		• Survey employers for training gaps	
		Year 4	$13,582		Develop new lessons	
4.2. Virtual internship platform	Project Manager, Project Data Manager, Project Navigators, Project Data Specialists, member colleges, SMEs	Total	$950,224	Start Date	BOG	Pilot (Yr 1) Improvement report
		Equipment	$0	End Date	BOG+12	• Full rollout (Yr 2)
		Year 1	$236,041	Milestones	Procure vendor	• Implementation and use manual
		Year 2	$237,549		Pilot and improvements	
		Year 3	$238,052		• Ongoing trainings for members	
		Year 4	$238,582			
4.3. Adapt Assurance certificate into a competency based/modular format	Harford; SME, Project Manager, Project Navigators, Data Specialists	Total	$248,912	Start Date	BOG	Training of other colleges Reports and recommendations Wide launch if found successful
		Equipment	$0	End Date	BOG+24	
		Year 1	$74,924	Milestones	Procure platform	
		Year 2	$99,494		Consult with SMEs on design	
		Year 3	$74,494		• Launch pilot	
					Train staff and other colleges	
4.4. Adapt Cyber Technology Certificate to a personally adaptive platform	AACC; SME, Project Manager; Project Navigators, Data Specialists	Total	$867,592	Start Date	BOG	Training of other colleges Reports and recommendations
		Equipment	$0	End Date	BOG+24	
		Year 1	$385,306	Milestones	Procure platform	
		Year 2	$381,660		Consult with SMEs on design	
		Year 3	$87,660		• Launch pilot	
		Year 4	$13,582		Training of staff and other colleges	

STRATEGY 5: Construct strategic partnerships that engage, employers and leverage resources to create a durable network of relationships that meet the needs of employers, students, and other stakeholders over time

Activities	Implementer	Costs		Time		Deliverables
5.1. Advisory Council	MC, Member colleges, WIBs, employers, other partners	Total	$77,159	Start Date	BOG	Reports on needs, gaps, and program changes
		Equipment	$0	End Date	EOG	• Advisory Council meeting minutes
		Year 1	$17,195	Milestones	Convene at least quarterly for formal data reviews	
		Year 2	$19,220			
		Year 3	$19,973		• Communities of practice around specific topics	
		Year 4	$20,770			
5.2. Communities of practice on specific topics	Advisory Council; Member Colleges, WIBS, other partners	Total	$75,337	Start Date	BOG	Reports and recommendations
		Equipment	$0	End Date	EOG	
		Year 1	$16,561	Milestones	Ongoing communities of practice established on topics of urgency	
		Year 2	$18,824			
		Year 3	$19,577			

5.3. Formal program reviews	Advisory Council; Project Manager, Evaluator, WIBS, other partners	Year 4	$20,374	Start Date	BOG	Reports on modifications and best practices submitted to colleges
		Total	$25,000	End Date	EOG	
		Equipment	$0	Milestones	Quarterly (or as-needed) meetings to review curricula and map against core competencies	
		Year 1	$25,000$			

Within CPAM, there are 8 established leaders in cyber security with significant expertise: AACC, CSM, Hagerstown, Harford, Howard, Montgomery, PGCC, and BCCC. They are all designated NSC Centers for Academic Excellence in Information Assurance and will be the leaders in most deliverables development because of demonstrated capacity to create high-quality tools and train others in their application. Employers will support activities through the activities outlined in Tables 12 and 13, and in conducting formal program reviews, sharing best practices, and resources. Employers have committed equipment, facilities, and expertise to ensure that members provide participants with industry-aligned training.

(i) Feasible and Realistic Activities and Timeframes. Upon notification of award, the lead college will commence hiring core staff and procuring an evaluator, subject matter experts, and the software/hardware required to implement programs (e.g. virtual labs, an MIS, virtual internships platform, and cyber career pathways assessment tool). Based on experience with similar projects, the lead college anticipates hiring most candidates for core administrative positions within 3 months. The program will be fully staffed in 6 months, with new faculty hired within a year. Existing faculty who will devote time to CPAM will provide proof of up-to-date credentials in Year 1. The first year will be focused on adopting and adapting existing materials, including working with other TAACCCT grantees, and developing new resources, to be deployed in Years 2 and 3. Deliverables responsibilities will fall to 9 colleges, as described in 2.g.iii The lead college will secure trainings throughout the grant period on accessing and interpreting labor market information and using technology. Because Maryland has significant infrastructure in place, CPAM has an ambitious timeline for its Employment Results Scorecard. CPAM will test the Scorecard in Year 2, with rollout in Year 3. CPAM will launch the program web portal in Year 1, with additions made over the grant period. Outreach materials, including Career Pathways information for specific groups (e.g. trade-impacted workers,

veterans), will be developed in Year 1 and will draw on workforce partner and member college resources.

(ii) Costs Associated with Project Activities. CPAM is guided by 5 principal strategies. Costs associated

with these strategies are reasonable, as outlined in Table 15. Wherever possible CPAM will leverage

existing resources including equipment/supplies and expertise.

Table 15: Costs Associated with Project Activities	
General Implementation Activities	
Cost Category	**Description of costs**
Staffing: $3,932,143:	Project manager, project navigators, and technical and administrative support staff
Contractual: $ 542,500	Cyber assessment/and job awareness tools; and marketing/outreach contracts
Equipment:$ 105,477	Workstations, printers, and related office equipment
Supplies:$164,635	Outreach publication supplies, computer supplies, office supplies
Travel:$42,457	Mileage, tolls, per diem for consortium and advisory council meetings
Other:$167,218	Pamphlets, software, project management, conferencing and related tools
STRATEGY 1: Build an easily navigable statewide Career Pathways system that actively engages stakeholders and features on-ramps to training and off-ramps to good jobs for workers of all educational and skill levels	
Cost Category	**Description of costs**
Staffing: $ 2,655,712	Faculty, instructors, tutors
Contractual: $178,410	Exam services, Netlab services contracts and other programmatic service contracts
Equipment:$ 593,035	Computers, servers, network infrastructure and related instructional equipment
Supplies:$ 500,704	Instructor textbooks, exam preparation materials, classroom and related supplies
Travel:$97,308	Mileage, per diem , hotels for conference attendance for professional development
Other: $ 426,885	Training fees, postage, product care warranties, software
STRATEGY 2: Create a statewide system of student supports that address academic and non-academic needs, leading to better retention, and accelerates student outcomes through a variety of proven strategies	
Cost Category	**Description of costs**
Staffing:$1,069,760	Faculty, internship coordinator, trainers, data analysts, student services coordinators
Contractual:$182,532	Virtual advisors consulting
Equipment and Supplies: $0	Leveraged resources
Travel: $25,032	Mileage, per diem for instructor training in retention strategies
STRATEGY 3: Connect information and communication to assist participants in making informed choices and allow for data driven analysis to inform Consortium decision-making, continuous improvement, and planning	
Cost Category	**Description of costs**
Staffing:$249,639	Project data specialists
Contractual:$1,429,000	Contracted MIS consortium system and evaluation scorecards contract
STRATEGY 4: Employ technology to strengthen programming and delivery and increase statewide access to high-quality coursework, instruction, simulations and labs, and work-based learning opportunities	
Cost Category	**Description of costs**
Staffing:$539,377	Subject matter experts and instructional specialists for PAL
Contractual: $1,525,000	Personally Adaptive Learning contractor(s) for adapting curricula to hybrid/online; other virtual delivery models
Equipment:$ 47,579	Training lab computer equipment infrastructure
Supplies: $ 312,579	Workstations, servers, toolkits and other PC accessories
Other: $39,000	Software and related accessories
STRATEGY 5: Construct strategic partnerships that engage, employers and leverage resources to create a durable network of relationships that meet the needs of employers, students, and other stakeholders over time	
Cost Category	**Description of costs**
Staffing:$175,673	Business development and employer outreach specialists
Travel:$1,822	Mileage and tolls for travel to employers

(iii)Identification of Project Deliverables. In addition to serving participants through programs of study,

CPAM will develop 28 sets of deliverables by 9 member colleges, as detailed in Table 16. New intellectual

property developed using grant resources will be licensed by Creative Commons and will be open sourced.

Table 16: CPAM Deliverables*	
STRATEGY 1: Build an easily navigable statewide Career Pathways system that actively engages stakeholders and features on-ramps to training and off-ramps to good jobs for workers of all educational and skill levels.	
Deliverables	**Detail and Delivery Timeline**
Pilot GED prep program based on the i-BEST model; Reports; Implementation Toolkit for scale up	CC will develop, based on an existing Maryland i-BEST training model; supports TAA workers and others without a diploma; *Year 1*
Formal intake process—develop a checklist and protocols	Common assessments, PLA, benefits screening, enter into WIB and CPAM systems; *Year 1*
Outreach materials/ Community awareness	Informational materials, career pathways navigation support documents, cyber careers assessment tool; *Year 1*
Adapt foundational Cyber Technology Certificate consortium-wide	Adapt based on implementation toolkit published by Anne Arundel CC; develop a resource manual; *By Year 2*
New modules on BYOD, cloud computing, and background check/clearance awareness	To be inserted in existing courses; identified by employers as needed because of rapidly-changing requirements; *Year 1*
1 curriculum enhanced and adapted to embed Cyber Tech certificate in AAS tracks	Adapt based on implementation toolkit published by Anne Arundel CC and current AAS curricula; *By Year 2*
2 enhanced curricula to align AAS degrees with revised NSA guidelines for Security & Information Assurance	Revise curricula to align with more rigorous NSA standards; new modules and labs to emphasize added technology and security needs; implementation training; *Year 1*
Non-credit to credit articulation agreements with four-year institutions.	GC will develop agreements that recognize stackable credentials, accelerate completion, provide credit for prior learning, and meet MHEC requirements; *Year 1*
1-credit elective on cyber security awareness	PGCC will develop will develop with an industry partner; *Year 1*
Cyber Assessment and Exploration tool	MCC will develop tool to allow adults to assess their skills and how they align to cyber security jobs; *Developed Year 1 with full roll-out Year 2*
STRATEGY 2: Create a statewide system of student supports that address academic and non-academic needs, leading to better retention, and accelerates student outcomes through a variety of proven strategies	
Deliverables	**Detail**
Implement STEM and Cyber Bridge programs	Adapt existing STEM bridge program consortium-wide (currently offered only at Anne Arundel); develop new more intensive reading, math and computer literacy modules for a Cyber Bridge to AAS degrees; *Year 1*
Statewide Prior Learning Assessments guidelines	Member colleges will adopt guidelines for granting up to 18 credits; reference document; *Year 1*
Point of need online coaching system	Access to chat/email with coaches from web portal; online system to track student progress with mechanism for counselors to email/phone/text students; *Year 2*
Handbook on available data sources to support their use and application	Consortium-wide training by experts to supplement the print/online reference book of career pathways resources; *Year 1*
STRATEGY 3: Connect information and communication to assist participants in making informed choices and allow for data driven analysis to inform Consortium decision-making, continuous improvement, and planning	
Deliverables	**Detail**
Shared MIS system	Data collection and sharing system in place; aligned to TAACCCT and DOL reporting requirements; linked to existing statewide data systems; *Year 1*
Program web portal	Links to program and college resources; workforce system resources; virtual internships and virtual labs; online coaching; *Launched in Year 1 and fully populated by EOG*
Employment Results Scorecard	A data management expert will support development; necessary data sharing agreements in place; made available through the project web portal; *Full launch by Year 3*
Third Party Evaluation	Quarterly and final reports; ongoing technical assistance; *Quarterly and Annual reports*
Enhanced statewide Workforce Exchange system to include cyber security jobs	The system is used in Maryland's One-Stops and will give cyber security a prominent position on the state's workforce exchange portal; *Year 1*
Pilot national security awareness campaign	PGCC will develop the campaign using webinars and workshops; *Year 2*
STRATEGY 4: Employ technology to strengthen programming and delivery and increase statewide access to high-quality coursework, instruction, simulations and labs, and work-based learning opportunities.	
Deliverables	**Detail**
Virtual labs and simulations platform	Colleges that have Netlab+ will train other colleges in its use; new modules on penetration testing; new simulations developed; CSM will develop a model virtual lab for students in

	online and hybrid Cyber security classes; *Year 2*
Virtual internship platform	Contract with a specialist; pilot with lead college; reporting and improvement; full launch; trainings on its use; *Developed in Year 1 with fully launch in Year 2*
Adapt Assurance certificate into a competency based model	Reconfigure curriculum into a modularized format that can be self-paced and online; *Year 1*
Adapt Cyber Technology Certificate to a personally adaptive platform	Courses are already fully modularized; work with technical expert to identify areas where modifications are needed; *Developed in Year 1, with roll-out and technical support in Year 2*
Five IS(2) online certification prep courses and 30 Professional Ed units	CSM will develop these certification courses and professional education units to ensure CPAM staff have up-to-date training; *Year 2*
STRATEGY 5: Construct strategic partnerships that engage, employers and leverage resources to create a durable network of relationships that meet the needs of employers, students, and other stakeholders over time	
Deliverables	Detail
Form Advisory Council consisting of representatives from all strategic partners	Reports with support of evaluator, analysis of needs and gaps, recommendations; ongoing project reviews and formal data analysis; *Ongoing*
Communities of practice established	Short- and long-term smaller groups to work on identified issues of importance, such as building a comprehensive internship network; Ongoing

(3) Outcomes and Outputs

(a) Analysis of Outcome Projections. (i) Outcome Projections. The aggregate outcomes projections for

the nine required outcomes measures for the 14 colleges in the CPAM consortium are listed in Table 17.

	Table 17: Outcomes Measures Table		
	Outcome Measure	Targets for all Participants	
1	**Total Unique Participants Served:** Cumulative total number of individuals entering any of the grant-funded programs offered	Year 1: 500 Year 2: 1,200 Year 3: 1,300	Total: 3,000
2	**Total Number of Participants Completing a TAACCCT-Funded Program of Study:** Number of unique participants having earned all of the credit hours (formal award units) needed for the award of a degree or certificate in any grant-funded program	Year 1: 334 Year 2: 800 Year 3: 867	Total: 2,001
3	**Total Number of Participants Still Retained in Their Program of Study or Other TAACCCT-Funded Program:** Number of unique participants enrolled who did not complete and are still enrolled in a grant-funded program of study	Year 1: 150 Year 2: 396 Year 3: 429	Total: 975
4	**Total Number of Participants Completing Credit Hours:** Total number of students enrolled that have completed any number of credit hours to date	Year 1: 250 Year 2: 800 Year 3: 600	Total: 1,650
5	**Total Number of Participants Earning Credentials:** Total number of participants earning degrees and certificates in grant-funded programs of study	Year 1: 325 Year 2: 780 Year 3: 845	Total: 1,950
6	**Total Number of Participants Enrolled in Further Education After TAACCCT-funded Program of Study Completion:** Total number of students who complete a grant-funded program of study and enter another program of study	Year 1: 0 Year 2: 300 Year 3: 450	Total: 750
7	**Total Number of Participants Employed After TAACCCT-funded Program of Study Completion:** Total number of students (non-incumbent workers only) who completed a grant-funded program of study entering employment in the quarter after the quarter of program exit	Year 1: 228 Year 2: 546 Year 3: 592 Year 4 (follow-up): 100	Total: 1,465
8	**Total Number of Participants Retained in Employment After Program of Study Completion:** Total number of students (non-incumbent workers only) who completed a grant-funded program of study and who entered employment in the quarter after the quarter of program exit who retain employment in the second and third quarters after program exit	Year 1: 0 Year 2: 507 Year 3: 545 Year 4 (follow-up): 128	Total: 1,179
9	**Total Number of Those Participants Employed at Enrollment Who Received a Wage Increase Post-Enrollment:** Total number of students who are incumbent workers and who enrolled in a grant-funded program of study who received an increase in wages after enrollment	Year 1: 30 Year 2: 275 Year 3: 324 Year 4 (follow-up): 0	Total: 600

(ii) Targets. CPAM colleges drew on historical data for program participation, retention and completion rates from comparable programs, and projected enrollment growth over the grant period. Additional considerations in calculating the above numbers included the rate at which colleges estimate they will be able to implement and expand programs, the size of target populations (e.g. TAA-impacted workers, veterans, the un- and underemployed), typical program completion and employment placement rates, and the level of resources required to produce high-quality deliverables. Member colleges have experience running both noncredit and for-credit training programs, which provided colleges with a basis for estimates that are reasonable and fit into the overall timeline of project implementation. Target outcomes for Year 1 include participants already enrolled in related programs of study that colleges have identified as strong candidates for CPAM. Year 1 outcomes are lower than later years, as the first six months will be focused on hiring, procurement, and project ramp-up. CPAM will begin enrolling new participants in the first year.

(iii) Balance of Deliverables and Outcomes. CPAM will balance deliverables and outcomes; training participants across the state while developing original and innovative tools and resources that will support long-term career pathways sustainability and a model for cyber security training nationwide. Nine colleges will produce the 28 distinct CPAM deliverables, while the other 5 colleges will adopt and adapt the program to offer a high level of quality across member colleges and serve participants statewide. Deliverables development will be concentrated in Year 1, when outcomes are lower. Outcomes will be higher in Years 2 and 3, when resources will be focused on scaling the program. In Year 1, CPAM expects to serve 500 students, of whom 334 will complete a program, and develop 17 deliverables. In Year 2, CPAM will serve 1,200 students, of whom 800 will complete a program, and develop 8 additional deliverables (while maintaining and improving those developed in Year 1). In Year 3, CPAM will serve 1,300 students, of whom 867 will complete a program, and will launch the Employment Results Scorecard statewide. CPAM expects that nearly 1,500 graduates will find work in Years 2 and 3. Partner engagement activities, evaluation, and reporting will be ongoing. See Table 16 for a description of each project deliverable and delivery timelines.

(b) System for Tracking and Reporting Outcome Measures. (i) Existing Tracking Procedures.

Member colleges all have existing learning management systems to track and report on the first 5 outcomes measures listed in Table 17. Member colleges have significant infrastructure and agreements in place that will be expanded to track all 9 of the outcomes measures, 5 Scorecard performance measures, and other requirements for DOL reporting, with the support of a central MIS (to be acquired with grant funds). Resources include Memoranda of Understanding with the University of Baltimore's Jacob France Institute (JFI) that authorize annual matching of student/former student records with administrative employment information; Unemployment Insurance (UI) Wage Records; and U.S. Office of Personnel Management (OPM) federal government civilian employee data extracts available for quarterly queries under a multi-party Memorandum of Understanding, using the Federal Employment Data Exchange System (FEDES).[61] Maryland UI wage records are used to determine employment, retention, and average earnings. While the majority of wage data will come from the state's UI system, certain types of employers and employees are excluded by Federal UI law or are not covered under state law. U.S. DOL allows record sharing and/or automated record matching with other employment and administrative data sources to determine employment and earnings. Additional wage records sources include: Wage Record Interchange System 2 (WRIS2), OPM, state and local government employment records, judicial and public school employment records, New Hires Registry, and state Department of Assessments and Taxation. Supplemental data sources to determine employment and retention include case management notes, labor exchange system administrative records, participant surveys, and employer contact.

(ii) Plan to Address Gaps in Tracking. Member colleges report difficulties tracking graduate outcomes measures 7 through 9 in Table 17. To address this, all participants will be co-registered in CPAM and workforce databases to ensure seamless tracking.[62] CPAM will hire core staff within 3 months and the

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[61] Maryland is the lead state on the FEDES.
[62] Which will also allow for early screening for benefits and other services.

process for procuring a central MIS from a vendor with experience tracking and reporting for TAACCCT consortia will be begin immediately upon award notification. The MIS will be used by all 14 colleges to input, manage, and track the data required for the outcomes measures, the Employment Results Scorecard measures, and other information required for DOL reporting. The lead college will provide for technical assistance to CPAM staff to ensure appropriate data tracking and collection, including of students who transfer to a non-grant funded program. Each of the Consortium's colleges has an active Memorandum of Understanding with JFI that will be expanded to allow for tracking of all required measures through longitudinal and other data systems (See section 3.b.i.).[63] CPAM will also implement a statewide agreement with DLLR's UI Division to track participants after graduation, including pre- and post-wages and employment after graduation. To address potential problems from personally identifiable information, CPAM will put in place measures to comply with TAACCCT reporting requirements without directly accessing individual wage records. As part of the intake process, CPAM staff will collect social security numbers for use in common outcomes measures, which will be calculated without divulging personally identifiable information (PI). Once implemented consortium-wide, the systems described in section 3.b. will be sufficient to track all information required for quarterly and annual reports.

(c) Using Data for Continuous Improvement. (i) Plan for Formal Data Reviews. Montgomery College and the CPAM Project Manager, with support from the Data Manager and evaluator, will be responsible for regular and accurate reporting and will for convening quarterly formal data reviews. Administrative staff will meet with the CPAM Advisory Council to assess and discuss reports and data collected by CPAM colleges. Data analysis will compare participants in the TAACCCT-funded program against a comparison cohort to track progress, alignment between program offerings and demand, and to ensure program success. These analyses will be supported by regular Project Manager site visits to colleges. By Year 3, CPAM will also be

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[63] DLLR's Performance Accountability and Customer Information Agency (PACIA) director has been briefed about the consortium's intention, contingent upon award, to negotiate a partnership through which DLLR's Office of Workforce Information and Performance would be asked to serve as an intermediary portal to receive WRIS.2 matches and deliver to-be-defined aggregate results.

able to draw from the Employment Results Scorecard. The Advisory Council will lend industry expertise to make recommendations for improvements based on the formal data reviews; these recommendations will be approved by the Project Manager and Montgomery College. For programs of study not meeting targets, the Project Manager will analyze data to reveal the source of the discrepancy and whether interventions are needed. The Project Manager will have authority to determine the viability of recommended improvements within the context of the project and the infrastructure of colleges. Final decisions will be shared with Consortium members via written and verbal communications.

(ii) Sustainability Plan. The Consortium will use the formal review process and data collected through the program's MIS; the evaluator; internal reports; required DOL reporting; and qualitative evidence collected from surveys and interviews with program faculty, staff, and employers to assess the project on an ongoing basis. Data and program reviews will help CPAM staff to determine whether programs achieve the goal of targeting and supporting the success of Trade-impacted workers, veterans, the un- and underemployed, and other adults, increasing accessibility and accelerating progress, and ensuring that programs align with job demands. Data sharing between colleges, employers, and the workforce, combined with labor market data and participant data will allow CPAM to determine successful project aspects. The Consortium will develop sustainability plans with stakeholders to lay out a vision for long-term impact and scaling, including integrating the internship portal, cyber assessment tool, and curricula enhancements into non-grant-funded programs. CPAM will document effective strategies to inform the field and reduce duplication of effort by other entities. Dissemination of deliverables via platforms such as the CyberWatch Center Clearinghouse and the Department of Energy's NTER platforms will facilitate replication of effective strategies. Technology solutions will be maintained by colleges upon demonstrating evidence of value and effectiveness.

Strategic partnerships between colleges and state and national organizations will be codified beyond the grant period through the establishment of communities of practice, based on areas of expertise and topics of importance, which will allow for continued sharing of best practices. Partners have expressed a

desire that these groups be long-lasting to allow CPAM colleges to continue to adapt programs to a changing industry. Colleges commit to institutionalizing those structures found to be effective so they persist beyond the grant period and support ongoing program excellence.

(4) Organizational Profile

(a) Professional Qualifications of Project Staff. (i) Professional Qualifications of Manager. The full-time CPAM Project Manager will be hired by Montgomery College within 3 months of award notification. The hired candidate will have at least 5 years of professional experience, and will have experience with management and oversight of large and long-term projects and working with industry. S/he will possess a minimum of a bachelor's degree, preferably a master's degree in business or a related field. The Project Manager will manage relationships with member institutions, partners, evaluators, and contractors. S/he will report to Steve Greenfield and Margaret Latimer of Montgomery College. Mr. Greenfield and Ms. Latimer will serve as co-Interim Project Managers until a Project Manager can be hired and trained.

Montgomery College will manage Consortium programmatic, fiscal, and administrative progress using a program MIS that will comply with DOL reporting requirements and allow the Consortium to manage data and link activities to outcomes. The Project Manager will conduct start-up and annual meetings with members; will schedule site visits to ensure administrative, programmatic, and fiscal activities are on track; and identify technical assistance and training needs. Subject matter experts will be deployed as needed for programmatic and fiscal issues. Findings from evaluator reports will be given to the Project Manager, who will work with each college to develop a corrective action plan, as appropriate. The Department of Licensing, Labor, and Regulation (DLLR) and the Jacob France Institute (JFI) at the University of Baltimore will also provide training on using workforce system tools, labor market information, and collecting participant data.[64] Members will each hire a Project Navigator and Data Management Specialist within 3

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[64] DLLR houses the TAA office and the offices for unemployment insurance, workforce development, and adult learning. JFI has data sharing agreements with all member colleges and extensive experience managing data collection and reporting for a national TAACCCT grantee.

months of award. The Project Navigators will oversee college administrative and programmatic activities. Data Management Specialists will support data collection and entry in the CPAM MIS, reporting to the Data Manager. College accounting staff will perform fiscal activities with the support of the Project Accountant.

(ii) Professional Qualifications of other Staff. Upon notification of award, the lead college and member colleges will post positions and commence the screening and hiring process. All core administrative, fiscal, and marketing staff (outlined in Table 18) will possess a minimum of a bachelor's degree and at least 5 years of experience in a related field. The Consortium expects to have identified and hired staff at all colleges within 6 months—with core staff hired in no more than 3.

Table 18: Project Management and Staffing	
Project Management Role	**Qualifications**
Montgomery College Executive Staff	
Advisory Council Chair and Senior V.P. of Acad. Affairs, Dr. Sanjay Rai	Oversee a council of partners; convene quarterly for formal project and data reviews. Internal project oversight. 25 years' experience in teaching, research, curriculum development and administration.
VP/Provost, Margaret Latimer	Former Assoc. Dean of Instructional Programs. Will provide project oversight.
Dean of Business, IT and Safety Workforce Dev./Cont. Ed., Steve Greenfield	15 years of cc and WIB leadership; experience in managing, budgeting, and building and sustaining industry-college partnerships in regional high-growth high-demand industries. Will provide project oversight to ensure smooth program implementation and execution.
Administrative Management Staff	
Project Manager, to be hired within 3 months (Montgomery College)	See hiring time frame and qualifications in section 4.a.i.
Project Assistant, to be hired within 3 months (Montgomery College)	Will report to the Project Manager and will support all aspects of the grant including staffing, data collection, reporting, communications, marketing, student support and other duties assigned by the Project Manager. Will be hired within six months of award and will have at least a bachelor's degree in a STEM field and five years of project management experience.
Experiential Learning Coordinator, to be hired within 3 months (Montgomery College)	Will report to the Project Manager. Interfaces with businesses to develop experiential learning opportunities; interfaces with companies on student skill development and placement; counsels students on the skills and hiring needs of companies; assists students in prepping for internships and the interview process. Conducts outreach to businesses to place students in paid internships, site visits, and interviews.
Project Navigators, to be hired within 3 months (one per campus)	The Project Navigators will be co-located at college campuses and workforce offices. These staff people will have demonstrated experience navigating workforce and postsecondary education systems. They will: Report to the Project Manager; Interface between workforce and college support systems; Conduct marketing and outreach activities in their local communities and support statewide efforts; and Support intake and assessments of participants.
Project Data Manager, to be hired within 3 months (Montgomery College)	Work with program faculty and staff to collect data; Ensure that each member college maintains up-to-date information in the data management system; Prepare reports for internal and external stakeholders; Ensure that CPAM is compliant with reporting requirements
Project Data Specialists, to be hired within 3 months (one per college)	Work with Institutional Research departments, program staff, and contractors to ensure comprehensive and accurate data; Maintain the college's information in the project's data management system; Put together reports as needed for stakeholders; and Provide trainings as needed for project staff on data applications
Marketing and Recruitment/Outreach Staff	
• Marketing functions will be handled by the Project Manager and Project Navigators at each college	
• Partners will support marketing and outreach by holding informational events, informing adults about the program, and providing referrals	
Fiscal Staff	

Fiscal Administrative Manager, Catherine Giovannetti. M.B.A. (Montgomery College)	Ms. Giovannetti will be responsible for management of project finances, including accounting and reporting compliance for the Consortium. She will work with fiscal agents at member colleges to ensure compliance with grantor requirements including accurate and regular submission of required documentation and reporting. Ms. Giovanetti has 23 years of experience in nonprofit and postsecondary budgeting and finance; budget development, accounting, reporting, invoicing, cash draws, contracts, payroll processes and with auditors.
Project Accountant, (to be hired (Montgomery College)	Will support the lead college's fiscal department through oversight of grant financial activities; Will be responsible for proper recording of transactions in the College's financial accounting system and will perform reconciliations, including general ledger and budget data account monitoring, and processing and procuring documentation to support all financial transactions. Will work with the fiscal managers at member colleges to ensure allowable use of funds.

CPAM will hire contractors, and subject matter experts as needed to support program expansion and ensure proper implementation and management of activities. These will include those listed in Table 19.

Table 19: Services to be Contracted	
Data Management Services (to be procured)	Will support building a system to address gaps in tracking, support the colleges in implementing a unified system of tracking and reporting, and to support the design and implementation of the Employment Results Scorecard
Department of Labor, Licensing, and Regulation	Contracted support specialist will conduct ongoing data collection supports, Maryland Workforce Exchange system upgrades; technical support and trainings to member colleges
Evaluator (to be procured within 3 months)	Will use a Comparison Cohort design, impact/outcomes analysis and implementation analysis, collection of data and analysis, and creation of interim and final reports.
Virtual Internship and Jobs Portal Developer (to be procured)	Design and offer a web-based system of tracking and reporting student credentials and performance in order to link program participants to employers and available internships and project-based learning; will conduct ongoing support and analytics
Subject Matter and Technical Support Specialists: (to be procured as needed)	Design and build a program web portal that provides links to project elements, the Employment Results Scorecard, PAL, employer information, and occupational projections

(b) Communication/Management Structures. Montgomery College will house CPAM central project staff. The Project Manager will be the point of contact for college staff, partners, and contractors and oversee project activities. The Experiential Learning Coordinator will support development of CPAM's internship system, including active recruitment of new employer partners, identifying internship opportunities, and managing the program's virtual internship portal to ensure that all students have the opportunity to engage in work-based learning and connect with employer partners. The third-party evaluator will furnish regular reports for review by CPAM leadership. A contracted program expert will support implementation of an MIS to allow for tracking/documentation of project progress and best practices, and provide technical assistance to colleges to allow for data-driven continuous improvement and tracking for replication of successful elements. The Project Data Manager will oversee activities conducted by the Data Specialists and will compile data from the evaluator, Advisory Council, and contracted specialists. CPAM member college work

groups will consist of Project Navigators, Data Specialists, content leads where needed for development of

deliverables, a fiscal manager, and advisors/counselors. The Advisory Council will serve as a project

advisor, convene regularly to conduct reviews and submit recommendations on project improvements.

Smaller subcommittees or communities of practice will convene as needed to discuss specific technical

issues. Central administrative staff, led by the Project Manager, will meet (in-person or virtually) bi-weekly

in Year 1, and monthly in Years 2-4, to report on progress, address concerns and to make project

decisions. Project Navigators at colleges will perform outreach, oversee operations at member colleges,

and interface between the workforce offices and college campuses. They will work with the Experiential

Learning Coordinator to support recruitment, internships, and matching students to jobs. Administrative and

college staff will meet via biweekly conference calls to ensure regular communication. All CPAM staff will

convene in person quarterly during the first year and annually thereafter to highlight the work for the coming

period, best practices, challenges, and solutions. (See the Organizational Chart)

(c) Systems and Processes for Timely Reporting. (i) Timely Reporting. Chartered by the State of

Maryland and governed by a 10-member Board of Trustees, the project lead and fiscal agent for this effort,

Montgomery College, has extensive experience in managing federal, state, and private grants and

reporting in a responsible and timely manner, managing a portfolio of over $50 million in discretionary grant

funding over the past decade, including grants from the U.S. Dept. of Education, National Science

Foundation, U.S. Dept. of Health and Human Services, U.S. Dept. of Homeland Security, the Small

Business Administration, and the National Institutes of Health. Grants are managed utilizing fiscal control

and funds accounting procedures under the guidance and supervision of the Office of Business Services

and in accordance with federal and state regulations. Each member college will use an MIS to collect fiscal,

demographic, and program information to manage grants. Project Navigators and Data Specialists will work

with other staff to collect and relay these data to Montgomery College, which uses Ellucian's Banner

software.[65] The project evaluator will ensure that systems in place are adequate for accurate and timely performance reporting, working with CPAM leadership, data experts, and state entities.

The College is audited annually in compliance with OMB Circular A-133. For more than a decade, the College's financial statements have earned unqualified audit opinions with no findings or questioned costs, including no material weakness or reportable conditions in internal controls over federal programs. The College has no outstanding reports from current or former grant projects and reporting is always timely. The Fiscal Administrative Manager will administer grant funds, ensure compliance, and approve financial reports for submission as required. The Project Accountant will work with fiscal staff at colleges to ensure tracking and timely compilation of reporting. Montgomery College will arrange technical training and assistance on programmatic, fiscal, and reporting requirements. Montgomery College will ensure prior approval requests for such considerations as equipment, capital expenditures, renovations/alterations.

(ii) Procurement Processes, Systems, and Procedures. The project will be centrally managed in adherence to Montgomery College's adopted Policies and Procedures, which align college practices with state and federal policies. Lead college procurement processes comply with Generally Accepted Accounting Principles, defined by the Financial Accounting Standards Board, the Gov. Accounting Standards Board, and the American Inst. of CPAs, and with industry standards set by the Natl. Assoc. of Colleges and Universities Business Officers. A strong internal audit program, and support and oversight from the College's Office of Compliance contribute to effective compliance. The Procurement Office is responsible for ethical and efficient procurement of required goods and services for grant activities, in accordance with federal, state, and local mandates. Montgomery College will be responsible for reporting to the DOL, as required, and ensure consortium-wide adherence to the DOL's procurement requirements and processes.

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[65] Banner provides real-time data, transaction audits, and internal controls. Reporting capabilities allow for training of grant funds and expenditures in compliance with OMB cost accounting standards and other federal, state and local regulations. Grants are assigned fund codes that allow specific reporting on details.