HOWARD
COMMUNITY COLLEGE
You Can Get There From Here.

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March 25, 2021

Dr. James D. Fielder, Jr.
Secretary of Higher Education
Maryland Higher Education Commission
6 North Liberty Street, 10th Floor
Baltimore, MD 21201

Dear Dr. Fielder:

Howard Community College (HCC) requests your approval of a new lower division certificate (LDC) in Cloud Operations and Security.

The proposed certificate will offer students the opportunity to expand their skills in the cloud environment, which is an emerging area of information technology (IT). It will benefit individuals in the non-IT workforce who wish to learn marketable skills, as well as early-career learners who want to prepare for an IT career.

Please contact me if you need additional information or clarification.

Sincerely,

Dr. Jean Svacina
Vice President of Academic Affairs
JSvacina@howardcc.edu
443-518-1850

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

Institution Submitting Proposal	Howard Community College

*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	Payment Amount: $850.00	Date Submitted: 3/16/21

Department Proposing Program	Business and Computer Systems
Degree Level and Degree Type	Lower Division Certificate
Title of Proposed Program	Cloud Operations and Security
Total Number of Credits	21
Suggested Codes	HEGIS: 519910.00 CIP: 520301.0000
Program Modality	◉ On-campus ○ Distance Education (*fully online*)
Program Resources	◉ Using Existing Resources ○ Requiring New Resources
Projected Implementation Date	◉ Fall ○ Spring ○ Summer Year: 2021
Provide Link to Most Recent Academic Catalog	URL: http://howardcc.smartcatalogiq.com/2020-2021/Catalog

Preferred Contact for this Proposal	Name:	Melinda Moore on behalf of Jean Svacina
	Title:	Manager, Curriculum Services
	Phone:	(443) 518-4734
	Email:	mmoore2@howardcc.edu

President/Chief Executive	Type Name:	Kathleen Hetherington, Ed.D.
	Signature: *Kathleen Hetherington*	Date: 3/25/21
	Date of Approval/Endorsement by Governing Board:	

Revised 3/2019

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.

Howard Community College's (HCC) mission is "Providing pathways to success." This proposed lower division certificate (LDC) in Cloud Operations and Security is designed primarily for information technology (IT) practitioners in the workforce who need to expand their skills in the cloud environment. It will also benefit veterans and individuals in the non-IT workforce who wish to learn marketable skills, as well as early-career learners who want to prepare for an IT career.

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

A major strategic goal at HCC is "Student success, completion, and lifelong learning." The proposed Cloud Operations and Security certificate prepares students to begin working in the industry in entry- to mid-level positions.

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).

HCC currently offers an associate of arts (AA) degree in Cybersecurity and an LDC in Network Security Administration. Because of HCC's current offerings, adequate funding for ongoing support of the Cloud Operations and Security LDC in terms of facilities, faculty, and administrative support is currently in place.

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.

Ongoing support for the proposed program will be provided by the faculty and staff of the business and computer systems division, which oversees the technology department.

If HCC decides to discontinue the certificate in the future, the college's teach-out policy and procedure will be followed by establishing a teach-out plan, and students will be able to complete the program during a set teach-out period. HCC will support students throughout the completion of the program.

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

The proposed certificate addresses the need for the advancement and evolution of knowledge, as well as the societal need for expanded educational opportunities for minority and educationally disadvantaged students. HCC is an open access institution, and provides educational opportunities to students regardless of their racial, socioeconomic, or educational backgrounds.

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

The Cloud Operations and Security certificate supports the State Plan for Postsecondary Education Goal: Access. This program will provide students the ability to complete the certificate at a fraction of the cost compared to a four-year institution.

As an open access institution, HCC provides access to postsecondary education irrespective of academic preparation. This certificate also supports the State Plan for Postsecondary Education Goal: Success. The certificate provides opportunities for students to enhance their capacity to think and communicate creatively and clearly. HCC provides students with flexible options to help them complete the certificate, expand their industry knowledge, or prepare for a career in information technology.

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.

The Cloud Operations and Security certificate offers employment in many industries, as IT professionals are necessary in nearly every industry. This certificate will give students the skills needed to round out their IT knowledge and provide competencies related to operations and security in the cloud.

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

As noted in the U.S. Bureau of Labor Statistics Occupational Outlook Handbook, "Employment in computer and information technology occupations is projected to grow 11 percent from 2019 to 2029, much faster than the average for all occupations. These occupations are projected to add about 531,200 new jobs. Demand for these workers will stem from greater emphasis on cloud computing, the collection and storage of big data, and information security."

The supply of prepared professionals does not meet the current demand. Cyber technology industry employers emphasize the need for students to be adequately prepared in the field of cloud operations and security. With Amazon's headquarters (Amazon HQ2) location in Arlington County, Virginia, there is and will continue to be a demand for trained Amazon Web Services (AWS) specialists in the workplace, particularly in this locality. In the current Internet of Everything (IoE) era, new and more valuable connections are being made every day around the world. IoE has a potential multi-trillion U.S. dollar market value for companies and industries in the next decade. Cloud computing is a relatively new addition to the digital landscape. Major cloud developers, such as Amazon, Google, and Microsoft, are investing billions of dollars per year in cloud research and development. Cloud computing is attractive to businesses because it allows them to transfer IT infrastructure and management to a third-party vendor. With company data transferred to the cloud and software services available from the cloud, business employees, partners, and customers can access cloud information at any time from any type of computer platform. Cloud computing is becoming increasingly attractive because it is relatively inexpensive, scalable, accessible, reliable, and secure. Completion of HCC's Cloud Operations and Security certificate and earning additional industry certification opens many workforce opportunities for students.

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 growth of cloud computing and conversion of on-premises IT resources to the cloud continues to grow year-over-year. The shift to cloud operations will require training for new hires as well as retraining for existing IT practitioners (see https://www.infoworld.com/article/3173263/yes-the-cloud-will-kill-jobs-maybe-even-yours.html). Industry estimates project 40 percent of all enterprise workloads will be deployed in the cloud by the end of 2023, up from 20 percent at the end of 2020 and over 15 billion cloud-enabled Internet of Things (IoT) devices deployed by 2029 (John McArthur, et al. "Predicts 2021: Cloud and Edge Infrastructure" Gartner, 2020). The U.S. Federal Government continues to emphasize the need for cloud computing (see https://cloud.cio.gov).

Amazon Web Services (AWS) is the market leader in public cloud services and infrastructure. Spending in the public cloud market is projected to increase from $223 billion in 2019 to $500 billion in 2023 (see https://www.simplilearn.com/aws-careers-article).

As of March 2021, job listings on LinkedIn.com show 268,000 openings relating to cloud computing, including over 90,000 openings for cloud operations and/or security professionals (43,000 of which are identified as entry-level/associate openings) in the United States.

It is estimated that twenty students will graduate by the end of the Fall 2022 semester.

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.

The following colleges currently offer similar programs:
- Montgomery College offers an associate of applied science (AAS) degree in Cloud Computing and Networking Technology
- College of Southern Maryland offers an AAS degree in Computer Science with Cloud Computing
- University of Maryland Global Campus recently opened a new bachelor of science (BS) degree in Cloud Computing Systems
- Loyola University offers a Cloud Operations Security course
- George Mason University offers bachelor of applied science (BAS) degree with Cloud Computing Concentration
- Morgan State University offers a BS in Cloud Computing

HCC's Cloud Operations and Security certificate would serve residents of Howard County and the surrounding areas and offer students an opportunity to complete and enter the workforce in less time than the other programs.

2. Provide justification for the proposed program.

Howard Community College serves a distinct geographical area (mainly Howard County residents) and provides in-depth, hands-on learning experiences. Program duplication concerns are not applicable.

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 HBIs.

The proposed program will not impact the implementation or maintenance of high-demand programs at HBIs.

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.

The proposed program will not impact the uniqueness and institutional identities and missions of HBIs.

G. Adequacy of Curriculum Design, Program Modality, and Related Learning Outcomes (as outlined in COMAR 13B.02.03.10):

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

This program was established as a result of industry trends. This certificate will provide students with education and training in the leading commercial cloud service provider's environment, using training materials provided by the service provider with supplemental materials based on established industry cloud computing certifications. Students will be

prepared to take the AWS Cloud Practitioner certification, and three AWS associate certifications: Solutions Architect, SysOps Administrator, and Developer. AWS is one of the market-leading Cloud Service Providers world-wide. The coursework also prepares students for these vendor-neutral certifications: CompTIA Cloud Essentials+ and (ISC)^2 Certified Cloud Security Professional.

This program will be overseen by the dean of the business and computer systems division and the department chair for technology.

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

The learning outcomes are:

- Identify the core elements of cloud computing architecture.
- Assess secure cloud computing configurations and operations.
- Demonstrate the implementation of secure cloud computing with a leading commercial cloud service provider.

3. Explain how the institution will:

    a) provide for assessment of student achievement of learning outcomes in the program

Program and course reviews are completed according to the schedule provided by HCC in collaboration with faculty members, department chairs, academic deans, the eLearning department, and the office of learning outcomes assessment (LOA).

    b) document student achievement of learning outcomes in the program

Artifacts for the assessment of outcomes are collected and shared through HCC's learning management system, Canvas. Course and program reviews are completed with support from the LOA office. Once an assessment is completed, an action plan will address findings as part of the outcomes assessment process.

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

Cloud Operations and Security
APPLICATION CODE 351

For curriculum information, contact the Business and Computer Systems Division—Room DH-239—443-518-1520.

This certificate provides an overview of the cloud computing paradigm. Topics include cloud fundamentals, cloud operations, cloud development, cloud architecture, and cloud security. Students will be trained in the leading commercial cloud service provider's environment using training materials provided by the service provider with supplemental materials based on established industry cloud computing certifications. Technical content is based on material provided by Amazon Web Services (AWS) through the AWS Academy. HCC is an AWS Academy provider, which gives students access to the AWS environment for the purpose of

completing hands-on exercises. The AWS Academy courses prepare students for the AWS Cloud Practitioner certification, and three AWS Associate certifications: Solutions Architect, SysOps Administrator, and Developer. AWS is one of the market-leading Cloud Service Providers world-wide. The coursework also prepares students for vendor-neutral certifications: CompTIA Cloud Essentials+ and (ISC)^2 Certified Cloud Security Professional.

Suggested Semester 1

Course Number	Title	Minimum Credits
CLOS 101	Cloud Fundamentals	3
CMSY 156	Introduction to Python	3
CMSY 255	Introduction to Unix and Linux	3

Suggested Semester 2

Course Number	Title	Minimum Credits
CLOS 102	Cloud Architecture and Design	3
CLOS 103	Cloud Platform and Infrastructure Security	3

Suggested Semester 3

Course Number	Title	Minimum Credits
CLOS 104	Cloud Security Operations	3
CLOS 105	Cloud Application Security	3

Non-technical vendor-neutral material based on established industry standards will be provided to students to provide context for the technical content.

Course Descriptions

CLOS-101 Cloud Fundamentals (3 credits)
Cloud Fundamentals provides an overview of the essentials of the Cloud Computing paradigm. Students will learn the key terminology and the business and technical components of Cloud in a vendor-neutral setting, then apply the concepts hands-on in industry-leading Cloud Service environment, Amazon Web Services (AWS). This course prepares students for the AWS Cloud Practitioner and CompTIA Cloud Essentials+ certifications.

CLOS-102 Cloud Architecture and Design (3 credits)
Students will learn the concepts relevant to the secure architecture and design of the Cloud Computing environment. Students will be introduced to vendor-neutral material, then apply the concepts hands-on to Amazon Web Services (AWS), an industry-leading commercial cloud service. This course prepares students for the AWS Solutions Architect certification.

CLOS-103 Cloud Platform and Infrastructure Security (3 credits)
Any security program is grounded in a thorough understanding of risk: what risks are, how to analyze risk, and what to do about it. Students learn risk management techniques and to be ready when disaster strikes, then apply the concepts hands-on to Amazon Web Services (AWS), an industry-leading commercial service. This course prepares students for the AWS SysOps Administrator certification.

CLOS-104 Cloud Security Operations (3 credits)
Operating securely in the cloud is very different from operating securely in an on-premises application. Students learn the essentials of securing data, interpreting specific legal and compliance risks in the cloud environment, and gain an understanding of privacy issues, then learn the security controls and best practices for secure cloud operations, and apply the concepts hands-on to Amazon Web Services (AWS), an industry-leading commercial service. This course prepares students for the AWS Security Engineering certification.

CLOS-105 Cloud Application Security (3 credits)
Secure development of cloud applications is essential to protecting data and ensuring compliance. Students learn the Software Development Lifecycle (SDLC) and techniques for validating cloud software applications, then apply the concepts hands-on to Amazon Web Services (AWS), an industry-leading commercial service. This course prepares students for the AWS Developer certification.

CMSY-156 Introduction to Python (3 credits)
This course is an introduction to programming with Python. Python is a computer programming language that is increasingly used in industry, scientific research, computer forensics, scripting, game programming, networking, and web applications. Students will solve programming problems using procedural programming constructs such as loops, branching structures, and functions. Students will write programs that are testable and maintainable using good programming style, naming conventions, and comments. By the end of the course, students will be able to apply strategies of inquiry and exploration in finding information for providing and developing software tools and solutions to real life problems. The provision and development of software tools is done while demonstrating the ethical use of information.

CMSY-255 Introduction to Unix and Linux (3 credits)
The course provides an introduction to the Unix and Linux operating systems. The goal of this course is to provide students with an understanding of the Unix and Linux command line so that they will be able to customize a Unix/Linux environment under the Shell environment. This course will cover preparation for CompTIA Linux + certification.

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

N/A

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.

HCC will provide students with timely and accurate information on all curriculum requirements, course offering methodology, Canvas, academic support services, financial aid services, and policies regarding costs and payment by making the information easily accessible to students on HCC's website, in the college catalog, schedules of classes, and admissions and orientation materials.

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.

All advertising, recruiting, and admissions materials will be clear and accurate in the representation of the proposed program and services available to students.

H. Adequacy of Articulation

a) If applicable, discuss how the program supports articulation with programs at partner institutions. Provide all relevant articulation agreements.

N/A

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 faulty member will teach (in this program).

Name & Degree	Title	Status	Courses/Areas Taught
Joel Offenberg, M.S. in Computer Science	Assistant Professor, Cyber/Cloud Security	Full-time faculty	Cybersecurity courses taught: Fundamentals and Practice for Network+ Certification; Introduction to Firewalls and Network Security;

(ISC)^2 Certified Information Systems Security Professional (CISSP) AWS Certified Cloud Practitioner Cloud Security Alliance Certification of Cloud Security Knowledge Completed AWS Academy Instructor training Completed AWS Cloud Fundamentals training Completed AWS SysOps training Completed SANS Cloud Security and Operations training Completed Cloud Security Alliance Cloud Security Knowledge training			Cybersecurity Fundamentals and Practice Will teach in the new certificate: CLOS-101: Cloud Fundamentals; CLOS-102: Cloud Architecture and Design; CLOS-103: Cloud Platform and Infrastructure Security; CLOS-104: Cloud Security Operations; CLOS-105: Cloud Application Security
Paul Hogan, B.S. in Computer Science	Assistant Professor, Computer Science	Full-time faculty	Taught Computer Science courses Will teach CMSY-156: Introduction to Python
Dr. Patrick Valdivia, Ph.D. in Materials Science and Engineering Completed AWS Cloud Fundamentals training Completed AWS SysOps training	Manager of Computing and Cyber Lab Services	Adjunct Faculty	Taught Computer Science and Cybersecurity courses Will teach CMSY-255: Introduction to Unix and Linux

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.

HCC provides continuous teaching improvement and ongoing training for full- and part-time faculty year-round in distance education, the learning management system (Canvas), and other pedagogical-related topics, with concentrated training available during professional development periods in May, August, and January, which always include sessions on learner-specific needs and universal design.

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. **If the program is to be implemented within existing institutional resources**, include a supportive statement by the President for library resources to meet the program's needs.

The James Clark, Jr. Library offers a wide array of print and online resources that are adequate for the proposed program. From the library's website, individuals can search the online catalog for approximately 68,000 items, including books, e-books, and audiovisual titles. Library resources may be used or borrowed by current HCC students, faculty, and staff using their HCC ID card.

The library also provides access to e-journals through online database subscriptions. Off-campus access to databases, e-journals, e-books, and online course reserves is available to the college community via a current HCC login and password.

Research assistance is available at the library service desk, by appointment, and via email. Classes and online learning objects for information literacy instruction are regularly offered. Open seven days a week in the fall and spring semesters, the library is outfitted with group study rooms, quiet zones, silent areas, and seating areas for comfortable reading. Computers are available for research and writing and there is wireless connection and power outlets for mobile devices.

Program faculty may recommend materials for the library collection. First priority will be given to those materials that support the instructional program. Orders for previewing of high-cost video and multimedia items may be arranged through the library. Specialized materials not available in the library and not appropriate for purchase for the College's collection may be requested by faculty through interlibrary loan.

HCC's president affirms that the college's existing library resources will meet the needs of the proposed program.

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. If the

program is to be implemented within existing institutional resources, include a supportive statement by the President for adequate equipment and facilities to meet the program's needs.

The facilities for the Cloud Operations and Security LDC are established, since HCC offers other information technology courses already. The college president affirms that the existing resources are adequate to meet the needs of this certificate.

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

All students who register for a credit course at HCC receive an HCC student email account.

    b) A learning management system that provides the necessary technological support for distance education

HCC's office of student computer support (SCS) provides Canvas and Google Apps training and support for HCC students at locations on campus, in classrooms, and online. Technology workshops and "Ask an Expert" sessions are held at various hours and locations each semester.

Students can access Canvas through HCC's website. Canvas is the learning management system through which course information and content is provided to students in online and hybrid courses, and faculty can communicate supplemental course material to students in face-to-face classes.

L. Adequacy of Financial Resources with Documentation (as outlined in COMAR 13B.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.

The calculations below represent estimated tuition, consolidated fees, and course fees, based on the estimated number of students in the program each year. No resources will be reallocated to this certificate.

TABLE 1: 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)	$58,345	$80,786	$101,557	$112,475	$134,144
a. Number of F/T Students	8	12	15	16	18

b. Annual Tuition/Fee Rate	$3,927	$3,927	$4,006	$4,006	$4,086
c. Total F/T Revenue (a x b)	$31,417	$47,126	$60,085	$64,091	$73,544
d. Number of P/T Students	12	15	18	21	25
e. Credit Hour Rate	$187	$187	$192	$192	$202
f. Annual Credit Hour Rate	12	12	12	12	12
g. Total P/T Revenue (d x e x f)	$26,928	$33,660	$41,472	$48,384	$60,600
3. Grants, Contracts & Other External Sources	$0	$0	$0	$0	$0
4. Other Sources	$0	$0	$0	$0	$0
TOTAL (Add 1 – 4)	$58,345	$80,786	$101,557	$112,475	$134,144

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.

The calculations below represent anticipated program expenditures. Faculty expenditures are estimated at the full-time faculty rate for one faculty member, who is currently employed. There are no administrative or support staff associated with this certificate. Technical and library resources are available through normal HCC operations.

TABLE 2: PROGRAM EXPENDITURES					
Expenditure Categories	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**
1. Faculty (b + c below)	$90,440	$90,440	$91,770	$91,770	$91,770
a. Number of FTE	1	1	1	1	1
b. Total Salary	$68,000	$68,000	$69,000	$69,000	$69,000
c. Total Benefits	$22,440	$22,440	$22,770	$22,770	$22,770

2. Admin. Staff (b + c below)	$0	$0	$0	$0	$0
a. Number of FTE	N/A	N/A	N/A	N/A	N/A
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	N/A	N/A	N/A	N/A	N/A
b. Total Salary	$0	$0	$0	$0	$0
c. Total Benefits	$0	$0	$0	$0	$0
4. Technical Support and Equipment	$0	$0	$0	$0	$0
5. Library	$0	$0	$0	$0	$0
6. New or Renovated Space	$0	$0	$0	$0	$0
7. Other Expenses	$0	$0	$0	$0	$0
TOTAL (Add 1 – 7)	$90,440	$90,440	$91,770	$91,770	$91,770

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.

The proposed program will be part of the ongoing assessment process HCC has in place. Courses are assessed on an ongoing basis. Faculty are evaluated on an annual basis, as part of HCC's routine process.

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.

Programs are assessed as a whole every five years. Program assessment includes student learning outcomes, retention, and student satisfaction. HCC uses the IDEA survey to monitor student satisfaction. Faculty satisfaction is reviewed annually as part of the faculty evaluation process. Cost effectiveness is reviewed each year as part of the budget development process.

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.

Howard Community College values diversity and recognizes the critical role of an educational institution in preparing its students, faculty, and staff to become contributing members of the global community. HCC's Diversity Committee promotes conversation, exchange, and an increased awareness of diversity issues affecting the college community. HCC acknowledges that diversity is recognizing, appreciating, respecting, listening to, and learning from the unique talents and contributions of all people.

Faculty and staff of HCC are committed to the success of each student. HCC values and has clear policies on diversity, which are followed by all employees. Employees are required to complete online training modules focused on FERPA rights and responsibilities, harassment awareness and avoidance, safety, and emergency operations, and the College Vision, Mission, Values, Beliefs, and Strategic Initiatives. Refresher training models are required at intervals determined by HCC's president's team.

HCC recognizes the importance of addressing the issue of minority student achievement, as evidenced by our Silas Craft Collegians (SCC) program, Ambiciones program, and Howard P.R.I.D.E. program. The SCC program focuses on recent high school graduates whose academic achievement does not reflect their true potential. The program attempts to close this gap by maximizing academic achievement, retention, graduation, and transfer. The Ambiciones program builds community among Hispanic/Latino students by providing networking opportunities, educational and recreational activities, and workshops with other Hispanic/Latino students and campus organizations. In addition, students can receive specialized guidance with campus services such as advising and financial aid. Howard P.R.I.D.E. encourages the continued academic, professional, and personal development of black and minority male students via tutoring, mentoring, service learning, leadership seminars, and individual academic advising and career plans.

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.

The proposed certificate is not related to an identified 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.

This program is not being proposed as a distance education program.

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

N/A