



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

Institution Submitting Proposal	Community College of Baltimore County
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*Each action below requires a separate proposal and cover sheet.*

- |  |   |
|--|---|
| <input type="radio"/> New Academic Program                   | <input type="radio"/> Substantial Change to a Degree Program            |
| <input type="radio"/> New Area of Concentration              | <input type="radio"/> Substantial Change to an Area of Concentration    |
| <input type="radio"/> New Degree Level Approval              | <input type="radio"/> Substantial Change to a Certificate Program       |
| <input checked="" type="radio"/> New Stand-Alone Certificate | <input type="radio"/> Cooperative Degree Program                        |
| <input type="radio"/> Off Campus Program                     | <input type="radio"/> Offer Program at Regional Higher Education Center |

Payment <input checked="" type="radio"/> Yes	Payment <input type="radio"/> R*STARS #	Payment	Date
Submitted: <input type="radio"/> No	Type: <input checked="" type="radio"/> Check # 10056116	Amount: \$850.00	Submitted: 03/15/2026

Department Proposing Program	Art & Design		
Degree Level and Degree Type	Lower Division Certificate		
Title of Proposed Program	Digital Fabrication for Art and Design		
Total Number of Credits	18		
Suggested Codes	HEGIS: 5012.30	CIP: 5004.01	
Program Modality	<input checked="" type="radio"/> On-campus <input type="radio"/> Distance Education (fully online) <input type="radio"/> Both		
Program Resources	<input checked="" type="radio"/> Using Existing Resources <input type="radio"/> Requiring New Resources		
Projected Implementation Date <small>(must be 60 days from proposal submission as per COMAR 13B.02.03.03)</small>	<input checked="" type="radio"/> Fall <input type="radio"/> Spring <input type="radio"/> Summer            Year: 2026		
Provide Link to Most Recent Academic Catalog	URL: <a href="https://catalog.ccbcmd.edu/index.php">https://catalog.ccbcmd.edu/index.php</a>		

Preferred Contact for this Proposal	Name: Elizabeth Shrader, Ph.D.
	Title: <b>Director, Curriculum Innovation</b>
	Phone: 443-840-2680
	Email: <a href="mailto:eshrader@ccbcmd.edu">eshrader@ccbcmd.edu</a>

President/Chief Executive	Type Name: Dr. Sandra Kurtinitis
	Signature:  Date: 2/26/26
	Date of Approval/Endorsement by Governing Board: 02.25.2026



**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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March 15, 2026

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

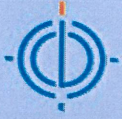
Dear Dr. Rai,

The Community College of Baltimore County (CCBC) is requesting approval of a new Lower Division Certificate in *Digital Fabrication for Art and Design* (HEGIS: 5012.30; CIP: 5004.01).

This program has been designed by CCBC Art and Design faculty to meet the emerging needs of the incumbent artist workforce in the greater Baltimore area as there is limited availability of high-quality digital fabrication skills training for artists and crafts people in our area. This program will provide artists and designers with the skills and experience to utilize modern fabrication machines and software for creative work. Operation and workflow for vinyl printers and cutters, laser systems, embroidery machines, direct to garment printers, 3D printers, and Computer Numerical Control (CNC) routers are covered with a focus on creative production. Basic machine maintenance, problem solving, and safety are stressed as students work through the design process from ideation to prototype or final production.

Program Requirements		
Course	Credits	Prefix
Vector Graphics for Design	3	ARTD 140
Three-Dimensional Design	3	ARTD 113
3D Modeling and Animation	3	ARTD 240
Drawing for Designers	3	ARTD 129
Two-Dimensional Digital Fabrication	3	ARTD 155
Three-Dimensional Digital Fabrication	3	ARTD 255
<b>Total Program Credits</b>	<b>18</b>	

This proposal has been approved by Senior Staff and CCBC's Board of Trustees, as part of the February 2026 meeting. A payment of \$850 has been forwarded to cover the substantive fee for a new program of study. Please feel free to contact me with any questions.



**CCBC**  
The Community College  
of Baltimore County

Sincerely,

Joaquín G. Martínez, Ph.D.  
Provost & Vice President of Academic and Student Affairs

cc: Jennifer Kilbourne  
Samantha Streamer Veneruso  
Elizabeth Shrader  
R. Michael Walsh  
William Neibauer  
Glenda Breaux  
Lynn MacLaughlin  
Ginny Zawodny

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**Maryland Higher Education Commission (MHEC)  
Academic Program Proposal  
AY2025-2026**

**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, FY2024-2027](#).

The certificate in Digital Fabrication for Art and Design provides artists and designers with the skills and experience to utilize modern fabrication machines and software for creative work. Operation and workflow for vinyl printers and cutters, laser systems, embroidery machines, direct to garment printers, 3D printers, and Computer Numerical Control (CNC) routers are covered with a focus on creative production. Basic machine maintenance, problem solving, and safety are stressed as students work through the design process from ideation to prototype or final production.

This certificate addresses CCBC's commitment to quality education, and access to innovative technology for all. Baltimore has a strong history as an artistic city, and this credential provides artists and designers with the skills to innovate with recent technology and to continue to enrich our community through their work.

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

Enrollment Growth and Economic Prosperity are pillars of CCBC's 2024-2027 strategic plan as is developing greater credit and continuing education integration throughout the curriculum. The proposed certificate in Digital Fabrication for Art & Design supports all these initiatives. This certificate invites current professional artists to complete high quality course work at CCBC instead of less rigorous informal learning options. In addition, through experience with these in-demand skills, students will gain potential for competitive and more satisfying work opportunities. Finally, once this certificate is in place, pathways between continuing education and credit certification will be built for those who wish to earn credits towards a degree in Art and Design.

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).

Equipment for this program is available at both Essex and Catonsville Campuses. Equipment, software, maintenance, and staff are supported by the Art and Design Department. Other programs such as Fine Art & Visual Design and Graphic Design, as well as General Education courses use this equipment. There is no foreseen need for additional funding for equipment or staff as a result of initiating this certificate program.

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.

CCBC's College Senate, President, and Board of Trustees have approved the proposed program; 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.

**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

Provide evidence that the perceived need is consistent with the [Maryland State Plan for Postsecondary Education](#).

Access to affordable training and education in digital fabrication is limited in Maryland. Currently private schools and maker spaces are the most common way to find classes in vinyl graphics printing and production, embroidery machine operations and design digitizing, laser cutting, and CNC operations. Cost, access, limited offerings, and peer-to-peer teaching in private maker spaces inhibit students from gaining appropriate and extensive experience with these tools in an academic setting. Economically challenged students seeking skills with these tools have very few options in Maryland.

Existing artists, craftsmen, and designers seek to innovate and evolve their techniques, but adequate training on modern machines is difficult to find, costly, and typically not geared towards creatives. Training can be found in manufacturing but does not encompass creative thinking and focuses on operations only.

**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 certificate is intended for both recent graduates of Arts programs as well as for working artists who are looking to expand their knowledge and skills. Participants would be those working in various applied artistic design fields such as Prop Design, Furniture Design, Scenic & Set Design, Environmental Design,

and Interior Design. In addition, this certification would be appropriate for those working in textiles (machine embroidery), sign making, and vinyl graphics. Professionals in Interior Design and Graphic Design would also benefit from the certification.

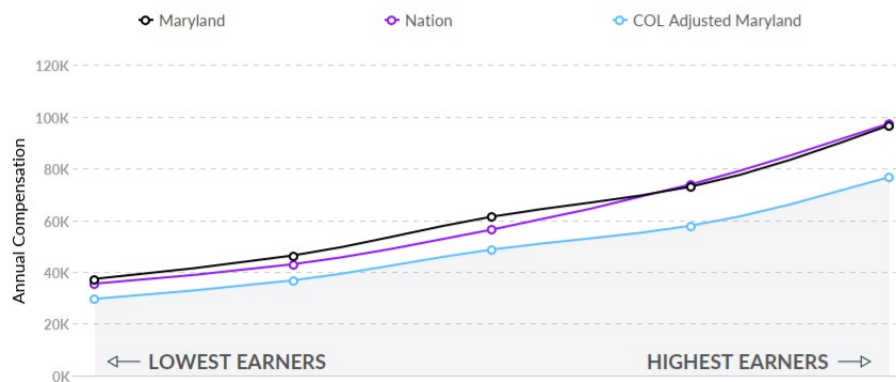
2. Present data and analysis projecting market demand and the availability of openings in a job market to be served by the new program.

It is challenging to evaluate the demand for professionals with the skill sets supported by the proposed certificate, because many workers are gaining experience in non-standard, non-credentialed settings. With the development of this program and others like it regionally, a credentialed workforce will grow.

According to Lightcast (2025), earnings for the collection of occupations this certificate will serve are high compared to the national median salary. Salaries for people working in the areas supported by the certificate is 9% higher regionally than the national average.

#### Regional Compensation Is 9% Higher Than National Compensation

For your occupations, the 2024 median wage in Maryland is \$61,327, while the national median wage is \$56,329.



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 proposed certificate is a unique approach to training for artists and creatives in the area of digital design and fabrication. Other regional programs are more focused on Industrial Design and manufacturing, where this credential is specifically envisioned to support the vibrant arts community in the greater Baltimore area. The only other regional programs are not suitable for the incumbent workforce of artists and design professionals looking to expand their knowledge into digital design. CCBC's certificate in Digital Fabrication for Art and Design will offer a more affordable alternative to students currently completing 2 and 4 year degrees.

Top Schools	Completions (2024)
Maryland Institute College of Art	565
Towson University	565
University of Maryland-College Park	415
University of Maryland Global Campus	309
Johns Hopkins University	260
University of Maryland-Baltimore County	176
Montgomery College	168
United States Naval Academy	129
Community College of Baltimore County	95
University of Baltimore	82

Data generated by Lightcast (2025)

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

This certificate will directly recruit students from CCBC's Associate of Arts in Art as well as Associate of Fine Arts in Studio Art. Through 2024, enrollment in the Fine Art & Visual Design Area of Concentration (now the Associate of Art in Art) was growing with 172 students declaring this area as their major program of study. In addition, students will be recruited from groups of local professional artists and crafts persons. Faculty in the program will coordinate with CCBC's Communications area to create a vibrant recruitment campaign.

**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.

Other regional certificate programs are not an exact match with the proposed certificate.

The proposed certificate is 18 credits and can be completed within a year. Carroll Community College offers a 41 credit certificate in product design and fabrication which is 4 full semesters with a target audience that does not include artists and creatives. Maryland Institute College of Art (MICA) is developing a 4yr degree where students have training with similar machines, however, this proposed certificate program will enable students to learn a wide variety of skills and have access to multiple modes of digital design.

2. Provide justification for the proposed program.

Digital fabrication machinery and technology represent the modern means of production for artists and designers across a wide range of trades. Currently, certificates in digital fabrication specifically for artists are limited, and this program would fill that gap.

While training opportunities are available sporadically in Maryland through maker spaces and some educational institutions, most art and design programs in higher education only introduce these tools in limited courses. Very few provide dedicated classes focused specifically on digital fabrication. This certificate would stand out for its structured approach, concentrated focus, and comprehensive breadth of training.

The program is designed to serve two primary groups:

- Working artists and designers who need to update their skills to remain competitive. For example, a practicing artist could add efficiency and expand creative possibilities, while a professional designer with an existing degree could modernize their skills to meet the demands of today's workforce.
- New and current art and design students seeking specialized training. These students would distinguish themselves from peers by gaining hands-on experience and technical expertise in digital fabrication that is rarely offered in traditional programs.

This certificate is unique to CCBC and appeals to artists and designers in fields such as graphic design, interior design, environmental design, merchandising, furniture making, prop design, exhibition design, and set production. The integration of embroidery machine operations and digitizing further distinguishes the program, providing formal and advanced training in skills that are otherwise largely self-taught.

The Digital Fabrication for Art and Design certificate at CCBC would fill an educational gap by offering focused, hands-on training in technologies that are reshaping artistic and design practices. By equipping both established professionals and emerging students with modern digital production skills, the program would enhance career opportunities, expand creative possibilities, and position CCBC as a leader in innovative arts education.

#### **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.

n/a

#### **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.

n/a

#### **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.

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 certificate 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.

CCBC currently has digital design machines and has created art fabrication spaces at both the Catonsville and Essex campuses. These machines are used for current Fine Arts and General Education courses. With the growth of digital fabrication in the arts, CCBC is leveraging our agility to meet the needs of our community with this certificate program. In addition, CCBC faculty have expertise in this area and can provide support to students. There are currently five full-time faculty engaged in this area along with several part-time faculty.

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

The certificate in Digital Fabrication for Art and Design provides students with comprehensive training in the tools, processes, and professional practices of digital fabrication, with an emphasis on artistry, innovation, and applied design. Students gain experience executing the complete design process while practicing problem-solving strategies to navigate production challenges. The program equips students with the knowledge and technical skills to operate vinyl printers and cutters, laser systems, embroidery machines, direct-to-garment printers, 3D printers, and CNC routers. Graduates will complete the program with a professional portfolio of original works produced using digital fabrication technologies, demonstrating both technical proficiency and creative exploration.

**Program Objectives:**

1. operate vinyl printers and cutters, laser systems, embroidery machines, direct to garment printers, 3D printers, and CNC routers;
2. perform basic maintenance on vinyl printers and cutters, laser cutters, embroidery machines, 3D printers, and CNC routers;
3. follow all health and safety protocols for fabrication;
4. demonstrate proficiency with industry standard digital fabrication software;
5. execute the design process from sketch to software model to prototype;
6. discuss the use of digital fabrication production processes in the contemporary art and design industries;
7. utilize problem solving and workflow strategies for digital fabrication;
8. create a portfolio of original work using digital fabrication machines.

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

CCBC has institutionalized a robust student learning outcomes assessment program that met all Middle States Commission on Higher Education standards and criteria in the college's most recent reaffirmation of accreditation in 2022. The course level assessment process utilizes externally validated assessments that directly measure student learning at the 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 provides a mechanism for continuous improvement.

- b) document student achievement of learning outcomes in the program

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 Dean of Curriculum, Assessment, and Accreditation 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.

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

**Lower Division Certificate in Digital Fabrication for Art and Design**

Program Requirements				
Course	Credits	Prefix	Gen Ed Category	
Vector Graphics for Design	3	ARTD 140	n/a	
Three-Dimensional Design	3	ARTD 113	n/a	
3D Modeling and Animation	3	ARTD 240	n/a	
Drawing for Designers	3	ARTD 129	n/a	
Two-Dimensional Digital Fabrication	3	ARTD 155	n/a	
Three-Dimensional Digital Fabrication	3	ARTD 255	n/a	
<b>Program Requirement Total</b>	<b>18</b>			

**ARTD 113 – Three-Dimensional Design** focuses on idea development using both traditional and nontraditional three-dimensional materials and media. A hands-on approach will be used in modeling, casting, carving, assemblage, mixed media, installation, and time-based artwork. Exploring a variety of subject matter, students will produce representational, abstract, and non-objective artwork. This course prepares students for intermediate level visual arts courses in both transfer and career programs in art, design, and interactive media.

**ARTD 140 – Vector Graphics for Design** is a course that teaches students to develop vector-based designs using industry standard software. Students create images and plans for various outputs and publication methods. Images incorporate strategic use of design elements and principles. Projects are developed using the design process and visual communication principles based on a design studio environment.

**ARTD 240 - 3D Modeling** explores the creation of 3D forms for fabrication and online media. Major topics include the fundamentals of 3D modeling, including materials, textures, and surfacing, as well as lighting and scene creation. Project workflow and appropriate file formats for output are covered as students work through a series of progressively more complex projects.

**ARTD 129– Drawing for Designers:** introduces drawing and visualization techniques used by interior designers, product designers, and graphic designers to communicate design concepts. Students learn techniques for freehand sketching and digital rendering. Drawings focus on analyzing form and creating the illusion of three-dimensional objects and space. Lessons with traditional drawing tools and professional software provide students with skills to create production-ready renderings.

**ARTD 155 – Two-Dimensional Digital Fabrication:** introduces digital fabrication technologies used in the creation of two-dimensional art and design. Technology covered includes laser cutters, vinyl printers/cutters, direct-to-garment printers, embroidery machines, and related software. Students produce prototypes and projects from their art and design work.

**ARTD 255 – Three-Dimensional Digital Fabrication:** builds on two-dimensional fabrication knowledge to create three-dimensional art and design works. Students will design and assemble physical forms using laser-cutters, 3D printers, and CNC routers utilizing industry-standard software and proprietary tools.

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

The proposed certificate program has no General Education courses and is therefore not subject to general education requirements. This certificate is intended as a complimentary credential for students who have completed an AA in Art or AFA in Studio Art degree program or for students who are seeking a specific knowledge base for their professional work.

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

Upon approval, this certificate program will be listed with the National Association of Schools of Art and Design (NASAD), which is the accrediting body for CCBC's AA in Art and AFA in Studio Art.

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 through the College Catalog: <https://catalog.ccbcmd.edu/index.php>. 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 incorporated within the course syllabus. All course sections utilize the learning management system, Brightspace, to facilitate instruction and promote student learning.

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 College Catalog is finalized. Accurate admissions information can be found at this site: <https://www.ccbcmd.edu/Admission-and-Registration/Get-Started/index.html>. The College Catalog is updated annually, and all program and course information is current. The College Catalog can be accessed at this link: <https://catalog.ccbcmd.edu/index.php>.

CCBC's Marketing and Communications staff oversees all College media, print, and website messaging

and employs a mission-centric, strategic approach to produce communications that enhance the College’s reputation and engage prospective students. To promote accuracy, honesty, and truthfulness in public relations announcements, advertisements, and related admission materials, publications move through several levels of approval prior to publication. When appropriate, for major college-wide campaigns, senior level approvals are sought to ensure that the full weight of the institution stands behind the work.

**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](#).

This Lower Division Certificate has been created for career advancement and not for transfer.

**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.**

**Digital Fabrication for Art & Design Faculty**

Faculty Member Name	Terminal Degree & Discipline	Full Time or Adjunct	Courses Taught
Matthew Sherwood	MFA - Painting	Full Time	ARTD 113, ARTD 255
Ariana Leon	MFA - Sculpture	Adjunct	ARTD 113
Erik Miller	MFA – Drawing and Printmaking	Full Time	ARTD 129, ARTD 140, ARTD 155
Sarada Conaway	MA – Fine Arts	Full Time	ARTD 129
Alex Garove	MA - Education	Adjunct	ARTD 129, ARTD 140
David Zobel	MS – Communications Design	Full Time	ARTD 140, ARTD 155
Deborah Ciccarelli	MFAC – Animation and Design	Full Time	ARTD 140, ARTD 155, ARTD 240
Russell Prigodich	MFA - Sculpture	Adjunct	ARTD 155, ARTD 255

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 Institute for Transformative Teaching, Learning, and Leadership (ITLL) at CCBC leverages existing and new evidence-based initiatives by providing innovative professional learning for educators and access to coordinated programs that build community, support equity, and promote student success at CCBC. Additional professional development is provided at annual events including Fall Focus, the Teaching and Learning Fair, and Professional Development Day. Faculty receive 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 has numerous distance education programs. Faculty slated to teach online must complete a professional development offering, Teaching Online Course. This five-week online course is designed for faculty scheduled to facilitate an existing online or blended course. The course content includes online learning principles and instructor competencies. Topics covered include orienting students to the online learning environment (including the learning management system (LMS) which is Brightspace, the facilitation of online courses, self-assessment of instructor technical skills and current teaching strategies, social processes and presence, legal issues (ADA, FERPA and copyright), and identifying relevant institutional policies, procedures, and support services. Faculty online course developers must complete prerequisite training as determined by Instructional Design and Online Learning. Online and blended course development is led by an instructional designer and follows a programmatic or discipline, team-based approach. Courses are designed to meet Quality Matters and CCBC Online Standards. Completed courses run for one semester before entering CCBC's Internal Review process.

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 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.

The CCBC Library provides access to over 90,500 print volumes on three campus libraries, as well as 88,500 eBooks and over 91,497 journals in databases through the library's website. The library is open to students and faculty for 64 hours a week during the Fall and Spring semesters and all electronic resources are available 24/7 via the library's website, utilizing active CCBC credentials. CCBC's Research Guides, LibraryLearn interactive asynchronous instructional modules, eBooks, print books, web links, videos, etc. are also available to students via our website. The CCBC Library uses Ebsco's discovery layer software for enhanced access to all materials. LibraryChat, our professionally staffed reference chat service, is also available 24/7. CCBC Librarians are available online, on the phone, or in person for student assistance during all the library's open hours.

CCBC Art and Design faculty worked with CCBC librarians to create an [Art History and Art Appreciation research database](#) which can also be used as a resource for Studio Art courses. In addition, we have worked towards creating Open Educational Resources to replace textbooks in all Art history and Art Appreciation courses.

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 \(ccbc.md.edu\)](#). 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 \(ccbc.md.edu\)](#).

**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 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.

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: <https://www.ccbcmd.edu/For/Accepted-Students/pages/Connect-to-Tech.html>

**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)	\$16,074	\$27,684	\$44,126	\$55,728	\$60,372
a. Number of F/T Students	2	2	4	4	6
b. Annual Tuition/Fee Rate	\$2,322	\$2,322	\$2,322	\$2,322	\$2,322
c. Total F/T Revenue (a x b)	\$4,464	\$4,464	\$9,288	\$9,288	\$13,932
d. Number of P/T Students	5	10	15	20	20
e. Credit Hour rate	\$124	\$124	\$124	\$124	\$124
f. Annual Credit Hour Rate	\$2,322	\$2,322	\$2,322	\$2,322	\$2,322
g. Total P/T Revenue (d x e x f)	\$11,610	\$23, 220	\$34,838	\$46,440	\$46,440
3. Grants, Contracts & Other External Sources – <i>no current grant funding</i>	\$25,000	\$25,000	\$25,000	\$25,000	\$25,000
4. Other Sources	0	0	0	0	0
TOTAL (Add 1-4)	\$41,074	\$52,684	\$69,126	\$80,728	\$85,372

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)	\$147,811	\$147,811	\$221,716	\$221,716	\$295,621
a. Number of FTE	1.0	1.0	1.5	1.5	2.0
b. Total Salary	\$111,136	\$111,136	\$166,704	\$166,704	\$222,272
c. Total Benefits	\$36,675	\$36,675	\$55,012	\$55,012	\$73,349
2. Admin. Staff (b + c below)	\$27,828	\$27,828	\$27,828	\$27,828	\$27,828
a. Number of FTE	0.25	0.25	0.25	0.25	0.25

b. Total Salary	\$20,923	\$20,923	\$20,923	\$20,923	\$20,923
c. Total Benefits	\$6,905	\$6,905	\$6,905	\$6,905	\$6,905
3. Support Staff (b + c below)	\$35,905	\$35,905	\$35,905	\$35,905	\$35,905
a. Number of FTE	0.33	0.33	0.33	0.33	0.33
b. Total Salary	\$27,619	\$27,619	\$27,619	\$27,619	\$27,619
c. Total Benefits	\$8,286	\$8,286	\$8,286	\$8,286	\$8,286
4. Technical Support and Equipment	\$150	\$200	\$400	\$500	\$800
5. Library	\$100	\$100	\$100	\$100	\$100
6. New or Renovated Space	\$0	\$0	\$0	\$0	\$0
7. Other Expenses	\$700	\$1,200	\$2,000	\$2,400	\$2,600
TOTAL (add 1-7)	\$212,494	\$213,044	\$287,949	\$288,449	\$362,854

\*\*It is vital to note that the equipment used in the Digital Fabrication for Art & Design Certificate is shared across all Art AA and AFA courses and programs. In addition, of the six courses that are part of this certificate, three are also part of other certifications as well as the AA in Art and the AFA in Studio Art. Therefore, at no time is CCBC expecting to fund the program and its faculty with certificate student enrollment alone. Both Essex & Catonsville campus host Fabrication equipment; Catonsville has new lab space opened in 2024.

**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 meets 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 Digital Fabrication for Art & Design 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 Inclusion. 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 a vital 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.

n/a

**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 and technology, as well as the promotion of a quality assurance process. CCBC has a dedicated, public facing webpage for online learning CCBC Online (ccbcm.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 for mandatory training for course facilitation and course development. Online course development incorporates a 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 fifth 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 the implementation of those policies.

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 twenty-five. 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 clear and accessible within the College Catalog, which is published annually.