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Cover Sheet for In-State Institutions
New Program or Substantial Modification to Existing Program

Institution Submitting Proposal	Community College of Baltimore County

Each action below requires a separate proposal and cover sheet.

- (●) New Academic Program
- ( ) New Area of Concentration
- ( ) New Degree Level Approval
- ( ) New Stand-Alone Certificate
- ( ) Off Campus Program
- ( ) Substantial Change to a Degree Program
- ( ) Substantial Change to an Area of Concentration
- ( ) Substantial Change to a Certificate Program
- ( ) Cooperative Degree Program
- ( ) Offer Program at Regional Higher Education Center

Payment Submitted: (●) Yes ( ) No Payment Type: ( ) R*STARS # (●) Check # 10048425 Payment Amount: $850 Date Submitted: 04/01/2025

Department Proposing Program	School of Business, Technology and Law	
Degree Level and Degree Type	Assoiate of Science	
Title of Proposed Program	Artificial Intelligence	
Total Number of Credits	60	
Suggested Codes	HEGIS: 79903.00	CIP: 110102.0000
Program Modality	(●) On-campus ( ) Distance Education (fully online) ( ) Both	
Program Resources	(●) Using Existing Resources ( ) Requiring New Resources	
Projected Implementation Date (must be 60 days from proposal submisison as per COMAR 13B.02.03.03)	(●) Fall ( ) Spring ( ) Summer	Year: 2025
Provide Link to Most Recent Academic Catalog	URL: https://catalog.ccbcmd.edu/index.php	
Preferred Contact for this Proposal	Name: Dr. Laura Cripps	
	Title: Assistant Dean, Curriculum and Assessment	
	Phone: (443) 514-6755	
	Email: lcripps@ccbcmd.edu	
President/Chief Executive	Type Name: Dr. Sandra Kurtinitis	
	Signature: 	Date: 02/26/2025
	Date of Approval/Endorsement by Governing Board:	01/29/2025

Revised 1/2021

CCBC
The Community College of Baltimore County

443-840-CCBC (2222)

CCBC Catonsville
800 South Rolling Road
Baltimore, Maryland
21228

CCBC Dundalk
7200 Sollers Point Road
Baltimore, Maryland
21222

CCBC Essex
7201 Rossville Boulevard
Baltimore, Maryland
21237

CCBC Hunt Valley
11101 McCormick Road
Suite 100
Hunt Valley, Maryland
21031

CCBC Owings Mills
10300 Grand Central Avenue
Owings Mills, Maryland
21117

CCBC Randallstown
at The Liberty Center
3637 Offutt Road
Randallstown, Maryland
21133

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February 19, 2025

Sanjay Rai, Ph.D.,
Secretary
Maryland Higher Education Commission
217 E. Redwood Street
21st Floor Baltimore
MD 21202

Dear Dr. Rai,

The Community College of Baltimore County (CCBC) is requesting approval of a new Associate of Science (A.S.) program in Artificial Intelligence (CIP: 110102 and HEGIS: 079903).

This program has been designed in correspondence with transfer partners at University of Maryland, Global Campus and the university of Baltimore. The agreed curriculum provides CCBC students with seamless transfer into the bachelor's degree in Artificial Intelligence at each of these respective institutions.

A.S. in Artificial Intelligence			
Course	**Credits**	**Prefix**	**Gen Ed Category**
English Composition I	3	ENGL 101	English Composition
Fundamentals of Communication	3	CMNS 101	Arts and Humanities
Ethics	3	PHIL 240	Arts and Humanities
Calculus I	4	MATH 251	Math
Introduction to Psychology	3	PSYC 101	Social and Behavioral Sciences
Social and Behavioral Sciences General Education Elective	3		Social and Behavioral Sciences
Biology I or General Chemistry I or General Physics I	4	BIOL 110 or CHEM 131 or PHYS 151	Biological and Physical Sciences
Biological and Physical Sciences General Education Elective	3-4		Biological and Physical Sciences

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Fundamentals of Logic and Design	3	CSIT 111	Information Technology
Gen Ed Total	**29-30**		
Program Requirements			
Course	**Credits**	**Prefix**	
English Composition II	3	ENGL 102	
Introduction to Statistical Methods	4	MATH 153	
Database Concepts	4	CSIT 154	
Introduction to Programming	4	CSIT 210	
Advanced Programming	4	CSIT 211	
Introduction to Artificial Intelligence	3	CSIT 259	
Introduction to Machine Learning	3	CSIT 260	
Foundations of Natural Language Processing and Information	3	CSIT 261	
CSIT Capstone	3	CSIT 265	
Program Requirement Total	**31**		
Program Electives			
Program Elective Total	**0**		
Program Total (minimum)	**60-61**		

This proposal has been approved by Senior Staff and CCBC's Board of Trustees in January 2025. A payment of eight hundred and fifty dollars ($850) has been forwarded to cover the substantive fee for a new academic program. Please feel free to contact me with any questions.

Sincerely,

Joaquin G. Martinez, Ph.D.
Provost and Vice President for Academic and Student Affairs

cc: Jennifer Kilbourne
Laura Cripps
Ted McCadden
Tim Davis
Lynn MacLaughlin

Ginny Zawodny
Glenda Breaux

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A. Centrality to Institutional Mission and Planning Priorities:

1. Provide a description of the program, including each area of concentration (if applicable), and how it relates to the institution's approved mission.

The Community College of Baltimore County (CCBC) transforms lives by providing accessible, affordable, and high-quality education that prepares students for transfer and career success, strengthens the regional workforce, and enriches our community. Community College of Baltimore County Strategic Plan, FY2024-2026.

CCBC's proposed Associate of Science (A.S.) program in Artificial Intelligence enables students to explore the core principles of artificial intelligence, including machine learning, natural language processing, and data-driven decision-making. This is a curriculum and associated skill set that is in high demand by employers within our region. The program highlights the potential for artificial intelligence to automate complex tasks, reduce human error, and drive innovation. It also emphasizes the ethical and practical implications of artificial intelligence.

This program has been designed primarily for transfer, with specific curriculum alignment to new Bachelor of Science (B.S.) degrees in Artificial Intelligence recently offered by the University of Maryland Global Campus (UMGC) and the University of Baltimore (UB). As partner institutions within CCBC's *Degrees to Succeed* initiative, eligible students will benefit from dual admission during their studies. The nature of the proposed curriculum also facilitates student transfer into several other technology-related programs of study at universities throughout Maryland, should students desire.

Students who are successful in this degree program will have a broad spectrum of transfer options with multiple career tracks related to artificial intelligence, computer science, data science, and information technology. Entry-level positions within these fields include jobs in software development, computer systems analysis, systems management and computer and information research. While many positions require a bachelor's degree, these positions are well paid. Entry-level positions in related fields are projected to increase in the Baltimore-Washington region by 11.6% by 2030 and are categorized as having a current regional median salary of $136,000[1]. In some instances, students who have earned an A.S. degree within the discipline can obtain work in the field while continuing to work on their bachelor's degree.

[1]Lightcast, Q4 2024 Data Set

2. Explain how the proposed program supports the institution's strategic goals and provide evidence that affirms it is an institutional priority.

Transformational Academics is a pillar of CCBC's 2024-2026 strategic plan. Within this pillar, among other objectives, CCBC seeks to increase the accessibility of education for students and support their transition into transfer institutions and high-paying jobs. The proposed A.S. in Artificial Intelligence meets these requirements. The program, in conjunction with CCBC's Degree's to Succeed Initiative, supports student transfer with junior status within a bachelor's program at University of Maryland Global Campus (UMGC) and the University of Baltimore (UB). CCBC already serves as a National Center for

[1] Lightcast, Q4 2024 Data Set for Artificial Intelligence Engineers and Artificial Intelligence Analysts.

Academic Excellence in Cyber Defense, and benefits from multiple traditional computer labs as well as a dedicated research space for student involved in hands-on data sciences and artificial intelligence research projects.

3. Provide a brief narrative of how the proposed program will be adequately funded for at least the first five years of program implementation. (Additional related information is required in section L.

   The proposed program will be an addition to the existing portfolio of Associate degree and Lower Division Certificate programs within the department of Computer Science and Information Technology. As such, the program will benefit from the existing extensive resources of the department; one full-time department Chair, two full-time program coordinators, sixteen additional full-time faculty and eight long-term adjunct faculty. The Department also employs a dedicated full-toime administrator to help support students and faculty. CCBC has a full-time faculty position advertised, which will support instruction in thhe courses connected to this program. Several of the courses in artificial intelligence are currently being taught as electives for existing programs.

4. Provide a description of the institution's a commitment to:

   a) ongoing administrative, financial, and technical support of the proposed program

   b) continuation of the program for a period of time sufficient to allow enrolled students to complete the program.

   The proposed program has been approved by CCBC's College Senate, president and Board of Trustees; thus adequate funding is in place for at least the first five years of program implementation. The program will continue, allowing ample time for student completion.

   The departmental research lab at the CCBC Essex campus is in its early stages, offering students access to cutting-edge technologies and dedicated research space. This new facility aims to foster innovation and hands-on learning, providing a dynamic environment for students to engage in advanced research projects in data science and artificial intelligence.

B. Critical and Compelling Regional or Statewide Need as Identified in the State Plan:

1. Demonstrate demand and need for the program in terms of meeting present and future needs of the region and the State in general based on one or more of the following:
   a) The need for the advancement and evolution of knowledge
   b) Societal needs, including expanding educational opportunities and choices for minority and educationally disadvantaged students at institutions of higher education

   c) The need to strengthen and expand the capacity of historically black institutions to provide high quality and unique educational programs

1. Provide evidence that the perceived need is consistent with the **Maryland State Plan for Postsecondary Education**.

The 2022 Maryland State Plan for Higher Education identifies three primary goals for postsecondary education in Maryland; Access, Success and Innovation. The proposed program supports the goals of Access and Success by 'ensuring equitable access to affordable and high-quality secondary education for all Maryland residents' and in 'promoting and implementing practcies and policies that will ensure student success'. Specifically, this proposal supports Priority 5 'to maintain the commitment to high-quality postsecondary education in Maryland', by innovating with a specialized degree program that is aligned with four-year partners, and Priority 6 'to improve systems that prevent timely completion of an academic program' by increasing academic coordination among insitutions to address challneges faced by transfer students. This latter criteria is reflected in the collaboration between CCBC and four-year partners in articulating the coursework for artificial intelligence, and more holistically in the 'Degrees to Succeed' transfer partnerships CCBC has with both named institutions – University of Maryland Global Campus (UMGC) and University of Baltimore (UB). Degrees to Succeed is a dual-admission program for CCBC students whereby they are guarenteed admision to both institututions, gaining access to the 4-year partner campus resources and student experiences incluing co-advising. Degrees to Succeed students are also guarenteed transfer with Junior status after earning their Associate degree and are eligible for dedicated financial incentives and scholarship opportunities.

C. Quantifiable and Reliable Evidence and Documentation of Market Supply and Demand in the Region and State:

1. Describe potential industry or industries, employment opportunities, and expected level of entry (*ex: mid-level management*) for graduates of the proposed program.

Artificial Intelligence (AI) professionals are in high demand across multiple industries in Maryland, particularly in computer systems design, software development, healthcare, finance, and government. AI-related occupations, including AI Analysts (Computer Systems Analysts) and AI Engineers (Software Developers), exceed national employment averages with 15,699 and 36,817 jobs, respectively. Maryland's AI job market is experiencing significant growth, with projected increases of 4.8% for AI Analysts and 12.3% for AI Engineers by 2028, supported by strong employer demand and competitive salaries. AI professionals play a key role in machine learning, automation, predictive analytics, and intelligent system development, driving innovation across sectors.

Graduates of the associate degree in Artificial Intelligence will be well-positioned for entry-level to mid-level roles such as AI Technician, Machine Learning Associate, AI Support Specialist, and AI-focused Software Developer. With 220+ AI Analyst (Computer Systems Analysts) and 1,375+ AI Engineer (Software Developers) job postings per month in Maryland, this program meets a critical workforce need[2]. The curriculum will equip students with practical AI skills in programming, and fundamentals of AI and machine learning, ensuring they can contribute to the region's rapidly growing AI-driven economy.

[2] Lightcast, Q4 2024 data set.

2. Present data and analysis projecting market demand and the availability of openings in a job market to be served by the new program.

The job market for Artificial Intelligence professionals is rapidly growing, with AI-related roles in computer systems design, software development, and automation experiencing significant expansion. In Maryland, there are currently 15,699 Computer Systems Analysts which include AI Analyst and 36,817 Software Developers which include AI Engineers, exceeding the national employment averages of 10,699 and 35,112, respectively. Employment projections indicate a 4.8% growth for AI Analysts and a 12.3% increase for AI Engineers by 2028, signaling strong long-term demand for AI expertise in the state. Maryland also offers higher-than-average compensation, with median salaries of $109,976 for Analysts and $135,709 for Engineers, surpassing national median wages[3].

The Baltimore-Washington region is a national hub for technology related employment. AI job opportunities are concentrated in computer systems design (36.8% of AI Analysts, 49.7% of AI Engineers), software publishing, scientific research, and consulting services . In Maryland alone, there were 2,642 unique AI Analyst job postings and 16,500 unique AI Engineer job postings in 2024 . Key employers hiring AI professionals include Leidos, Northrop Grumman, Lockheed Martin, Booz Allen Hamilton, and General Dynamics, reflecting the region's emphasis on AI-driven cybersecurity, defense, healthcare analytics, and machine learning automation . Given the high demand, competitive salaries, and strong regional AI job market, the Associate Degree in Artificial Intelligence will provide students with a direct pathway to high-demand, well-compensated careers in Maryland's expanding AI workforce.

Employment and Growth Data

Occupation	2024 Jobs	2028 Jobs Projection	Growth Rate (%)	National Avg Jobs (2024)
AI Analysts (Computer Systems Analysts)	15,699	16,444	4.8%	10,699
AI Engineers (Software Developers)	36,817	41,332	12.3%	35,112

Industry Breakdown for AI Jobs in Maryland

Industry	AI Analysts (%)	AI Engineers (%)
Computer Systems Design & Related Services	36.8%	49.7%
Software Publishers	-	5.3%
Scientific Research & Development Services	5.1%	4.3%
Management & Technical Consulting	5.2%	4.2%
Government & Defense	4.1%	-
Healthcare & Medical Analytics	3.4%	-

[3] Lightcast, Q4 2024 Data Set for Artificial Intelligence Engineers and Artificial Intelligence Analysts.

Job Posting and Hiring Activity

Occupation	Avg Monthly Job Postings	Total Unique Job Postings (2024)	Avg Monthly Hires
AI Analysts (Computer Systems Analysts)	220	2,642	377
AI Engineers (Software Developers)	1,375	16,500	977

3. Discuss and provide evidence of market surveys that clearly provide quantifiable and reliable data on the educational and training needs and the anticipated number of vacancies expected over the next 5 years.

The Table below demonstrates Maryland's potential demand for graduates in the Artificial Intelligence degree program based on related technology occupations. The evidence provided is based on the program's proposed Classification of Program (CIP) code and is cross-referenced with the Bureau of Labor Statistics Standard Occupational Classifications (SOC), which identify the professions and occupations that graduates of this program are likely to pursue.

This data provides evidence of workforce demand, with AI-related occupations in Maryland projected to grow significantly over the next decade. Key occupations relevant to AI professionals include Software Developers (31.2% growth, 3,232 annual openings), Computer and Information Systems Managers (18.99% growth, 1,339 annual openings), and Computer Systems Analysts (15.84% growth, 1,223 annual openings). The overall category of Computer and Mathematical Occupations is expected to expand by 20.97%, adding over 32,000 new positions by 2032, with 13,118 annual job openings. These projections highlight the critical need for AI education and training programs to meet Maryland's increasing demand for AI and software professionals across industries.

Given these trends, the associate degree in Artificial Intelligence will provide students with the foundational skills necessary to enter high-growth, high-demand AI careers, supporting Maryland's expanding technology workforce.

SOC	Occupation Title	Employment 2022	Employment 2032	Percent Change	Annual Total Openings	Education Value
11-3021	Computer and Information Systems Managers	15066	17927	0.1899	1339	Bachelor's degree
15-0000	Computer and Mathematical Occupations	153172	185292	0.2097	13118	

15-1200	Computer Occupations	142870	171904	0.2032	12112	
15-1211	Computer Systems Analysts	15524	17983	0.1584	1223	Bachelor's degree
15-1221	Computer and Information Research Scientists	2333	2835	0.2152	211	Master's degree
15-1231	Computer Network Support Specialists	9848	11221	0.1394	828	Associate's degree
15-1232	Computer User Support Specialists	12183	13480	0.1065	972	Some college, no degree
15-1241	Computer Network Architects	7677	8417	0.0964	496	Bachelor's degree
15-1251	Computer Programmers	3604	3347	-0.0713	184	Bachelor's degree
15-1252	Software Developers	34970	45887	0.3122	3232	Bachelor's degree
15-1253	Software Quality Assurance Analysts and Testers	8622	10805	0.2532	810	Bachelor's degree
15-1299	Computer Occupations, All Other	22759	26979	0.1854	1959	Bachelor's degree
17-2061	Computer Hardware Engineers	2755	2958	0.0737	173	Bachelor's degree

Source: https://www.dllr.state.md.us/lmi/iandoproj/maryland.shtml

4. Provide data showing the current and projected supply of prospective graduates.

CCBC instituted a new Associate of Science program in Data Science in the fall of 2022. This program currently has 39 declared majors, the majority of whom are enrolled part-time. The department of Computer Science and Information Technology anticipates a similar uptake in the Artificial Intelligence program:

Anticipated enrollment and completion for the A.S. in Artificial Intelligence					
	FY26	FY27	FY28	FY29	FY30
Program Enrollment	15	21	27	33	39
Program Completions	5	7	9	11	16

D. Reasonableness of Program Duplication:

1. Identify similar programs in the State and/or same geographical area. Discuss similarities and differences between the proposed program and others in the same degree to be awarded.

Keyword: Artificial
Degree: All Degree Levels
Total: 16

Institution	Program	Degree
Bowie State University	DATABASE MGMT/ ARTIFICIAL INTEL	Post-Baccalaureate Certificate
Capitol Technology University	APPLIED ARTIFICIAL INTELLIGENCE	Post-Baccalaureate Certificate
Capitol Technology University	ARTIFICIAL INTELLIGENCE	Master's Degree
Capitol Technology University	ARTIFICIAL INTELLIGENCE	Bachelor's Degree
Capitol Technology University	ARTIFICIAL INTELLIGENCE	Doctorate (Research & Scholarship)
Johns Hopkins University	ARTIFICIAL INTELLIGENCE	Master's Degree
Johns Hopkins University	ARTIFICIAL INTELLIGENCE	Doctorate (Research & Scholarship)
Johns Hopkins University	ARTIFICIAL INTELLIGENCE	Post-Baccalaureate Certificate
Johns Hopkins University	ARTIFICIAL INTELLIGENCE FOR BUSINESS	Post-Baccalaureate Certificate
Johns Hopkins University	BUSINESS ANALYTICS AND ARTIFICIAL INTELL	Master's Degree
Johns Hopkins University	INFORMATION SYSTEMS AND ARTIFICIAL INTEL	Master's Degree
Univ. of Maryland University College	ARTIFICIAL INTELLIGENCE	Bachelor's Degree
Univ. of Maryland University College	ARTIFICIAL INTELLIGENCE FOUNDATIONS	Upper Division Certificate
University of Baltimore	ARTIFICIAL INTELLIGENCE FOR BUSINESS	Master's Degree
University of Maryland, Baltimore City	ARTIFICIAL INTELLIGENCE FOR DRUG DEVELOP	Master's Degree
University of Maryland, Baltimore County	ARTIFICIAL INTELLIGENCE	Post-Baccalaureate Certificate

No comparable associate degrees in Maryland have been identified. CCBC has been keen to develop an associate degree in Artificial Intelligence for some time, but as an institution we were waiting for an increase in the number of bachelor's programs in this field, in order to better articulate an associate degree for transfer. With the development of UMGC and UB's bachelor's programs, CCBC quickly coordinated meetings with these two four-year partners, in order to discuss and finalize appropriate curriculum.

2. Provide justification for the proposed program.

Graduates of the associate degree in Artificial Intelligence will be well-positioned for entry-level to mid-level roles such as AI Technician, Machine Learning Associate, AI Support Specialist, and AI-focused Software Developer. Students who are successful in this degree program will have a broad spectrum of transfer options with multiple career tracks related to artificial intelligence, computer science, data science, and information technology. Entry-level positions within these fields include jobs in software development, computer systems analysis, systems management and computer and information research. While many positions require a bachelor's degree, these positions are well paid. Entry-level positions in related fields are projected to increase in the Baltimore-Washington region by 11.6% by 2030 and are categorized as having a current regional median salary of $136,000[4]. In some instances, students who

[4] Lightcast, Q4 2024 Data Set for Artificial Intelligence Engineers and Artificial Intelligence Analysts.

have earned an A.S. degree within the discipline can obtain work in the field while continuing to work on their bachelor's degree.

E. Relevance to High-demand Programs at Historically Black Institutions (HBIs)

1. Discuss the program's potential impact on the implementation or maintenance of high-demand programs at HBI's.

This program has no anticipated impact upon the implementation or maintenance of high-demand programs at HBI's.

F. Relevance to the identity of Historically Black Institutions (HBIs)

1. Discuss the program's potential impact on the uniqueness and institutional identities and missions of HBIs.

This program as no anticipated impact on the uniqueness and institutional identities and missions of HBI's.

G. Adequacy of Curriculum Design, Program Modality, and Related Learning Outcomes (as outlined in COMAR13B.02.03.10):

1. Describe how the proposed program was established, and also describe the faculty who will oversee the program.

New Program Proposals at CCBC are reviewed and approved according to the process developed through college governance, including approval by the Curriculum and Instruction Committee (CIC) and the full College Senate. In addition, this new degree proposal was carefully reviewed by the President and her Senior Staff prior to submission to the CCBC Board of Trustees for their endorsement. The President has affirmed that the program can be implemented within the existing institutional resources.

2. Describe educational objectives and learning outcomes appropriate to the rigor, breadth, and (modality) of the program.

Upon successful completion of this degree, students will be able to:

1. Design Artificial Intelligence-based solutions that reflect foundational knowledge of programming, machine learning and natural language processing.
2. Implement solutions that utilize artificial intelligence to address complex problems in various fields, drawing upon foundational knowledge and techniques in the discipline.
3. Research real-world challenges that can be responded to using Artificial Intelligence.

4. Evaluate ethical implications in the development and deployment of Artificial Intelligence technologies.
5. Identify appropriate transfer and career paths within the field of Artificial Intelligence.

3. Explain how the institution will:
    a) provide for assessment of student achievement of learning outcomes in the program
    b) document student achievement of learning outcomes in the program

CCBC has a strong student learning outcomes assessment program that met all Middle States Commission on Higher Education (MSCHE) standards criteria in the College's most recent MSCHE decennial review. The course level assessment process utilizes externally validated assessments that directly measure student learning at course objective level. All assessment projects begin with the development of a Request for Proposal (RFP) and flow through the five stages as follows:

Stage 1: Designing and Proposing a Learning Outcomes Assessment Project

Stage 2: implementing the Design and Collecting and Analyzing the Data

Stage 3: Redesigning the Course to Improve Student Learning

Stage 4: Implementing Course revisions and Reassessing Student Learning

Stage 5: Final Analysis and Reporting Results

In addition, all general education courses undergo general education assessment that utilize common graded assignments (GCA's). Learning outcomes assessment in both discipline and general education courses provide a mechanism for continuous improvement.

Program outcomes assessment is a primary focus for CCBC. Academic programs are evaluated through a committee driven program review process. All credit degree and certificate programs undergo quinquennial assessment to verify continued high quality and relevance in the workforce and to maximize resource allocation to benefit students. All programs have clearly defined program outcomes that are published in the College Catalog. Program coordinators and department chairs are convened by the Assistant Dean of Curriculum and Assessment and the Office of Planning, Research, and Evaluation for an orientation one year in advance of the program review date to prepare for program review.

The review process consists of a deep dive into the curriculum, enrollment and student performance data, and employment opportunities in the region. Program Coordinators are required to work with the Learning Outcomes Assessment Associate to prepare a Program Outcomes Assessment Plan (POAP) proposal. As part of the program review process, three-year administrative goals are presented to determine future needs for the program and to align those needs with resources that can be identified to support the goals. If approved, the proposed A.S. in Artificial Intelligence will undergo program review in academic year 2029-2030.

4. Provide a list of courses with title, semester credit hours and course descriptions, along with a description of program requirements

Associate of Science (A.S.) in Artificial Intelligence

General Education			
Course	**Credits**	**Prefix**	**Gen Ed Category**
English Composition I	3	ENGL 101	English Composition
Fundamentals of Communication	3	CMNS 101	Arts and Humanities
Ethics	3	PHIL 240	Arts and Humanities
Calculus I	4	MATH 251	Math
Introduction to Psychology	3	PSYC 101	Social and Behavioral Sciences
Social and Behavioral Sciences General Education Elective	3		Social and Behavioral Sciences
Biology I or General Chemistry I or General Physics I	4	BIOL 110 or CHEM 131 or PHYS 151	Biological and Physical Sciences
Biological and Physical Sciences General Education Elective	3-4		Biological and Physical Sciences
Fundamentals of Logic and Design	3	CSIT 111	Information Technology
Gen Ed Total	**29-30**		
Program Requirements			
Course	**Credits**	**Prefix**	
English Composition II	3	ENGL 102	
Introduction to Statistical Methods	4	MATH 153	
Database Concepts	4	CSIT 154	
Introduction to Programming	4	CSIT 210	
Advanced Programming	4	CSIT 211	

Introduction to Artificial Intelligence	3	CSIT 259
Introduction to Machine Learning	3	CSIT 260
Foundations of Natural Language Processing and Information	3	CSIT 261
CSIT Capstone	3	CSIT 265
Program Requirement Total	**31**	
Program Electives		
Program Elective Total	**0**	
Program Total (minimum)	**60-61**	

List courses here, with title and course description.

ENGL 102 -- College Composition II: advances the critical thinking, reading, researching, and composing practices developed in English 101. Students further develop advanced rhetorical strategies and employ complex writing processes, including analyzing multiple and varied complex texts, developing arguments and ideas, conducting research and using sophisticated sources.

Pre-requisites: C or better in ENGL 101

MATH 153 – Introduction to Statistical Methods examines statistical methodology and use of critical judgment in analyzing data sets. Topics include descriptive statistics, introduction to probability, normal and binomial distributions, hypothesis testing, confidence intervals, regression and correlation, and chi-square distribution. A statistical computer package such as StatCrunch, Minitab, etc. is introduced as a computational tool and integrated throughout the course.

4 Credits

Prerequisites: MATH 082 or sufficient math placement score; and ACLT 052 or ACLT 053 or (ESOL 052 and ESOL 054)

CSIT 154 – Database Concepts: provides an introduction to database design and implementation and the fundamentals of database management systems (DBMS). Students will utilize structured query language (SQL) to manipulate and retrieve data through queries. Topics include data definitions, data manipulation, data management, data modeling, and data organization with an emphasis on entities and relationships. The role of security, data integrity, and recovery for database systems is examined.

Pre-requisites: CSIT 101 or consent of the Program Director

CSIT 210 – Introduction to Programming: provides an introduction to computer science through the development of problem-solving skills using accepted programming practices. An overview of algorithm design, data structures, and fundamental syntax of an object-oriented language is provided. Topics include data types, control structures, file I/O, classes, objects, methods, and arrays.

Co-requisites: CSIT 111 or permission of the program director

CSIT 211 – Advanced Programming: provides skills for solving complex problems and working with advanced topics using object-oriented programming. Topics include data structures (such as lists, stacks, queues, trees, and graphs), recursion, graphical user interfaces, simple database connectivity, sorting, and searching.

Pre-requisites: A letter grade of B or higher in CSIT 210 or permission of the program director

CSIT 259 – Introduction to Artificial Intelligence: provides an overview of the field of Artificial Intelligence (AI), exploring the foundations of machine learning, knowledge representation, intelligent systems, and natural language processing. Topics include agent-based systems, machine learning, search methodologies, genetic algorithms, knowledge representation, modeling, and examination of emerging trends in the field.

Pre-requisites: CSIT 210 or permission of the program director

CSIT 260 – Introduction to Machine Learning: allows students to explore current trends and techniques related to machine learning (ML), blending theoretical concepts with applied projects in artificial intelligence. Topics include machine learning methodologies, classification algorithms, evolutionary computation, neural networks, deep learning, reasoning, modeling, and examination of emerging trends in the field.

Pre-requisites: CSIT 210 and MATH 153 or permission of the program director

CSIT 261 – Foundations of Natural Language Processing and Information Retrieval: provides an overview of natural language processing (NLP) and information retrieval (IR) techniques. Students apply problem-solving skills using NLP and IR algorithms, methodologies, and concepts. Additional topics include text, link, and sentiment analysis, classification algorithms, language theory, search, recommender systems, and examination of emerging trends in the field.

Pre-requisites: CSIT 210 and MATH 153 or permission of the program director

CSIT 265 – CSIT Capstone: is a project-based course in Computer Science and Information Technology in which students demonstrate technology proficiency related to their degree program using research methodologies and design principles. Students conduct original research or engage in project implementation around real world issues. Topics relate to artificial intelligence, data science, data analytics, or other computer related domains.

Pre-requisites: CSIT 211 or permission of the program director

5. Discuss how general education requirements will be met, if applicable.

General Education requirements will be met in conjunction with program requirements and meet COMAR and CCBC policy. A semester-by-semester sequence will be provided in the college catalog.

6. Identify any specialized accreditation or graduate certification requirements for this program and its students.

N/A

7. If contracting with another institution or non-collegiate organization, provide a copy of the written contract.

N/A

8. Provide assurance and any appropriate evidence that the proposed program will provide students with clear, complete, and timely information on the curriculum, course and degree requirements, nature of faculty/student interaction, assumptions about technology competence and skills, technical equipment requirements, learning management system, availability of academic support services and financial aid resources, and costs and payment policies.

CCBC provides clear, complete and accurate information regarding curriculum, course and degree requirements on the CCBC website as accessed through our online catalog: Community College of Baltimore County - Acalog ACMS™ (ccbcmd.edu). Faculty hold regularly scheduled office hours (face to face or online, per college policy). These office hours are available to students outside of class meeting times and are posted on the course syllabus. CCBC uses Quality Matters standards in online learning as a measure of online course design quality. These standards specifically require the following to be addressed within each course: minimum technical requirements for the course, minimum technology expectations, learning management system basic requirements and instructions, links and instructions for all student support services including disability support services, financial aid etc. The same information can be found on the CCBC Online website: CCBC Online (ccbcmd.edu). Course sections (face to face, blended and online) utilize a learning management system course shell and instructors are required, at a minimum, to post the course syllabus, progress grades and final grades online. Links to academic support services are available at: Resources for students (ccbcmd.edu). Information on financial aid and the cost of attending CCBC and its payment policies can be accessed here: Costs and Paying for College (ccbcmd.edu).

9. Provide assurance and any appropriate evidence that advertising, recruiting, and admissions materials will clearly and accurately represent the proposed program and the services available.

Recruitment and admissions materials are revised each year when the CCBC catalog is finalized. Accurate admissions information can be found at this site: Get Started (ccbcmd.edu). The college catalog is updated yearly and all program and course information is current. The college catalog can be accessed at this link: Community College of Baltimore County - Acalog ACMS™ (ccbcmd.edu).

H. Adequacy of Articulation (as outlined in COMAR 13B.02.03.19)

1. If applicable, discuss how the program supports articulation with programs at partner institutions. Provide all relevant articulation agreements. More information for Articulation Agreements may be found here.

The proposed Associate of Science in Artificial Intelligence falls within the existing 'Degrees to Succeed' transfer agreements that CCBC has signed with the following universities: Coppin State University; Morgan State University; Stevenson University; Towson University; University of Baltimore; University of Baltimore, Baltimore County; University of Maryland, Global Campus; and Southern New Hampshire University.
The Degrees to Succeed agreements provide guaranteed admission to both institutions, acceptance of all transfer credits for the Associate of Arts (A.A.) and Associate of Science (A.S.) degree programs and guaranteed junior status upon transfer and the completion of the associate degree at CCBC. Degrees to Succeed students are also able to access the university partner's campus resources and student experiences, including co-advising, and additional financial incentives or scholarship opportunities.

I. Adequacy of Faculty Resources (as outlined in COMAR 13B.02.03.11).

1. Provide a brief narrative demonstrating the quality of program faculty. Include a summary list of faculty with appointment type, terminal degree title and field, academic title/rank, status (full-time, part-time, adjunct) and the course(s) each faculty member will teach in the proposed program.

Faculty Member Name	Terminal Degree & Discipline	Full Time or Adjunct	Courses Taught
Melissa Akhimiemona	Master of Science - Information Systems	FT	**CSIT 210 – Introduction to Programming** **CSIT 259 – Introduction to Artificial Intelligence** **CSIT 265 – CSIT Capstone**
James Braman	Doctor of Science - Information Technology	FT	**CSIT 259 – Introduction to Artificial Intelligence** **CSIT 260 – Introduction to Machine Learning** **CSIT 261 – Foundations of Natural Language Processing and Information Retrieval** **CSIT 265 – CSIT Capstone**
Alexis Brown	Master of Science - Information Systems	FT	**CSIT 265 – CSIT Capstone** **CSIT 154 – Database Concepts**
Wendy Chin	Master of Science - Cybersecurity	FT	**CSIT 265 – CSIT Capstone**

Nazli Mehrazar	Master of Science - Computer Engineering	FT	**CSIT 210 – Introduction to Programming** **CSIT 260 – Introduction to Machine Learning** **CSIT 261 – Foundations of Natural Language Processing and Information Retrieval** **CSIT 154 – Database Concepts**
Nnatubemgo Ngwum	Doctor of Science - Information Technology	FT	**CSIT 210 – Introduction to Programming** **CSIT 211 – Advanced Programming** **CSIT 260 – Introduction to Machine Learning**
Fernando Paniagua	Doctor of Philosophy - Computer Science	FT	**CSIT 210 – Introduction to Programming** **CSIT 211 – Advanced Programming**
Sandra Tavegia	Master of Science - Computer Information Systems	FT	**CSIT 210 – Introduction to Programming** **CSIT 154 – Database Concepts**

2. Demonstrate how the institution will provide ongoing pedagogy training for faculty in evidenced-based best practices, including training in:

    a) Pedagogy that meets the needs of the students

    b) The learning management system

    c) Evidenced-based best practices for distance education, if distance education is offered.

The Center for Excellence in Teaching and Learning (CETL) provides ongoing professional development opportunities for faculty and staff throughout the academic year. Additional professional development is provided at yearly Fall Focus, Teaching and Learning Fair and Professional Development Day events. In addition, faculty are provided funding, on a regular basis, to present at regional and national conferences that relate to pedagogy and discipline areas of interest. CCBC recognizes that up-to-date pedagogy is essential in student success initiatives, as the college serves primarily in a teaching role.

CCBC expects that faculty teaching a fully online course will complete training called the "teaching Online Course". This is a five-week/twenty-hour online course that provides training on how to facilitate an established online course. The institution also requires faculty to complete an eighty-hour training in online course pedagogy and course design prior to the development of any new fully online course. Prerequisites for this training include Quality Matters training as well as Learning Management System (LMS) workshops through CETL and our LMS trainers. CCBC also has multiple online learning policies designed to foster best practices in online learning. These policies include, but are not limited to, a thirty

percent (30%) authenticated assessment requirement, online office hours, and a consistent LMS menu template.

J. Adequacy of Library Resources (as outlined in COMAR 13B.02.03.12).

1. Describe the library resources available and/or the measures to be taken to ensure resources are adequate to support the proposed program.

Current library resources are sufficient and appropriate for the implementation of the proposed program. The college also subscribes to several online databases that would be helpful to students in this program. The CCBC Libraries' collection includes over 75,000 e-books and access to over 64,000 different journals and magazines. Students can access these resources anytime from any computer or mobile device on or off-campus. Additionally, the department of Computer Science and Information Technology curates a series of research guides, including one specific to the field of Artificial Intelligence. These guides assist students in identifying suitable materials and resources for specified course assignments.

Beyond the resources provided through CCBC, the CCBC Library has a reciprocal use and borrowing agreement with the University of Maryland Baltimore County, Albin O.Khun Library and the University of Baltimore, Robert L. Bigomolny Library that entitles CCBC students to on-site access and use of the facilities and resources of these libraries as well as the opportunity to check out books. The college also provides an InterLibrary Loan service: What is Interlibrary Loan (ILL) - Borrowing from other libraries (Inter Library Loan) - Research Guides at Community College of Baltimore County (ccbcmd.edu). In addition, to make library services more accessible to students, the CCBC Library provides a virtual chat reference service through the Library webpage: CCBC Libraries (ccbcmd.edu).

This new degree proposal was carefully reviewed by the President and her Senior Staff prior to submission to the CCBC Board of Trustees for their endorsement. The President has affirmed that the program can be implemented within existing institutional resources.

K. Adequacy of Physical Facilities, Infrastructure and Instructional Equipment (as outlined in COMAR 13B.02.03.13)

1. Provide an assurance that physical facilities, infrastructure and instruction equipment are adequate to initiate the program, particularly as related to spaces for classrooms, staff and faculty offices, and laboratories for studies in the technologies and sciences.

After careful review by Senior Staff and endorsement by CCBC's Board of Trustees, the President has affirmed that the program can be implemented within existing institutional resources. All courses that are part of this certificate are already being taught effectively by CCBC with appropriate classroom and laboratory spaces, and faculty offices.

The departmental research lab at the CCBC Essex campus is in its early stages, offering students access to cutting-edge technologies and dedicated research space. This new facility aims to foster

innovation and hands-on learning, providing a dynamic environment for students to engage in advanced research projects in data science and artificial intelligence.

Students enrolled in Computer Science/Information Technology (CSIT) courses gain access to CCBC's Virtual Desktop Interface. The virtual interface provides students access to CCBC computing resources equivalent to sitting on campus in one of our CSIT computer lab environments. Students are provided access to specialized software they need to complete assignments without having compatibility issues. This is especially beneficial for online students.

2. Provide assurance and any appropriate evidence that the institution will ensure students enrolled in and faculty teaching in distance education will have adequate access to:

    a) An institutional electronic mailing system, and
    b) A learning management system that provides the necessary technological support for distance education

CCBC provides all students with a Microsoft Office e-mail address and has a single sign on SSO login process for all technologies. CCBC currently uses Brightspace as its Learning Management System. Help Desk support for all technology and distance education questions can be accessed both online and via a technical hotline: Technology Support at CCBC (ccbcmd.edu)

Students enrolled in Computer Science/Information Technology (CSIT) courses gain access to CCBC's Virtual Desktop Interface. The virtual interface provides students access to CCBC computing resources equivalent to sitting on campus in one of our CSIT computer lab environments. Students are provided access to specialized software they need to complete assignments without having compatibility issues. This is especially beneficial for online students.

L. Adequacy of Financial Resources with Documentation (as outlined in COMAR13B.02.03.14)

1. Complete **Table 1: Resources and Narrative Rationale**. Provide finance data for the first five years of program implementation. Enter figures into each cell and provide a total for each year. Also provide a narrative rationale for each resource category. If resources have been or will be reallocated to support the proposed program, briefly discuss the sources of those funds.

Program Resources					
Resource Categories	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**
1. Reallocated Funds	0	0	0	0	0
2. Tuition/Fee Revenue (c + g below)	59,160	79,653	100,146	120,639	141,132
a. Number of F/T Students	10	13	16	19	22
b. Annual Tuition/Fee Rate	5001	5001	5001	5001	5001
c. Total F/T Revenue (a x b)	50,010	65,013	80,016	95,019	110,022
d. Number of P/T Students	5	8	11	14	17

e. Credit Hour rate	122	122	122	122	122
f. Annual Credit Hour Rate	15	15	15	15	15
g. Total P/T Revenue (d x e x f)	9150	14,640	20,130	25,620	31,110
3. Grants, Contracts & Other External Sources	0	0	0	0	0
4. Other Sources	0	0	0	0	0
TOTAL (Add 1-4)	59,160	79,653	100,146	120,639	141,132

2. Complete **Table 2: Program Expenditures and Narrative Rationale**. Provide finance data for the first five years of program implementation. Enter figures into each cell and provide a total for each year. Also provide a narrative rationale for each expenditure category.

Program Expenditures					
Expenditure Categories	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**
1. Faculty (b + c below)	149,500	149,500	200,000	200,000	200,000
a. Number of FTE	1.5 of existing faculty	1.5 of existing faculty	2.0 of existing faculty	2.0 of existing faculty	2.0 of existing faculty
b. Total Salary	112,500	112,500	150,000	150,000	150,000
c. Total Benefits	37,00	37,00	50,000	50,000	50,000
2. Admin. Staff (b + c below)	0	0	0	0	0
a. Number of FTE	0	0	0	0	0
b. Total Salary	0	0	0	0	0
c. Total Benefits	0	0	0	0	0
3. Support Staff (b + c below)	0	0	0	0	0
a. Number of FTE	0	0	0	0	0
b. Total Salary	0	0	0	0	0
c. Total Benefits	0	0	0	0	0
4. Technical Support and Equipment	30,000	30,000	30,000	30,000	30,000
5. Library	0	0	0	0	0
6. New or Renovated Space	0	0	0	0	0
7. Other Expenses (external training/conferences)	10,000	10,000	10,000	10,000	10,000
TOTAL (add 1-7)	189,500	189,500	240,000	240,000	240,000

The costs for the A.S. in Artificial Intelligence are primarily related to faculty salaries but these are the same faculty and courses used for other income generating programs such as computer science, and data forensics etc. For example, students from multiple programs will be in CSIT 259 – Introduction to Artificial Intelligence. Thus, the salaries are a single cost, but the income to balance them comes from more than just the A.S. in Artificial Intelligence. Additionally, enrollment projections for the next five years are conservative and will continue to grow in years six and seven. At this point, expenditures will balance program income, when looking at these costs in isolation.

M. Adequacy of Provisions for Evaluation of Program (as outlined in COMAR 13B.02.03.15).

1. Discuss procedures for evaluating courses, faculty and student learning outcomes.

Courses are evaluated using an online student evaluation tool (SmartEvals) on a regular basis. Using SmartEvals, students can evaluate both course design and the course's instructor. Faculty participate in annual evaluations by submitting an annual professional summary that highlights achievements in professional assignments, college and community service and professional growth activities.

CCBC has a strong student learning outcomes assessment program that met all Standard criteria in the College's most recent Middle States decennial review. This course level assessment process utilizes externally validated assessments that directly measure student learning at course objective level. All assessment projects begin with the development of a Request for Proposal (RFP) and flow through the five stages as follows:

Stage 1: Designing and Proposing a Learning Outcomes Assessment Project

Stage 2: implementing the Design and Collecting and Analyzing the Data

Stage 3: Redesigning the Course to Improve Student Learning

Stage 4: Implementing Course revisions and Reassessing Student Learning

Stage 5: Final Analysis and Reporting Results

Learning outcomes assessment provides a mechanism for continuous improvement.

2. Explain how the institution will evaluate the proposed program's educational effectiveness, including assessments of student learning outcomes, student retention, student and faculty satisfaction, and cost-effectiveness.

Full-time faculty prepare an Annual Professional Summary every year to document their achievements in the categories of professional assignments, college and community service and professional development. Supervisors use this information to prepare an annual evaluation of faculty performance. Students can also complete course evaluations on a regular basis. Courses are evaluated by anonymous comments and feedback offered by students through evaluation tools.

Assessment and documentation of student achievement will occur as part of CCBC's learning outcomes assessment and program review processes. Learning outcomes assessment occurs in discipline courses

through a continuous improvement model outlined above. General education courses are assessed for general education outcomes every three years. Academic programs are reviewed on a five-year cycle. Program review includes curriculum assessment as well as market feasibility analysis. As part of the program review, the Criminal Justice Professional Safety Certificate will participate in program outcome assessment projects. Program coordinators must document how student learning outcomes were developed and validate how the outcomes relate to the college's mission.

N. Consistency with the State's Minority Student Achievement Goals

(as outlined in COMAR 13B.02.03.05).

1. Discuss how the proposed program addresses minority student access & success, and the institution's cultural diversity goals and initiatives.

CCBC is committed to ensuring equal opportunity and nondiscrimination in all practices. We are committed to equal treatment for all students and employees and will not discriminate based on race, color, religion, gender, age, national origin, ancestry, veteran status, disability, sexual orientation, or any other basis protected by law. CCBC is devoted to providing an environment where cultural diversity thrives. CCBC has a dedicated Intercultural Engagement team who offer a host of programs designed to enhance minority student success including guest speakers, study programs, clubs, and academic counseling.

To promote minority student success, one of the hallmarks of CCBC's strategic plan is the value of inclusiveness. That is, we honor the diversity of people, cultures, ideas, and viewpoints. To help faculty appreciate and to maximize the potential of a diverse student population in their classrooms, CCBC has a Culturally Responsive Teaching and Learning (CRTL) training program. The CRTL program is a multi-faceted initiative that engages faculty, staff, administrators, and students in the recursive process of self-reflection, dialogue, change and growth regarding cultural understanding and cooperation. This program has helped the college to close achievement gaps and thereby improve student success. It is noteworthy that CCBC received a Leah Meyer Austin Award at the Achieving the Dream conference in 2015, and the CRTL program was an important component to enable CCBC to improve student achievement and to meet equity goals.

Since its inception in 2004, the CRTL program has led 500+ faculty and staff, and thousands of students to actively address individual and collective self-awareness, attitudes and beliefs, knowledge of others and the skills needed to implement new understandings thought best practices of cultural competence.

O. Relationship to Low Productivity Programs Identified by the Commission:

1. If the proposed program is directly related to an identified low productivity program, discuss how the fiscal resources (including faculty, administration, library resources and general operating expenses) may be redistributed to this program.

This program is not connected to a low-productivity program.

P. Adequacy of Distance Education Programs (as outlined in COMAR 13B.02.03.22)

1. Provide affirmation and any appropriate evidence that the institution is eligible to provide Distance Education.

CCBC is approved to offer distance education per COMAR 13B.02.03.22 as the institution was previously approved to offer a distance education program prior to January 1, 2018 and is eligible to offer distance education throughout regional accreditor, the Middle States Commission on Higher Education (MSCHE). In addition, CCBC has been a member of the National Council for State Authorization Reciprocity Agreements (NC-SARA) since July 1, 2019.

2. Provide assurance and any appropriate evidence that the institution complies with the C-RAC guidelines, particularly as it relates to the proposed program.

CCBC's mission is to provide students with accessible, affordable and high-quality education. Its current strategic plan places an increased emphasis on online learning (distance education). Sustaining and growing online learning is interwoven into the academic schools' plans as well as the Department of Online Learning's (DOL) goals and objectives. The Instructional Technology budget supports technologies related to online learning. The DOL also has a budget, which provides resources for faculty training, technology as well as the promotion of a quality assurance process. CCBC has a dedicated, public facing webpage for online learning CCBC Online (ccbcmd.edu), which displays programs offered in an online format. It also provides both potential and current students with links to all services they might need.

Potential students are provided with a questionnaire to help determine if online learning is right for them. Students also have access to technical requirements for online coursework and online class policies which they may need to know prior to admission. Academic requirements for online programs do not differ from traditional face-to-face programs. Potential and current students have access to links to all relevant student services, such as disability support services, financial aid, etc. In addition, each online course clearly identifies links to these same services for students.

CCBC is a Quality Matters (QM) institution, and as such uses the QM rubric as its basis for design, faculty training and quality assurance of all online course offerings. Faculty, as subject matter experts, are the principal course developers, while the DOL oversees the overall process and schedule of online course creation. Additionally, DOL provides the faculty mandatory training for course facilitation and course development. Online course development incorporates sound online learning pedagogy to provide students with the most appropriate experiences in the discipline. Additionally, the DOL has its own internal website pages dedicated to providing faculty with policy, training, and best practice resources. CCBC has developed its own internal quality assurance process, now in its 5th year of reviews, using Quality Matters as its backbone. This process leverages the content knowledge as well as the course design knowledge of the faculty, providing a high quality, fiscally responsible manner to increase the quality of the college's online learning courses. Necessary online learning policies have been vetted and approved by the CCBC College Senate. DOL is responsible for implementation of those polices.

Additionally, shared governance is an integral part of the college's standard curriculum approval and review process for all courses, regardless of modality. Curricular expectations of online courses do not differ from those in the face-to-face format. CCBC faculty and staff understand the challenges that online learners face. Online course class sizes maximums are limited to 25. CCBC tracks success rates of online classes and compares that data to its face-to-face counterpart. CCBC uses Quality Matters standards, online faculty observations and student evaluations to monitor the effectiveness of the faculty member

and the course design. Online courses are also subject to the college's standard evaluations, with the Common Course Outline reviewed on a regular basis. The institution also assesses general education outcomes for all General Education (Core) coursework on a three-year cycle and course-level objectives are assessed through learning outcomes assessment projects. CCBC uses single-sign-on access for student email and college identification. The institution also has an authenticated assessment policy, to ensure integrity in the proctoring of major assessments. Faculty have access to the college's testing centers as well as a remote proctoring tool, vetted by faculty and staff, to ensure students have access to options for authenticated proctoring. CCBC's academic integrity policies and procedures are not just part of the college's catalog but are incorporated into each faculty member's course and CCBC's student portal (MyCCBC).

March 25, 2025

To Whom It May Concern,

This joint letter is to affirm our interest in partnering to align the Associate of Science in Artificial Intelligence, from CCBC to University of Baltimore's B.S. in AI for IT Operations. Any students earning the Associate of Science in Artificial Intelligence from CCBC qualify for transfer under this map. This course alignment, as well as our partnership with the Degrees to Succeed program, symbolizes the priority both institutions have in supporting students pursing a bachelor's degree in AI for IT Operations.

As part of the process of developing this curriculum map, staff and faculty from both institutions have:

1. Thoroughly reviewed course articulation and transferability, and
2. Developed a comprehensive map of the first two years of associate degree study.

In addition, both institutions are committed to discussing how our programs can work jointly to further promote and support student success. It is our intention to fully execute this map upon approval by MHEC of the University of Baltimore degree plan.

To support the finalization of the curriculum map, each institution has identified the following staff:

University of Baltimore
Name: Artjona Adeoye
Title: Transfer Program Coordinator
Email: aadeoye@ubalt.edu
Phone: 410-837-6677

CCBC
Ann Gamble
Director of Transfer & Degree Acceleration
agamble@ccbcmd.edu
443-840-1735

Signed

Christine Spencer

Chris Spencer
Dean, Yale Gordon College of Arts and Sciences
University of Baltimore

Jane Mattes

Jane Mattes
Dean, School of Business, Technology and Law
Community College of Baltimore County

Ron Castanzo

Ron Castanzo
Associate Dean
University of Baltimore

Wendy Chin

Wendy Chin
Department Chair, Information Technology
Community College of Baltimore County

CCBC Proposed A.S. in Artificial Intelligence to UBalt B.S. in Artificial Intelligence for IT Operations
Program Transfer Guide

CCBC Course	Credits	UBalt Equivalent	Area	Credits
ENGL 101: English Composition I	3	WRIT 101: College Composition	Gen Ed Writing Comp	3
CMNS 101: Fundamentals of Communication	3	CMAT 201: Oral Communication	Gen Ed Elective, Oral Communication, Core Proficiencies	3
PHIL 240: Ethics	3	PHIL 140: Contemporary Moral Issues	Gen Ed Ethics, Information Literacy	3
MATH 251: Calculus I	4	MATH 201: Calculus I	Gen Ed Math	4
PSYC 101: Introduction to Psychology	3	PSYC 100: Introduction to Psychology	Gen Ed Behavioral/ Social Sciences	3
Social and Behavioral Sciences Gen Education Elective	3	Depends on course chosen	Gen Ed Behavioral/ Social Sciences	3
BIOL 110: Biology I, or CHEM 131: General Chemistry I or PHYS 151: General Physics I	4	BIOL 121: Fundamentals of Biology with Lab or Gen Ed Lab Science	Gen Ed Science	4
Biological and Physical Sciences Gen Education Elective	3-4	Depends on course chosen	Gen Ed Science	3-4
CSIT 111: Fundamentals of Logic and Design	3		General Elective	3
ENGL 102: English Composition II	3		General Education English	3
MATH 153: Introduction to Statistical Methods	4	MATH 115: Introductory Statistics	Gen Ed Math, Major	4
CSIT 154: Database Concepts	4		General Elective	4
CSIT 210: Introduction to Programming	4	AITC 151: Computer Programming I	Major	4
CSIT 211: Advanced Programming	4	AITC 251: Computer Programming II	Major	4
CSIT 259: Introduction to Artificial Intelligence	3	AITC 270: Basic Concepts of Artificial Intelligence	Major	3
CSIT 260: Introduction to Machine Learning	3	INSS 350: Fundamentals of Machine Learning for Business	Major	3
CSIT 261: Foundations of Natural Language Processing and Information	3		General Elective	3
CSIT 265: CSIT Capstone	3		General Elective	3
Total:	**60-61**		**Total:**	**60-61**

CCBC Proposed A.S. in Artificial Intelligence to UBalt B.S. in Artificial Intelligence for IT Operations
Program Transfer Guide

UBalt B.S. in Artificial Intelligence for IT Operations			
Course Number	**Course Title**	**Credit Hours**	**Area**
AITC 253	Client-Side Web Development	3	Major
AITC 310	Computer Networks	3	Major
AITC 317	Virtualization and Cloud Computing	3	Major
AITC 332	Computer Security	3	Major
AITC 356	Database Systems	3	Major
AITC 372	AI Algorithms and Implementations	3	Major
AITC 375	IoT, Smart Devices and Sensor Data	3	Major
AITC 453	Server-Side Web Programming	3	Major
AITC 470	Cloud and Edge Intelligence	3	Major
AITC 471	Software Development and AI	3	Major
AITC 475	AI and Cyber Security	3	Major
AITC 491	Capstone in AI	3	Gen Ed Capstone, Major
GAME 324	Designing for Humans	3	Major
MATH 321	Mathematical Structures for Information Technology	3	Major
PHIL 450	AI and Philosophy	3	Major
WRIT 300	Writing for the Professions	3	Gen Ed Writing
IDIS 302 or PHIL	Ethics Requirement IDIS 302 or PHIL 140 or PHIL 301	3	Gen Ed Ethics
ARTS	ARTS	3	Gen Ed Fields of Inquiry
Signature UBalt Experience	Global Awareness or Diverse Perspectives courses	3	Gen Ed global awareness or diverse perspectives
UBalt Core Proficiencies	Information Literacy or Technological Fluency courses	3	Gen Ed Technological Fluency or Information Literacy
	Total:	**60**	