



OFFICE OF RESEARCH AND SPONSORED PROGRAMS

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June 29, 2026


Jason Dubow, Manager
Resource Conservation & Management
Maryland Department of Planning
301 West Preston Street, Suite 1101
Baltimore, Maryland 21201-2305
Telephone: (410) 767-4490
Fax: (410) 767-4480
Submitted via email: mdp.clearinghouse@maryland.gov

Reference: Intergovernmental Review
Proposal Title: AI-READY: AI-Enabled Experiential Learning and Student
Success Pathway for Computing Majors at Bowie State University

Mr. Dubow,

The attached application is being submitted for Intergovernmental Review as required by the U.S. Department of Labor on behalf of the U.S. Department of Education funding announcement ED-GRANT-26-038 titled Fund for the Improvement of Postsecondary Education -- Postsecondary Student Success Grants Program Fiscal Year 2026 Grant Competition.

Sincerely,

**Rafel
Rosier**  Digitally signed by
Rafel Rosier
Date: 2026.06.29
18:28:15 -04'00'

Mr. Rafel Rosier
Pre-Award Services Manager
Office of Research and Sponsored Programs

Application for Federal Assistance SF-424

* 1. Type of Submission: <input type="checkbox"/> Preapplication <input checked="" type="checkbox"/> Application <input type="checkbox"/> Changed/Corrected Application		* 2. Type of Application: <input checked="" type="checkbox"/> New <input type="checkbox"/> Continuation <input type="checkbox"/> Revision		* If Revision, select appropriate letter(s): <input type="text"/> * Other (Specify): <input type="text"/>	
* 3. Date Received: <input type="text" value="Completed by Grants.gov upon submission."/>		4. Applicant Identifier: <input type="text"/>			
5a. Federal Entity Identifier: <input type="text"/>			5b. Federal Award Identifier: <input type="text"/>		
State Use Only:					
6. Date Received by State: <input type="text"/>		7. State Application Identifier: <input type="text"/>			
8. APPLICANT INFORMATION:					
* a. Legal Name: <input type="text" value="Bowie State University"/>					
* b. Employer/Taxpayer Identification Number (EIN/TIN): <input type="text" value="52-6002033"/>			* c. UEI: <input type="text" value="WMEHCAPGR65"/>		
d. Address:					
* Street1:		<input type="text" value="14000 Jericho Park Road"/>			
Street2:		<input type="text"/>			
* City:		<input type="text" value="Bowie"/>			
County/Parish:		<input type="text" value="Prince George's"/>			
* State:		<input type="text" value="MD: Maryland"/>			
Province:		<input type="text"/>			
* Country:		<input type="text" value="USA: UNITED STATES"/>			
* Zip / Postal Code:		<input type="text" value="20715-9465"/>			
e. Organizational Unit:					
Department Name: <input type="text" value="Computer Science"/>			Division Name: <input type="text" value="College of Arts and Sciences"/>		
f. Name and contact information of person to be contacted on matters involving this application:					
Prefix:		* First Name:			
<input type="text" value="Dr."/>		<input type="text" value="Rosemary"/>			
Middle Name:		<input type="text"/>			
* Last Name:		<input type="text" value="Shumba"/>			
Suffix:		<input type="text" value="Ph.D."/>			
Title:		<input type="text" value="Chair and Professor"/>			
Organizational Affiliation: <input type="text" value="Bowie State University"/>					
* Telephone Number:			Fax Number:		
<input type="text" value="301-860-4446"/>			<input type="text"/>		
* Email: <input type="text" value="rshumba@bowiestate.edu"/>					

Application for Federal Assistance SF-424

* 9. Type of Applicant 1: Select Applicant Type:

T: Historically Black Colleges and Universities (HBCUs)

Type of Applicant 2: Select Applicant Type:

Type of Applicant 3: Select Applicant Type:

* Other (specify):

* 10. Name of Federal Agency:

Office of Postsecondary Education

11. Assistance Listing Number:

84.116

Assistance Listing Title:

Fund for the Improvement of Postsecondary Education

* 12. Funding Opportunity Number:

ED-GRANT-26-038

* Title:

FY 26 Postsecondary Student Success Grant 84.116M

13. Competition Identification Number:

ED-GRANT-26-038

Title:

FY 26 Postsecondary Student Success Grant 84.116M

14. Areas Affected by Project (Cities, Counties, States, etc.):

Add Attachment

Delete Attachment

View Attachment

* 15. Descriptive Title of Applicant's Project:

AI-READY: AI-Enabled Experiential Learning and Student Success Pathway for Computing Majors at Bowie State University

Attach supporting documents as specified in agency instructions.

Add Attachments

Delete Attachments

View Attachments

Application for Federal Assistance SF-424**16. Congressional Districts Of:*** a. Applicant * b. Program/Project

Attach an additional list of Program/Project Congressional Districts if needed.

Add Attachment

Delete Attachment

View Attachment

17. Proposed Project:* a. Start Date: * b. End Date: **18. Estimated Funding (\$):**

* a. Federal	<input type="text" value="3,999,777.00"/>
* b. Applicant	<input type="text" value="405,593.00"/>
* c. State	<input type="text" value="0.00"/>
* d. Local	<input type="text" value="0.00"/>
* e. Other	<input type="text" value="0.00"/>
* f. Program Income	<input type="text" value="0.00"/>
* g. TOTAL	<input type="text" value="4,405,370.00"/>

*** 19. Is Application Subject to Review By State Under Executive Order 12372 Process?**

- ☒ a. This application was made available to the State under the Executive Order 12372 Process for review on .
- ☐ b. Program is subject to E.O. 12372 but has not been selected by the State for review.
- ☐ c. Program is not covered by E.O. 12372.

*** 20. Is the Applicant Delinquent On Any Federal Debt? (If "Yes," provide explanation in attachment.)**☐ Yes ☒ No

If "Yes", provide explanation and attach

Add Attachment

Delete Attachment

View Attachment

21. *By signing this application, I certify (1) to the statements contained in the list of certifications and (2) that the statements herein are true, complete and accurate to the best of my knowledge. I also provide the required assurances** and agree to comply with any resulting terms if I accept an award. I am aware that any false, fictitious, or fraudulent statements or claims may subject me to criminal, civil, or administrative penalties. (U.S. Code, Title 18, Section 1001)**

☒ ** I AGREE

** The list of certifications and assurances, or an internet site where you may obtain this list, is contained in the announcement or agency specific instructions.

Authorized Representative:

Prefix:	<input type="text" value="Mr."/>	* First Name:	<input type="text" value="Rafel"/>
Middle Name:	<input type="text"/>		
* Last Name:	<input type="text" value="Rosier"/>		
Suffix:	<input type="text"/>		

* Title: * Telephone Number: Fax Number: * Email: * Signature of Authorized Representative: * Date Signed:

BUDGET INFORMATION - Non-Construction Programs

OMB Number: 4040-0006
Expiration Date: 06/30/2028

SECTION A - BUDGET SUMMARY

Grant Program Function or Activity (a)	Assistance Listing Number (b)	Estimated Unobligated Funds		New or Revised Budget		
		Federal (c)	Non-Federal (d)	Federal (e)	Non-Federal (f)	Total (g)
1. Office of Postsecondary Education - FY26 Postsecondary Student Success Grant	84.116	\$	\$	\$ 3,999,777.00	\$ 408,416.00	\$ 4,408,193.00
2.						
3.						
4.						
5. Totals		\$	\$	\$ 3,999,777.00	\$ 408,416.00	\$ 4,408,193.00

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SECTION B - BUDGET CATEGORIES

6. Object Class Categories	GRANT PROGRAM, FUNCTION OR ACTIVITY				Total (5)
	(1)	(2)	(3)	(4)	
	Office of Postsecondary Education - FY26 Postsecondary Student Success Grant				
a. Personnel	\$ 343,697.00	\$	\$	\$	\$ 343,697.00
b. Fringe Benefits	58,204.00				58,204.00
c. Travel	10,000.00				10,000.00
d. Equipment	0.00				0.00
e. Supplies	80,000.00				80,000.00
f. Contractual	54,300.00				54,300.00
g. Construction	0.00				0.00
h. Other	441,000.00				441,000.00
i. Total Direct Charges (sum of 6a-6h)	987,201.00				\$ 987,201.00
j. Indirect Charges	44,656.00				\$ 44,656.00
k. TOTALS (sum of 6i and 6j)	\$ 1,031,857.00	\$	\$	\$	\$ 1,031,857.00
7. Program Income	\$ 0.00	\$	\$	\$	\$ 0.00

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SECTION C - NON-FEDERAL RESOURCES					
(a) Grant Program		(b) Applicant	(c) State	(d) Other Sources	(e) TOTALS
8.	Office of Postsecondary Education - FY26 Postsecondary Student Success Grant	\$ <input style="width: 80%;" type="text" value="98,265.00"/>	\$ <input style="width: 80%;" type="text" value="0.00"/>	\$ <input style="width: 80%;" type="text" value="0.00"/>	\$ <input style="width: 80%;" type="text" value="98,265.00"/>
9.	<input style="width: 100%;" type="text"/>	<input style="width: 100%;" type="text"/>	<input style="width: 100%;" type="text"/>	<input style="width: 100%;" type="text"/>	<input style="width: 100%;" type="text"/>
10.	<input style="width: 100%;" type="text"/>	<input style="width: 100%;" type="text"/>	<input style="width: 100%;" type="text"/>	<input style="width: 100%;" type="text"/>	<input style="width: 100%;" type="text"/>
11.	<input style="width: 100%;" type="text"/>	<input style="width: 100%;" type="text"/>	<input style="width: 100%;" type="text"/>	<input style="width: 100%;" type="text"/>	<input style="width: 100%;" type="text"/>
12. TOTAL (sum of lines 8-11)		\$ <input style="width: 80%;" type="text" value="98,265.00"/>	\$ <input style="width: 80%;" type="text" value="0.00"/>	\$ <input style="width: 80%;" type="text" value="0.00"/>	\$ <input style="width: 80%;" type="text" value="98,265.00"/>

SECTION D - FORECASTED CASH NEEDS					
	Total for 1st Year	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
13. Federal	\$ <input style="width: 80%;" type="text" value="1,031,857.00"/>	\$ <input style="width: 80%;" type="text" value="257,964.25"/>	\$ <input style="width: 80%;" type="text" value="257,964.25"/>	\$ <input style="width: 80%;" type="text" value="257,964.25"/>	\$ <input style="width: 80%;" type="text" value="257,964.25"/>
14. Non-Federal	\$ <input style="width: 80%;" type="text" value="98,265.00"/>	<input style="width: 80%;" type="text" value="24,566.25"/>	<input style="width: 80%;" type="text" value="24,566.25"/>	<input style="width: 80%;" type="text" value="24,566.25"/>	<input style="width: 80%;" type="text" value="24,566.25"/>
15. TOTAL (sum of lines 13 and 14)	\$ <input style="width: 80%;" type="text" value="1,130,122.00"/>	\$ <input style="width: 80%;" type="text" value="282,530.50"/>	\$ <input style="width: 80%;" type="text" value="282,530.50"/>	\$ <input style="width: 80%;" type="text" value="282,530.50"/>	\$ <input style="width: 80%;" type="text" value="282,530.50"/>

SECTION E - BUDGET ESTIMATES OF FEDERAL FUNDS NEEDED FOR BALANCE OF THE PROJECT					
(a) Grant Program		FUTURE FUNDING PERIODS (YEARS)			
		(b) First	(c) Second	(d) Third	(e) Fourth
16.	Office of Postsecondary Education - FY26 Postsecondary Student Success Grant	\$ <input style="width: 80%;" type="text" value="975,759.00"/>	\$ <input style="width: 80%;" type="text" value="989,174.00"/>	\$ <input style="width: 80%;" type="text" value="1,002,987.00"/>	\$ <input style="width: 80%;" type="text"/>
17.	<input style="width: 100%;" type="text"/>	<input style="width: 100%;" type="text"/>	<input style="width: 100%;" type="text"/>	<input style="width: 100%;" type="text"/>	<input style="width: 100%;" type="text"/>
18.	<input style="width: 100%;" type="text"/>	<input style="width: 100%;" type="text"/>	<input style="width: 100%;" type="text"/>	<input style="width: 100%;" type="text"/>	<input style="width: 100%;" type="text"/>
19.	<input style="width: 100%;" type="text"/>	<input style="width: 100%;" type="text"/>	<input style="width: 100%;" type="text"/>	<input style="width: 100%;" type="text"/>	<input style="width: 100%;" type="text"/>
20. TOTAL (sum of lines 16 - 19)		\$ <input style="width: 80%;" type="text" value="975,759.00"/>	\$ <input style="width: 80%;" type="text" value="989,174.00"/>	\$ <input style="width: 80%;" type="text" value="1,002,987.00"/>	\$ <input style="width: 80%;" type="text"/>

SECTION F - OTHER BUDGET INFORMATION	
21. Direct Charges: <input style="width: 95%;" type="text"/>	22. Indirect Charges: <input style="width: 95%;" type="text" value="8% of Modified Total Direct Costs (MTDC)"/>
23. Remarks: <input style="width: 100%;" type="text"/>	

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Budget Narrative File(s)

* Mandatory Budget Narrative Filename:

Shumba_DOL_AI-READY_BudgetNarrative_FINAL.pdf

Add Mandatory Budget Narrative

Delete Mandatory Budget Narrative

View Mandatory Budget Narrative

To add more Budget Narrative attachments, please use the attachment buttons below.

Add Optional Budget Narrative

Delete Optional Budget Narrative

View Optional Budget Narrative

Budget Narrative \$3,999,777

Senior/Key Personnel:

Dr. Rosemary Shumba, the Principal Investigator (PI) and Professor of Computer Science, will be responsible for administering the Postsecondary Student Success Grant (PSSG). She will provide overall leadership and management of the project, coordinate monthly project meetings, oversee the implementation of student success interventions, monitor project outcomes, prepare annual and federal reports, organize meetings with the Advisory Board, and serve as the primary liaison between the U.S. Department of Education, Bowie State University administration, and project stakeholders. Dr. Shumba will work closely with the Co-PIs, Center Director, faculty, staff, and external partners to ensure the successful implementation of all project activities, including student recruitment and retention efforts, Summer Bridge programming, Grade Enhancement initiatives, experiential learning opportunities, internship and industry partnerships, student success tracking, project evaluation, dissemination of outcomes, and long-term sustainability planning. As Department Chair, Dr. Shumba is expected to teach four courses per academic year as part of her regular responsibilities. To provide adequate time for the administration and management of the project, she will receive a one-course release each year, which is equivalent to 25% (1/4) of her annual teaching workload. The course release compensation is calculated as $\$208,450.30 \times 1/4 = \$52,113$ for Year 1, \$53,676 in Year 2, \$55,286 in Year 3, and \$56,945 in Year 4 with 3% increase for year 2-4. **The total compensation for four years is \$218,020**

Dr. Hoda El-Sayed, a Professor and Co-Principal Investigator, will work closely with Dr. Shumba to ensure the successful implementation of academic success and student retention strategies. She will assist in developing and implementing student support initiatives, experiential learning activities, mentoring programs, and professional development opportunities. Dr. El-Sayed will contribute to project assessment, continuous improvement efforts, and dissemination of project outcomes. Dr. El-Sayed will devote one month of summer effort annually to the project. Her compensation is calculated as $\$149,685.62 \div 9 = \$16,632$ for Year 1. With annual salary increases of approximately 3%, compensation is budgeted at \$17,131 in Year 2, \$17,645 in Year 3, and \$18,174 in Year 4. **The total compensation for four years is \$69,582.**

Dr. Jie Yan, a Co-Principal Investigator and Professor of Computer Science, will support implementation of student success strategies, experiential learning activities, mentoring initiatives, and curriculum enhancement efforts. She will work closely with project personnel to improve student persistence, retention, and academic achievement. Dr. Yan will assist with development of student support interventions, faculty engagement activities, and project assessment efforts. Dr. Yan will devote one month of summer effort annually to the project. Her compensation is calculated as $\$148,982.13 \div 9 = \$16,552$ for Year 1. With annual salary increases of approximately 3%, compensation is budgeted at \$17,050 in Year 2, \$17,562 in Year 3, and \$18,089 in Year 4. **The total compensation for four years is \$69,253.**

Other Personnel

Center Director: A full-time Center Director will be hired to coordinate the day-to-day operations of the Postsecondary Student Success Grant (PSSG). The Center Director will oversee implementation of the Summer Bridge Program, Grade Enhancement Programs, experiential learning activities, internship placements, student support services, recruitment efforts, event coordination, data collection, reporting, and communication among project

stakeholders. In addition to administrative responsibilities, the Center Director is an experienced computer science professional and educator who will contribute to instructional activities, facilitate workshops, support experiential learning projects, and provide technical guidance to participating students. The Center Director will work closely with the PI and Co-PIs to ensure successful implementation of project objectives and achievement of student success outcomes. Compensation is at a rate of \$40 per hour, calculated as $\$40 \times 40 \text{ hours per week} \times 52 \text{ weeks per year} = \$83,200$ for Year 1. With annual salary increases of 3%, compensation is \$85,696 in Year 2, \$88,267 in Year 3, and \$90,915 in Year 4. **The Total compensation over the four-year is \$348,078.**

Graduate Mentors

Summer Bridge Program: Two graduate mentors will serve as teaching assistants during the Summer Bridge Program, providing tutoring, instructional assistance, and academic support. Each mentor will work a total of four weeks, consisting of three weeks (15 workdays) supporting students during the Summer Bridge Program and one additional week (5 workdays) for program preparation, grading, and completion of post-program activities. Compensation is based on \$20 per hour for 40 hours per week over four weeks, calculated as $\$20 \times 40 \text{ hours} \times 4 \text{ weeks} = \$3,200$ per mentor. The total cost for two mentors is \$6,400 in Year 1. With annual salary increases of 3%, compensation is budgeted at \$6,592 in Year 2, \$6,790 in Year 3, and \$6,993 in Year 4. **The Total compensation over the four-year is \$26,775**

Grade Enhancement Program (Spring): Eight (8) graduate mentors will provide tutoring, academic coaching, and mentoring to 60 students during the fall semester. Each mentor will be compensated at \$20 per hour for 10 hours per week over 15 weeks ($\$20 \times 10 \times 15 = \$3,000$ per mentor). The total cost for 8 mentors is \$24,000 in Year 1. With annual salary increases of 3%, compensation is \$24,720 in Year 2, \$25,462 in Year 3, and \$26,225 in Year 4. **The Total compensation over the four-year is \$100,407**

Grade Enhancement Program (Fall): Eight (8) graduate mentors will provide tutoring, academic coaching, and mentoring to 60 students during the fall semester. Each mentor will be compensated at \$20 per hour for 10 hours per week over 15 weeks ($\$20 \times 10 \times 15 = \$3,000$ per mentor). The total cost for 8 mentors is \$24,000 in Year 1. With annual salary increases of 3%, compensation is \$24,720 in Year 2, \$25,462 in Year 3, and \$26,225 in Year 4. **The Total compensation over the four-year is \$100,407**

Graduate Mentors – Winter Technical Training: Three (3) graduate mentors will support students enrolled in winter technical training and certification programs in areas such as Artificial Intelligence, cybersecurity, cloud computing, and data analytics. Each mentor will be compensated at \$20 per hour for 40 hours per week over four weeks ($\$20 \times 40 \times 4 = \$3,200$ per mentor). The total cost for three mentors is \$9,600 in Year 1. With annual salary increases of 3%, compensation is \$9,888 in Year 2, \$10,185 in Year 3, and \$10,490 in Year 4. **The Total compensation over the four-year is \$40,163**

Summer Internship Program: Four (4) graduate mentors will serve as project managers and technical mentors, supporting students with project execution, code review, debugging, and communication with internship partners. Each mentor will be compensated at \$24 per hour for 40 hours per week over 10 weeks ($\$24 \times 40 \times 10 = \$9,600$ per mentor). The total cost for four mentors is \$38,400 in Year 1. With annual salary increases of 3%, compensation is \$39,552 in Year 2, \$40,739 in Year 3, and \$41,961 in Year 4. **The Total compensation over the four-year is \$160,652**

The grand total compensation for Graduate mentors over the four-years is \$428,404.

Postdoctoral Fellow: A full-time Postdoctoral Fellow with expertise in Artificial Intelligence and Machine Learning will be hired to develop and teach AI-focused courses for project participants during the Summer Bridge Program and support preparation for experiential learning and internship opportunities. The Postdoctoral Researcher will design instructional materials, deliver technical training, mentor students, assist with project-based learning activities, and help prepare students for workforce experiences in emerging technology fields. Compensation is at a rate of \$40 per hour, calculated as \$35 x 40 hours per week x 52 weeks per year = \$72,800 for Year 1. With annual salary increases of 3%, compensation is \$74,984 in Year 2, \$77,234 in Year 3, and \$79,551 in Year 4. **The Total compensation over the four-year is \$304,569.**

Fringe Benefits

Fringe Benefits include FICA, retirement, disability insurance, life insurance, tuition remission, workers compensation, unemployment insurance, health insurance, dental insurance and TIAA/CREF. Fringe benefits are specifically identified to each employee and are charged individually as direct costs. The current rates are as follows: 33% for staff and academic faculty, 22% for post-doctoral fellow/researcher, 17% for contingent II employees, and 8% for faculty summer, contingent I, and faculty/staff additional pays. Year 1 is \$58,204 Year 2 is \$59,949, Year 3 is \$61,748, and Year 4 is \$63,601. **Grand Total: \$243,502 over four years.**

Travel

Faculty/Staff Professional Development/Travel: The PI, Co-PIs and Staffs will participate in professional development to remain current in rapidly evolving AI fields and technology at large and to strengthen program quality. Travel funds will support attendance at conferences, technical institutes, curriculum workshops, and/or PSSG- or discipline-aligned training events where emerging technology, AI tools, pedagogies, workforce trends, and collaborative opportunities are presented. Engagement in these activities will help faculty refresh instructional content, expand industry partnerships, recruit speakers and mentors, and align student learning experiences with cutting-edge practice. The budget includes \$2000 per faculty/Staff member per year (PI + 2Co-PIs = 3 faculties + 2 Staff). The estimated cost per traveler includes \$650 for airfare, \$500 for conference registration, \$600 for lodging (4 nights at \$150 per night), \$200 for per diem (5 days at \$40 per day), and \$50 for ground transportation, totaling \$2,000 per individual totaling \$10,000 annually.

The cumulative Faculty/Staff travel allocation is \$40,000.

Other Direct Costs

Materials and Supplies

Laptops: Twenty (20) laptop computers will be purchased in Year 1 to support student participation in the Summer Bridge Program, Grade Enhancement Program, Winter Technical Training, experiential learning activities, internships, and workshop programs. The laptops will be used as loaners to help students who do not have access to adequate computing resources needed to participate fully in project activities. The cost is calculated as 20 laptops x \$2,000 per laptop = \$40,000. This is a one-time purchase in Year 1.

CircleIn AI Academic Support Platform: The subscription will be purchased provide students with 24/7 AI-guided academic support, peer learning, and collaborative study resources beyond scheduled mentoring and tutoring sessions. The platform will complement the Grade Enhancement Program (GEP) by offering responsible AI tutoring, personalized learning support, course-specific study resources, and collaborative learning spaces that reinforce classroom instruction while promoting academic integrity. CircleIn will also enable faculty and staff to monitor student engagement and learning progress, allowing for timely interventions to improve retention, persistence, and academic success. The annual licensing cost is \$40,000 per year. **Total cost of \$160,000 for four years**

Consultants/Vendors

Experiential Learning and Student Success Tracking System: The system will provide a centralized platform for managing and tracking student participation in the Summer Bridge Program, Grade Enhancement Program, Winter Technical Training, internships, mentoring activities, professional certifications, and other project-supported experiences. The platform will enable real-time monitoring of student engagement, academic performance, retention, persistence, experiential learning participation, credential attainment, and workforce readiness outcomes. In addition, the system will provide dashboards, analytics, reporting capabilities, and early alert tools to support data-driven decision-making, continuous improvement, project evaluation, and compliance reporting.

During Year 1, the system will be designed, developed, tested, and deployed. Development activities include:

- Requirements Analysis and System Design - 45 hours
- Database Design and Development - 40 hours
- Backend Development - 170 hours
- Frontend Development - 130 hours
- Analytics and Reporting - 32 hours
- Security and Compliance - 23 hours
- Testing and Quality Assurance - 25 hours
- Deployment and Documentation - 15 hours

The total development effort is 480 hours. Development will cost \$50 per hour (480 hours x \$50 = \$24,000). Additional Year 1 costs include cloud infrastructure services for hosting, database management, storage, backup, security, monitoring, and API services (\$1000 per month equivalent to \$12,000 per year), as well as development, collaboration, and productivity tools such as Jira, GitHub and Slack (\$400 per month equivalent to \$4,800 per year). The total Year 1 cost is \$40,800. In Years 2 through 4, only \$16,800 will be needed for infrastructure and software API such cloud infrastructure, software licensing, security updates, and maintenance. **Total cost will be \$91,200 over four years**

Power Skills, Technical Skills, and Tech Prep Workshop Facilitators: Subject Matter Experts (SMEs) will be recruited from industry partners and collaborating organizations to facilitate workshops focused on professional development, workforce readiness, technical skill development, and technology preparation (Tech Prep). These facilitators will deliver eight (8) workshops annually covering topics such as communication, leadership, teamwork, time management, adaptability, career readiness, networking, interview preparation, workplace professionalism, Artificial Intelligence, cloud computing, cybersecurity, data analytics, software development, technical interview preparation,

portfolio development, internship readiness, and other emerging technologies aligned with workforce needs. Each workshop will be led by an experienced industry professional who will provide both instructional guidance and practical insights based on real-world experience. Facilitators will be compensated with a flat consultant fee of \$1,000 per workshop (equivalent to \$8,000 per year), which includes preparation, instructional delivery, and participant engagement activities. **Grand total cost \$32,000 over four years**

Project Evaluator: A renowned Subject Matter Expert (SME) with extensive experience in grant-funded program evaluation will be recruited to serve as the external evaluator. The evaluator will design assessment tools, oversee data collection and analysis, and produce annual evaluation reports to measure program effectiveness and inform improvements. Responsibilities include evaluating recruitment and retention strategies, monitoring implementation fidelity, gathering stakeholder feedback, and aligning outcomes with DoE reporting requirements. The evaluator will also provide formative updates and may participate in advisory board meetings as needed. The evaluator will be compensated for 55 hours annually at a rate of \$100 per hour, totaling \$5,500 per year. **Total cost will be \$22,000 over four years.**

Participant Support Costs

Summer Internship Stipend: twenty-five (25) students will participate in 10-week summer internships with partner industries, gaining hands-on experience in AI and related fields. Each student will be received a stipend of \$800 per week, equivalent to \$8,000 per student over 10 weeks. The total summer stipend cost per year is \$200,000 for 25 students. **The total is \$800,000 over four years.**

Summer Bridge Participant Stipends: Stipends are provided to support participation in the Summer Bridge Program and to incentivize successful completion of program requirements. The Summer Bridge Program is a three-week residential experience designed to strengthen academic preparation, facilitate college transition, and promote student success. 40 participants will receive a stipend of \$500 upon successful completion of the program, including attendance, passing the Course, participation in program activities, and satisfactory completion of all requirements. The annual cost is calculated as 40 participants x \$500 = \$20,000. **The total cost over the four-year period is \$80,000.**

Summer Bridge Housing: Housing support is provided to ensure that participants can fully engage in the residential Summer Bridge experience. Forty (40) students will reside on campus for three weeks (20 days), consisting of 15 weekdays and 5 weekend days, while participating in academic instruction, professional development, mentoring, and community-building activities. Housing costs are calculated at \$1,500 per participant for the three-week residential program, resulting in an annual cost of 40 participants x \$1,500 = \$60,000. **The total cost over the four-year period is \$240,000.**

Summer Bridge Meals: Meal support is provided to ensure that participants have access to nutritious meals throughout the residential Summer Bridge Program. Forty (40) students will receive breakfast, lunch, and dinner while residing on campus for three weeks (20 days), consisting of 15 weekdays and 5 weekend days. Meal costs are calculated at \$15 for breakfast, \$15 for lunch, and \$15 for dinner, for a total of \$45 per day. The meal cost

per participant is calculated as $\$45 \times 20 \text{ days} = \900 . The annual cost is 40 participants $\times \$900 = \$36,000$. **The total cost over the four-year period is \$144,000.**

Summer Bridge Peer Mentor Stipends: Four peer mentors will be recruited annually to support Summer Bridge participants throughout the residential program. Peer mentors will live alongside participants, assist with academic and social integration, facilitate activities, provide mentoring and guidance, and help students successfully transition to college life. Each peer mentor will receive a stipend of \$2,500 for the three-week program. The annual cost is 4 peer mentors $\times \$2,500 = \$10,000$ per year. **The total cost over the four-year period is \$40,000.**

Winter Technical Training Stipends: Sixty (60) students will participate annually in winter technical training and industry-recognized certification programs in areas such as Artificial Intelligence, cybersecurity, cloud computing, and data analytics. Students who successfully complete all program requirements and earn the targeted certification will receive a stipend of \$500. The annual cost is calculated as 60 students $\times \$300 = \$18,000$. **The total cost over the four-year is \$72,000.**

Grade Enhancement Program (Spring) Stipends: Sixty (60) students will participate annually in the Spring Grade Enhancement Program (GEP), which is designed to improve academic performance, retention, and persistence. Participants will be required to meet with their assigned graduate mentor for a minimum of five hours per week throughout the semester. To qualify for the stipend, students must maintain at least 80% attendance in all scheduled mentoring sessions and earn a grade of C or higher in the targeted course(s). Eligible participants will receive a stipend of \$500. The annual cost is calculated as 60 students $\times \$500 = \$30,000$. **The total cost over the four-year is \$120,000.**

Grade Enhancement Program (Fall) Stipends: Sixty (60) students will participate annually in the Fall Grade Enhancement Program (GEP), receiving structured mentoring, tutoring, and academic support designed to strengthen student success and retention. Participants will be required to meet with their assigned graduate mentor for a minimum of five hours per week throughout the semester. To qualify for the stipend, students must maintain at least 80% attendance in all scheduled mentoring sessions and earn a grade of B or higher in the targeted course. Eligible participants will receive a stipend of \$500. The annual cost is calculated as 60 students $\times \$500 = \$30,000$. **The total cost over the four-year is \$120,000.**

Student Travel: twenty-five (25) student participants will be required to attend at least one national conference each year, such as NSBE or Grace Hopper accompanied by three staff or faculty members. This professional exposure is critical to enhancing career readiness and expanding industry networks. A travel budget of \$1,000 per person is allocated, covering airfare, lodging, and registration. With 25 participants, the annual travel cost is \$25,000. **The total travel budget is \$100,000 over four years.**

Other Costs

Advisory Board Honorarium: A team of four advisory board members will meet annually to provide strategic guidance, assess program progress, and offer recommendations for continuous improvement. Each board member will receive \$500 for their annual participation in the activities. This results in a total of \$2,000 per year for all four members. **The total cost will be \$8,000 for four years.**

Kickstart Meeting: Each year, a Kickoff Meeting will be organized to officially welcome the incoming cohort of students. To accommodate participants' and presenters' schedules, this meeting will be held after hours and will include a working meal during which structured activities will help establish a sense of community, introduce the program structure and expectations, and foster early engagement among participants, graduate mentors, and partner mentors. This meeting will also provide an opportunity for new participants to interact with the PI, Co-PIs, program staff, and mentors in an interactive, program-focused setting. A budget of \$5,000 annually is allocated to cover venue costs, working meal expenses, meeting materials, and guest support necessary to conduct this required program orientation. **The total cost for the Kickstart Dinner will be \$20,000 over four years.**

Showcase: An annual Experiential Learning Showcase will be held each year, where students from the entire department, will present and demonstrate their internship projects and experiential learning outcomes. This event will serve as a platform to highlight student achievements, share best practices, and strengthen ties with industry and academic partners. It will also promote visibility of the program across the university and beyond. A budget of \$5,000 is allocated annually to support logistics, materials, technology setups, and hospitality. **The total cost over four years will be \$20,000.**

Indirect Costs

Indirect costs are being charged at the sponsor mandated rate of 8% of Modified Total Direct Costs (MTDC) which includes all direct salaries and wages, applicable fringe benefits, materials and supplies, services, travel, and up to the first \$50,000 of each subaward (regardless of the period of performance of the subawards under the award). MTDC excludes equipment, capital expenditures, charges for patient care, rental costs, tuition remission, scholarships and fellowships, participant support costs, and the portion of each subaward in excess of \$50,000. Year 1 = \$44,656, Year 2 = \$40,501, Year 3 = \$41,494, Year 4 = \$42,518
Grand total: \$169,169 over four years.

Cost Sharing/Matching Justification

To satisfy the ten percent (10%) matching requirement, Bowie State University is providing the following in-kind donations

Personnel Salary and Fringe

Dr. Rosemary Shumba, Principal Investigator, will contribute 17% effort during the academic term each year to the project as in-kind. She will provide overall leadership and management of the project, coordinate monthly project meetings, oversee the implementation of student success interventions, monitor project outcomes, prepare annual and federal reports, organize meetings with the Advisory Board, and serve as the primary liaison between the U.S. Department of Education, Bowie State University administration, and project stakeholders. Dr. Shumba will work closely with the Co-PIs, Center Director, faculty, staff, and external partners to ensure the successful implementation of all project activities, including student recruitment and retention efforts, Summer Bridge programming, Grade Enhancement initiatives, experiential learning opportunities, internship and industry partnerships, student success tracking, project evaluation, dissemination of outcomes, and long-term sustainability planning. As Department Chair, Dr. Shumba is expected to teach four courses per academic year as

part of her regular responsibilities. To provide adequate time for the administration and management of the project, she will receive a one-course release each year, which is equivalent to 25% (1/4) of her annual teaching workload.

Fringe Benefits are charged at the rate of 33% of in-kind salary:

Year 1: \$35,437 (salary) + \$11,694 (fringe) = \$47,131
Year 2: \$36,500 (salary) + \$12,045 (fringe) = \$48,545
Year 3: \$37,595 (salary) + \$12,406 (fringe) = \$50,001
Year 4: \$38,722 (salary) + \$12,778 (fringe) = \$51,500
Total Salary and Fringe: \$197,177

Dr. Rosalyn Whitaker-Heck (10% effort in years 1-4) will coordinate AI-READY with existing student success infrastructure, match students to mentors through CircleIn, ensure Center success advisers are trained on institutional advising standards, and co-lead the Project Advisory Board

Fringe benefits are charged at the rate of 33% of in-kind salary:

Year 1: \$15,890 (salary) + \$5,244 (fringe) = \$21,134
Year 2: \$16,367 (salary) + \$5,401 (fringe) = \$21,768
Year 3: \$16,858 (salary) + \$5,563 (fringe) = \$22,421
Year 4: \$17,363 (salary) + \$5,730 (fringe) = \$23,093
Total Salary and Fringe: \$88,416

Facilities

Bowie State University will provide office space for the Center Director, GEP coordinator, and Center success advisers; classroom and laboratory space for COSC 29X delivery and the Bulldog Summer Bridge program; computing infrastructure that hosts the ELTS system; and equipment and software licenses, at no cost to the grant, across the four-year project period. (\$80,000)

Department of Computer Science

The Department of Computer Science will contribute twenty laptops from its existing inventory (\$2,000 each, \$40,000 total) to AI-READY students with financial need so all computing students can fully participate in the credential coursework ELTS activities, and team-based placements. These laptops, along with the 20 requested as part of the funds from the sponsor, will ensure that every participant in the Summer Bridge Program has a laptop to participate in the program.

Summary:

Total Budget Request from Sponsor: \$3,995,457
Required Cost Share: \$3,995,457 x 10% = \$399,545.70
Total Bowie State University Cost Share Contribution: \$405,593

Abstract

An abstract is to be submitted in accordance with the following:

1. Abstract Requirements

- Abstracts must not exceed one page and should use language that will be understood by a range of audiences.
- Abstracts must include the project title, goals, and expected outcomes and contributions related to research, policy, and practice.
- Abstracts must include the population(s) to be served.
- Abstracts must include primary activities to be performed by the recipient.
- Abstracts must include subrecipient activities that are known or specified at the time of application submission.

For research applications, abstracts also include the following:

- Theoretical and conceptual background of the study (i.e., prior research that the investigation builds upon and that provides a compelling rationale for this study).
- Research issues, hypotheses and questions being addressed.
- Study design including a brief description of the sample including sample size, methods, principals, and dependent, independent, and control variables, as well as the approach to data analysis.

[Note: For a non-electronic submission, include the name and address of your organization and the name, phone number and e-mail address of the contact person for this project.]

You may now Close the Form

You have attached 1 file to this page, no more files may be added. To add a different file, you must first delete the existing file.

* Attachment:

AI-READY_Project_Abstract.pdf

Add Attachment

Delete Attachment

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AI-READY Project Abstract

Bowie State University (Maryland's first public HBCU, 50% Pell) [OPEID pending OSP] requests **\$3,999,777 over 48 months** for AI-READY: AI-Enabled Experiential Learning and Student Success Pathway for Computing Majors. **Absolute Priorities:** AP1 (Demonstrates a Rationale); AP3 (Advancing AI to Support Postsecondary Student Success), AP3(b) primary, AP3(a) supporting. **Competitive Preference Priority:** Returning Education to the States, through MHEC engagement under COMAR 13B.02.03.25.

Objectives and Activities. AI-READY provides 494 undergraduate computing students with credit-bearing AI coursework, an AI Career Readiness Credential (to be approved by MHEC as an Upper Division Certificate), and a coordinated pathway into paid internships, faculty-mentored research, and team-based employer projects. Four integrated components run through one Center: the Bulldog Summer Bridge (40 students/year), the Grade Enhancement Program (60 students each fall and spring across 8 gateway courses), Tech Pipeline placement (25 paid placements/year), and the Experiential Learning and Student Success Tracking System (ELTS), an AI-supported infrastructure routing early alerts to faculty advisers and the Center Director.

Outcomes and Partners. Over four years AI-READY will award 130 AI Career Readiness Credentials, complete 100 paid Tech Pipeline placements, scale the Bridge to 40 students/year, and deploy ELTS for all 494 students. Outcomes are tracked against the five PSSG performance measures disaggregated by Pell status. Partners: Norfolk State University (independent external evaluator) [OPEID pending]; MHEC (state higher education agency, CPP partner); and 20 ExLENT industry partners including Dev Technology, CyDeploy, Runwei, Juxtopia, Graham, Invisible Strengths, and Praxis.

U.S. Department of Education Supplemental Information for the SF-424
Application for Federal Assistance

OMB Number: 1894-0007
Expiration Date: 04/30/2026

1. Project Director and Applicable Entity Identification Numbers:

Prefix:	* First Name:	Middle Name:	* Last Name:	Suffix:
Dr.	Rosemary		Shumba	Ph.D.

* Project Director Level of Effort (percentage of time devoted to grant): 42

Address:

* Street1:	14000 Jericho Park Road, Suite 1312
Street2:	
* City:	Bowie
County:	Prince George's
* State:	MD: Maryland
* Zip Code:	20715-9465
* Country:	USA: UNITED STATES

* Phone Number (give area code) Fax Number (give area code)

301-860-4446	
--------------	--

* Email Address:

rshumba@bowiestate.edu

Alternate Email Address:

--

OPE ID(s) (if applicable)

00206200

NCES School ID(s) (if applicable)

--

NCES LEA/School District ID(s) (if applicable)

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2. General Education Provision Act Section 427 Assurance:

☒ I assure that the proposed project complies with the requirements in section 427 of the General Education Provisions Act (20 U.S.C. 1228a). Compliance can be found on the following page(s) of the application:

Page 57 of the Project Narrative

3. New Potential Grantee:

☒ N/A. This item is not applicable because the program competition's notice inviting applications (NIA) does not include a definition "New Potential Grantee." This item is not applicable when the program competition's NIA does not include the definition.

For NIA's that include a definition of "New Potential Grantee," complete the following:

Are you a new potential grantee as defined in the program competition's NIA?

☐ Yes ☐ No

4. Human Subjects Research:

a. Are any research activities involving human subjects planned at any time during the proposed Project Period?

☐ Yes ☒ No

b. Are ALL the research activities proposed designated to be exempt from the regulations?

☐ Yes Provide Exemption(s) #(s): ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8

☐ No Provide Federal Wide Assurance #(s), if available:

c. If applicable, please attach your "Exempt Research" or "Nonexempt Research" narrative to this form as indicated in the definitions page in the attached instructions.

Add Attachment

Delete Attachment

View Attachment

5. Infrastructure Programs and Build America, Buy America Act Applicability:

If the competition Notice Inviting Applications (NIA) in section III. 4. "Other" states that the program under which this application is submitted is subject to the Build America, Buy America Act (Pub. L. 117-58) (BABAA) domestic sourcing requirements, complete the following:

☒ This application does not include any infrastructure projects or activities and therefore **IS NOT** subject the BABAA domestic sourcing requirements.

☐ This application **IS** subject to the BABAA domestic sourcing requirements, because the proposed grant project described in this application includes the following infrastructure projects or activities:

☐ Construction

☐ Remodeling

☐ Broadband Infrastructure

If this application **IS** subject to the BABAA domestic sourcing requirements, please list the page numbers from within the application narrative where the proposed infrastructure project or activities are described:

CERTIFICATION REGARDING LOBBYING

Certification for Contracts, Grants, Loans, and Cooperative Agreements

The undersigned certifies, to the best of his or her knowledge and belief, that:

(1) No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of an agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

(2) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure of Lobbying Activities," in accordance with its instructions.

(3) The undersigned shall require that the language of this certification be included in the award documents for all subawards at all tiers (including subcontracts, subgrants, and contracts under grants, loans, and cooperative agreements) and that all subrecipients shall certify and disclose accordingly. This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by section 1352, title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

Statement for Loan Guarantees and Loan Insurance

The undersigned states, to the best of his or her knowledge and belief, that:

If any funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this commitment providing for the United States to insure or guarantee a loan, the undersigned shall complete and submit Standard Form-LLL, "Disclosure of Lobbying Activities," in accordance with its instructions. Submission of this statement is a prerequisite for making or entering into this transaction imposed by section 1352, title 31, U.S. Code. Any person who fails to file the required statement shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

* APPLICANT'S ORGANIZATION

Bowie State University

* PRINTED NAME AND TITLE OF AUTHORIZED REPRESENTATIVE

Prefix: Mr. * First Name: Rafael Middle Name:
* Last Name: Rosier Suffix:
* Title: Pre-Award Services Manager

* SIGNATURE: Completed on submission to Grants.gov

* DATE: Completed on submission to Grants.gov

Other Attachment File(s)

* Mandatory Other Attachment Filename:

AI_READY_Absolute_Priority_Narrative.pdf

Add Mandatory Other Attachment

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To add more "Other Attachment" attachments, please use the attachment buttons below.

Add Optional Other Attachment

Delete Optional Other Attachment

View Optional Other Attachment

AI-READY Absolute Priority Narrative

Bowie State University | FY2026 PSSG (84.116M) | Early Phase. Absolute Priority 1: Demonstrates a Rationale. Absolute Priority 3: Advancing Artificial Intelligence to Support Postsecondary Student Success. AP3(b) primary; AP3(a) supporting.

Brief Project Description

Bowie State University, Maryland's first public historically Black university and a majority-Pell institution, requests \$3,995,457 over 48 months to launch AI-READY, an AI-supported experiential learning and student success pathway for 494 undergraduate students in five computing majors. Four components run through one Center: the Bulldog Summer Bridge Program, the Grade Enhancement Program (GEP), Tech Pipeline experiential placement, and the Experiential Learning and Student Success Tracking System (ELTS), the project's AI-supported infrastructure.

Absolute Priority 1: Demonstrates a Rationale

AI-READY meets the 34 CFR 77.1 definition of Demonstrates a Rationale: a key project component in the logic model is informed by research or evaluation findings that suggest it is likely to improve relevant outcomes. The required elements are addressed directly below.

The logic model. Section B.1 of the Project Narrative lays out AI-READY's full logic model, with inputs, activities, outputs, and short-term, intermediate, and long-term outcomes tied to the five PSSG performance measures.

The key project component. Within the logic model, the named evidence-supported component is proactive advising and coaching. Trained personnel reach out to students before they ask for help, let student data guide that contact, and connect students to specific academic, mentoring, AI-readiness, and experiential-learning supports. AI-READY runs this practice through Bowie State's existing departmental faculty advising structure, integrated with ELTS, with the Center Director and AI/ML Postdoctoral Fellow handling the Tech Pipeline placement cohort.

The research evidence. Two studies that meet What Works Clearinghouse standards without reservations support this component. The CUNY ASAP randomized controlled trial (Scrivener et al., 2015, MDRC) found that proactive advising and related supports nearly doubled three-year graduation rates among community college students while improving retention and credit accumulation. The InsideTrack student coaching randomized trial (Bettinger and Baker, 2014, Educational Evaluation and Policy Analysis) found that proactive, data-informed coaching raised persistence by about five percentage points and shortened time to degree.

The connection to AI-READY outcomes. AI-READY keeps the validated practice and adapts it to Bowie State's four-year HBCU computing context. ELTS strengthens advising by helping the appropriate human reviewer spot risk earlier, prioritize outreach, and connect students to the right support, whether GEP, Bridge follow-up, faculty conferences, credential advising, or Tech Pipeline preparation. The project does not claim the dedicated-adviser caseload or intervention dose of ASAP or InsideTrack; Section D measures actual contact frequency, alert-to-contact

response time, and component participation as fidelity indicators and uses those measures to interpret project outcomes.

Absolute Priority 3: Advancing AI to Support Postsecondary Student Success

AI-READY uses AI to improve program outcomes, its primary AP3(b) claim, and to identify students who need extra help and route them to timely human support, its supporting AP3(a) claim. Every use of AI is appropriate and ethical, and a trained human reviewer makes every student-support decision.

AP3(b) primary: using AI to improve program outcomes. ELTS coordinates the four components into one admission-to-graduation pathway. It is a hybrid system: Year 1 begins with rules-based early alerts tied to documented academic and engagement thresholds. As validated project data accumulate, ELTS adds AI-supported pattern detection that flags combinations of signals tied to course non-completion, delayed progression, missed credential milestones, and reduced placement readiness, along with AI-supported next-step suggestions drawn from approved advising protocols. The phasing is deliberate: Year 1 builds the rules-based scaffolding and data infrastructure, Year 2 pilots the AI-supported layers, and Year 3 runs them at full deployment after the annual responsible-AI review.

AP3(a) supporting: using AI to identify students and route them to help. ELTS reads progress signals across gateway-course performance, advising contacts, Blackboard activity where available, credit accumulation, mentoring contacts, AI-readiness milestones, and placement progression. When a student shows academic risk or misses a milestone, ELTS routes an alert, with recommended next steps, to the appropriate human reviewer: a student's dedicated departmental faculty adviser outside the placement cohort, or the Center Director and AI/ML Postdoctoral Fellow for placement-cohort students. The reviewer contacts the student, decides on the right support, and documents the action in ELTS.

Appropriate and ethical use. ELTS makes no automated decisions about students; a trained human reviewer decides every intervention. The responsible-AI governance framework covers FERPA compliance, IRB review for evaluation use, role-based access, student notification and opt-out through the AVP for Student Success, audit logs, and an annual responsible-AI review by the Project Advisory Board. Section C describes the full framework.

The AP1 and AP3 Chain

AI-READY links AP1 and AP3 through a single operating logic. ELTS identifies risk earlier, suggests appropriate next steps, and gives dedicated departmental faculty advisers, the Center Director, and the AI/ML Postdoctoral Fellow what they need to deliver proactive advising and coaching. That evidence-supported human practice, sharpened by AI-supported monitoring and calibrated to AI-READY's dose, is expected to improve first-year credit accumulation, annual retention and persistence, success rates including graduation, time to credential, and credentials conferred, all reported by Pell status.

Detail in the Project Narrative

Section A presents the full evidence base and institutional capacity. Section B presents the complete logic model and four-component design. Section C documents the responsible-AI governance framework, the 48-month implementation timeline, and the management plan. Section D presents the WWC-aligned evaluation design and the fidelity measures that track contact frequency, alert-to-contact response time, and component participation. MHEC's signed letter of support, dated June 26, 2026, is included as an appendix exhibit.

AI-READY Competitive Preference Priority Narrative

Bowie State University | FY2026 PSSG (84.116M). Competitive Preference Priority: Returning Education to the States. Subcategories Claimed: (d) State higher education agencies; (f) Consortia of the entities identified under this priority.

CPP Claim

AI-READY claims the Competitive Preference Priority, Returning Education to the States, under subcategory (d), State higher education agencies, and subcategory (f), Consortia of the entities identified under this priority. A consortium carries out the project: Bowie State University, the applicant institution of higher education, together with the Maryland Higher Education Commission (MHEC), a State higher education agency as defined in 20 U.S.C. 1003(22).

MHEC's Eligibility as a State Higher Education Agency

MHEC is Maryland's State higher education agency, with statutory authority under Maryland Education Code §11-202 and §11-105. Its responsibilities run from institutional approval to academic program review and authorization under COMAR 13B.02.03.25 to statewide higher education policy. Because MHEC meets the definition of a State higher education agency in 20 U.S.C. 1003(22), it qualifies under subcategory (d), and Bowie State and MHEC operate together as a consortium under subcategory (f) for AI-READY.

The Substantive Partnership

MHEC takes on two responsibilities within the consortium. First, it will review and approve the Upper Division Certificate in AI Career Readiness, the AI-READY credit-bearing credential, under COMAR 13B.02.03.25; MHEC receives Bowie State's submission in Project Year 1, conducts the review, and issues the approval that authorizes the credential. While the review is underway, coursework runs through the approved COSC 29X Special Topics structure. Second, MHEC will help disseminate AI-READY's evaluation findings to Maryland institutions of higher education, in line with the 2025 Maryland AI Enablement Strategy and AI Study Roadmap submitted to the Maryland General Assembly in January 2025. No PSSG funds pass through to MHEC.

Documentation

MHEC's signed letter of commitment, dated June 26, 2026 and signed by Interim Secretary of Higher Education Elena Quiroz-Livanis, is included as an appendix exhibit. Karen King-Sheridan, MHEC Director of Workforce Need, is the named staff contact. Section A.4 of the Project Narrative details AI-READY's statewide AI alignment.

AI-READY (FY2026 PSSG) — Bowie State University

Postsecondary Student Success Grant (PSSG) Program

FY26 Project Profile Form

Instructions: This document provides the completed responses for the FY26 PSSG Project Profile Form. Sponsored Programs will transfer these responses into the fillable PDF form inside Grants.gov Workspace before submission. All entries reflect the AI-READY Project Narrative and Budget Narrative. Items marked [INSERT] require institutional data from Sponsored Programs before final submission.

Project Title:

AI-READY: An AI-Supported Student Success Pathway for Computing Majors at Bowie State University

Lead Applicant Name:

Bowie State University

Applicant UEI #:

WMEEHCAPGR65

OPE ID # (since lead applicant is an IHE):

00206200

Absolute Priorities the Project Addresses (select one from Priority 1 or Priority 2):

☒ **Absolute Priority 1: Early-Phase — Applications that Demonstrate a Rationale**

☐ Absolute Priority 2: Mid-phase — Applicants that Demonstrate Moderate Evidence

Absolute Priorities the Project Addresses (select one from Priority 3 through Priority 6):

☒ **Absolute Priority 3: Advancing Artificial Intelligence in Education**

☐ Absolute Priority 4: Career and Workforce Readiness

☐ Absolute Priority 5: Developing or Expanding Short Term Programs

☐ Absolute Priority 6: Projects that Support College-to-Career Pathways and Supports

Competitive Preference Priorities the Project Addresses (select only if applicable):

Decision pending MHEC's response to Bowie State's partnership request. If MHEC confirms the partnership, check the boxes below. If MHEC does not confirm, leave this section unchecked.

☐ Competitive Preference Priority 1 — Returning Education to the States (pending MHEC confirmation; if claimed, check the boxes below)

☐ State higher education agencies (would apply if MHEC partnership confirmed)

☐ State workforce development agencies/boards

☐ State education agencies

☐ State vocational rehabilitation agencies

- ☐ An Indian Tribe
- ☐ Consortia of the entities identified under this priority (would apply if MHEC partnership confirmed)

Was the Invitational Priority Addressed (select only if applicable):

- ☒ No
- ☐ Yes

Note: The FY2026 PSSG solicitation does not designate an Invitational Priority for this competition. The response is "No" by default.

Evaluation Design (select one):

- ☒ **Quasi-Experimental** (matched comparison-group quasi-experimental design for the broader AI-READY pathway)
- ☐ Experimental

Note: AI-READY will use a documented lottery design for the Bulldog Summer Bridge Program if applications exceed available seats. The lottery design produces experimental evidence for that one component. The broader AI-READY pathway uses a matched comparison-group quasi-experimental design. Because the project's overall evaluation design is QED with one experimental element nested within it, "Quasi-Experimental" is the correct primary designation for this form. See Section D of the Project Narrative for the full evaluation design.

Total Requested Funds:

\$3,999,777 over 48 months

Requesting Match Waiver:

- ☒ No
- ☐ Yes

Bowie State University is providing the required 10 percent cost share, totaling \$408,416 over the four-year project period (10.2 percent of the federal request of \$3,999,777). The match is provided through four non-federal sources: (1) Dr. Whitaker-Heck personnel time (\$88,416 over four years); (2) Clare Boothe Luce Foundation cash match (\$200,000); (3) institutional facilities (\$80,000); and (4) Department of Computer Science laptops (\$40,000). See Budget Narrative, Cost Sharing/Matching Justification section.

Total number of students to be served over the life of the project:

Approximately 980 students over the four-year project period, reflecting total student engagements across all AI-READY program components. The breakdown across the four components:

- Bulldog Summer Bridge Program: 60 students per year × 4 years = 240 students
- Grade Enhancement Program (Spring and Fall): 60 students per semester × 8 semesters = 480 student-engagements
- Tech Pipeline placement (paid internships, faculty-mentored research, team-based employer projects): 25 students per year × 4 years = 100 students

- AI Career Readiness Credential: 160 students earning the credential over the project period (40 students per year beginning in Year 2)

Total student engagements across program components: approximately 980 over the four-year project period.

The unique undergraduate computing population at Bowie State is approximately 494 students across five majors (Computer Science, Software Engineering, Cyber Operations Engineering, Data Science, and Artificial Intelligence). Some students participate in multiple AI-READY components over their time in the program (for example, a student may participate in the Bulldog Summer Bridge as a freshman, the Grade Enhancement Program in their second year, the AI Career Readiness Credential coursework in their third year, and a Tech Pipeline placement in their fourth year), which is reflected in the higher total engagement count.

Evidence Citations (all applications must include at least one, but no more than two citations):

Are evidence citations in the WWC?

☒ **Yes-Both**

☐ No

☐ Yes-Citation 1

☐ Yes-Citation 2

First evidence citation:

Scrivener, S., Weiss, M. J., Ratledge, A., Rudd, T., Sommo, C., & Fresques, H. (2015). *Doubling graduation rates: Three-year effects of CUNY's Accelerated Study in Associate Programs (ASAP) for developmental education students*. MDRC. WWC review: This study meets WWC group design standards without reservations.

Second evidence citation:

Bettinger, E. P., & Baker, R. B. (2014). The effects of student coaching: An evaluation of a randomized experiment in student advising. *Educational Evaluation and Policy Analysis*, 36(1), 3-19. <https://doi.org/10.3102/0162373713500523>. WWC review: This study meets WWC group design standards without reservations.

Proposed implementation site(s) / project partners besides lead applicant (complete the three right-hand columns if the implementation site/partner is an IHE):

None. Bowie State University is the sole applicant and sole implementation site for AI-READY. The project will be carried out entirely at Bowie State University.

Industry partners (Dev Technology, CyDeploy, Runwei, Juxtopia, and 16 additional partners) host paid internships and team-based placements under standard memoranda of understanding for student employment; they are not project implementation partners and are not listed in this section. The independent external evaluator will be procured under a contractual subaward and is not listed as a project partner.

#	Implementation Site / Partner Name	State	OPE ID	2-year / 4-year	Public / Private Non-Profit
1	Not applicable — sole-applicant project				
2	Not applicable — sole-applicant project				

End of FY26 PSSG Project Profile Form — AI-READY

Items confirmed for submission:

1. Bowie State University UEI #: **WMEEHCAPGR65**
2. Bowie State University OPE ID #: **00206200**
3. Total Federal Funds Requested: **\$3,999,777** over 48 months
4. Cost Share Provided: **\$408,416** over 48 months (10.2 percent of federal request)
5. Match Waiver: **Not requested** (Bowie State is providing the full required match)

Items contingent on MHEC's response (Competitive Preference Priority only):

6. The Competitive Preference Priority section (currently unchecked; check if MHEC confirms partnership)

Project Narrative File(s)

* Mandatory Project Narrative File Filename:

Add Mandatory Project Narrative File

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To add more Project Narrative File attachments, please use the attachment buttons below.

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Project Narrative

Table of Contents

Table of Contents	1
A. Significance	2
B. Quality of the Project Design.....	11
C. Quality of the Management Plan	26
D. Quality of the Project Evaluation	37
GEPA Section 427 Equity Statement.....	57
Appendix A: Logic Model.....	59
Appendix B: References.....	61
Appendix C: Letters of Support	64

A. Significance

Bowie State University, Maryland's first public Historically Black University, where 50 percent of students receive Pell Grants, requests \$3,995,457 over 48 months to implement AI-READY, an AI-enabled experiential learning and student success pathway for 494 undergraduate students in five computing majors: Computer Science, Software Engineering, Cyber Operations Engineering, Data Science, and Artificial Intelligence.

AI-READY will provide undergraduate computing students with access to credit-bearing AI coursework and the AI Career Readiness Credential while building a coordinated pathway into paid internships, faculty-mentored research placements, and team-based employer projects. During the grant period, PSSG funds will support 25 paid summer placements per year, for 100 paid placements over four years, along with Winter Technical Training, Spring Professional Development modules, the Bulldog Summer Bridge Program, the Grade Enhancement Program, CircleIn academic support, mentoring, and the Experiential Learning and Student Success Tracking System.

AI-READY is organized around three core student-support components: the Bulldog Summer Bridge Program, the Grade Enhancement Program, and Tech Pipeline placement. These components are coordinated through the AI Experiential Learning and Student Success Center and supported by ELTS, the project's AI-supported tracking system. ELTS is not a fourth program component. It is the infrastructure that helps the Center identify student needs early, route information to the right human reviewer, and document the support delivered.

All approximately 494 undergraduate computing students, including transfer students after admission to Bowie State, will be eligible for AI-READY advising, AI Career Readiness guidance, ELTS monitoring unless they opt out, and referral to academic and career supports. More intensive funded activities will be delivered through annual participant slots described in the budget: 40 residential Bulldog Summer Bridge students per year, GEP stipend cycles for 60 students each fall and 60 students each spring, and 25 paid summer placements per year. The first 60 eligible students who complete the required Winter/Spring AI Career Readiness modules each year will receive a \$300 stipend for completing both the technical training and professional development requirements. Transfer students are part of the broader AI-READY population but are not counted in the 40 annual residential Bulldog Summer Bridge slots.

AI-READY also uses supporting services to strengthen student participation and persistence. Operation Navigation provides trained peer mentoring, and CircleIn provides year-round peer learning and guarded AI tutoring, including during the summer. These supports do not change the three-component structure of the project. They help students stay connected to the pathway and give Center staff additional tools to respond when ELTS identifies that a student may need help.

AI-READY addresses two absolute priorities. For Absolute Priority 1, Demonstrates a Rationale, the evidence anchor is proactive advising and coaching, drawn from the CUNY ASAP and InsideTrack studies. AI-READY adapts that practice by using ELTS to identify early warning signs and route alerts to the appropriate human reviewer. For Absolute Priority 3, Advancing Artificial Intelligence to Support Postsecondary Student Success, AI-READY claims AP3(b) as the primary priority because ELTS and the AI Career Readiness pathway use AI to improve program outcomes. The project also supports AP3(a) by using AI-supported monitoring to

identify students who need help and connect them to timely human support. AI does not make decisions about students. Trained personnel review the information and decide what support to provide.

Today, a student who earns a D, F, or W in a gateway course may not receive coordinated support until the grade has already affected progress in the major. AI-READY changes that sequence. ELTS monitors early academic and engagement signals, including gateway-course progress, credit pace, advising contacts, Blackboard activity where available, mentoring contacts, CircleIn engagement where available, and AI-readiness milestones. When a student falls off pace, ELTS routes an alert to the appropriate human reviewer. The reviewer then decides the next step, which may include GEP, tutoring, a faculty conference, schedule adjustment, Operation Navigation peer support, CircleIn engagement, or placement-readiness support. AI does the monitoring. Trained personnel make the decision and deliver the support.

A.2 Institutional Context and Campus Evidence

Bowie State University was founded in 1865 and is located in Prince George's County, Maryland. The university enrolls approximately 6,300 students and serves a high-Pell student population. The Department of Computer Science offers an ABET-accredited Bachelor of Science in Computer Science and is designated by the National Security Agency and Department of Homeland Security as a National Center of Academic Excellence in Cyber Defense. The Department offers five undergraduate computing majors, master's and doctoral degrees in Computer Science, and nine research labs.

Recent course data show that gateway-course performance is a local barrier to progression. Pass rates were 52 percent in COSC 112, 60 percent in COSC 113, and 63 percent in COSC 214, and

roughly 40 percent of students retake Calculus I. These courses gate progression into upper-level computing coursework, internships, research, and on-time completion. AI-READY responds by expanding gateway-course support through GEP, year-round tutoring coordination, structured recovery plans, CircleIn support, and ELTS alert routing.

The 2024 USM Wilson H. Elkins Transformation Award feasibility study further defined the problem and the Center model that AI-READY will scale. The study engaged 200 students, 15 faculty members, university leadership, and 10 industry partners. It found that 70 percent of graduating seniors had never completed an internship, industry project, or faculty-led research; 60 percent did not feel confident about getting an AI job; 90 percent felt underqualified after completing coursework; 70 percent commute; and 80 percent work part time outside their field. These findings support AI-READY's focus on a coordinated Center model, structured cohort progression, employer engagement, faculty research placements, and placement coordination.

A separate IRB-approved Fall 2025/Spring 2026 AI preparation survey confirmed the AI readiness gap. Of 150 juniors and seniors invited, 120 responded, for an 80 percent response rate. Sixty percent had not taken an AI-related elective, 70 percent had no AI project on their resume, 80 percent worried AI would affect employment, and 80 percent wanted guidance on ethical AI use. AI-READY responds through AI Career Readiness modules, COSC 29X and credential coursework, responsible-AI content, and resume-ready projects.

Departmental growth data show why the response must be scaled now. Undergraduate computing enrollment grew from 219 in 2019 to 494 in Spring 2026, while computing graduations grew from 11 in 2019 to 39 in Fall 2025 and 49 in Spring 2026. This growth demonstrates momentum, but it also creates a student-success challenge. Bowie State must scale

advising, academic support, AI preparation, and experiential learning across all five computing majors.

AI-READY also builds on two institutional platforms already in place. Operation Navigation, funded by Maryland's ABCs for Student Success under U.S. Department of Education Award P116M230035, provides trained peer mentoring that begins in the summer and continues through the academic year. AI-READY will coordinate with Operation Navigation so computing students in Bridge, GEP, and placement preparation receive peer support without duplicating or supplanting that award.

CircleIn is Bowie State's peer-to-peer learning and guarded AI tutoring platform. In Fall 2025, students who used CircleIn returned for spring at a rate 6.1 percentage points higher than non-users, representing approximately 83 additional students re-enrolled and \$258,752 in retained tuition. Those results came from general-education courses. AI-READY will extend CircleIn to computing gateway courses and keep it available year-round, including summer Bridge and placement periods, while the independent evaluation tests whether the same patterns hold in computing.

[A.3 Evidence-Based Components and Existing Capacity](#)

The Department has the capacity to deliver AI-READY. It runs nine research labs, including the Autonomous Systems Lab, the Cybersecurity Research Lab, and the Human-Centered AI Lab, and more than 50 undergraduates are already engaged in AI-related research. Graduate students who have completed graduate-level AI courses serve as near-peer mentors for undergraduate research and employer-placement teams. Women in Computer Science is one measure of the Department's reach: membership grew from 12 in 2019 to 88 in 2024.

AI-READY is organized around three core student-support components: the Bulldog Summer Bridge Program, the Grade Enhancement Program, and Tech Pipeline placement. These components are coordinated through the AI Experiential Learning and Student Success Center and supported by ELTS, the project's AI-supported tracking system. ELTS is not a fourth program component. It is the infrastructure that helps the Center identify student needs early, route information to the right human reviewer, and document the support delivered. The AI Career Readiness pathway, Operation Navigation, and CircleIn strengthen the model by adding credential preparation, peer mentoring, and year-round learning support.

PSSG funds will add the staffing and infrastructure needed to scale this work: a full-time Center Director, a full-time AI/ML Postdoctoral Fellow hired by Month 3, graduate mentors, workshop facilitators, ELTS development and maintenance, CircleIn extension to computing courses, student stipends, placement stipends, student travel, laptops, annual showcases, and an independent external evaluator.

The first core component is the Bulldog Summer Bridge. Bowie State's Clare Boothe Luce-supported Bulldog Summer Bridge enrolled 21 students in its first cohort, and 18 persisted in computing. For Summer 2026, 30 incoming freshmen were recruited. PSSG will support 40 residential incoming students per year. Bridge students will take COSC 107 and complete the AI-Bridge Curriculum. Transfer students will enter AI-READY after admission through advising, ELTS, GEP where needed, AI Career Readiness modules, and placement preparation.

The second core component is the Grade Enhancement Program. The prior MSEIP-funded GEP, Award P120A200059, served approximately 70 to 90 students in gatekeeping computing and mathematics courses. Course completion rose from about 64 percent to about 80 percent, and more than 70 percent of participants held or improved grades across four semesters. Dr.

Bernadette Hence of MSEIP described Bowie State as “an expert in the successful implementation of this model” and referred Fisk University and CUNY York College to Bowie State for adaptation. Under AI-READY, GEP will provide year-round support, referrals, tutoring coordination, recovery-plan tracking, and instructor coordination. Budgeted participation stipend cycles will support 60 students each fall and 60 each spring, creating 480 semester-level stipend slots across four years.

The third core component is Tech Pipeline placement. The NSF ExLENT Computing Experiential Hub is the proof of concept for this placement model. CEH serves 12 to 15 students per year and placed 14 Bowie State students in AI-related internships in Summer 2026. Twenty industry partners are committed, including Dev Technology, CyDeploy, Runwei, and Juxtopia. PSSG will support 25 paid placements per year in internships, team-based employer projects, or faculty-mentored AI research, for 100 paid placements over four years. Placement-ready students who are not matched with employers may enter faculty-mentored research within annual capacity.

The AI Career Readiness pathway supports all three core components by giving students structured preparation for AI-enabled work. Employer and faculty-research feedback from CEH and Summer 2026 placements inform the curriculum. Dr. El-Sayed and the AI/ML Postdoctoral Fellow will develop Winter Technical Training, Spring Professional Development modules, COSC 29X coursework, and the proposed AI Career Readiness Upper Division Certificate. The Postdoctoral Fellow will guide Winter Technical Training and teach or co-teach AI Career Readiness coursework.

ELTS is the project’s cross-cutting student-success infrastructure. The existing functional design provides the starting point for the system. Dr. Yan will lead ELTS implementation. ELTS will

begin with rules-based alerts and add AI-supported pattern detection after sufficient validated data are available. It will route alerts to dedicated faculty advisers, the Center Director, or the AI/ML Postdoctoral Fellow for human review. AI will support monitoring and routing; trained personnel will decide what support to provide.

Operation Navigation and CircleIn provide additional supports that strengthen the pathway without changing the three-component structure. Operation Navigation supplies federally supported peer mentoring infrastructure under Award P116M230035, and AI-READY will coordinate mentor referrals and documentation without duplicating or supplanting that award. CircleIn will be extended to computing gateway courses as year-round support, including summer Bridge and summer placement periods.

Evidence Base and Innovation

AI-READY applies the proactive advising and coaching evidence base to a four-year computing context at a high-Pell HBCU. The core practice is proactive, data-informed contact: trained personnel use student data to spot risk early, reach out before students ask for help, and connect them to specific supports. AI-READY puts that practice to work through dedicated departmental faculty advisers, the Center Director, the AI/ML Postdoctoral Fellow, ELTS alerts, GEP, Operation Navigation, CircleIn, and placement-readiness support.

The innovation is the admission-to-graduation structure. Rather than introducing AI career preparation, internships, research, and employer projects only as students near graduation, AI-READY starts at entry and stays with students through completion. Students move through COSC 107, gateway-course support, AI Career Readiness modules, advising, mentoring, paid placements, and faculty-mentored research using one coordinated Center and one shared tracking

system. Section D tests whether this model improves the five PSSG performance measures and yields evidence other institutions can adapt.

A.4 Statewide and Field Significance

AI-READY will produce evidence from a high-Pell HBCU computing context where rigorous evidence on AI-supported student success pathways remains limited. The model is designed for adaptation by other HBCUs and similar institutions seeking to connect AI coursework, gateway-course success, advising, mentoring, and work-based learning in one pathway. Section C describes the dissemination structure, including the AI-READY website, implementation toolkit, peer-institution community of practice, annual reporting, and ERIC submission.

The workforce contribution is direct. AI-READY prepares Bowie State computing students for high-demand, AI-enabled careers in data science, cybersecurity, software development, cloud computing, automation, machine learning, and responsible AI implementation. By improving access to AI coursework, gateway-course support, mentoring, paid experiential learning, and credentials of value, the project strengthens the link between student success and Maryland's workforce needs.

AI-READY also fits Maryland's statewide AI direction. MHEC's signed letter of support, dated June 26, 2026, confirms state agency engagement under COMAR 13B.02.03.25 and supports Bowie State's planned submission of the AI Career Readiness Credential as an Upper Division Certificate. The project aligns with the state's responsible-AI direction through structured AI coursework, AI-supported advising under human review, gateway-course support, and team-based internships and research placements. Should MHEC approval run past the planned Year 2

target, students will keep receiving transcribed credit through COSC 29X while the Department finishes the approval process.

B. Quality of Project Design

B.1 Logic Model and Intervention Design

Project goal. AI-READY will build a coordinated, AI-supported admission-to-graduation pathway that improves credit accumulation, retention, persistence, completion, time to credential, and credentials conferred for undergraduate computing students in Bowie State University's five computing majors.

Target Population, Access, and Funded Participant Slots

AI-READY will serve the full undergraduate computing population of 494 students across Computer Science, Software Engineering, Cyber Operations Engineering, Data Science, and Artificial Intelligence.

Access is not the same as enrollment or completion. The project is responsible for building the pathway, advising students into it, documenting participation, and tracking outcomes; students remain responsible for taking it up and staying engaged.

Winter/Spring AI Career Readiness Sequence

Every undergraduate computing student is invited into AI-READY. Through the fall, the project monitors performance using GEP, CircleIn, ELTS, and faculty advising. In winter, all students are invited to the Winter Technical Training, and in spring they move to the Spring Professional Development power-skills training. Each year, the first 60 students who finish both the technical

training and the professional development receive a \$300 stipend, for 240 funded completers over four years. Year 1 uses the NSF CEH technical training; from Year 2 on, the training runs through the credit-bearing AI Career Readiness course, COSC 29X, which counts toward free electives on completion.

The AI Career Readiness Credential will be advanced through institutional curriculum governance and Maryland Higher Education Commission review under COMAR 13B.02.03.25. MHEC's signed letter of support, dated June 26, 2026, is included as an appendix exhibit.

Transfer Student Access

Transfer students join the broader 494-student AI-READY population once admitted to Bowie State, though they are not counted in the 40 annual residential Bulldog Summer Bridge slots. They learn about AI-READY through new-student communications, departmental advising onboarding, and the Center, and they enter the pathway through ELTS monitoring where they do not opt out, dedicated faculty advising, GEP gateway-course support where needed, AI Career Readiness modules and coursework, and placement-readiness preparation. ELTS tracks them on the same indicators as other computing students, adjusted for transfer credit and starting course level.

Intervention Being Evaluated

What the evaluation tests is the AI-READY pathway itself: proactive, data-informed contact delivered through dedicated departmental faculty advisers, the Center Director, the AI/ML Postdoctoral Fellow, graduate mentors, and supporting staff, coordinated through ELTS and tied to four components, Bulldog Summer Bridge, GEP, Tech Pipeline placement, and ELTS. Operation Navigation handles peer-mentoring coordination, and CircleIn provides year-round

peer learning and guarded AI tutoring. Section D asks whether this pathway improves the five PSSG performance measures relative to matched or otherwise comparable students.

Project Objectives

Objective	Target and timeline	Responsible owner
1. Build and deploy ELTS	Build from the existing functional design; pilot with Summer 2027 Bridge; expand in Year 2; deploy across the five computing majors by end of Year 3	Dr. Yan, with Center Director, AVP, and Institutional Research
2. Deliver AI Career Readiness preparation and credential pathway	Prepare Winter Technical Training and Spring Professional Development modules by Month 3; begin student modules in Year 1; advance COSC 29X and Upper Division Certificate through governance; target MHEC decision by end of Year 2 (MHEC's signed letter of support, dated June 26, 2026, is included as an appendix exhibit)	Dr. El-Sayed and AI/ML Postdoctoral Fellow
3. Run Bulldog Summer Bridge	Serve 40 incoming students per year starting Summer 2027; deliver COSC 107 and AI-Bridge Curriculum; enter Bridge students into ELTS during Bridge	Center Director, Dr. El-Sayed, and AI/ML Postdoctoral Fellow
4. Strengthen gateway-course success	Provide year-round GEP support, tutoring coordination, recovery-plan tracking, CircleIn support, and fall/spring GEP stipend cycles for 60 students each term at \$500 per cycle	Center Director, faculty advisers, graduate mentors
5. Place students in paid experiential learning	Place 25 students per year in paid internships, team-based employer projects, or faculty-mentored AI research, for 100 placements over four years	Center Director, PI, AI/ML Postdoctoral Fellow, faculty mentors
6. Move PSSG performance measures and produce evidence	Move the five PSSG measures toward B.2 targets; report by Pell status where data support the breakdown; submit final evaluation report to ERIC by end of Year 4	External evaluator, Institutional Research, PI

Design Response to Student Need

The Fall 2025/Spring 2026 student survey described in Section A maps directly to the AI-READY design.

Local finding	AI-READY design response
60 percent of graduating seniors had not taken an AI-related elective	Year 1 Winter Technical Training, Spring Professional Development modules, COSC 29X, and AI Career Readiness Credential pathway
70 percent had no AI project on their resume	Applied AI projects in AI Career Readiness coursework, team-based employer projects, and faculty-mentored AI research
80 percent worried AI would affect employment	Guided AI preparation, technical training, professional development, placement-readiness support, and paid experiential learning
80 percent wanted ethical AI guidance	Responsible-AI content in the AI-Bridge Curriculum, Winter/Spring modules, COSC 29X, and credential coursework
Gateway-course risk affects progression	Year-round GEP, CircleIn, faculty-adviser alerts, tutoring coordination, recovery plans, and ELTS monitoring

ELTS Technical and Operational Design

ELTS is the AI-supported infrastructure that connects AI-READY's direct-support components.

It starts with rules-based alerts and layers in AI-supported pattern detection only once enough validated data exist. ELTS does not decide anything about students; human reviewers decide and document each intervention.

ELTS design element	Operational description
Implementation lead	Dr. Yan leads ELTS implementation from the existing functional design.
Pilot group	Summer 2027 Bulldog Summer Bridge cohort.
Year 2 expansion	Interested continuing students, transfer students after admission, GEP

ELTS design element	Operational description
	participants, AI Career Readiness module/coursework students, and placement-preparation students.
Full deployment	By end of Year 3, across the five computing majors for students who have not opted out.
Data sources	PeopleSoft/registrar records for grades and credit accumulation; Blackboard activity where available; advising contacts; GEP records; mentoring contacts; CircleIn engagement where available; AI Career Readiness progress; placement records.
Alert routing	Students outside the placement cohort: assigned faculty adviser. Placement cohort: Center Director and AI/ML Postdoctoral Fellow.
Rules-based alerts	D, F, or W in a gateway course; missed advising contact; off-pace credit accumulation; low Blackboard activity where available; missed mentoring or support contacts; missed AI-readiness milestone.
AI-supported layer	Added after validation to identify combinations of academic and engagement signals associated with course non-completion, delayed progression, missed credential milestones, or reduced placement readiness.
AI-supported suggestions	Staff-facing suggestions based on approved advising protocols and prior support patterns. A human reviewer approves all actions.
Student notification and opt-out	Students are notified of ELTS purpose, data sources, human reviewers, variables used and excluded, opt-out rights, and record-review procedure. Opt-out requests go to the AVP for Student Success.
Responsible-AI variable selection	ELTS uses academic-risk and engagement variables. Protected or sensitive demographic characteristics are not used as predictive variables. Pell status is used for required reporting and evaluation, not alert logic.
Human review	Faculty advisers, the Center Director, or the AI/ML Postdoctoral Fellow review alerts and determine next steps.

AI-READY Logic Model

The one-page AI-READY Logic Model graphic is included as an appendix exhibit. The summary is presented here.

AI-READY uses PSSG funds and existing Bowie State capacity to build one coordinated student success pathway for computing students. The project brings together the AI Experiential Learning and Student Success Center, the Center Director, the AI/ML Postdoctoral Fellow,

faculty leadership from Dr. El-Sayed for curriculum and Dr. Yan for ELTS, student-success guidance from the AVP, faculty advisers, graduate mentors, grade enhancers, Operation Navigation, CircleIn, the NSF ExLENT CEH partner base, 20 industry partners, nine research labs, Institutional Research, the external evaluator, and the existing ELTS functional design. The project also uses Bowie State systems such as the registrar, PeopleSoft, Blackboard, and student-success infrastructure.

With these resources, AI-READY will announce and enroll students into the pathway, deliver Winter Technical Training and Spring Professional Development, offer COSC 29X and AI Career Readiness coursework, operate year-round GEP support, extend CircleIn support to computing courses, run the Bulldog Summer Bridge, route ELTS alerts to the appropriate human reviewer, coordinate faculty-adviser outreach, recruit and train graduate mentors, and match students to employer projects, internships, or faculty-mentored research. The project will also conduct responsible AI reviews and use an external evaluator to study implementation and outcomes.

These activities will produce clear outputs. Students will enroll in AI-READY activities, complete Winter/Spring modules, complete GEP recovery plans, use CircleIn supports, receive adviser contacts after ELTS alerts, complete COSC 107 through the Bridge, complete AI Career Readiness coursework, and participate in paid internships, team-based employer projects, or faculty research. The project will also produce implementation materials that other institutions can use.

In the short term, AI-READY will help Bowie State identify academic risk earlier, reduce the time between an alert and adviser contact, increase first-year credit accumulation, improve

participation in gateway-course support, strengthen students' AI confidence and career clarity, and improve students' understanding of ethical AI use.

Over the intermediate term, the project is expected to improve gateway-course completion, fall-to-fall retention, credit accumulation, AI Career Readiness progress, student portfolios, placement readiness, and completion of paid placements.

In the long term, AI-READY is expected to improve degree completion, reduce time to credential, increase bachelor's degrees and AI Career Readiness Credentials conferred, strengthen students' transition into AI-enabled employment or graduate study, and create a sustainable model that other institutions can adapt.

Core Logic

ELTS monitors academic and engagement signals. Dedicated faculty advisers, the Center Director, and the AI/ML Postdoctoral Fellow then reach out earlier and match each student to the right support. GEP, CircleIn, AI Career Readiness modules, Bridge, mentoring, and placements supply the structured academic and career-connected experiences. The payoff is that more students accumulate credits, persist, earn credentials, complete degrees, and move into AI-enabled pathways.

B.2 Measurable Targets and Administrative Data

AI-READY sets specific, measurable targets tied to the five PSSG performance measures and project-specific outcomes. All PSSG measures will be reported by Pell status where data support the breakdown and will include full-time, part-time, first-time, and transfer-in students where administrative records allow. Baselines will be confirmed by Bowie State Institutional Research.

Operational Definitions of PSSG Measures

PSSG measure	Operational definition	Data source
First-year credit accumulation	30 credits earned by the end of the first academic year	Registrar
Annual retention and persistence	Retention: enrollment at Bowie State from fall to fall. Persistence: continued enrollment at any institution where National Student Clearinghouse data are available	Registrar, Institutional Research, NSC
Success rates including graduation	Six-year graduation rate, with four-year and five-year rates reported as project-specific measures	Registrar
Time to credential	Time from first enrollment to bachelor's degree award; AI Career Readiness Credential reported separately as a project-specific credential measure	Registrar, credential records
Credentials conferred	Bachelor's degree in one of the five computing majors and the MHEC-approved AI Career Readiness Upper Division Certificate once approved	Registrar, credential records

For new AI-READY cohorts, six-year graduation and full time-to-degree outcomes cannot be fully observed inside a 48-month grant. The project will report interim completion indicators in their place, including credit accumulation, retention, gateway-course completion, credential progress, and time-to-credential progress. The full six-year graduation and time-to-degree comparison rests on historical comparison cohorts.

Table B-1. Measurable Performance Targets

Performance area	Baseline	Year 1	Year 2	Year 3	Year 4	Data source
Bulldog Summer Bridge enrollment	2025: 21 enrolled; 2026: 30 recruited	40	40	40	40	Bridge records, ELTS
Bridge completion / COSC 107 credit	2025: 18 of 21, 86%	85%	88%	90%	92%	Registrar, COSC 107 grades

Performance area	Baseline	Year 1	Year 2	Year 3	Year 4	Data source
First-year credit accumulation, by Pell	55% planning baseline, pending IR verification	58%	62%	66%	70%	Registrar
Gateway-course pass rate, COSC 112/113/214, by Pell	COSC 112: 52%; COSC 113: 60%; COSC 214: 63%	63%	67%	71%	74%	Registrar
Fall-to-fall retention in major, by Pell	68% planning baseline, pending IR verification	72%	75%	78%	80%	Registrar, IR
Second-year credit accumulation, by Pell	48% planning baseline, pending IR verification	52%	56%	60%	63%	Registrar
AI Career Readiness Credential awarded, cumulative	0, new credential	0	40	90	130	Registrar, credential records
Winter/Spring AI Career Readiness module completers	New project activity	60	60	60	60	ELTS, module records
Supplemental stackable industry AI credentials earned	20 current estimate via CEH	40	75	110	140	Vendor records, ELTS
Paid internships, team-based projects, or faculty research	14 CEH summer 2026 placements	25	25	25	25	Placement logs, ELTS

Performance area	Baseline	Year 1	Year 2	Year 3	Year 4	Data source
placements						
GEP participation stipend slots (\$500 per cycle)	Prior GEP: 70-90 students served	60 fall / 60 spring	60 fall / 60 spring	60 fall / 60 spring	60 fall / 60 spring	GEP records
GEP grade improvement or course completion	Prior GEP: course completion rose from about 64% to about 80%	80%	82%	84%	85%	GEP records, registrar
Six-year graduation rate, by Pell	38% planning baseline, pending IR verification	n/a	n/a	42% historical comparison cohort	45% historical comparison cohort	Registrar
Time to credential, by Pell	5.2 years planning baseline, pending IR verification	n/a	5.0 years	4.9 years	4.8 years	Registrar
ELTS deployment	Functional design complete; system not built	Bridge pilot	Expanded use	Five-major deployment	Sustainability handoff	Project records, ELTS logs
Alert-to-human contact response time	Not yet measured	Establish pilot baseline	Within 5 business days	Within 3 business days	Within 2 business days	ELTS workflow logs
Student confidence and career clarity	Year 1 baseline survey	Establish baseline	+3 points	+5 points	+7 points	Annual survey

Final baseline values will be verified by Institutional Research and disaggregated by Pell status where the data supports the breakdown.

Continuous Improvement

The Center Director, the AVP for Student Success, Dr. El-Sayed, Dr. Yan, and the AI/ML Postdoctoral Fellow review ELTS dashboard data monthly, and the independent evaluator joins quarterly with formative feedback. Interim data feed real adjustments: ELTS alert thresholds, faculty-adviser coordination, GEP recovery plans, CircleIn engagement strategies, the Winter/Spring AI Career Readiness modules, Bridge curriculum, and placement matching. Each adjustment is logged in continuous-improvement records and carried into the Annual Performance Reports.

B.3 Replication Products and Dissemination

AI-READY will produce transferable products that other HBCUs and similar institutions can adapt.

Table B-2. Replication Products

Product	Contents
AI Career Readiness Credential curriculum and module map	Credit structure, Upper Division Certificate pathway, Winter Technical Training, Spring Professional Development, COSC 29X structure, learning outcomes, AI competencies, responsible-AI content, and assessment rubrics
Bulldog Summer Bridge implementation guide	Residential structure, COSC 107 connection, recruitment, advising onboarding, cohort model, AI-Bridge integration, and ELTS onboarding
AI-Bridge Curriculum	Module map, learning outcomes, instructional materials, assessment rubrics, responsible-AI learning activities, and implementation guide
GEP operations manual updated for AI context	Referral pathways, recovery-plan templates, graduate mentor and grade enhancer roles, stipend participation requirements, CircleIn coordination, and ELTS documentation
ELTS specification document	Data model, FERPA architecture, alert rules, suggestion logic, routing logic, responsible-AI rules, integration points, opt-out and record-review procedures, and lessons learned
Center operating	Faculty-advising coordination, postdoctoral teaching model,

Product	Contents
handbook	employer engagement, placement-readiness rules, team formation, near-peer mentoring, and Operation Navigation coordination
Placement and partner-feedback toolkit	Employer interview process, team-based project templates, mentor expectations, faculty research placement process, and student readiness criteria

Dissemination Plan

The independent evaluation report will be submitted to ERIC by the end of Year 4. An open-access AI-READY website will host the implementation toolkit. The project team will present at computing education, student success, and workforce-readiness conferences, including ACM CCSC and National HBCU Week. The team will convene a peer-institution community of practice with HBCUs and similar institutions interested in adapting the model, building on documented interest from Fisk University and CUNY York College.

B.4 Fidelity to the Evidence Base

AI-READY's Early Phase rationale uses two studies that meet What Works Clearinghouse standards: CUNY ASAP and InsideTrack student coaching. The AP1 evidence-supported practice is proactive advising and coaching. AI-READY implements that practice through dedicated departmental faculty advising, Center-based coordination, ELTS alerts, and targeted academic and AI-readiness supports. Section D measures actual contact frequency and moderates expected effect-size magnitudes to reflect AI-READY's staffing model and dose.

Table B-3. Crosswalk of AI-READY Components to Evidence Anchors

AI-READY component	Evidence anchor	How the component implements the evidence-supported practice
ELTS early-alert and suggestion layer	InsideTrack coaching: proactive, data-informed	ELTS identifies risk earlier and routes alerts to human reviewers before students ask for

AI-READY component	Evidence anchor	How the component implements the evidence-supported practice
	contact	help. AI does not decide services or status.
Dedicated departmental faculty advisers	InsideTrack coaching and CUNY ASAP	Every computing student has an assigned faculty adviser. ELTS alerts strengthen proactive contact and documentation.
Center Director and AI/ML Postdoctoral Fellow	InsideTrack coaching and workforce-readiness support	The Center Director and Postdoctoral Fellow provide direct support for placement-cohort students and coordinate referrals into project-funded supports.
GEP year-round support and fall/spring stipends	CUNY ASAP financial and academic supports; Bowie State MSEIP-funded GEP	Students receive structured tutoring, recovery plans, and participation-based support tied to gateway-course progression.
Bulldog Summer Bridge	Summer bridge and intensive on-ramp models	Students begin with COSC 107, AI-readiness preparation, cohort building, advising onboarding, and ELTS entry during Bridge.
AI Career Readiness modules and credential coursework	Employer-informed AI readiness and project-based workforce preparation	Students complete Winter Technical Training, Spring Professional Development, COSC 29X/credential coursework, responsible-AI learning, and placement-readiness activities.
Tech Pipeline placement	Work-based learning research and Bowie State Tech Pipeline/CEH experience	Students complete paid internships, team-based employer projects, or faculty-mentored AI research aligned with academic and career progression.
CircleIn and Operation Navigation coordination	Peer learning and proactive support as implementation supports	Students receive peer learning, guarded AI tutoring, and mentor coordination as part of the broader proactive-contact model.

AI-READY keeps the evidence-supported core intact: trained personnel use student data, reach out early, and connect students to specific supports. What changes is the setting, a four-year computing population at a high-Pell HBCU.

B.5 Funding Alignment and Cost Separation

PSSG funds are aligned with the evidence-supported components and implementation requirements.

Table B-4. Funding Alignment

Budget-supported item	Alignment with project design
Center Director, 1.0 FTE	Coordinates day-to-day implementation, GEP, Bridge, placement workflows, faculty-adviser referrals, ELTS operational use, dissemination logistics, and budget tracking
AI/ML Postdoctoral Fellow, 1.0 FTE	Guides Winter Technical Training, teaches or co-teaches AI Career Readiness coursework, supports AI-Bridge and credential development, placement readiness, and placement-cohort ELTS alerts
Faculty Co-PIs	Dr. El-Sayed and Dr. Yan each receive one summer month per year for curriculum leadership and ELTS implementation leadership
Dedicated departmental faculty advising	Institutional commitment; not funded by PSSG. PSSG funds ELTS integration and Center coordination when project-funded supports are needed
ELTS build and operations	Supports software build, data integration, FERPA setup, dashboards, staff training, responsible-AI review, phased deployment, and maintenance
GEP graduate mentors and participation stipends	Supports gateway-course success through tutoring, recovery plans, year-round coordination, and fall/spring \$500 stipend cycles for 60 students per term
Winter/Spring AI Career Readiness module stipends	\$300 stipend for the first 60 eligible completers each year of the Winter Technical Training and Spring Professional Development sequence, 240 funded completers over four years
Bulldog Summer Bridge	Scales and sustains the Bridge model after the Clare Boothe Luce pilot period
CircleIn extension to computing	Extends guarded AI tutoring and peer learning to computing gateway courses as year-round support, including summer
Operation Navigation coordination	PSSG supports coordination through ELTS; it does not fund activities already supported by P116M230035
Independent external evaluator	Tests whether AI-READY improves the PSSG outcomes and produces evidence for the field
Student stipends for paid placements	Supports 25 paid placements per year in internships, team-based employer projects, and faculty-mentored AI research

Clear Separation from Related Awards

AI-READY costs stay separate from NSF ExLENT CEH, Operation Navigation, CircleIn institutional spending, and the Clare Boothe Luce Bridge pilot. CEH remains a small NSF-funded pilot of 12 to 15 students per year and covers its approved workforce mechanics,

including the IBM AI for Developers certification path for CEH participants. PSSG funds the broader AI-READY admission-to-graduation system for all 494 undergraduate computing students: ELTS, Center coordination, GEP, AI Career Readiness preparation, Bridge scale-up, placement expansion, CircleIn extension to computing, and independent evaluation.

Bowie State will keep a funding crosswalk that ties each student cohort, activity, staff role, stipend, certification, placement, and cost to a funding source. The PI, the Office of Sponsored Programs grants accounting team, the Center Director, and the independent evaluator review it quarterly. Consistent with 2 CFR 200.403 and 200.405, costs charged to another federal award will not be charged to PSSG, no student activity will be funded twice, and PSSG funds will supplement existing federal and institutional resources.

C. Quality of the Management Plan

C.1 Feasibility of the Management Plan

AI-READY has a defined management structure with named owners, a 48-month timeline, budget controls, and privacy safeguards tied to the six Section B objectives. The AI Experiential Learning and Student Success Center is the operating home; the PI holds final accountability, the Office of Sponsored Programs provides fiscal oversight, and the Office of Student Success leads ELTS access governance and student notification.

Leadership Structure and Responsibilities

Role	Appointment / funding	Hired	Owns
Dr. Rose Shumba, PI	Professor and Chair, CS	-	Final accountability: implementation, federal reporting, partner coordination, budget oversight, and integration with CS, OSS, OSP, and NSF ExLENT CEH
Dr. Hoda El-Sayed, Co-PI, AI Curriculum Lead	1 summer month/year	-	AI-Bridge Curriculum and AI Career Readiness coursework, including Winter Technical Training and Spring Professional Development; credential through governance, USM, and MHEC under COMAR 13B.02.03.25 (MHEC's signed letter of support, dated June 26, 2026, is included as an appendix exhibit)
Dr. Jie Yan, Co-PI, ELTS Lead	1 summer month/year	-	ELTS implementation: prototype, data governance, FERPA integration, alert logic and routing, later AI pattern detection, and responsible-AI review
Dr. Rosalyn Whitaker-Heck, AVP, Senior Personnel	Institutional cost share	-	Student-success integration, ELTS access governance, student notification, opt-out, record review, CircleIn, and retention alignment
Center Director	1.0 FTE	Month 3	Day-to-day implementation, GEP, Bridge, placement workflows, employer/research coordination, graduate-mentor and faculty-adviser referrals, ELTS operational use, dissemination logistics, and budget tracking

Role	Appointment / funding	Hired	Owns
AI/ML Postdoctoral Fellow	1.0 FTE	Month 3	Winter Technical Training; teaches/co-teaches AI Career Readiness coursework; AI-Bridge and credential modules; placement-readiness preparation; placement-cohort ELTS alerts; curriculum materials
Dedicated departmental faculty advisers	Institutional	-	Proactive contact for computing students outside the placement cohort; ELTS alert response and documentation
Institutional Research	In-kind	-	Baseline verification, data extracts and definitions, dashboard accuracy, and evaluation files
Independent external evaluator	Contract	Month 6	Evaluation design, fidelity monitoring, quarterly formative feedback, annual reporting, outcome analysis, and final ERIC report; receives de-identified data under a data-use agreement

Every role above is in the budget personnel section or is institutional in-kind or cost share; no role is unfunded.

Governance

Forum	Participants	Decisions and outputs
Monthly Project Leadership Team	PI, Co-PIs, AVP, Center Director, Postdoctoral Fellow, IR, staff as needed	Reviews dashboards, budget, hiring, student-support activity, progress, and risks; sets the next-month work plan
Quarterly Project Advisory Board	PI, Co-PIs, AVP, Center Director, Postdoctoral Fellow, evaluator, employer and student representatives, external peer adviser	Reviews formative findings, employer feedback, responsible-AI findings, risks, and sustainability actions
Annual all-team retreat	Leadership Team, Advisory Board, evaluator, key institutional partners	Reviews objectives, budget alignment, evaluation findings, dissemination, and sustainability; produces the annual work plan

48-Month Timeline and Critical-Path Milestones

The project assumes Fall 2026 activation and follows an annual cycle: fall onboarding, winter AI technical training, spring professional development and placement matching, and summer paid placements, faculty-mentored research, Bulldog Summer Bridge, and ELTS refinement.

Table C-1. AI-READY Program Implementation Timeline, 2026-2030

Activity	Year 1: 2026-2027	Year 2: 2027-2028	Year 3: 2028-2029	Year 4: 2029-2030
Program launch and cost-separation memo	Launch	Annual update	Annual update	Final update
Center Director and AI/ML Postdoctoral Fellow	Hire by Month 3	Continue	Continue	Continue
AI-READY announcement to all computing students	Launch announcement	Annual announcement	Annual announcement	Annual announcement
ELTS prototype and data-governance setup	Begin prototype	Expand use	Full deployment	Sustain and document
Signed IRB coverage	Confirm; amend only if needed	Annual check	Annual check	Final reporting check
Graduate mentor recruitment and partner-led training	Recruit/train	Recruit/refresher	Recruit/refresher	Recruit/refresher
Winter Technical Training / AI Career Readiness technical module	Deliver	Deliver	Deliver	Deliver
Spring Professional Development / Power Skills module	Deliver	Deliver	Deliver	Deliver
GEP support, referrals, tutoring coordination, and recovery-plan tracking	Year-round	Year-round	Year-round	Year-round
GEP participation stipend cycles	Fall and Spring	Fall and Spring	Fall and Spring	Fall and Spring
CircleIn peer learning and	Year-round, including	Year-round, including	Year-round, including	Year-round, including

Activity	Year 1: 2026-2027	Year 2: 2027-2028	Year 3: 2028-2029	Year 4: 2029-2030
guarded AI tutoring	summer	summer	summer	summer
Employer project sourcing and placement-readiness review	Cohort 1	Cohort 2	Cohort 3	Cohort 4
Partner interviews, team formation, and mentor assignment	Cohort 1	Cohort 2	Cohort 3	Cohort 4
Paid internships, team-based projects, or faculty-mentored AI research	25 students	25 students	25 students	25 students
Bulldog Summer Bridge	40 students	40 students	40 students	40 students
ELTS use with Bulldog Summer Bridge	Prototype pilot	Improved version	Expanded version	Sustainability version
AI-Bridge Curriculum	Initial delivery	Refined delivery	Refined delivery	Final toolkit version
AI Career Readiness Credential package	Prepare and advance through governance	MHEC review / approval target	Approved credential operation	Credential operation
Annual student showcase	Hold	Hold	Hold	Hold
Annual Performance Report	Submit	Submit	Submit	Final APR and closeout
Final evaluation report to ERIC	-	-	Prepare analysis	Submit

Table C-2. Critical-Path Milestones

Milestone	Due	Owner
Center Director and AI/ML Postdoctoral Fellow hired	Month 3	PI and OSP
AI-READY announced to all computing students	Fall Year 1	PI and Center Director

Milestone	Due	Owner
Winter Technical Training module ready	Month 3	Dr. El-Sayed and Postdoctoral Fellow
Spring Professional Development module ready	Month 3	Dr. El-Sayed and Postdoctoral Fellow
Signed IRB coverage confirmed; amendment submitted only if needed	Month 3	PI, IR, evaluator
Graduate mentors recruited and trained	Fall Year 1, annually	Center Director
External evaluator contracted	Month 6	OSP and PI
FERPA, data-governance, and data-sharing workflows complete	Month 6	Dr. Yan, AVP, IR, Center Director
ELTS prototype ready for Bulldog Summer Bridge	Summer Year 1	Dr. Yan
First 25 paid placements completed	Summer Year 1	Center Director
Credential package advanced through governance	End of Year 1	Dr. El-Sayed
MHEC decision targeted (supported by MHEC's signed letter of support, dated June 26, 2026, included as an appendix exhibit)	End of Year 2	Dr. El-Sayed
ELTS expanded across five computing majors	End of Year 3	Dr. Yan and Center Director
Final evaluation report submitted to ERIC	End of Year 4	External evaluator

Year 1 Contingency Plan

If hiring, onboarding, procurement, or access steps slip, the PI, Co-PIs, AVP, and existing departmental staff keep launch functions running until the delay clears. The PI covers launch coordination if the Center Director is late, and Dr. El-Sayed delivers the Winter and Spring modules from the CEH employer-feedback base and NSF ExLENT model if the Postdoctoral Fellow is late. The existing Bulldog Summer Bridge model runs during phase-in, ELTS falls back to a limited prototype built on existing data and manual documentation, and students keep earning transcribed COSC 29X credit if MHEC approval runs long.

Budget Feasibility and Cost Oversight

AI-READY requests \$3,999,777 over 48 months to deliver the six Section B objectives. Indirect costs are capped at 8 percent of modified total direct costs; Bowie State provides the required 10 percent match in cash or in-kind resources; each faculty Co-PI commits one summer month per year; and the AVP serves through cost share. The largest cost categories fund the evidence-based components, the Center Director, the AI/ML Postdoctoral Fellow, ELTS build and operations, GEP mentors and stipends, Bulldog Summer Bridge, CircleIn extension, independent evaluation, and student stipends for 25 paid placements per year. These costs stay separate from NSF ExLENT CEH, Operation Navigation, CircleIn institutional spending, and the Clare Boothe Luce Bridge pilot, and the PI, OSP, Center Director, and evaluator review a funding crosswalk quarterly so no activity is funded twice, consistent with 2 CFR 200.403 and 200.405.

Defined Roles with No Overlap and No Gaps

Objective	Owner
1: Build and deploy ELTS	Dr. Yan owns implementation; Center Director coordinates daily operations; IR supports data quality; AVP owns access governance
2: Finalize and deliver the AI Career Readiness Credential	Dr. El-Sayed owns curriculum and approval; Postdoctoral Fellow supports development and instruction
3: Run Bulldog Summer Bridge	Center Director owns operations; Dr. El-Sayed and Postdoctoral Fellow own the AI-Bridge Curriculum
4: Place 25 students per year	Center Director owns placement coordination; PI supports partners; Postdoctoral Fellow supports readiness; faculty mentors supervise research placements
5: Move PSSG performance measures	External evaluator monitors outcomes; IR provides verified administrative data
6: Produce evidence and disseminate	PI owns dissemination; evaluator owns the final ERIC report; Center Director manages logistics
Where two roles touch the same student, ELTS is the shared system of record and the AVP resolves role conflicts.	

Data Privacy and Responsible-AI Governance

AI-READY operates under Bowie State FERPA policy and 34 CFR Part 99 with signed IRB approval, amended only if the final evaluation scope requires it. Ownership is spelled out: the AVP for Student Success owns ELTS access governance and student notification; Dr. Yan owns the responsible-AI review; Institutional Research supports data quality; the Center Director manages operational use; and the external evaluator receives de-identified data under a data-use agreement. ELTS runs in Bowie State-approved or FERPA-compliant infrastructure under a school-official agreement, and no student PII enters public AI tools. Students are told what data are used, why, who reviews it, which variables are included and excluded, and how to opt out through written request to the AVP; opting out does not affect services. Access is role-based, logged, and gated on annual FERPA and responsible-use training. Every ELTS suggestion is advisory, reviewed by a faculty adviser, the Center Director, or the Postdoctoral Fellow, and the Advisory Board runs an annual responsible-AI review for accuracy and adverse-impact patterns by Pell, transfer, and enrollment status.

Required Dissemination

The independent final evaluation report goes to ERIC by the end of Year 4. Annual Performance Reports are filed under 34 CFR 75.590, with outcomes reported by Pell status where data support the breakdown. An open-access AI-READY website publishes the Section B.3 toolkit. The team presents at venues including ACM CCSC and National HBCU Week, and a peer-institution community of practice and Year 4 dissemination meeting engage HBCUs adapting the model.

Sustainability After the Grant Period

Sustainability planning begins in Year 1 and is reviewed annually by the Project Leadership Team.

Component	Sustainability source after the grant
AI Career Readiness Credential	Tuition-bearing credit pathway in CS after MHEC approval
AI Career Readiness coursework and curriculum modules	Permanent CS course materials
ELTS	Institutional IT and Office of Student Success operating support after transition
Dedicated faculty advising integration	Existing departmental advising commitment
Center operations	CS, Office of Student Success, and future external funding
Bulldog Summer Bridge	Institutional summer-bridge model; future foundation, state, or institutional support
GEP	Institutional retention and student-success funding; future competitive grants
Tech Pipeline placement	Employer and NSF ExLENT CEH relationships; faculty research grants
AI/ML Postdoctoral Fellow	Concludes at grant end unless converted through institutional or external funding
Independent evaluation	Subcontract concludes with the ERIC report; tracking continues through IR

The credential, the AI curriculum, ELTS, and faculty-advising integration are the strongest candidates for institutionalization. Activities that would need new resources are identified for future institutional, state, foundation, or grant support.

C.2 Qualifications of the Project Director

Dr. Rose Shumba has the formal training, relevant experience, grant-management record, and target-population experience to lead AI-READY.

Formal Training

Dr. Shumba holds a Ph.D. in Computer Science from the University of Birmingham and is Professor and Chair of Computer Science at Bowie State. She has directed an NSA/DHS-designated National Center of Academic Excellence in Cyber Defense, building federal-standard academic infrastructure in a field closely aligned with AI-READY.

Work Experience Related to the Six Objectives

Objective 1 (ELTS and AI-supported student success): Dr. Shumba leads the ELTS design and the FERPA-compliant relationships with PeopleSoft, Blackboard, IR, and the Office of Student Success.

Objective 2 (AI curriculum and credential): Since 2019, Dr. Shumba has led computing curriculum growth and has the standing to move the credential through governance, USM, and MHEC under COMAR 13B.02.03.25.

Objective 3 (Bulldog Summer Bridge): Dr. Shumba led the Clare Boothe Luce-supported Bridge model AI-READY will scale and sustain.

Objective 4 (Tech Pipeline placement): Dr. Shumba led the U.S. Department of Education-funded Tech Pipeline Program, featured in The New York Times, placing students in paid internships and full-time technology roles.

Objective 5 (PSSG reporting and evaluation): Dr. Shumba has overseen institutional data use, federal performance reporting, and outcome tracking, and built the partnerships that support independent evaluation.

Objective 6 (dissemination): Dr. Shumba has published and presented nationally on HBCU computing education, experiential learning, cybersecurity, and student success.

Experience Designing and Managing Similar Projects

Dr. Shumba is PI on the nearly \$1 million NSF ExLENT Computing Experiential Hub, the pilot AI-READY scales, and she won the USM Wilson H. Elkins Transformation Award for the feasibility study that designed the Center model, a study that engaged 200 students, 15 faculty, and 10 industry partners. She also designed the U.S. Department of Education MSEIP-funded Grade Enhancement Program, Award P120A200059, from 2021 through 2024. On August 22, 2024, MSEIP Senior Program Manager Dr. Bernadette Hence called Bowie State “an expert in the successful implementation of this model” and referred Fisk University and CUNY York College to Bowie State to adapt it. Effort separation between NSF ExLENT CEH and AI-READY is documented in Bowie State's effort certification system, and a cost-allocation memo is included as an appendix exhibit.

Experience with the Target Population

AI-READY serves undergraduate computing majors at a majority-Pell HBCU, exactly the population Dr. Shumba has worked with throughout her career. Under her leadership, computing graduations grew from 11 in 2019 to 39 in Fall 2025 and 49 in Spring 2026, and transfer enrollment in computing rose from about 10 in 2019 to roughly 45 per year. She received the 2025 USM Mentoring Award. The Elkins study, Bulldog Summer Bridge, GEP, Tech Pipeline, and NSF ExLENT CEH were all built for Bowie State computing students.

Brief Co-PI and Team Qualifications

Dr. El-Sayed, Co-PI for AI curriculum, leads the AI-Bridge Curriculum and AI Career Readiness coursework alongside the Postdoctoral Fellow. Dr. Yan, Co-PI for ELTS, leads the system build, alert logic and routing, responsible-AI review, and data-system integration. Dr. Whitaker-Heck,

AVP and senior personnel, brings campus-wide retention authority and leads ELTS access governance, student notification, opt-out, CircleIn coordination, and student-success integration. Full biosketches for the PI, Co-PIs, senior personnel, the Center Director, the evaluator, and the Postdoctoral Fellow, once hired or contracted, are appendix exhibits.

D. Quality of the Project Evaluation

D.1 WWC-Aligned Evaluation Design

The Section D.1 criterion asks whether the evaluation methods, if well implemented, will produce evidence about the project's effectiveness that meets What Works Clearinghouse standards with or without reservations. AI-READY's evaluation is designed to do that under the conditions described below.

Overview of the Evaluation Design

AI-READY's independent external evaluator will conduct a quantitative impact and implementation evaluation with two complementary designs.

The primary design is a matched historical comparison-group quasi-experimental design. It estimates the effect of the broader AI-READY pathway across the five computing majors by comparing AI-READY students with matched pre-AI-READY students from the same majors, matched on baseline academic, enrollment, transfer, and other available characteristics measured before AI-READY participation.

The secondary design is conditional: a random-selection design for the Bulldog Summer Bridge Program, used only in years when Bridge applications exceed the 40 available residential seats. When that happens, the evaluator assigns eligible applicants to seats through a documented random-selection process. When applications stay within the seat count, every eligible student is offered a seat, and Bridge outcomes are folded into the matched historical comparison design and reported descriptively.

This two-design strategy gives the project the strongest feasible evidence while preserving the project's commitment to serve eligible computing students.

What Each Design Tests

The matched historical comparison design tests the broader AI-READY pathway. It compares students who experience AI-READY with comparable students from pre-AI-READY cohorts in the same five computing majors.

The conditional random-selection design, where feasible, tests only the added effect of Bulldog Summer Bridge participation, not the full AI-READY pathway. Students not selected for a Bridge seat can still enroll at Bowie State and receive ELTS monitoring, dedicated departmental faculty advising, AI Career Readiness coursework access, GEP support if flagged, CircleIn, Operation Navigation peer mentoring, and placement-readiness preparation.

WWC Alignment

Each design is structured to align with WWC standards if implementation conditions are met.

The matched historical comparison design is built to meet WWC standards with reservations, provided the evaluator demonstrates baseline equivalence on the required matching variables and documents attrition, missing data, and sensitivity analyses.

The conditional random-selection design, if used, is built to meet WWC standards without reservations, provided random assignment is properly documented, attrition stays within WWC thresholds, and the intent-to-treat analytic structure holds.

Baseline equivalence, attrition, missing data, deviations from the planned design, and sensitivity results all go into the final report submitted to ERIC.

Calibrating Expected Effects to AI-READY's Dose

AI-READY's AP1 evidence anchors are CUNY ASAP and InsideTrack student coaching. Both studies meet WWC standards without reservations. AI-READY adapts the proactive advising and coaching practice through dedicated departmental faculty advisers integrated with ELTS, supplemented by the Center Director and AI/ML Postdoctoral Fellow for the Tech Pipeline placement cohort.

AI-READY does not claim the dedicated-adviser caseload ratio of the cited studies; its contact frequency and staffing model are different. Because of that, the evaluator will calibrate expected effect-size magnitudes downward to match the dose AI-READY actually delivers.

Actual contact frequency will be measured, not assumed: faculty adviser contacts, Center Director contacts, AI/ML Postdoctoral Fellow contacts for placement-cohort students, alert-to-contact response time, GEP participation, AI Career Readiness coursework completion, and placement participation. These fidelity and dose measures are reported alongside the outcome estimates so readers can weigh results against the actual level of implementation.

The Independent External Evaluator

The evaluator will be contracted by month 6 through Office of Sponsored Programs procurement. The evaluator owns the evaluation design, fidelity monitoring, quarterly formative feedback, annual outcome reporting, the Year 4 outcome analysis, and the final evaluation report submitted to ERIC.

The evaluator reports to the PI for coordination only; the findings themselves are independent. Work proceeds under an IRB-approved protocol and data-use agreement, and except where IRB

approves a specific exception, the evaluator receives only de-identified analytic extracts from Institutional Research.

The scope of work names WWC standards as the design target and requires experience evaluating postsecondary student success interventions, experience with administrative data, and familiarity with WWC review procedures. [INSERT: evaluator name and credentials once contracted.]

Confirmatory and Exploratory Research Questions

The evaluator will answer one primary confirmatory research question, one conditional Bridge question, and three exploratory or descriptive questions. The primary confirmatory question is the main causal test for the project. Research questions and analytic plans will be specified before outcome analysis begins.

Primary Confirmatory Research Question

1. **AI-READY pathway effect on PSSG outcomes.** Does participation in the AI-READY pathway improve the five PSSG performance measures compared with a matched historical cohort that predates AI-READY implementation?

This question is tested through the matched historical comparison design. The five PSSG performance measures are first-year credit accumulation, annual retention and persistence, success rates including graduation, time to credential, and credentials conferred. Outcomes are reported by Pell status where data support the breakdown.

Conditional Bridge Research Question

1. **Added effect of Bulldog Summer Bridge participation.** In years when Bridge applications exceed available seats, does participation in the Bulldog Summer Bridge

Program improve first-year credit accumulation and first fall-to-fall retention for admitted computing students compared with eligible students not selected through the random-selection process?

This question is tested through the conditional random-selection design only if Bridge is oversubscribed. If the Bridge is not oversubscribed, the evaluator reports Bridge outcomes descriptively and includes Bridge participation in the matched historical comparison design and dose analyses.

Exploratory and Descriptive Research Questions

1. **Placement effect, exploratory.** Does completing a Tech Pipeline placement, including paid internship, faculty-mentored research, or team-based employer project, relate to stronger time-to-credential, credentials conferred, and post-graduation outcomes compared with matched non-placed students?

This analysis is exploratory because students who complete placements may already be more prepared or more motivated at baseline. The evaluator will use matching to reduce selection bias, but placement results will not be presented as the strongest causal claim.

1. **AI Career Readiness progression, descriptive.** How do students progress through the workplace AI competencies measured by the AI Career Readiness coursework?

This analysis is descriptive because comparable pre-AI-READY AI competency data do not exist. The evaluator will draw on coursework assessments, pre-and-post measures where available, and milestone completion to describe how students progress.

1. **Implementation and dose patterns, exploratory.** Do outcomes vary with faculty adviser contact frequency, ELTS alert-to-contact response time, GEP participation, AI

Career Readiness coursework completion, placement participation, or mentoring contacts?

These analyses point to which implementation conditions track with stronger outcomes. They inform how the project's results are read, rather than standing up separate confirmatory causal claims for each component.

AI-READY Treatment Levels

Not every AI-READY student receives the same intervention. AI-READY is a pathway with different levels of exposure, so the evaluator reports the overall pathway effect as the primary matched-comparison finding and uses dose-level analyses to interpret it.

Treatment level	Operational definition	Analytic use
Universal AI-READY exposure	ELTS monitoring after admission to Bowie State, dedicated departmental faculty advising, and AI Career Readiness coursework availability	Included in primary pathway analysis
Academic support dose	ELTS alert plus faculty adviser contact, GEP participation, or both	Exploratory dose analysis
Credential dose	Enrollment in COSC 29X or AI Career Readiness Credential coursework	Exploratory dose analysis
Experiential learning dose	Paid internship, faculty-mentored AI research, or team-based employer project	Exploratory dose analysis
Full pathway dose	Bridge or onboarding plus advising plus AI Career Readiness coursework plus placement preparation or placement completion	Exploratory dose analysis

The confirmatory matched comparison design tests overall AI-READY pathway exposure, while dose-level analyses stay exploratory and serve to interpret implementation strength and component use. Students who opt out of ELTS but still receive other AI-READY supports remain in required institutional reporting and evaluation analyses, consistent with FERPA and grant requirements, with their ELTS-specific exposure coded as no ELTS monitoring. Annual ELTS opt-out rates are reported as an implementation indicator.

Design 1: Primary Matched Historical Comparison-Group QED for the Broader AI-READY Pathway

Design

The primary design is a matched historical comparison-group quasi-experimental design. The evaluator builds a comparison group from pre-AI-READY cohorts in the same five computing majors at Bowie State, spanning the three to five years before AI-READY launch, depending on data availability and Institutional Research access.

Why Historical Comparison Is Used

AI-READY is meant to serve eligible undergraduate computing students across the five majors. Once ELTS and the pathway are running at scale, there is no same-time untreated comparison group left inside the Department, which makes the matched historical comparison group the strongest feasible comparison for the full pathway.

To address the limits of a historical comparison, the evaluator will test baseline equivalence, apply cohort-year controls where possible, and run sensitivity analyses across alternative comparison windows, both the most recent pre-AI-READY cohorts alone and the full available pre-AI-READY window. Findings will be reported as evidence from a matched historical comparison design, with the limitations stated plainly.

Treatment Group

The treatment group includes Bowie State undergraduate computing students who enter AI-READY after implementation begins. The evaluator will define treatment using the treatment-level table above and will identify the primary treatment as overall AI-READY pathway exposure.

Comparison Group

The comparison group includes pre-AI-READY students from the same five computing majors. Students will be drawn from historical cohorts before the AI-READY pathway, ELTS monitoring, AI Career Readiness coursework, and expanded Tech Pipeline placement were implemented.

Matching Variables

The evaluator will create a core matching set using variables available for both AI-READY students and historical comparison students. The core matching set may include:

1. Pell status
2. Transfer status
3. Full-time or part-time enrollment status
4. Major at entry
5. Entry term
6. Credits attempted and earned at baseline
7. Prior college GPA for transfer students where available
8. High school GPA where available
9. Math placement level or first math course where available
10. Prior D, F, or W grades in gateway courses where available
11. Baseline gateway-course enrollment and performance where available

The evaluator will identify the final matching variables before outcome analysis begins.

Variables not consistently available across treatment and historical cohorts will be used only in sensitivity analyses or descriptive analyses.

Student characteristics in institutional records may also support baseline equivalence checks, required reporting, and responsible-AI monitoring under IRB-approved procedures. ELTS does not use these variables for automated decisions or alert routing.

Baseline Equivalence

The evaluator will document baseline equivalence between AI-READY students and matched historical comparison students before estimating outcomes. Baseline equivalence will be assessed using WWC-aligned procedures, including standardized mean differences for matching variables. If equivalence is not achieved on a required variable, the evaluator will adjust the model and report the limitation.

Analytic Approach

The evaluator will use propensity score matching, exact matching on key variables where feasible, or another WWC-aligned matching approach selected before outcome analysis. The primary models will estimate the relationship between AI-READY pathway exposure and the PSSG outcomes. Models will include baseline covariates and cohort-year controls where possible.

Sensitivity analyses will test alternative matching specifications, alternative comparison windows, and alternative treatment definitions, and the final report will state plainly which analyses are confirmatory and which are exploratory.

Transfer Student Inclusion

Transfer students are part of the broader AI-READY analytic sample after admission to Bowie State. Transfer status is included as a matching variable. Transfer student outcomes will be reported separately where sample size supports the breakdown. Transfer students enter AI-READY through ELTS monitoring, dedicated departmental faculty advising, GEP where needed, AI Career Readiness coursework, and placement-readiness preparation. Their indicators are adjusted for transfer credit and starting course level.

Design 2: Conditional Random-Selection Design for the Bulldog Summer Bridge Program

Conditional Design

If applications to the Bulldog Summer Bridge Program exceed the 40 available residential seats in a given year, the independent evaluator will use a documented random-selection process to assign eligible applicants to available seats. Students selected through the process will be offered a Bridge seat. Eligible students not selected will be placed on a waitlist or non-selected comparison list.

This design comes into play only when eligible applicants outnumber available seats. If applications stay within the 40 available seats, every eligible student is offered a seat and no random selection happens for that cohort; Bridge outcomes are then evaluated through the matched historical comparison design and reported descriptively.

Feasibility Condition

The random-selection design is feasible only if Bridge applications exceed available seats. Prior Bridge cohorts were below the 40-seat target. Cohort 1 enrolled 21 students, and Cohort 2

recruited 30 students. AI-READY's expanded recruitment through District of Columbia Public Schools, Prince George's County Public Schools, dual enrollment outreach, and articulation pathway promotion is expected to increase demand, but the evaluation does not depend on oversubscription. The matched historical comparison design remains the primary evaluation design.

The Year 1 Bridge cohort, Summer 2027, doubles as the ELTS pilot group for implementation testing and baseline refinement. Each year, the evaluator documents whether the random-selection condition was met.

What the Random-Selection Design Tests

Treatment and Comparison

Treatment is selection to a Bridge seat; comparison is non-selection. The primary analysis is intent-to-treat: students are analyzed by whether they were selected for a seat, even if some selected students do not attend, which preserves random assignment.

Transfer students are not counted in the 40 residential Bridge slots and are not part of the Bridge random-selection sample. Their outcomes enter the broader matched historical comparison design after admission to Bowie State.

Bridge Outcomes

Primary Bridge outcomes are first-year credit accumulation and first fall-to-fall retention in a computing major. Secondary outcomes include COSC 107 grade, gateway-course performance through the first year, student confidence, and career clarity.

WWC Alignment for the Random-Selection Design

Sample Size

The Bridge has 40 residential seats a year. If recruitment outruns those seats, random selection may yield roughly 40 offered-seat students and a smaller waitlisted comparison group each year, so aggregated samples may still be modest. The evaluator will run a power analysis to estimate minimum detectable effect sizes, and Pell-status subgroup estimates will be reported where the data support the breakdown and read cautiously when samples are small.

Outcomes, Data Sources, and Observability

All PSSG outcomes are reported by Pell status where data support the breakdown. Additional student characteristics may be used for baseline equivalence checks, required reporting, and responsible-AI monitoring under IRB-approved procedures.

Observability Within a 48-Month Grant

Several PSSG performance measures, especially six-year graduation rate and time to degree, cannot be fully observed for students who enter Bowie State as new AI-READY participants during the grant period. For these students, the evaluation reports interim completion indicators during the grant and full outcomes for students who complete during the grant. For historical comparison cohorts, six-year graduation and time to degree are fully observable and serve as the comparison anchor.

Outcome	Operational definition	Primary data source	Observability within 48 months
First-year credit accumulation	30 credits earned by the end of the first academic year	Registrar	Fully observable for each AI-READY cohort one year after entry
Fall-to-fall	Continued enrollment at	Registrar, Institutional	Fully observable for

Outcome	Operational definition	Primary data source	Observability within 48 months
retention at Bowie State	Bowie State from one fall to the next	Research	Years 1 through 3 AI-READY cohorts
Persistence at any institution	Through National Student Clearinghouse data where available, continued enrollment at any institution	Registrar, Institutional Research, NSC where available	NSC data requested annually after the fall enrollment census; reporting lag accounted for in the analysis schedule
Gateway-course pass rate	Successful completion with C or better in COSC 112, COSC 113, COSC 214, and designated math gateway courses	Registrar	Fully observable each term
Six-year graduation rate	Degree conferred within 150 percent of normal time	Registrar	Fully observable for historical comparison cohorts; interim indicators reported for AI-READY cohorts
Time to degree	Time from first enrollment to degree award	Registrar	Measured for students who complete during the grant; tracked as an interim measure for continuing AI-READY students
Time to AI Career Readiness Credential	Time from first enrollment or first credential coursework enrollment to credential award	Registrar, credential records	Observable for AI-READY students after credential coursework launches
Credentials conferred	Bachelor's degree in one of the five computing majors and the MHEC-approved AI Career Readiness Upper Division Certificate once approved	Registrar, credential records	Observable for degrees completed during the grant and for AI Career Readiness Certificates awarded after approval
COSC 29X course completion	Transcripted completion of Special Topics AI Career Readiness coursework during the prototype phase	Registrar	Reported as course completion and credential progress, not as a conferred credential
Supplemental stackable industry	Industry or vendor credentials earned through project-supported	Vendor records, ELTS	Reported separately as project-specific workforce-readiness

Outcome	Operational definition	Primary data source	Observability within 48 months
credentials	activities		outcomes, not as institutionally awarded credentials
AI Career Readiness progression	Progress through workplace AI competencies measured by coursework assessments and milestone completion	Course assessment data, ELTS	Observable for AI-READY students; descriptive only because no comparable pre-AI-READY data exist
Student confidence and career clarity	Annual student survey measures selected before baseline	Annual student survey	Observable annually
Post-graduation employment, exploratory	Employment in an AI-related role within 12 months of graduation	Alumni survey, Career Services records where available, consented public professional profile review where applicable	Observable only for students who graduate during the grant; exploratory

MHEC’s signed letter of support, dated June 26, 2026, is included in the appendix and confirms state agency engagement with the AI Career Readiness Credential under COMAR 13B.02.03.25.

Attrition, Missing Data, and Sensitivity

For the matched historical comparison design, the evaluator will document missing data, baseline equivalence, and every matching decision, using multiple imputation or another appropriate method for missing baseline covariates where the methodology warrants it. Sensitivity analyses will test alternative matching specifications, alternative historical comparison windows, and alternative treatment definitions.

All attrition and missing-data decisions appear in the final report so readers can judge WWC alignment for themselves.

IRB and Data Sharing

The evaluation runs under an IRB protocol drafted in Year 1 and renewed annually. Data-sharing agreements with the registrar, Institutional Research, admissions, the Office of Student Success, Blackboard administrators, and National Student Clearinghouse access points are executed before any outcome data are pulled. The evaluator receives only de-identified analytic extracts unless IRB approves a specific exception. The data privacy and responsible-AI framework sits in Section C.

D.2 Formative Feedback

The Section D.2 criterion asks whether the evaluation provides performance feedback and formative, diagnostic, or interim data on progress toward intended outcomes. AI-READY's evaluation does this through quarterly formative reports, annual interim outcome reports, and a mid-project formative outcome report.

Quarterly Formative Reports

The evaluator delivers a formative report every three months. Each report covers:

1. **Implementation progress against the timeline.** Whether milestones for the quarter were met and what delayed any missed milestone.
2. **Fidelity indicators by component.** The fidelity measures defined in D.3, tracked over time.
3. **Leading indicators of outcomes.** ELTS dashboard data on faculty adviser contacts, Center Director and AI/ML Postdoctoral Fellow placement-cohort contacts, GEP

recovery plan completion, Bridge attendance and completion, and Tech Pipeline placement progression.

4. **Recommended adjustments.** Specific recommendations for the Project Leadership Team.

The Project Leadership Team takes up each quarterly report at its next monthly meeting, and the Quarterly Project Advisory Board reviews it at its next quarterly meeting. The evaluator attends both to talk through findings and recommendations.

Annual Interim Outcome Reports

The evaluator delivers annual outcome reports in months 12, 24, and 36, each covering the PSSG performance measures for which data exist at that point: first-year credit accumulation, annual retention and persistence, and gateway-course pass rates. The Year 2 and Year 3 reports add AI Career Readiness coursework progress, credential progress where applicable, and placement progress. The Year 3 report doubles as the mid-project formative outcome report, giving the Project Leadership Team room to make final adjustments before the Year 4 primary outcome analysis.

How Formative Feedback Will Be Used

The project will use formative feedback to adjust:

1. faculty adviser coordination, alert response procedures, and ELTS rules-based alert thresholds;
2. AI-supported pattern detection and next-step suggestion layers after responsible-AI review;

3. AI-Bridge Curriculum modules and AI Career Readiness coursework modules;
4. GEP recovery plan structure;
5. placement matching procedures.

Adjustments are documented in continuous-improvement records and reflected in the Annual Performance Report.

Example of a Formative Feedback Cycle

If Year 1 reports show faculty adviser contact frequency falling below the required response window, the Center Director will work with the AVP for Student Success and departmental leadership to tighten the escalation procedure, adjust alert thresholds, or add adviser training. The Year 2 reports then show whether contact frequency recovered.

D.3 Fidelity of Implementation Plan

The Section D.3 criterion asks how the evaluation measures fidelity of implementation and how fidelity data inform the analysis of outcomes. AI-READY defines fidelity indicators for each major component, measures each indicator on a documented cadence, and uses fidelity data to interpret outcomes.

Fidelity Indicators by Component

Component	Fidelity indicator	Measurement	Data source
Bulldog Summer Bridge	Cohort enrollment reaches target	Count of enrolled students against 40-seat target	Bridge enrollment records, ELTS
Bulldog Summer Bridge	Bridge completion rate	Percentage of enrolled students who complete the residential Bridge program	Bridge records, registrar
Bulldog Summer Bridge	COSC 107 pass rate	Percentage of Bridge students who earn COSC 107 credit	Registrar

Component	Fidelity indicator	Measurement	Data source
Bulldog Summer Bridge	AI-Bridge Curriculum module coverage	Percentage of AI-Bridge Curriculum modules delivered as designed	Teaching logs, course materials review
Bulldog Summer Bridge	Bridge-to-fall ELTS continuity	Percentage of Bridge students with active ELTS records continuing into fall	ELTS logs
Faculty advising	Alert acknowledgment rate	Percentage of ELTS alerts acknowledged within the required response window	ELTS workflow logs
Faculty advising	Alert-to-contact response time	Median time between ELTS alert and documented adviser contact attempt	ELTS workflow logs
Faculty advising	Adviser contact frequency	Average documented adviser contacts per computing student per semester	ELTS, adviser logs
Center and Postdoctoral Fellow oversight	Placement-cohort alert response time	Median time between ELTS alert and documented Center Director or Postdoctoral Fellow contact attempt	ELTS workflow logs
GEP	Instructor check-in frequency	Number of biweekly instructor check-ins across gateway courses	Center Director logs
GEP	Recovery plan completion	Percentage of GEP students with all five recovery plan elements documented	ELTS, GEP records
GEP	Grade enhancer utilization	Hours of peer tutoring delivered per gateway course per term	GEP records, tutoring logs
GEP	Stipend completion	Percentage of GEP participants who complete the five-element plan and receive the participation stipend	GEP records
Tech Pipeline placement	Placement count	Annual placements against the 25-student target	Placement logs, ELTS
Tech Pipeline placement	Employer interview participation	Percentage of placement-ready students who interview with employer partners	Center records
Tech Pipeline placement	Research placement assignment	Percentage of placement-ready students not matched with employer placements who are assigned to faculty-mentored research within annual capacity	Center records
Tech Pipeline placement	Employer or faculty mentor engagement	Percentage of placements with documented mentor contact	Employer feedback,

Component	Fidelity indicator	Measurement	Data source
			faculty mentor logs
ELTS	Prototype readiness	Working prototype available for Summer 2027 Bridge cohort	Project records
ELTS	Student records created	Percentage of eligible students with ELTS records created within the documented rollout window	ELTS logs
ELTS	Rules-based alert review rate	Percentage of rules-based alerts reviewed by the appropriate human reviewer	ELTS workflow logs
ELTS	AI-supported suggestion review rate	Percentage of AI-supported suggestions reviewed by a human reviewer before action	ELTS workflow logs
ELTS	Responsible-AI review completion	Annual review completed and documented	Advisory Board minutes
ELTS	Opt-out and record-review processing	Percentage of opt-out and record-review requests processed within the institutional response window	AVP records
AI Career Readiness coursework	Coursework enrollment	Number of undergraduate computing students enrolled in COSC 29X or approved credential coursework each term	Registrar
AI Career Readiness coursework	Coursework completion	Percentage of enrolled students who complete the coursework with C or better	Registrar
AI Career Readiness coursework	Responsible AI module coverage	Percentage of sections that deliver responsible AI modules as designed	Course materials review
Winter/Spring AI Career Readiness sequence	Winter Technical Training participation	Number and percentage of undergraduate computing students who enroll in and complete the Winter Technical Training each year, against the 60-completer stipend target	ELTS, module records
Winter/Spring AI Career Readiness sequence	Spring Professional Development completion	Number and percentage of Winter Technical Training completers who complete the Spring Professional Development module each year	ELTS, module records
Winter/Spring AI Career Readiness sequence	Winter/Spring stipend completion	Number of \$300 stipends paid to the first 60 eligible completers each year, with annual target of	ELTS, GEP records, Office of Sponsored

Component	Fidelity indicator	Measurement	Data source
		60 funded completers and four-year total of 240	Programs records
CircleIn extension	CircleIn engagement	Computing student engagement rates in CircleIn for the eight gateway courses	CircleIn platform data where available

How Fidelity Data Inform Outcome Analysis

The evaluator uses fidelity data in two ways.

First, fidelity helps interpret the outcome estimates. The Year 4 analysis will look at whether outcomes differ across higher- and lower-fidelity implementation periods, cohorts, courses, or components. If adviser response times improve after the Year 1 pilot, for instance, the evaluator will check whether retention and gateway-course outcomes improve in later cohorts.

Second, fidelity is reported alongside outcomes in the final ERIC report. Each major outcome is paired with the relevant implementation data so other institutions can see the conditions under which AI-READY ran.

Fidelity Thresholds

The evaluator will set fidelity thresholds in Year 1 before outcome data are analyzed. Thresholds for advising contact frequency will be informed by the InsideTrack and ASAP studies but calibrated to AI-READY's staffing model. Thresholds for GEP will be informed by Bowie State's prior MSEIP-funded GEP implementation. Thresholds for Bridge, ELTS, AI Career Readiness coursework, and Tech Pipeline placement will be set from the project's approved work plan.

Periods, cohorts, courses, or components that fall below a fidelity threshold are flagged in the analysis and interpreted separately from higher-fidelity implementation periods.

GEPA Section 427 Equity Statement

Section 427 of the General Education Provisions Act (20 U.S.C. § 1228a) requires applicants to describe how they will ensure equitable access to, and participation in, the proposed project, addressing barriers based on gender, race, color, national origin, disability, and age. AI-READY does so for the roughly 494 undergraduate students in Bowie State University's five computing majors and for the faculty, advisers, and mentors who support them. Every activity—the Bulldog Summer Bridge Program, Grade Enhancement Program (GEP), Tech Pipeline placement, AI Career Readiness Credential, and ELTS advising—is open to eligible students by academic status and need, never by a protected characteristic.

Race, color, and national origin. Bowie State is Maryland's first public Historically Black College or University and a majority-Pell institution serving students long underrepresented in computing. Inclusive outreach runs through departmental advising, gateway courses, dual enrollment and articulation pathways, transfer advising, and student organizations, and the project tracks participation to correct any underrepresentation.

Gender. Women in the Department of Computer Science grew from 12 students in 2019 to 88 in 2024. AI-READY sustains this through inclusive recruitment, gender-aware advising, near-peer mentoring, and supportive classroom and placement environments, with annual review of representation and outcomes.

Disability. Learning, advising, and student-facing digital materials, including the ELTS interfaces, meet applicable accessibility requirements such as Section 508 and WCAG 2.1 AA. The Office of Disability Support Services advises on accommodations and universal design across Bridge, coursework, placements, and faculty-mentored research.

Age. Traditional-age, transfer, returning, and adult learners are eligible on the same basis. Access depends on program status, course progression, placement readiness, and need—not age.

Financial barriers. Although income is not a named category, GEP stipends, paid Tech Pipeline placements and research, funded Bridge participation, and a virtual Bridge option reduce the trade-off between academic progress and earning income for Pell-eligible and working students.

Teachers, advisers, and mentors. Faculty, advisers, and graduate, peer, and employer mentors receive clear role expectations; training on responsible AI and student-data use; and guidance on inclusive, accessible advising and mentoring, with mentors selected against transparent criteria.

Accountability. AI-READY tracks participation and outcomes by Pell status and, where legally permissible, by race, gender, age, disability, transfer, and enrollment status, reviewed in aggregate by the Project Director, Center Director, Project Advisory Board, and independent external evaluator. If any eligible group is underrepresented or underperforming, the team conducts a root-cause review within 90 days and adjusts before the next term—reflecting Bowie State’s commitment to equitable access and participation for all AI-READY beneficiaries.

Appendix A: Logic Model

The AI-READY Logic Model presents the project's inputs, activities, outputs, short-term outcomes, and long-term outcomes in a single-page graphic. The Logic Model is presented on the following landscape page.

AI-READY Logic Model

Bowie State University | FY2026 PSSG (84.116M) | Early Phase | Absolute Priorities 1 and 3 (AP3(b) primary, AP3(a) supporting)

INPUTS	ACTIVITIES	OUTPUTS	SHORT-TERM OUTCOMES	LONG-TERM OUTCOMES
<ul style="list-style-type: none"> PSSG funds: \$3,999,777 over 48 months 10% institutional match PI: Dr. Rose Shumba (Professor and Chair, CS) Co-PIs: Dr. El-Sayed (curriculum lead), Dr. Yan (ELTS implementation lead), Dr. Whitaker-Heck (AVP Student Success) Center Director (1.0 FTE) AI/ML Postdoctoral Fellow (1.0 FTE) Dedicated departmental faculty advisers (institutional commitment, not PSSG-funded) Independent External Evaluator (Norfolk State subcontract) Paid grade enhancers and graduate mentors 20 industry partners via NSF ExLENT CEH 9 active research labs Foundations already in place: Elkins study, Clare Boothe Luce Bridge, MSEIP-developed GEP, NSF ExLENT CEH, Operation Navigation (P116M230035), CircleIn Institutional systems: PeopleSoft, Blackboard, IR, Office of Student Success Completed ELTS functional design and data model MHEC signed letter of support, June 26, 2026 494 undergraduate students in five computing majors 	<ul style="list-style-type: none"> Bulldog Summer Bridge: 40 incoming students a year, residential, COSC 107 credit, AI-Bridge Curriculum Winter Technical Training and Spring Professional Development, open to all computing students; the first 60 completers a year receive a \$300 stipend; Year 1 runs NSF CEH, Year 2 onward via COSC 29X Grade Enhancement Program: 60 students each fall and 60 each spring across 8 gateway courses, with biweekly instructor check-ins, 5-element recovery plans, and a \$500 participation stipend Tech Pipeline placement: 25 paid placements a year (internships, faculty-mentored research, team-based employer projects) ELTS rolled out in phases: rules-based scaffolding in Year 1, AI-supported layers piloted in Year 2, full deployment in Year 3 after the responsible-AI review AI Career Readiness Credential coursework via COSC 29X, on the MHEC approval pathway under COMAR 13B.02.03.25 Dedicated faculty advisers receive ELTS alerts for the broader population; the Center Director and AI/ML Postdoctoral Fellow handle placement-cohort alerts CircleIn extended to computing gateway courses; Operation Navigation peer-mentoring coordination Independent WWC-aligned evaluation; quarterly cost-separation crosswalk review 	<ul style="list-style-type: none"> Bridge completion climbing from 85% to a 92% target across 4 years 480 GEP semester-level stipend slots delivered over 4 years 240 Winter/Spring AI Career Readiness module completers, at 60 a year and a \$300 stipend each 100 paid Tech Pipeline placements completed 130 AI Career Readiness Credentials awarded, cumulative by Year 4 Active ELTS records growing from 40 in Year 1 to all 494 by Year 3 Faculty adviser, Center Director, and Postdoctoral Fellow contacts documented in ELTS AI-Bridge Curriculum modules delivered AI Career Readiness Credential coursework delivered Annual responsible-AI review by the Project Advisory Board Dissemination products: ERIC final report, AI-READY implementation toolkit, conference presentations 	<ul style="list-style-type: none"> Improved first-year credit accumulation (PSSG Measure 1), reported by Pell status Improved annual retention and persistence (PSSG Measure 2), reported by Pell status Higher pass rates in gateway courses COSC 112, 113, and 214 AI Career Readiness coursework completion Bridge students retained into fall enrollment Placement-ready students matched to internships, research, or employer projects Faster ELTS alert-to-contact response, from a Year 1 baseline to 2 business days by Year 4 Stronger student confidence and career clarity, measured by a validated annual survey 	<ul style="list-style-type: none"> Higher 6-year graduation rates (PSSG Measure 3), reported by Pell status Reduced time to credential (PSSG Measure 4) Credentials conferred (PSSG Measure 5): bachelor's degrees in the five computing majors plus the AI Career Readiness Upper Division Certificate A sustainable AI-supported Center model that continues after the grant Replication at HBCUs and similar institutions, with documented interest from Fisk and CUNY York A contribution to the regional and national AI workforce pipeline Alignment with the 2025 Maryland AI Enablement Strategy and AI Study Roadmap

Appendix B: References

Formatted in APA 7th edition. The FY2026 PSSG solicitation does not specify a citation style; APA 7 is the conventional standard for U.S. Department of Education grant submissions in education and social science research.

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<https://governor.maryland.gov/Lists/ExecutiveOrders/Attachments/24/EO%2001.01.2024.02.pdf>

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End of AI-READY References

Appendix C: Letters of Support

Letters of support and federal correspondence in support of AI-READY are included in the order listed below.

- C.1. Maryland Higher Education Commission (MHEC) signed letter of support, June 26, 2026 — Elena Quiroz-Livanis, Interim Secretary of Higher Education.
- C.2. Federal correspondence from Dr. Bernadette Hence, Senior Program Manager, Minority Science and Engineering Improvement Program, U.S. Department of Education (August 22, 2024; August 28, 2024; September 18, 2024) documenting recognition of Bowie State as expert implementer of the Grade Enhancement Program model and referrals of Fisk University and CUNY York College.
- C.3. Industry partner letter: CyDeploy.
- C.4. Industry partner letter: Graham.
- C.5. Industry partner letter: Invisible Strengths.
- C.6. Industry partner letter: Juxtopia.
- C.7. Industry partner letter: Praxis.
- C.8. Industry partner letter: Runwei (Aixa Elgazwe, CEO).

C.1. MHEC Letter of Support

C.1. MHEC Letter of Support

Wes Moore
Governor

Aruna Miller
Lt. Governor



Catherine J. "Cassie" Motz
Commission Chair

Elena Quiroz-Livanis
Interim Secretary

June 26, 2026

Rose Shumba, Ph.D.
Chair & Professor, Department of Computer Science
Bowie State University
14000 Jericho Park Road
Bowie, MD 20715

**Re: Letter of Support for AI-READY, FY2026 Postsecondary Student Success Grants (PSSG)
Application, Assistance Listing 84.116M**

Dear Dr. Shumba:

The Maryland Higher Education Commission (MHEC) writes in strong support of **AI-READY: An AI-Enabled Experiential Learning and Student Success Pathway for Computing Majors at Bowie State University**, submitted by Bowie State University for the FY2026 Postsecondary Student Success Grants competition. As the state's higher education coordinating agency, MHEC supports projects that advance Maryland's higher education priorities, expand access to credentials and degree programs, and respond to documented state workforce needs. AI-READY does each of these.

State-recognized credential pathway under COMAR 13B.02.03.25. Bowie State's AI Career Readiness Credential will be submitted to MHEC for formal approval as an Upper Division Certificate under COMAR 13B.02.03.25, Maryland's regulation governing credit-bearing certificate programs at Maryland public institutions. MHEC will review the credential through the established state approval process, including review of curriculum content, learning outcomes, faculty qualifications, and alignment with Maryland's workforce needs. MHEC welcomes Bowie State's submission and is prepared to provide technical assistance to the project team during the review process. If approved, the AI Career Readiness Credential becomes a state-recognized credential available for adoption across Maryland's public higher education institutions.

Alignment with Maryland's statewide AI direction. AI-READY responds directly to the priorities Maryland set in the 2025 *Maryland AI Enablement Strategy and AI Study Roadmap*, submitted to the Maryland General Assembly in January 2025 under Governor Moore's January 2024 executive order and the AI Governance Act of 2024 (SB818). The Strategy prioritizes responsible AI governance, stronger data foundations, structured AI experimentation, increased AI literacy across the state workforce, and pathways for students at Maryland academic institutions to contribute to AI projects. AI-READY's design responds to each of these priorities through structured AI coursework, AI-supported student advising under a responsible AI governance framework, gateway-course support, and team-based internships and research placements with Maryland industry partners.

MARYLAND HIGHER EDUCATION COMMISSION
217 East Redwood Street • Suite 2100 • Baltimore, MD 21202
T 410.767.3300 • 800.974.0203 • F 410.332.0270 • TTY for the Deaf 800.735.2258 www.mhec.maryland.gov

Wes Moore
Governor

Aruna Miller
Lt. Governor



Catherine J. "Cassie" Motz
Commission Chair

Elena Quiroz-Livanis
Interim Secretary

Workforce relevance for the state of Maryland. Maryland's labor market data confirms the workforce relevance of the project. From 2022 to 2032, Maryland projects 39.3 percent growth for Data Scientists, 38.8 percent growth for Information Security Analysts, and 31.2 percent growth for Software Developers. These are among the state's fastest-growing fields. AI-READY prepares Bowie State undergraduate computing students for the exact AI-enabled occupations Maryland's economy is creating.

Potential for replication across Maryland higher education. Maryland's public higher education ecosystem benefits when one institution develops a strong, evidence-based credential that other institutions can adapt. The AI Career Readiness Credential, with its accompanying curriculum and assessment rubrics, is designed for state-wide replication once approved. MHEC supports Bowie State's commitment to publish the credential materials, the Bulldog Summer Bridge AI curriculum, the Grade Enhancement Program operations manual, and the Experiential Learning and Student Success Tracking System specification as publicly available resources. MHEC stands ready to assist in disseminating these resources to other Maryland institutions interested in adopting the model.

MHEC is committed to supporting AI-READY through the formal credential review process and through state-wide dissemination of the resources the project produces. We look forward to working with Bowie State University and Dr. Shumba on this important contribution to Maryland's higher education and AI workforce capacity.

If the review team has questions about MHEC's role or about Maryland higher education policy as it relates to this application, please contact Karen King-Sheridan, Director, Workforce Need at karen.king-sheridan@maryland.gov or 410.767.0119.

Sincerely,

A handwritten signature in black ink that reads "Elena Quiroz-Livanis".

Elena Quiroz-Livanis
Interim Secretary of Higher Education
Maryland Higher Education Commission

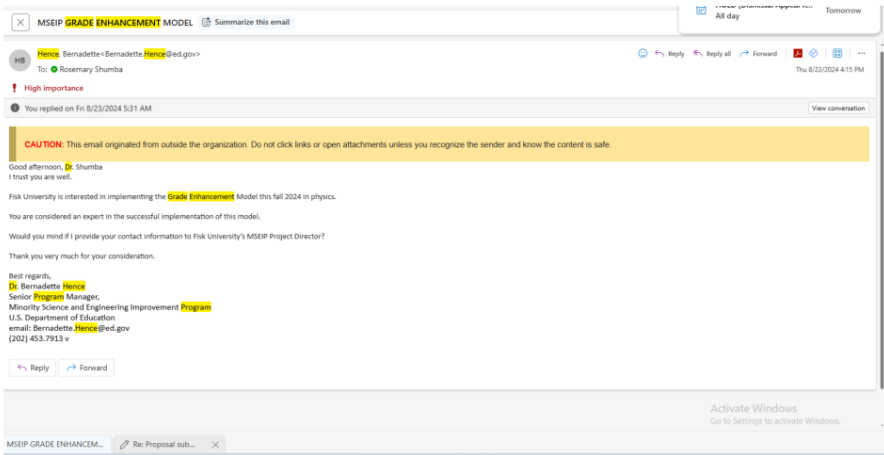
MARYLAND HIGHER EDUCATION COMMISSION
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C.2. Federal Correspondence — Dr. Bernadette Hence

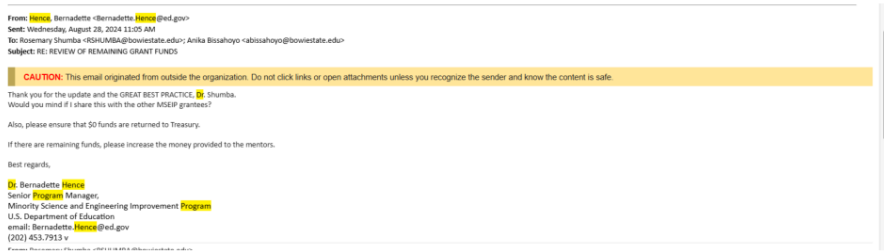
C.2. Federal Correspondence — Dr. Bernadette Hence

Three emails from Dr. Bernadette Hence, Senior Program Manager, Minority Science and Engineering Improvement Program, U.S. Department of Education, documenting federal recognition and referrals (August 2024 - September 2024).

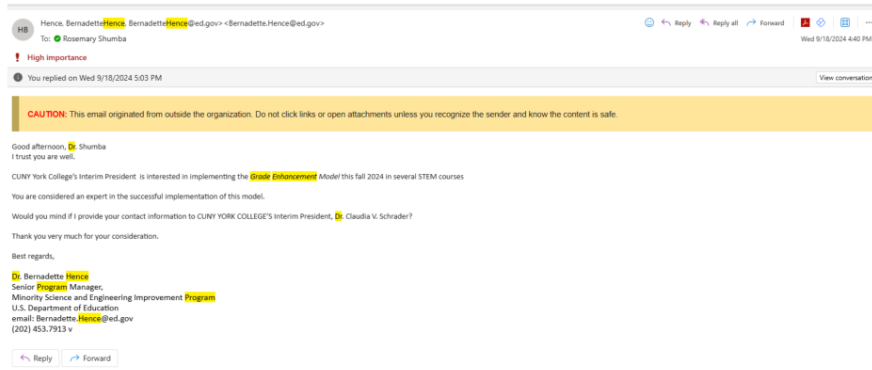
Email 1 of 3 — August 22, 2024 (Fisk University referral):



Email 2 of 3 — August 28, 2024 (Best practice recognition):



Email 3 of 3 — September 18, 2024 (CUNY York College referral):



C.3. CyDeploy (Industry Partner)

C.3. CyDeploy (Industry Partner)



June 22, 2026

Dear Dr. Shumba,

On behalf of CyDeploy Inc., I am pleased to write this letter in support of Dr. Rosemary Shumba and the Department of Computer Science at Bowie State University in their application to the U.S. Department of Education Postsecondary Student Success Grant (PSSG). We strongly support the Department's efforts to expand artificial intelligence (AI) education, experiential learning, and workforce development opportunities that prepare students for successful careers in the rapidly evolving AI industry. CyDeploy Inc. has had the privilege of hosting interns from the Bowie State University Department of Computer Science, and we have been consistently impressed by the technical abilities, professionalism, and potential of its students. We believe this grant will significantly strengthen the University's capacity to prepare students for careers in Artificial Intelligence, Machine Learning, and other emerging computing disciplines.

Should the proposal be funded, CyDeploy Inc. is committed to partnering with Department by:

- Providing AI-focused internship opportunities for qualified students.
- Offering AI engineers and technical leaders as mentors to support students throughout their experiential learning experiences.
- Sponsoring real-world AI projects involving machine learning, generative AI, natural language processing, computer vision, and data analytics.
- Delivering guest lectures, technical workshops, and career preparation sessions focused on emerging AI technologies and industry best practices.
- Considering successful program participants for internship and full-time employment opportunities within our AI and Machine Learning teams.

We believe this collaboration will provide students with valuable hands-on AI experience, strengthen workforce readiness, and develop a highly skilled pipeline of AI professionals prepared to meet the evolving needs of industry.

CyDeploy Inc. is proud to support Dr. Shumba and the Department of Computer Science in this important initiative and looks forward to collaborating on the successful implementation of the project.

David Steadman
Co-Founder
CyDeploy, Inc.

CyDeploy, Inc. | 901 S. Bond Street, Suite 203, Baltimore, MD 21231 | (202) 573-9344 phone | applications@cydeploy.com

C.4. Graham (Industry Partner)

C.4. Graham (Industry Partner)



Bowie State University

Rose Shumba, Ph.D
Chair & Professor
Department of Computer Science

Computer Science Building
Room 207B
14000 Jericho Park Road
Bowie, MD 20715
Phone: 301-860-4446
Fax: 301-860-3979

RE: LETTER OF SUPPORT APPLICATION FOR POSTSECONDARY STUDENT SUCCESS GRANT (PSSG)

I am pleased to provide this letter in support of Dr. Rosemary Shumba, Chair of the Department of Computer Science at Bowie State University, as she seeks funding from U.S. Department of Education Postsecondary Student Success Grant (PSSG) to expand student preparation in Artificial Intelligence (AI) through experiential learning and industry partnerships. Graham Technologies strongly supports initiatives that prepare students with the technical and professional skills needed for careers in AI.

Our collaboration with Bowie State University has demonstrated the exceptional quality of its students. We have hosted three interns in 2022, two in 2023, and one in 2024, providing hands-on experience on real-world technology projects.

If funded, Graham Technologies is committed to supporting the initiative by providing AI-focused internships, technical mentorship, real-world AI projects, and career development opportunities. We believe this partnership will strengthen the AI talent pipeline while preparing students for successful careers in the rapidly evolving technology workforce.

Sylvion A. Mbi
Vice President,
Information Technology and Operations

A handwritten signature in black ink, appearing to read "S. Mbi".

1401 Mercantile Lane, Suite 301 - Largo, MD 20774 - 240-764-7899 - www.graham-tech.net

C.5. Invisible Strengths (Industry Partner)

C.5. Invisible Strengths (Industry Partner)

INVISIBLE STRENGTHS



**RE: LETTER OF SUPPORT FOR DR. ROSEMARY SHUMBA'S U.S. DEPARTMENT OF
EDUCATION POSTSECONDARY STUDENT SUCCESS GRANT PROPOSAL**

Invisible Strength Company is pleased to provide this letter in support of Dr. Rosemary Shumba, Chair of the Department of Computer Science at Bowie State University, and her application to the U.S. Department of Education Postsecondary Student Success Grant (PSSG) Program. We strongly support her efforts to expand Artificial Intelligence (AI) education, experiential learning, and workforce preparation for students pursuing careers in emerging technologies.

We recognize the critical need to prepare a diverse pipeline of AI professionals and believe that stronger collaboration between academia and industry is essential to achieving this goal. The proposed initiative will provide students with meaningful opportunities to develop technical expertise, apply AI concepts to real-world challenges, and gain valuable professional experience.

If the proposal is funded, Invisible Strength Company looks forward to collaborating with Bowie State University by providing AI-focused experiential learning opportunities, technical mentorship, industry engagement, and career readiness activities consistent with the project's objectives.

We are confident that this partnership will strengthen students' technical competencies, expand access to AI career pathways, and contribute to developing the next generation of AI professionals. We are pleased to support Dr. Shumba's proposal and look forward to collaborating with Bowie State University on this important initiative.

We appreciate your consideration and wish Dr. Shumba every success in securing funding.

Mariah Barber, Co-Founder CEO

Lauren Mills, Co-Founder COO

C.6. Juxtopia (Industry Partner)

C.6. Juxtopia (Industry Partner)



Dear Dr. Shumba:

As President/CEO of Juxtopia, I am writing to express Juxtopia's strong support for Dr. Rosemary Shumba, Chair of the Department of Computer Science at Bowie State University, in her application to the U.S. Department of Education Postsecondary Student Success Grant (PSSG) Program aimed at expanding Artificial Intelligence (AI), Machine Learning (ML), and cybersecurity education, experiential learning, and career opportunities for student.

For two decades, Juxtopia has been closely following the impact and success of BSU's Computer Science program and the exceptional training that, consequently, places students with diverse organizations. Therefore, Juxtopia is excited about the possibility of collaborating with BSU-CS on this valuable program.

In the summer of 2023, Juxtopia hired 6 interns and trained them as Juxtopia® Engineers in Training (JET) Apprentices in various types of AI including, but not limited to, natural language processing (NLP); speech recognition/speech synthesis; face & face expression recognition; various types of computer vision object detection while applying Juxtopia® culturally competent, empathetic, and ethical (CCEE) AI algorithms.

Should BSU be successful in securing the grant, Juxtopia we would be interested in:

- Hiring Learners from Cyber and AI Clinic Center for internships or entry-level positions within our AI/ML or cybersecurity departments.
- Providing mentorship and practical training to support the growth and development of the learner placed within our organization.

Juxtopia team is confident that this collaboration will enable us to access fresh talent, infuse innovative ideas into our projects, and contribute to the broader goal of fostering technological expertise within our community while satisfying NSF intellectual merit and broader impact merit criteria.

Thank you for considering Juxtopia's support as you embark on this imperative venture.

Juxtopia wishes you every success in your application.

Sincerely:

A handwritten signature in black ink, appearing to read "Jayfus Tucker Doswell".

Jayfus Tucker Doswell, Ph.D.
President/CEO
Juxtopia, LLC

C.7. Praxis (Industry Partner)

C.7. Praxis (Industry Partner)



June 25, 2026

Rosemary Shumba, Ph.D
Department of Computer Science, Bowie State University
14000 Jericho Park Road
Bowie, Maryland 20715

Dear Dr. Shumba,

I am writing to express our interest in supporting Bowie State University during execution of Postsecondary Student Success Grant (PSSG) application

Praxis is always looking to diversify and expand our workforce, and we are fully supportive of grant's goal to foster and grow a diverse STEM workforce. Some examples of activities we support within our technical workforce are:

- In-house training, hackathons, and tech talks tailored for specific emerging technologies within the realms of Artificial Intelligence, Advanced Wireless, High Performance Computing, and Reverse Engineering.
- Workshops that allow employees to develop "soft skills" that are not easily taught. For example, we have had programs focused on topics such as *The Importance of Adaptability and Dealing with Difficult People*.

We foresee a potential collaboration in the following areas:

- Consult with Bowie State on technical coursework beneficial to students looking to join our industry. While topics could involve specific skills or niche areas, we also feel a focus on hands-on practices (e.g., Agile Methodology, Robust Programming, Testing, Debugging) is essential in preparing students for the workplace.
- Provide Praxis engineers as mentors, guest lecturers, and hosts for hands-on tech activities such as hackathons and workshops. We are also happy to invite Bowie State students to our Tech Talks.
- Provide professional experiential learning opportunities to students by hiring them onto our intern program.
- Present opportunities to interact with our leadership (<https://www.praxiseng.com/leadership>). We are proud that our leaders represents a diverse population and are eager to find ways to mentor and encourage underrepresented and underserved STEM students.

We look forward to discussing the ways Praxis can provide value, and to formalizing these details with you upon grant award.

Sincerely,

A handwritten signature in black ink, appearing to read 'Lisa Chang'.

Lisa Chang
Chief Technology Officer, Praxis Engineering Technologies, LLC

Headquarters
135 National Business Parkway, Suite 310
Annapolis Junction, MD 20701
301.490.4299

Virginia Operations
15036 Conference Center Drive, Suite 250
Chantilly, VA 20151
571.346.1940

APG Operations
4695 Millennium Drive
Belcamp, MD 21017
301.490.4299

C.8. Runwei (Industry Partner)

C.8. Runwei (Industry Partner)





U.S. Department of Education
Evidence Form

OMB Number: 1894-0001
Expiration Date: 08/31/2028

1. Level of Evidence

Select the level of evidence of effectiveness for which you are applying. See the Notice Inviting Applications for the relevant definitions and requirements.

☒ Demonstrates a Rationale ☐ Promising Evidence ☐ Moderate Evidence ☐ Strong Evidence

2. Citation and Relevance

Fill in the chart below with the appropriate information about the studies that support your application.

A. Research/Citation	B. Relevant Outcome(s)/Relevant Finding(s)	C. Project Component(s)/Overlap of Populations and/or Settings
Bettinger, E. P., & Baker, R. B. (2014). The Effects of Student Coaching: An Evaluation of a Randomized Experiment in Student Advising. Educational Evaluation and Policy Analysis, 36 (1), 3-19. Reviewed by the WWC; meets WWC group design standards without reservations (WWC Standards Handbook 5.0). WWC Study 72030: https://ies.ed.gov/ncee/wwc/study/72030	Component studied: individualized student coaching - the proactive advising and coaching practice that is AI-READY's AP1 evidence-supported component. In this randomized experiment, coaches proactively and regularly contacted students by phone, email, and text to set goals and build skills. Students assigned to a coach were significantly more likely to persist during the coaching period and to remain enrolled one year after coaching ended (potentially positive effect on credit accumulation and persistence; ~3,527 students). Retention/persistence and degree completion are outcomes in the AI-READY logic model (PSSG measures: annual retention and persistence; success rates including graduation), so the finding suggests AI-READY's proactive, ELTS-informed advising is likely to improve these outcomes.	AI-READY's evidence-based core - proactive, data-informed advising and coaching - is directly informed by this study. ELTS surfaces early-risk signals so dedicated departmental faculty advisers (and the Center Director and AI/ML Postdoctoral Fellow for the placement cohort) reach out before students ask for help, mirroring InsideTrack's regular proactive contact. Overlap of populations/settings: postsecondary students at two- and four-year public, private, and proprietary institutions, many of them nontraditional - comparable to Bowie State undergraduates across five computing majors.
Scrivener, S., Weiss, M. J., Ratledge, A., Rudd, T., Sommo, C., & Fresques, H. (2015). Doubling Graduation Rates: Three-Year Effects of CUNY's Accelerated Study in Associate Programs (ASAP) for Developmental Education Students. New York: MDRC. Reviewed by the WWC; meets WWC group design standards without reservations (WWC Standards Handbook 5.0). https://www.mdrc.org/work/publications/doubling-graduation-rates	Component studied: ASAP's high-touch, proactive advising. This is the same evidence-based core practice (proactive, data-informed advising) that AI-READY adapts in its logic model. ASAP was tested in a random assignment study at three CUNY community colleges. Compared with usual college services, ASAP nearly doubled the three-year graduation rate (40.1% vs. 21.8%; +18.3 points) and showed positive effects on credit accumulation and persistence, access and enrollment, and attainment. These map to AI-READY's PSSG outcomes (first-year credit accumulation; annual retention and persistence; success rates including graduation; credentials conferred), suggesting AI-READY's proactive advising and structured supports are likely to improve completion.	AI-READY adapts ASAP's proactive, structured advising and wraparound supports (advising, tutoring, participation stipends, and summer/winter momentum) into a four-year computing pathway coordinated by ELTS. Overlap of populations/settings: low-income, high-need postsecondary students of color at an urban-serving public institution - comparable to Bowie State University, a majority-Pell HBCU (about 50% Pell), where AI-READY serves undergraduates in five computing majors.

Instructions for Evidence Form

1. **Level of Evidence.** Check the box next to the level of evidence for which you are applying. See the Notice Inviting Applications for the evidence definitions.
2. **Citation and Relevance.** Fill in the chart for each of the studies you are submitting to meet the evidence standards. If allowable under the program you are applying for, you may add additional rows to include more than four citations. (See below for an example citation.)
 - a. **Research/Citation.** For Demonstrates a Rationale, provide the citation or link for the research or evaluation findings. For Promising, Moderate, and Strong Evidence, provide the full citation for each study or WWC publication you are using as evidence. If the study has been reviewed by the WWC, please include the rating it received, the WWC review standards version, and the URL link to the description of that finding in the WWC reviewed studies database. Include a copy of the study or a URL link to the study, if available. Note that, to provide promising, moderate, or strong evidence, you must cite either a specific recommendation from a WWC practice guide, a WWC intervention report, or a publicly available, original study of the effectiveness of a component of your proposed project on a student outcome or other relevant outcome.
 - b. **Relevant Outcome(s)/Relevant Finding(s).** For Demonstrates a Rationale, describe how the research or evaluation findings suggest that the project component included in the logic model is likely to improve relevant outcomes. For Promising, Moderate and Strong Evidence, describe: 1) the project component included in the study (or WWC practice guide or intervention report) that is also a component of your proposed project, 2) the student outcome(s) or other relevant outcome(s) that are included in both the study (or WWC practice guide or intervention report) and in the logic model (theory of action) for your proposed project, and 3) the study (or WWC intervention report) finding(s) or WWC practice guide recommendations supporting a favorable relationship between a project component and a relevant outcome. Cite page and table numbers from the study (or WWC practice guide or intervention report), where applicable.
 - c. **Project Component(s)/Overlap of Population and/or Settings.** For Demonstrates a Rationale, explain how the project component(s) is informed by the research or evaluation findings. For Promising, Moderate, and Strong Evidence, explain how the population and/or setting in your proposed project are similar to the populations and settings included in the relevant finding(s). Cite page numbers from the study or WWC publication, where applicable.

EXAMPLES: For Demonstration Purposes Only (the three examples are not assumed to be cited by the same applicant)

A. Research/Citation	B. Relevant Outcome(s)/Relevant Finding(s)	C. Project Component(s)/Overlap of Populations and/or Settings
Graham, S., Bruch, J., Fitzgerald, J., Friedrich, L., Furgeson, J., Greene, K., Kim, J., Lyskawa, J., Olson, C.B., & Smither Wulsin, C. (2016). Teaching secondary students to write effectively (NCEE 2017-4002). Washington, DC: National Center for Education Evaluation and Regional Assistance (NCEE), Institute of Education Sciences, U.S. Department of Education. Retrieved from the NCEE website: https://ies.ed.gov/ncee/wwc/PracticeGuide/22 . This report was prepared under Version 3.0 of the WWC Handbook (p. 72).	<p>(Table 1, p. 4) Recommendation 1 ("Explicitly teach appropriate strategies using a Model – Practice – Reflect instructional cycle") is characterized as backed by "strong evidence."</p> <p>(Appendix D, Table D.2, pp. 70-72) Studies contributing to the "strong evidence" supporting the effectiveness of Recommendation 1 reported statistically significant and positive impacts of this practice on genre elements, organization, writing output, and overall writing quality.</p>	(Appendix D, Table D.2, pp. 70-72) Studies contributing to the "strong evidence" supporting the effectiveness of Recommendation 1 were conducted on students in grades 6 through 12 in urban and suburban school districts in California and in the Mid-Atlantic region of the U.S. These study samples overlap with both the populations and settings proposed for the project.

A. Research/Citation	B. Relevant Outcome(s)/Relevant Finding(s)	C. Project Component(s)/Overlap of Populations and/or Settings
<p>U.S. Department of Education, Institute of Education Sciences, What Works Clearinghouse. (2017, February). Transition to College intervention report: Dual Enrollment Programs. Retrieved from https://ies.ed.gov/ncee/wwc/Intervention/1043. This report was prepared under Version 3.0 of the WWC Handbook (p. 1).</p>	<p>(Table 1, p. 2) Dual enrollment programs were found to have positive effects on students' high school completion, general academic achievement in high school, college access and enrollment, credit accumulation in college, and degree attainment in college, and these findings were characterized by a "medium to large" extent of evidence.</p>	<p>(pp. 1, 19, 22) Studies contributing to the effectiveness rating of dual enrollment programs in the high school completion, general academic achievement in high school, college access and enrollment, credit accumulation in college, and degree attainment in college domains were conducted in high schools with minority students representing between 32 and 54 percent of the student population and first generation college students representing between 31 and 41 percent of the student population. These study samples overlap with both the populations and settings proposed for the project.</p>
<p>Bettinger, E.P., & Baker, R. (2011). The effects of student coaching in college: An evaluation of a randomized experiment in student mentoring. Stanford, CA: Stanford University School of Education. Available at https://ed.stanford.edu/sites/default/files/bettinger_baker_030711.pdf</p> <p>Meets WWC Group Design Standards without Reservations under review standards 2.1 (http://ies.ed.gov/ncee/wwc/Study/72030).</p>	<p>The intervention in the study is a form of college mentoring called student coaching. Coaches helped with a number of issues, including prioritizing student activities and identifying barriers and ways to overcome them. Coaches were encouraged to contact their assignees by either phone, email, text messaging, or social networking sites (pp. 8-10). The proposed project for Alpha Beta Community College students will train professional staff and faculty coaches on the most effective way (s) to communicate with their mentees, suggest topics for mentors to talk to their mentees, and be aware of signals to prevent withdrawal or academic failure.</p> <p>The relevant outcomes in the study are student persistence and degree completion (Table 3, p. 27), which are also included in the logic model for the proposed project.</p> <p>This study found that students assigned to receive coaching and mentoring were significantly more likely than students in the comparison group to remain enrolled at their institutions (pp. 15-16, and Table 3, p. 27).</p>	<p>The full study sample consisted of "13,555 students across eight different higher education institutions, including two- and four-year schools and public, private not-for-profit, and proprietary colleges." (p. 10) The number of students examined for purposes of retention varied by outcome (Table 3, p. 27). The study sample overlaps with Alpha Beta Community College in terms of both postsecondary students and postsecondary settings.</p>

Paperwork Burden Statement: According to the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless such collection displays a valid OMB control number. The valid OMB control number for this information collection is 1894-0001. The time required to complete this information collection is estimated to vary from 1 to 4 hours per response, with an average of 1.5 hours per response, including the time to review instructions, search existing data sources, gather the data needed, and complete and review the information collection. If you have any comments concerning the accuracy of the time estimate(s) or suggestions for improving this form, please write to: U.S. Department of Education, Washington, D.C. 20202-4537. If you have comments or concerns regarding the status of your individual submission of this form, write directly to the Office of Innovation and Improvement, U.S. Department of Education, 400 Maryland Avenue, S.W., Washington, D.C. 20202