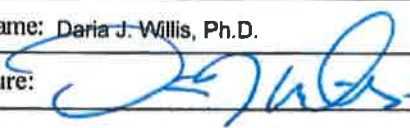## Cover Sheet for In-State Institutions
New Program or Substantial Modification to Existing Program

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 # 588616 ◉ Check # 588616	Payment Amount: $850	Date Submitted: 8/15/23

Department Proposing Program	Workforce, Career, and Community Education
Degree Level and Degree Type	Associate of Applied Science
Title of Proposed Program	Welding Technology
Total Number of Credits	60
Suggested Codes	HEGIS: 5308.20 CIP: 48.0508
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 submission as per COMAR 13B.02.03.03)	◉ Fall ○ Spring ○ Summer Year: 2026
Provide Link to Most Recent Academic Catalog	URL: https://howardcc.smartcatalogiq.com/en/2023-2024/catalog/

Preferred Contact for this Proposal	Name: Minah Woo
	Title: Vice President of Workforce, Innovation & Strategic Partnerships
	Phone: (443) 518-4724
	Email: mwoo@howardcc.edu
President/Chief Executive	Type Name: Daria J. Willis, Ph.D.
	Signature: Date 8/4/23
	Date of Approval/Endorsement by Governing Board:

Revised 1/2021

August 17, 2023

Dr. Sanjay Rai
Acting Secretary of Higher Education
Maryland Higher Education Commission
6 North Liberty Street, 10th Floor
Baltimore, MD 21201

Dear Dr. Rai:

Howard Community College (HCC) requests your approval of a new associate of applied science (AAS) and lower division certificate (LDC) in Welding Technology. These programs will be stackable credentials; students may apply credits from the LDC toward the completion of the AAS degree. These programs will be offered in HCC's new Trades Center building, which is currently in the planning stage.

By offering these new programs, HCC will offer flexibility and opportunity to our students, while maintaining streamlined program oversight, resources, and assessment.

Please contact me if you need additional information or clarification.

Sincerely,

Minah Woo
Vice President of Workforce, Innovation, & Strategic Partnerships
mwoo@howardcc.edu
443-518-4724

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 (HCC) is proposing a new associate of applied science (AAS) program that prepares students for a career in the Welding Technology trade. The program provides an opportunity for students to further advance their skillset by gaining technical knowledge from a trained welding instructor in a state-of-the-art facility. The program will also give students who are interested in the welding profession and have little or no previous welding knowledge an opportunity to learn different welding processes, earn an AAS degree in Welding Technology and become an American Welding Society (AWS) certified welder in one or more welding processes.

   This program will complement HCC's mission statement which is "Providing Pathways to Success."

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

   HCC's strategic goals are:

   - Student success, completion, and lifelong learning – The proposed Welding Technology AAS program will provide any student interested in a career in welding superior training through an enhanced lab facility, modern equipment, and advanced curriculum. This program will also give anyone who has gained a limited amount of welding knowledge and would like to earn an AAS degree or a welding certification an opportunity to do so in a reasonable amount of time.

   - Organizational excellence

   - Building and sustaining partnerships – HCC will expand its industry partnership model by creating an advisory board formed from the local welding industry.

   HCC is committed to both supplying the community with trained and skilled workers in the technical workforce fields and offering students an opportunity to advance their career status. HCC is again moving forward with this initiative by creating several new workforce trades programs such as Welding Technology. This program will be supported by building a new facility and providing modern training equipment and curriculum. Also, students will have the opportunity to earn industry recognized credentials upon completion of the program, such as an AWS welding certification.as well as a college certificate or AAS degree.

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 intends to outfit a new lab in a new building with high-quality industry-grade welding equipment. Additionally, HCC will hire a faculty member with welding certification(s) to support the program. HCC's president is committed to supporting these additional expenses in HCC's operating budget.

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 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 Workforce, Career, and Community Education division, which will oversee the program. If HCC discontinues the degree in the future, the college will establish a teach-out plan specific to the program based on HCC's institutional teach-out policy. 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 need for skilled welders in the workforce for present projects as well as future opportunities is well documented by both industry and government sources. The AWS estimates that there will be a shortage of as many as 360,000 welding professionals by 2027. This is partly due to increased industrial growth and partly to an increased number of retiring skilled welders since over 21% of current welders are 55+ in age (YESWELDER, Is Welding a High-demand job for 2023?).

   HCC also sees a real need to offer a Welding Technology AAS degree because most institutions in the region that have welding programs only offer certificates. Whereas these certificates are adequate for allowing the student quick entry into the workforce in an entry-level position, in the long run an AAS degree in welding can give each graduate a head start in advancing and diversifying their careers. This is especially true for supervisory, training, and inspection positions which often require an AAS credential. Also, an AAS degree in welding offers a broader range of knowledge and gives students a more robust skillset when entering the workforce.

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

The MSPPE lays out several priorities for the future development of Maryland education. Specific priorities, and their relevance to this program, are detailed below.

Priority 5: Maintain the commitment to high-quality postsecondary education in Maryland (2022 Maryland State Plan for Postsecondary Education, MSPPE).

One of the specific recommendations within this priority is the evidence of a particular need when requesting a new academic program. HCC is proposing a new Welding Technology AAS program to help relieve several needs in this area. First, as stated earlier, the need for skilled labor, including welders, is high and predictions are they will continue to grow over the remainder of the decade. This conclusion is repeated by both industry experts and government agencies. Second, HCC believes it is very important for local students to have an opportunity to attain quality workforce training in the welding field close to home so that when they graduate, they can enter the local workforce and contribute to the local economy. Third, HCC believes it is very important for technical students to receive a complete and thorough education when attending a postsecondary institution. This is why HCC is creating an AAS degree welding program; an earned degree can prove beneficial to the worker when seeking an advancement in their career or flexibility in their job duties.

Priority 7: Enhance the ways postsecondary education is a platform for ongoing lifelong learning (2022 Maryland State Plan for Postsecondary Education, MSPPE).

The MSPPE notes that "Ensuring that Maryland's postsecondary institutions embrace a lifelong learning model will be essential to developing the whole person as a contributing, engaged member of the local, state, national, and world community." In particular, the Plan discusses the needs of adult learners "who have had specific training and experiences while in the workforce that could easily parallel content found in required coursework." As a response to those needs, HCC aims to expand its offerings that include credit for prior learning.

The Plan urges postsecondary institutions to expand lifelong learning opportunities to the public, including reskilling and up-skilling educational programs. HCC believes that this up-skilling is another reason for creating a Welding AAS program which will allow people with certificates or with certain welding skills but no formal education to quickly, inexpensively, and successfully earn a degree.

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.**

This program prepares students to enter the workforce as a skilled tradesperson in the built environment (construction) industry or in a technical service company (e.g., Fabrication Technician and Welding Inspector). Graduates will be eligible for positions such as Industrial Welder and Metal Fabricator. The Maryland Department of Transportation (MDOT) refers to these positions as "Skilled Trade Specialists." The graduates from the HCC Welding Technology program will have completed many hours of both classroom and

hands-on skill training which will prepare them for a productive position in the welding workforce using a variety of welding processes.

2. **Present data and analysis projecting market demand and the availability of openings in a job market to be served by the new program.**
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'**
4. **Provide data showing the current and projected supply of prospective graduates.**

In 2018, the Maryland Center for Construction Education & Innovation (MCCEI) produced a report titled "The Critical Path." With input from over 100 industry professionals, the report reviews the status of the construction industry in Maryland and makes recommendations toward "building a world-class education system for Maryland's construction and related built environment industries." The report describes a serious labor shortage for both skilled craftsmen and their supervisors. Seventy percent (70%) of survey respondents anticipated a skilled trades labor shortage by 2020. The report makes several recommendations to the higher education community, and to community colleges in particular, including a call for well-defined educational pathways for careers in construction. Finally, the report indicates increasing levels of required education. It notes that the next 10 years will see a shift toward "apprenticeship plus associate degree" as the preferred educational attainment for skilled tradespeople.

There is a national shortage of skilled tradespeople, hampering the construction industry as it recovers from the COVID-19 slow-down and benefits from the federal government's recent investment in infrastructure. An aging, rapidly retiring workforce, combined with significant challenges in recruiting young people to stigmatized fields, has created a major challenge for construction companies. A 2021 report titled "Skilled Trades in America," conducted by angi.com (formerly Angie's List) found that skilled tradesmen have a median age of 43 years. That is significantly older than the general population. Also, AWS statistics show that over 21% of active welders are over 55 years of age. In addition, 77% of the tradespeople surveyed view the labor shortage as a problem in the industry, with 75% reporting that the shortage has worsened in the last five years.

The workforce shortage, specifically welders and metal worker positions are not just having an impact on the construction industry. Manufacturing has also seen a decline in perspective skilled labor in these professions, Manufacturing Tomorrow, an online trade magazine posted an article in March 2022 "How Will Labor Shortages Impact Metal Fabrication in 2022?" in which it states that "The urgent need for more welders and higher skill levels among welding personnel is widely known and accepted in the U.S. manufacturing industry."

The same trend is found locally. The Baltimore Sun reported the same labor shortage within the state of Maryland, noting that construction projects are hampered by shortages "prevalent throughout the state" (MCCEI President Bob Ayudkovic, quoted in 2019 article). Many industry publications have identified this labor shortage; some have highlighted the role of community colleges in helping to address the problem over the next several years (Building Congress & Exchange).

Red-D-Arc Welderentals, in an online article posted in December 2022, "Labor Shortages in Welding: Is There a Solution?" cites a study by Deloitte and The Manufacturing Institute stating that "the manufacturing skills gap in the U.S. could result in 2.1 million unfilled jobs by 2030." It also adds that the U.S. Bureau of Labor Statistics predicts that there will be nearly 50,000 job openings per year for welders each year during that same time frame, mostly due to workers that are retiring.

The AWS recently published an article on https://weldingworkforcedata.com "Highlighting the welding workforce demand in the U.S." stating that an average of 90,000 welding jobs would need to be filled annually between 2023-2027. This would include retiring worker positions as well as growth in the industry.

Whereas the perception of a shortage of welders in the construction and manufacturing industries is very real, the fact is that more welders with experience in specialized welding processes and with advanced skillsets for critical and sensitive projects are also becoming more difficult to locate. A recent article in DefenseNews (Defense firms outsource sub, carrier construction amid labor woes, by Megan Eckstein) discusses how the United States Navy is having difficulty finding skilled tradesmen including welders to build a new fleet of warships and submarines. The Navy is having to outsource more and more work because of the limited supply of skilled labor found regionally.

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 local programs are similar to the proposed HCC program:

   - North American Trade Schools, Baltimore, Maryland offers a non-credit combination welding certificate. This is a 36-week daytime program, 44-week evening program. This program differs from the new HCC Welding Technology program which offers students an opportunity to earn an AAS degree.

   - Community College of Baltimore County (CCBC) offers a variety of welding non-credit courses and certificates in partnership with Earlbeck Gases and Technologies. HCC's program will differ from CCBC's in that students will have the opportunity to earn a Welding Technology AAS degree.

   - Prince George's Community College, located in Upper Marlboro, Maryland, offers practical non-credit welding courses that can enable students to test for an American Welding Society certification. Whereas these courses are good for gaining more welding skills, they do not lead to a Welding AAS degree.

   - Lincoln Tech, located in Columbia, Maryland, offers a Welding and Metal Fabrication Technology non-credit certificate. Students gain knowledge and skills in various welding processes; however, the program does not offer an AAS degree.

2. Provide justification for the proposed program.

The proposed Welding Technology AAS program provides a pathway to a degree for students who desire to earn an AAS degree along with getting an AWS welding certification. The curriculum is designed so that graduates will obtain welding training in a modern lab facility learning welding processes on state-of-the-art equipment. Students will also be able to increase their specific skills and understanding of the welding industry through additional required and elective coursework and complete the college's general education requirements. Therefore, graduates will be prepared to enter the workforce with a more polished and broader set of welding skills. Students already working in the field will be better equipped for promotion, welding supervision, and welding inspection roles, and will be able to have more professional interactions with other industry colleagues.

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 since there are currently no welding AAS degrees offered by HBIs in Maryland.

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 since there are currently no welding AAS degrees offered by HBIs in Maryland.

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.

In conjunction with the design phase of a new Trades Center building, HCC is developing multiple new trades programs including this welding program. As there are no current welding programs or welding-trained faculty at the college, HCC collaborated with an external subject matter expert to develop the curriculum for this program. The program will be overseen by Associate Vice President of Workforce Development, with teaching and curriculum duties provided by a new full-time faculty member dedicated to this program.

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

Upon completion of this program, students should be able to:

1. Demonstrate mastery of common welding processes, including Shielded Metal Arc Welding (Stick), Gas Metal Arc Welding (MIG) and Gas Tungsten Arc Welding (TIG).

2. Use welding industry and OSHA standard safety procedures.

3. Demonstrate various groove and fillet welds on a variety of metals.

4. Fabricate and modify welding structures based on the accurate interpretation of technical blueprints/drawings.

5. Inspect welds for size, continuity, and strength using multiple techniques.

6. Demonstrate an understanding of ethical and professional responsibilities in the context of the welding industry.

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.

Welding Technology A.A.S. Degree (Career)

The Welding Technology program is designed to provide students with a skills-based, hands-on experience with a curriculum that balances theory and application. Students will learn the most common welding processes in industry, including Shielded Metal Arc Welding (Stick), Gas Metal Arc Welding (MIG) and Gas Tungsten Arc Welding (TIG). The program will use state-of-the-art facilities and equipment to provide this specialized training so students completing the program will be prepared to enter the workforce in the welding industry.

Suggested Semester 1

Course Number	Title	Minimum Credits
ENGL 121	College Composition	3
ENGT 100	Fundamental Skills for Technology and Engineering	4
ENGT 105	Industrial Safety	2
WELD 105	Shielded Metal Arc Welding I	4

Suggested Semester 2		
Course Number	Title	Minimum Credits
MATH 132	Topics in Mathematical Literacy	3
WELD 110	Gas Metal/Flux Cored Arc Welding I	4
WELD 115	Gas Tungsten Arc Welding I	4
WELD 120	Introduction to Print Reading	2
HUMN 115	Entrepreneurship and Creativity	3

Suggested Semester 3		
Course Number	Title	Minimum Credits
WELD 125	Introduction to Pipe Welding	4
WELD 205	Shielded Metal Arc Welding II	4

WELD 210	Gas Metal/Flux Cored Arc Welding II	4
WELD 215	Gas Tungsten Arc Welding II	4

Suggested Semester 4		
Course Number	**Title**	**Minimum Credits**
PHYS 101	Technical Physical Science	4
WELD 220	Welding Inspection	4
WELD 250	Structural Welding Fabrication	4
HIST 123	Western Civilization and the Modern World	3

TOTAL CREDIT HOURS: 60

Course Descriptions:

ENGL 121 College Composition (3 credits)
This course teaches students to develop and apply rhetorical knowledge for creating effective text-based communication. Students develop critical inquiry and multi-stage writing processes in order to contribute productively, effectively, and ethically to the social and collaborative practices of academic and other discourses. Coursework guides students toward understanding themselves as authors of texts that hold meaning, and students successfully completing the course will be able to compose texts of at least 1,000 words, demonstrating knowledge of conventions and manuscript presentation relevant to varying rhetorical situations. ENGL 121 transfers as university-parallel freshman English. Students must earn a final grade of C or better to pass this course.

ENGT 105 Industrial Safety (2 credits)
Topics in this course include a wide variety of safety and regulatory compliance sessions such as: first aid, welding safety, material handling, and lockout/tagout. OSHA and EPA regulations are also covered. Students will also gain an awareness of environmental safety and health issues and have an opportunity to complete the OSHA 10 certification.

ENGT 100 Fundamental Skills for Technology and Engineering - 4 credits

This course prepares students for success in an Engineering transfer program or Technology program with basic electrical and mechanical knowledge and experiences such as collecting and interpreting data, using appropriate units, basic troubleshooting, and reverse engineering. Students will use mathematical functions and graphs to model and analyze data collected from physical systems, and will get started in the physical world through general shop safety training and measuring with a carpenter's square, calipers, and micrometer. In addition, students will gain fabrication and assembly experience with hand and powered tools. Students will get started in the electronics world measuring voltage, current, and resistance, and will begin building breadboard circuits. Study may begin specialization into topics such as programming, refrigeration, pneumatics, and fluidics.

MATH 132 Topics in Mathematical Literacy (3 Credits)
This is a college-level mathematics course, designed for college students who do not expect to need college algebra, a statistics course, or a higher-level mathematics course. Five major components are included: exponential and logarithmic functions, personal finance (including interest rates and annuities), basic logical thinking, basic principles of probability, and statistical reasoning.

PHYS 101 Technical Physical Science (4 credits)
This physical science course covers basic introductory physics and chemistry and is designed for Allied Health program majors (RadTech and Cardiovascular), technology majors (BMET, Computer Support, and Electronics) and other non-science majors. It consists of basic scientific mathematics and an integrated sequence of physical science and chemical principles. This course will enable students to become aware of, to identify, and to evaluate situations and/or problems in contemporary physical science which include: science measurement and dimensional plus statistical analysis techniques. Special emphasis is placed upon learning physics principles and solving mathematical problems in density/specific gravity, gas laws, solutions, pressure, fluids, basic electricity, magnetism, sound and light waves, and the atomic structure of matter. The laboratory program will allow the student to develop an understanding of the fundamental principles of the above-mentioned areas, including problem solving, and their application to physical phenomenon observed.

WELD 105 Shielded Metal Arc Welding I (4 credits; 2 hr lecture, 4 hr lab)
Application of entry-level skills and knowledge of shielded metal arc welding, oxyfuel cutting, plasma arc cutting, and carbon arc gouging are taught in this course. Standards set by the American Welding Society (AWS) and the welding industry are utilized in both classroom study and laboratory work. Students will learn to work in a variety of joints and positions using the Shielded Metal Arc Welding process. Pre- or corequisite: [ENGT Industrial Safety course].

WELD 110 Gas Metal/Flux Cored Arc Welding I (4 credits; 2 hr lecture, 4 hr lab)
Students will learn to perform basic welding using the gas metal and flux cored arc welding processes including short circuiting, spray, and pulsed spray. Standards set by the American Welding Society (AWS) are utilized in both classroom study and laboratory work. Pre- or corequisite: [ENGT Industrial Safety course].

WELD 115 Gas Tungsten Arc Welding I (4 credits; 2 hr lecture, 4 hr lab)
Students will gain entry-level skills, knowledge, and theory of gas tungsten arc welding in this course. Standards set by the American Welding Society (AWS) are utilized in both classroom

study and laboratory work. Students will perform basic welding on carbon steel, stainless steel, and aluminum. Pre- or corequisite: [ENGT Industrial Safety course].

WELD 120 Introduction to Print Reading (2 credits)
This course will introduce students to the various prints they will encounter in the welding industry. Students will learn how to read and understand welding prints, the various parts of a print, the common views used to convey information, and the welding symbols needed to complete most of the tasks found in industry.

WELD 125 Introduction to Pipe Welding (4 credits; 2 hr lecture, 4 hr lab)
An introduction to welding of pipe using the shielded metal arc welding process (SMAW), including electrode selection, equipment setup, and safe shop practices. Emphasis will be on various welding positions and electrodes.

WELD 205 Shielded Metal Arc Welding II (4 credits; 2 hr lecture, 4 hr lab)
Application of advanced skills and knowledge of shielded metal arc welding processes such as oxyfuel cutting, plasma arc cutting, and carbon arc gouging are taught in this course. Standards set by the American Welding Society (AWS) are utilized in both classroom study and laboratory work.

WELD 210 Gas Metal/Flux Cored Arc Welding II (4 credits; 2 hr lecture, 4 hr lab)
Students will learn to weld groove welds with and without backing bars, how to create welds to a specific size, and how to weld in a variety of positions that are evaluated to American Welding Society (AWS) acceptance standards. Carbon, stainless, and aluminum materials will be utilized throughout this course. Prerequisite: Grade of "C" or better in WELD 110.

WELD- 215 Gas Tungsten Arc Welding II (4 credits; 2 hr lecture, 4 hr lab)
This course will provide students with a deeper understanding and knowledge of welding with the gas tungsten arc welding process. Standards set by the American Welding Society (AWS) are utilized in both classroom study and laboratory work. Prerequisite: Grade of "C" or better in WELD 115.

WELD 220 Welding Inspection (4 credits)
This course introduces students to the skills, knowledge, and requirements to become a welding inspector.

WELD 250 Structural Welding Fabrication (4 credits; 2 hr lecture, 4 hr lab)
In this course, students will practice advanced fabrication techniques commonly used in the structural steel industry. Skills developed will include blueprint reading, material documentation, and fabrication. This is an advanced course that will apply collective knowledge of the major welding processes. Pre- or corequisite: WELD 205 and WELD 210.

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

Students at HCC meet general education requirements by completing a minimum of 18 credits of approved courses that meet the Code of Maryland (COMAR) regulations, and which include the following goals:

- Critical and Creative Thinking
- Global Competency

- Information Literacy
- Technological Literacy
- Scientific and Quantitative Reasoning
- Written Communication
- Oral and Expressive Communication

Students will be required to complete coursework determined by faculty and approved by the general education subcommittee. Once assessment is complete, an action plan will address findings as part of the ongoing general education assessment process.

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

   Not applicable.

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

   Not applicable

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**

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

   There are currently no articulation agreements with transfer institutions for this program. However, the focus of this program is on providing students the necessary experience and degree credential to obtain employment in welding positions, and students who complete the HCC Welding AAS will be positioned to accomplish this.

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 this program).**

There are no current full-time faculty. HCC is committed to hiring a qualified full-time faculty member to manage curriculum and teach technical WELD courses in the proposed program. The faculty member's qualifications include an associates degree or Certificate in welding from an accredited institution with five years of documented experience in welding processes being taught (GTAW, GMAW, SMAW). The faculty member is required to be AWS certified or must become ASE certified within one year. Additional coursework will be taught by adjunct faculty experienced in teaching general education and technical courses within the program.

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. **Evidence-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. Welding faculty will be encouraged to maintain certification status through programs like the AWS (American Welding Society) Instructors Institute.

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 proposed Welding AAS program will be offered in a new state-of-the-art facility and designed to offer students the opportunity to learn the welding trade in the most advanced training environment possible. Modern technology training equipment and resources will be made available to students to provide them with a smooth transition from an education to workplace setting. The program will also be supported with the most current and industry-recognized welding curriculum available. Equipment and facility capabilities will be aligned with the curriculum based on guidance including AWS Standard B5.4.

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.**

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)	$58,245.60	$73,930	$92,198.40	$121,831.20	$134,625.60
a. Number of F/T Students	8	10	12	16	18
b. Annual Tuition/Fee Rate	$5,485.20	$5,546.20	$5,607.20	$5,668.20	$5,729.20
c. Total F/T Revenue (a x b)	$43,881.60	$55,462	$67,286.40	$90,691.20	$103,125.60
d. Number of P/T Students	7	9	12	15	15
e. Credit Hour Rate	$171	$171	$173	$173	$175
f. Annual Credit Hour Rate	12	12	12	12	12
g. Total P/T Revenue (d x e x f)	$14,364	$18,468	$24,912	$31,140	$31,500
3. Grants, Contracts & Other External Sources	$0	$0	$0	$0	$0
4. Other Sources	$175,000[1]	$0	$0	$0	$0

TOTAL (Add 1 – 4)	$233,245.60	$73,930	$92,198.40	$121,831.20	$134,625.60

All tuition and fees are based on in-county tuition rates.

[1] Note that this revenue is part of the FF&E funds associated with the new workforce development and trades center building for new equipment.

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.**

TABLE 2: PROGRAM EXPENDITURES					
Expenditure Categories	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**
1. Faculty (b + c below)	$98,051	$98,051	$100,993	$100,993	$100,993
a. Number of FTE	1	1	1	1	1
b. Total Salary	$75,611	$75,611	$77,880	$77,880	$77,880
c. Total Benefits	$22,440	$22,440	$23,113	$23,113	$23,113
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	$175,000[1]	$10,000	$10,000	$10,000	$10,000
5. Library	$0	$0	$0	$0	$0

6. New or Renovated Space	$0	$0	$0	$0	$0
7. Other Expenses	$1,000	$1,000	$1,000	$1,000	$1,000
TOTAL (Add 1 – 7)	$274,051	$109,051	$111,993	$111,993	$111,993

[1] Note that this expenditure for new equipment is part of the FF&E funds associated with the new workforce development and trades center building.

The program expenses will be sustainable with tuition and fees by year four.

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 established institutional assessment process at HCC. 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. The formal internal review also examines program enrollment for the prior five-year period and summarizes student feedback through course and instructor evaluations. The Workforce, Career, and Community Education division will continuously monitor program enrollment and cost effectiveness.

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, Equity, and Inclusion 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.**

   Not applicable

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

   Not applicable