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Dr. James D. Fielder, Jr.
Secretary
Maryland Higher Education Commission
6 North Liberty Street
Baltimore, Maryland 21201

December 5, 2019

Dear Secretary Fielder,

The Community College of Baltimore County respectfully submits a substantive program modification to the Associate of Applied Science (A.A.S.) degree in Radiography. The Radiography program is a selective admissions program designed to provide the medical community with competent, licensed, and registered diagnostic radiographers. The program consists of didactic instruction as well as clinical placement and laboratory simulation. The proposed substantive change is to split the larger courses into smaller segments, which focus on specific skills. The current courses, which are 6-8 credits each, no longer engender graduates who are skilled academically, kinesthetically, and patient-oriented. Breaking up the larger courses into ones such as Radiographic Positioning, Technology, and Lab/Clinical courses will make each student responsible for success in all areas, which is crucial to becoming a competent radiographer and healthcare team member.

The Radiography program has numerous partnerships in the community for excellent clinical rotations, which ensures students are work-ready before they graduate, pass the national certification exam on the first attempt, and have the skills and credentials clinical partners demand. Graduates of the CCBC Radiography Program are eligible to apply to take the national certification exam in Radiography, given by the American Registry of Radiologic Technologists (A.R.R.T.). To be eligible to apply for the A.R.R.T. exam, graduates must have an Associate's Degree. After passing the A.R.R.T. certification exam, graduates obtain a State of Maryland license as a Radiographer. Job opportunities for graduates have increased over the past 5 years due to the expansion of stand-alone facilities and urgent care centers.

With submission of this proposal, CCBC seeks approval of substantial modifications to the A.A.S. in Radiography. The appropriate fee has been forwarded. Thank you for your consideration of this request. Feel free to contact me with any questions.

Sincerely,

Jack McLaughlin
Interim Vice President of Instruction

cc: Jennifer Kilbourne
Shawn McNamara
Judy Blum
Erin Myers

Office Use Only: PP#

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

Institution Submitting Proposal	Community College of Baltimore County

Each action below requires a separate proposal and cover sheet.

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

Payment Submitted: ◉ Yes ○ No | Payment Type: ○ R*STARS ◉ Check | Payment Amount: $250 | Date Submitted: 12/6/19

Department Proposing Program	Radiography	
Degree Level and Degree Type	Associate of Applied Science	
Title of Proposed Program	Radiography	
Total Number of Credits	68	
Suggested Codes	HEGIS: 5207.01	CIP: 51.0907
Program Modality	◉ On-campus	○ Distance Education (*fully online*)
Program Resources	◉ Using Existing Resources	○ Requiring New Resources
Projected Implementation Date	◉ Fall ○ Spring ○ Summer	Year: 2020
Provide Link to Most Recent Academic Catalog	URL: http://catalog.ccbcmd.edu/preview_program.php?catoid=34&poid=19013&returnto=2772	
Preferred Contact for this Proposal	Name: Jennifer M. Kilbourne	
	Title: Dean, Curriculum and Assessment	
	Phone: (443) 840-1246	
	Email: jkilbourne@ccbcmd.edu	
President/Chief Executive	Type Name: Sandra Kurtinitis, President	
	Signature: Sandra Kurtinitis	Date: 12/06/2019
	Date of Approval/Endorsement by Governing Board:	12/04/2019

Revised 3/2019

Community College of Baltimore County-Radiography A.A.S. Program

Substantial Modification to an Existing Program Proposal

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's (CCBC) Radiography program is a selective admissions program in the School of Health Professions designed to provide the medical community with competent, licensed, and registered diagnostic radiographers. The program runs for 22 consecutive months in all four semesters of the year: Summer, Fall, Winter, and Spring. The cohort begins in late July in the first year and finishes with the Spring semester of the second year. Two cohorts always operate at the same time. The program consists of didactic instruction as well as clinical placement and laboratory simulation. All of these occur in every RADT course, as there is only one RADT course a semester. Each RADT course is the prerequisite of the next. The proposed substantive change is to split the larger Spring, Fall, and middle Summer courses into smaller ones which focus on specific skills. The current courses, which are 6-8 credits each, no longer engender graduates who are skilled academically, kinesthetically, and patient-oriented. Students can perform at below average levels in one area and barely succeed due to higher scores in another area. Breaking up the larger courses into ones such as Radiographic Positioning, Technology, and Lab/Clinical courses will make each student more responsible for success in all areas, which is crucial to becoming a competent radiographer and healthcare team member.

Out of the nine community college Radiography programs in Maryland, CCBC's is the only one to offer didactic, clinical, and lab instruction in the same college course each semester. By splitting up the larger courses, CCBC Radiography program will be more aligned to other radiography programs in the state.

Clinical placement will now start in RADT 105, and can occur at any of the following clinical sites: Greater Baltimore Medical Center, MedStar Franklin Square Medical Center, MedStar Good Samaritan Hospital, MedStar Harbor Hospital, Harford Memorial Hospital, Upper Chesapeake Medical Center, University of Maryland Midtown Campus, University of Maryland Saint Joseph Medical Center, and the private radiology offices of RadNet, Inc.

The didactic and clinical curriculum is based on the American Society of Radiologic Technologists (ASRT) curriculum for accredited radiography programs. This includes coursework in general education courses, such as College Composition I, Fundamentals of Communication, Introduction to Psychology, Principles of Human Growth and Development, Diversity in a Technological Society, and the prerequisite courses of Human Anatomy and Physiology, Applied Algebra and Trigonometry, Fundamentals of Physics I, and Medical Terminology. The CCBC Radiography Program is accredited by the only programmatic accreditation agency for this field, The Joint Review Committee of Education of Radiologic Technologists (JRCERT). The program has maintained its eight-year accreditation status since 2014, which is the highest award given by JRCERT.

Graduates of the CCBC Radiography Program are eligible to apply for the American Registry of Radiologic Technologists (ARRT) primary certification exam in Radiography to earn the credentials of R.T. (R), Registered Technologist in Radiography. This certification is necessary to obtain a license as a Radiographer in the State of Maryland. Program graduates find employment at local clinical facilities and also may go on to study in CCBC's certificate programs in Computed Tomography (CT) and Magnetic Resonance Imaging (MRI) and take courses in Mammography and CT or MRI Registry Review.

The Radiography program supports CCBC's mission: "The Community College of Baltimore County 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," by preparing students for a successful career in medical imaging. Many radiographers who are CCBC graduates, in turn, become clinical instructors or adjunct professors for future students. Radiographers bring needed skills and knowledge to the region, making our community a better place to live as medical imaging is a much-needed service and touches almost everyone's lives.

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

The Radiography Program fully supports CCBC's strategic goal of Transformational Academics in many ways:

"Apply outcome-driven assessments to instructional initiatives, with the quality of instruction remaining paramount." - Through programmatic accreditation, the program utilizes an Outcomes Assessment Plan, which is analyzed with a very active Advisory Board Committee once a year. Outcomes and trends are discussed, as well as plans and methods for improvement. The program uses up-to-date industry-standard curriculum, and then delivers it with the utmost of student success in mind, utilizing many methods to reach as many different types of learners as possible. For example, industry-standard textbooks are required, but then instructors incorporate lectures, hands-on activities, group critical thinking projects, and many audio-visual aids in class. In addition, each class is recorded with a screen-capture software and uploaded to the learning management system from which students can review and study. Instructors are widely available outside of class through many means: office hours, Google Hangouts, and email, and respond within hours.

"Bring the latest technology, techniques, and thinking from the workplace into the classroom." - The program maintains a high-tech radiography simulation lab, with two energized radiographic machines, life-size phantoms, individual bones, and other lab equipment for life-like simulation. All class and lab activities are subsequently tied in with clinical performance objectives performed on actual patients to reinforce concepts, under direct supervision. In all activities, program expectations are high for students to not only think critically but be able to practice their professional speaking and writing skills and demonstrate effective patient care.

"Apply local labor market analysis to drive career programming and ensure students acquire the knowledge and skills that meet or exceed industry standards." - The program is dedicated to completion and successful passing of the national certification exam in Radiography. The final semester is heavily dedicated to exam review and preparation for

job hunting and interviewing. Students attend a national seminar for exam review and purchase an exam review software. Moreover, the program holds a mock interview day where clinical partners volunteer their time conducting mock interviews on the students and pass along helpful advice. Many clinical partners use this time to prepare students for hiring at their locations and to advertise their job opportunities.

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).

   There is no expected change in funding for the Radiography Program due to the substantive change. The program is more than adequately funded with three full-time faculty, 10 adjunct faculty, and one administrative assistant. There is a dedicated classroom which incorporates the lab space, and the lab contains all equipment necessary to allow for life-like simulation. Furthermore, the School of Health Professions on the Essex campus will be moving into a new state-of-the-art building in fall 2020. The new building will have even more resources for students, including a Student Resource Room with computers, study area, and breakout rooms for tutoring or small group work. The proposed change in curriculum will not impact program funding.

4. Provide a description of the institution's a commitment to:
   a) ongoing administrative, financial, and technical support of the proposed program

   The Radiography program's current operational budget allows for the substantive change in the fact that the School of Health Professions' Dean has permitted the program director to reassign teaching duties to others while undergoing the change process. The program's three additional full-time faculty members and administrative assistant have been providing support to the program director in terms of giving policy advice, taking on additional duties when necessary, and performing administrative functions. The Radiography program held a staff meeting to address all possible issues and concerns before undergoing the change process. Moreover, all program members are highly skilled in technology and use available college resources on the Microsoft Office 365 platform to disseminate and share information and documents.

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

   The Radiography program has been approved by CCBC's College Senate, President and Board of Trustees; thus, adequate funding is in place for at least the next 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**.

The CCBC Radiography Program, which has been a leader in educating medical imaging professionals in the area since 1973, serves a large societal need in graduating licensed, competent radiographers into the community. As the local community grows older and the elderly population and the Baltimore County population in general increases, there will be an increase in medical conditions which require medical imaging in order to aid in making diagnoses. Graduates from the program obtain jobs in the radiography profession in the community, and then advance their careers, some in administration, some in sales, and most in advanced imaging modalities. CCBC also provides instruction in Computed Tomography, Magnetic Image Resonance, and Mammography. Moreover, CCBC represents an affordable education for traditional and non-traditional students alike, including minority and educationally disadvantaged students. All in all, the CCBC Radiography program represents an excellent choice for many in the Baltimore region who are looking for a high-quality education in a shorter time than a traditional Bachelor's degree, to enter a well-paying profession that will support not only themselves, but their entire family for the remainder of their careers.

The updates to our curriculum supports some of the goals in the State Plan for Postsecondary Education including providing access to a quality education, ensuring student success, and providing innovation in the profession:

Goal 1: Access (Strategy #2: "Cultivate greater financial literacy for students and families to encourage financial planning and to prepare for postsecondary education.") – Students in the CCBC Radiography program are eligible for financial aid, and CCBC's Financial Aid department has many resources for students and their families, including financial aid counseling and opportunities for tuition assistance in the form of scholarships, grants, loans, and payment plans. The Radiography program performs individual interviews prior to admission, where applicants are given an academic calendar for the 2-year program, including number of credits, and an additional expense list. This allows candidates for the program to plan ahead financially. Moreover, the Radiography program is almost always listed on the State of Maryland's Workforce Shortage Student Assistance Grant program list, providing in-county tuition to out-of-county students. Additionally, the School of Health Professions and the Radiography Program provide a few specific scholarship opportunities for their students.

Goal 2: Success (Strategy #7: "Enhance career advising and planning services and integrate them explicitly into academic advising and planning.") – The CCBC Radiography Program

provides comprehensive academic and personal support to its students. Students are afforded instructor office hours, in person and online, regular progress conferences, transcript audits, instructions on how to use DegreeWorks, and a Student Success Center to access tutoring and academic coaching classes on subjects, such as time management, test-taking strategies, and critical thinking. CCBC employs Success Navigators who serve as access points to needed critical services, whether mental or physical. Also, Radiography students undergo classes in resume-building and interviewing techniques in the final semester, but before the annual Interview Day, where the program invites clinical partners to perform mock interviews on the students, so that the clinical partners and the soon-to-be graduates get a chance to meet one another in a less stressful environment than actual interviews. Moreover, CCBC Radiography program students are assigned to advanced imaging modality clinical rotations in the second year, in order for the students to investigate possible career tracks in the future. The CCBC Radiography program also promotes the articulation agreements between the program and four-year partners to advocate furthering education to Bachelor's degrees and beyond.

Goal 3: Innovation (Strategy #8: "Develop new partnerships between colleges and businesses to support workforce development and improve workforce readiness.") – The CCBC Radiography Program includes numerous partnerships in the community for excellent clinical rotations, which ensures students are work-ready before they graduate, pass the national certification exam on the first attempt, and have the skills and credentials clinical partners demand. Program students undergo almost 1800 hours of clinical duty over 22 months, starting in the first semester. They are trained, starting in Orientation, that the program also substitutes for a 2-year long job interview, based on their conduct at local clinical facilities. Students are required to perform numerous clinical performance objectives in addition to competency testing, to enhance the hands-on activities of the program. The program maintains an active advisory committee that meets twice a year and recommends business-driven credentialing and skill sets that are needed in the local community from our graduates. In addition, the CCBC Radiography Program, with the help of a Department of Labor grant in 2009, expanded its offerings for post-graduate study in Computed Tomography and MRI, with the development of certificate programs in each. The department has expanded again recently with the development of courses in Mammography instruction. These stackable credentials allow CCBC Radiography graduates further study and credentialing in advanced modalities which are very much needed by local business partners.

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.

   Graduates of the CCBC Radiography Program are eligible to apply to take the national certification exam in Radiography, given by the American Registry of Radiologic Technologists (ARRT). To be eligible to apply for the ARRT exam, graduates must have an Associate Degree, and since students must fulfill all program and degree requirements in order to graduate, graduates automatically are eligible to apply. Once passing the ARRT certification exam, graduates obtain a State of Maryland license as a Radiographer. The ARRT certification and state licensure is necessary to obtain employment in Maryland. Job

opportunities for graduates have increased over the past 5 years mainly due to the expansion of stand-alone facilities and urgent care centers. Additionally, CCBC Medical Imaging offers certificate programs in Computed Tomography and MRI, and courses in Mammography, representing extended pathways for stackable credentials in industry-driven options.

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

   The Bureau of Labor Statistics anticipates that the occupational employment outlook for radiologic technologists, or radiographers, continue at the projected growth rate of faster than average at a 13% growth rate through 2026, with an increase of 30,300 new jobs. https://www.bls.gov/ooh/healthcare/radiologic-technologists.htm . Employment in the state of Maryland can range from working in hospitals, private Radiology offices, mobile companies, orthopedic or podiatry physicians' offices, ambulatory care and/or surgical centers, urgent care centers, and even correctional facilities. The job outlook has increased over the past 5 years primarily due to the rapid expansion of stand-alone surgical facilities and urgent care centers. Graduates are being actively recruited while they are still students, and some employers have reinstituted signing bonus processes.

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.

   Table 1 below demonstrates Maryland's potential demand for graduates in the CCBC Radiography Program. The evidence provided is based upon the program's proposed Classification of Program (CIP) code of 51.0907 (Medical Radiologic Tech./Technician) and cross referenced with the Bureau of Labor Statistics Standard Occupational Classifications (SOC) code of 29-2034 that classify and indicate the professions and occupations of graduates of programs with this CIP code are likely to pursue.

Table 1: Maryland Occupational Projections 2016-2026 for the CCBC Radiography Program

SOC	Occupation Title	Employment			Openings	
		2016	2026	Change	Growth Openings	Total
29-2034	Radiologic Technologists and Technicians	4049	4718	669	2212	2881

This data evidences the potential for 2881 new and additional positions in occupations that the CCBC Radiography Program prepares graduates over ten years, or 288 positions per year. In reviewing regional workforce projection data, Baltimore County purports a 10.9% growth rate from 2016-2026.

Maryland Occupational Projections - 2016-2026 - Workforce Information and Performance
https://www.dllr.state.md.us/lmi/iandoproj/maryland.shtml

Workforce Region Occupational Projections - Maryland Occupational Projections - 2016-2026 - Workforce Information & Performance
https://www.dllr.state.md.us/lmi/iandoproj/wias.shtml

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

Table 2: Annual Graduations from Programs in Maryland Institutions with the CIP designation 51.0907 (Radiography):

School Name	Degree Level	Program ID (HEGIS)	Program Name	CIP	Approved (A)/ Discontinued (D)	2014	2015	2016	2017	2018
Allegany College of Maryland	Associate	5207-01	Radiologic Tech	51-0907	A89	14	9	13	8	13
Anne Arundel Community College	Associate	5207-01	Radiologic Technology	51-0907	A91	14	15	10	15	18
Chesapeake College	Associate	5207-01	Radiologic Sciences	51-0907	A83	7	7	7	6	10
Hagerstown Community College	Associate	5207-01	Radiography	51-0907		25	23	26	26	23

Table 2: Annual Graduations from Programs in Maryland Institutions with the CIP designation 510907 (Radiography):

Howard Community College	Associate	5207-01	Radiologic Technology	51-0907	A07	13	10	16	19	18
Montgomery College	Associate	5207-01	Radiologic Tech	51-0907		14	22	18	12	19
Prince George's Community College	Associate	5207-01	Radiography	51-0907		27	24	26	29	23
Wor-Wic Community College	Associate	5207-01	Radiologic Tech	51-0907	A81	12	6	6	12	9

Table 2 outlines the current supply of graduates from Maryland programs with the CIP taxonomy of 51.0907 (Radiography). This data reveals that in 2018, Maryland institutions graduated 157 graduates in Radiography programs. It also demonstrates that the State has 9 programs in this area available for the Associate degree in Radiography.

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.

According to Table 2 above, 8 other programs similar to the CCBC Radiography Program exist in the State of Maryland, yet, none of these programs serve the greater Baltimore region. The CCBC Radiography Program will continue to fill an existing void and assist Maryland in fulfilling an important workforce demand.

2. Provide justification for the proposed program.

The CCBC Radiography Program has been in existence since 1973, and the proposed substantive change will bring it into alignment with all other community colleges in the state.

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.

Table 2 demonstrates that no Historically Black Colleges or Universities currently offer a Radiography Program.

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.

Graduates of the program could potentially pursue a bachelor's degree in business or related allied health concentration in the state; however, it would not necessarily impact HBI's directly.

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.

Substantial modification proposals at CCBC are reviewed and approved according to the process developed through college governance, which includes approval by the Curriculum and Instruction Committee and the full College Senate. In addition, this substantial modification to an existing program proposal was carefully reviewed by the President and

her Senior Staff prior to submission to the CCBC Board of Trustees for their endorsement. The President has affirmed that the program can be implemented within existing institutional resources. Erin Myers, MA, RT(R), CNMT will serve as the coordinator of the Radiography program and oversee the program.

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

   The Radiography Program's educational objectives are as follows:

   1. Students will be clinically competent.
   2. Students will use critical thinking skills.
   3. Students will communicate effectively.
   4. Students will evaluate the need for professionalism.
   5. The program will constantly measure its effectiveness in graduating entry level technologists.

   Radiography Program Learning Objectives (To be updated in the college catalog when approved):

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

   1. demonstrate positioning skills and clinical competences by selecting appropriate technical factors, demonstrating knowledge of and practicing radiation safety, demonstrating effective patient care practices, and evaluating and critiquing radiographic images;
   2. demonstrate effective written and oral communication skills;
   3. understand and demonstrate professional behavior and ethics;
   4. complete the radiography program and the requirements for the Associate in Applied Science degree;
   5. pass the American Registry of Radiologic Technologists (ARRT) certification exam on the first attempt with scoring at or above the national average on the ARRT certification exam; and
   6. obtain employment in the radiologic/medical imaging field within twelve months of graduation.

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

   CCBC has a noteworthy student learning outcomes assessment program that received a Commendation and an Exemplary Practice award as part of the College's most recent Middle States decennial review. 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. Learning outcomes assessment in both discipline and general education courses provide a mechanism for continuous improvement.

b) document student achievement of learning outcomes in the program

Program outcomes assessment is a primary focus for CCBC. Career programs are evaluated through a committee-driven program review process in a five-year cycle. Program review includes curriculum assessment as well as market feasibility analyses. In addition, the Radiography Program has a well-established Advisory Board. The Advisory Board is comprised of faculty, student and alumni representatives, professionals in the field and workforce advocates. This group meets semi-annually to review the program outcomes and to provide guidance for future directions of the program.

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

Table 3: Radiography Program Curriculum Outline

Current Radiography AAS Degree Course Plan			**Proposed Radiography AAS Degree Course Plan**		
General Education Requirements:					
	Course Name	**Credits**	**Course**	**Course Name**	**Credits**
BIOL 109 - Biological and Physical Sciences	Human Anatomy and Physiology	4	BIOL 109 - Biological and Physical Sciences	Human Anatomy and Physiology	4
CMNS 101-Arts and Humanities	Fundamentals of Communication	3	CMNS 101-Arts and Humanities	Fundamentals of Communication	3
CSIT 120 – Information Technology/Diversity	Diversity in a Technological Society	3	CSIT 120 – Information Technology/Diversity	Diversity in a Technological Society	3
ENGL 101 - College Composition I	College Composition I	3	ENGL 101 - College Composition I	College Composition I	3
MATH 135 - Mathematics	Applied Algebra and Trigonometry	3	MATH 135 - Mathematics	Applied Algebra and Trigonometry	3
PHYS 101 - Biological and Physical Sciences	Fundamentals of Physics I	4	PHYS 101 - Biological and Physical Sciences	Fundamentals of Physics I	4
PSYC 101 - Social and Behavioral Sciences	Introduction to Psychology	3	PSYC 101 - Social and Behavioral Sciences	Introduction to Psychology	3
Program Requirements:					
Course	**Course Name**	**Credits**	**Course**	**Course Name**	**Credits**
ALHL 115	Medical Terminology	3	ALHL 115	Medical Terminology	3
PSYC 103	Principles of Human Growth and Development	3	PSYC 103	Principles of Human Growth and Development	3
RADT 101	Intro to Radiography	3	RADT 101	Intro to Radiography	3
RADT 111	Radiography I	6	RADT 103	Fundamentals of Radiologic Technology	3
			RADT 104	Radiographic Procedures I	1
			RADT 105	Clinical Education I	2

RADT 121	Clinical Seminar I	1	RADT 121	Clinical Seminar I	1
RADT 112	Radiography II	6	RADT 123	Image Production and Processing	3
			RADT 124	Radiographic Procedures II	1
			RADT 125	Clinical Education II	2
RADT 201	Radiography III	7	RADT 204	Radiographic Procedures III	4
			RADT 205	Clinical Education III	3
RADT 202	Radiography IV	8	RADT 206	Radiation Protection/ Radiobiology	2
			RADT 207	Advanced Imaging Procedures	3
			RADT 208	Clinical Education IV	3
RADT 221	Clinical Seminar II	1	RADT 221	Clinical Seminar II	1
RADT 203	Radiography V	8	RADT 223	Radiographic Pathology	1
			RADT 224	Radiography Seminar	3
			RADT 225	Clinical Education V	3
Total		**69**	**Total**		**68***

*The CCBC Radiography Program has been previously approved for 69 credits.

Course Descriptions:

ALHL 115 - Medical Terminology studies the language of medicine including word construction, definitions, and use of words related to medical science in general; emphasizes the interpretation and translation of medical records and documents. NOTE: Course offered fall, spring, and may be offered during additional sessions. Prerequisite(s): ESOL 052 and ESOL 054 or ACLT 052 or ACLT 053

BIOL 109 - Human Anatomy and Physiology provides a basic understanding of human anatomy and physiology through study of the structure and function of the human body. In addition to introductory principles of chemistry and cell biology, the following organ systems are examined: integumentary, skeletal, muscular, nervous, endocrine, immune, circulatory, respiratory, digestive, urinary, and reproductive. Includes both lecture and laboratory component and is a General Education laboratory science. This course is not a substitute for BIOL 110, BIOL 220 or BIOL 221 or a prerequisite for other science courses. Note: This course is intended primarily for students preparing for allied health professional careers including: Respiratory Therapist, Radiographer (X-ray Technologist), Massage Therapist, EMT (certificate only), and Mental Health professionals; it may be taken by students that want to understand the human body for personal interest or career reasons. NOTE: Course offered fall, spring, and may be offered during additional sessions. Prerequisite(s): ESOL 054 and ESOL 052 or ACLT 052 or ACLT 053; and MATH 082

CMNS 101 - Fundamentals of Communication introduces the study of human communication. Students develop an understanding of the theoretical principles of verbal and non-verbal interaction by analyzing and applying these principles in a variety of communication contexts. Areas of study include intrapersonal, interpersonal, cross-cultural, small group, and public speaking. NOTE: Course offered fall, spring, and may be offered during additional sessions. Prerequisite(s): ESOL 052 and ESOL 054 or ACLT 052 or ACLT 053

CSIT 120 - Diversity in a Technological Society explores the use of technology to connect and collaborate to improve the lives of diverse individuals and societies world-wide. Topics include the Internet, mobile devices, social media and other emerging technologies. Global communities and issues related to stereotypes, discrimination, power and privilege and other cross-cultural social issues are discussed. NOTE: Course offered fall, spring, and may be offered during additional sessions. Prerequisite(s): ESOL 054 and ESOL 052 or ACLT 052 or ACLT 053; and MATH 081 or LVM 1 or written permission from Program Coordinator required.

ENGL 101 - College Composition I provides instruction that focuses on writing skills, evaluating and explaining ideas, conducting library and Internet research, developing a research paper, and documenting research. Placement is based on assessment and/or successful completion of NOTE: Course offered fall, spring and may be offered during additional sessions. Prerequisite(s): Placement is based on assessment and/or successful completion of ESOL 052 and ESOL 054 or ACLT 052 or ACLT 053

MATH 135 - Applied Algebra and Trigonometry covers a wide range of college-level algebraic and trigonometric topics, such as linear and quadratic equations, right-triangle trigonometry and vectors, exponents, and logarithms, and students will develop problem-solving skills relevant to their disciplines. This course is primarily for students in certain technically oriented disciplines. NOTE: Course offered fall, spring, and may be offered during additional sessions. Prerequisite(s): ESOL 042 and ESOL 054 or ACLT 052 or ACLT 053; and MATH 083

PHYS 101 - Fundamentals of Physics I explores the basic principles of physics including Newtonian kinematics, dynamics, statics, momentum, energy, and heat energy. This course is appropriate for students expecting to apply to one of the health care professional schools (e.g. medical, physical therapy, pharmacy, dental, etc.) and also for students in certain technical programs which require physics (e.g. electronics, computer service, architectural drafting, etc.). Students intending to major in engineering are required to take the PHYS 151 PHYS 251 PHYS 252 sequence. 3 lecture hours and 3 laboratory hours per week. NOTE: Course offered fall, spring, and may be offered during additional sessions. Prerequisite(s): MATH 135 (Grade of B or higher) or MATH 163 (Grade of C or higher) or MATH 165 (Grade of C or higher) or any 200-level MATH course and ESOL 052 and ESOL 054 or ACLT 052 or ACLT 053

PSYC 101 - Introduction to Psychology surveys the science of psychology; addresses research methods, biological bases of behavior, sensation and perception, states of consciousness, learning, memory, motivation and emotion, language, lifespan development, intelligence, stress and health, social behavior, personality, and abnormal behavior and treatment; applications of psychology in a culturally diverse world. NOTE: Course offered fall, spring, and may be offered during additional sessions. Prerequisite(s): ESOL 054 and ESOL 052 or ACLT 052 or ACLT 053

PSYC 103 - Principles of Human Growth and Development focuses on the scientific study of the biological, psychological, and social changes which occur over the human lifespan from conception until death. Topics addressed in this course include the effects of heredity and culture on human behavior and mental processes during prenatal development, infancy, childhood, adolescence, and adulthood. NOTE: Course offered fall, spring, and may be offered during additional sessions. Prerequisite(s): PSYC 101

RADT 101 - Introduction to Radiography a course in which students examine the radiography program and profession through classroom and clinical instruction. Students learn the history of radiology, basic radiation protection, infection control practices, body mechanics, medical terminology, and an introduction to radiographic positioning. In addition, students participate in Orientation, laboratory simulation sessions, and introductory clinical rotations. 3 credit hours: 21 lecture hours, 16 clinical hours, and 2 lab hours per week; 4 weeks. Offered summer semester. Prerequisites: Admission into Radiography program and ALHL 115, MATH 135, BIOL 109 and PHYS 101, all with a grade of "C" or better.

RADT 103 – Fundamentals of Radiologic Technology a course in which students are introduced to the art and career of radiography, caring for patients, and understanding imaging equipment. Topics include communication, ethical considerations, vital signs,

patient safety and transport, contrast media delivery, medications, medical emergencies, infection control, and aseptic techniques. Also discussed are components of the x-ray machine system, accessory equipment, and x-ray circuitry. 3 Credit hours: 3 lecture hours per week; 15 weeks. (Offered Fall semester). Prerequisite: RADT 101. Corequisites: RADT 104, RADT 105.

RADT 104 – Radiographic Procedures a course in which students examine physical positioning of the patient and equipment to produce routine radiographs of the chest, abdomen, and upper extremities. Topics include routine procedures as well as special radiographic views. 1 credit hour: 1.5 lecture hours per week; 13 weeks. Offered fall semester. Prerequisite: RADT 101. Corequisites: RADT 103, RADT 105.

RADT 105 – Clinical Education I : begins the clinical professional portion of the Radiography program. Students begin to participate in actual radiographic/imaging procedures by assisting the radiology staff at clinical facilities. Also included in this course are Orientation and laboratory simulation sessions. 2 Credit hours: 16 clinical hours and 2 lab hours per week; 15 weeks. (Offered Fall semester). Prerequisite: RADT 101. Corequisites: RADT 103, RADT 104.

RADT 121 – Clinical Seminar I is a 5-week clinical seminar in which students achieve additional clinical skills by participating in the actual procedures performed in a radiology/imaging department. In addition, students research professional journals to critique articles on current topics in radiology. 1 Credit hour: 16 clinical hours and 2 lab hours a week; 5 weeks (Offered Winter semester). Prerequisites: RADT 103, RADT 104, RADT 105.

RADT 123 – Image Production and Processing a course in which students discuss the multiple factors that control and influence the production of the radiographic image. Topics include radiographic exposure factors, components of a quality radiographic image, and radiation safety techniques. Also discussed are the equipment and the methods for processing digital radiographic images, including processing errors, image storage, and data privacy and management. 3 credit hours: 3 lecture hours per week; 15 weeks. Offered spring semester. Prerequisite: RADT 121. Corequisites: RADT 124, RADT 125.

RADT 124 – Radiographic Procedures II students examine the physical positioning of the patient and equipment needed to produce routine radiographs of the lower extremities and spine and thorax regions. Topics include routine procedures as well as special radiographic views. 1 credit hour: 1.5 lecture hours per week; 13 weeks. Offered spring semester. Prerequisite: RADT 121. Corequisites: RADT 123, RADT 125.

RADT 125 – Clinical Education II continues the clinical professional portion of the Radiography program. Students participate in actual radiographic/imaging procedures by assisting the radiology staff at clinical facilities and begin to perform imaging exams under direct supervision. Also, students prepare and present reports describing image analysis of various clinical exams. 2 credit hours: 16 clinical hours and 2 lab hours per week; 15 weeks. Offered spring semester. Prerequisite: RADT 121. Corequisites: RADT 123, RADT 124 .

RADT 204 – Radiographic Procedures III is a course in which students examine physical positioning of the patient and equipment to produce routine radiographs of the digestive

and urinary tracts, skull and facial bones, and other special fluoroscopic exams. Also discussed are patient and room preparation, contrast media, and special view considerations. 4 Credit hours: 4 lecture hours per week; 13 weeks. (Offered Summer semester). Prerequisites: RADT 113, RADT 114, RADT 115. Corequisite: RADT 205.

RADT 205 – Clinical Education III continues the clinical professional portion of the Radiography program. Students participate in actual radiographic/imaging procedures by assisting the radiology staff at clinical facilities and perform imaging exams under direct and indirect supervision. In addition, students prepare and present reports describing image analysis of various clinical exams. 3 credit hours: 24 clinical hours and 2 lab hours per week; 13 weeks. Offered summer semester. Prerequisites: RADT 113, RADT 114, RADT 115. Corequisite: RADT 204.

RADT 206 – Radiation Protection/Radiobiology a course in which students discuss ionizing radiation and the need for protective measures and maximum safety in diagnostic radiology. The types of radiation and their origins are discussed along with a review of the interactions of radiation with matter. The effect of technical factors on exposure dose is investigated along with ways to reduce both patient and radiographer exposure. Radiation effects on biological molecules and organisms, and factors affecting biological response are presented. 2 credit hours: 2 lecture hours per week; 15 weeks. Offered fall semester. Prerequisites: RADT 204, RADT 205. Corequisites: RADT 207, RADT 208.

RADT 207 – Advanced Imaging Procedures a course in which students receive an overview of the advanced medical imaging areas of Computed Tomography (CT), Ultrasound, Nuclear Medicine, Bone Densitometry, MRI, Mammography, Forensic Imaging, Interventional Radiography, and Radiation Therapy. Additionally, students discuss and demonstrate venipuncture competency. Topics also include sectional anatomy, pediatric and geriatric patient populations, and trauma, mobile, and operating room imaging. Guest lecturers, who are experts in their respective modalities, present topics. Students present posters on timely medical imaging topics during National Radiologic Technology Week. 3 credit hours: 3 lecture hours per week; 15 weeks. Offered fall semester. Prerequisites: RADT 204, RADT 205. Corequisites: RADT 206, RADT 208.

RADT 208 – Clinical Education IV continues the clinical professional portion of the Radiography program. Students participate in actual radiographic/imaging procedures and perform imaging exams under direct and indirect supervision. In addition, students prepare and present reports describing image analysis of various clinical exams. 3 credit hours: 24 clinical hours and 2 lab hours per week; 15 weeks. Offered fall semester. Prerequisites: RADT 204, RADT 205. Corequisites: RADT 206, RADT 207.

RADT 221 – Clinical Seminar II a 4-week clinical seminar in which students achieve additional clinical skills by participating in the actual procedures performed in a radiology/imaging department and performing imaging exams under direct and indirect supervision. In addition, students research professional journals to critique articles on current topics in radiology. 1 credit hour: 24 clinical hours and 2 lab hours a week; 4 weeks. Offered winter semester. Prerequisites: RADT 206, RADT 207, RADT 208.

RADT 223 – Radiographic Pathology a course in which students are introduced to the concepts of disease. Pathology and disease, as they relate to various radiographic procedures, are discussed. Topics include terminology, morphological classifications of disease for each body system, the role of radiology/medical imaging in the diagnosis and treatment of diseases, and alterations in standard imaging procedures. 1 credit hour: 4 lecture hours per week; 4 weeks. Offered spring semester. Prerequisite: RADT 221. Corequisites: RADT 224, RADT 225.

RADT 224 – Radiography Seminar a course in which students prepare for graduation and entry into the Radiography profession. Through experience and application of knowledge, students demonstrate proficiency in professionalism and competency in academic subjects. Methods include discussions on medical-legal and ethical issues, performance improvement projects, resume crafting, mock interviews with local HR and clinical partners, and instruction on applying for the American Registry of Radiologic Technologists (ARRT) primary certification exam in Radiography and the State of Maryland Board of Physicians' licensure for Radiography. Students prepare for the national exam by completing mock Registry tests and by attending a local Registry Review seminar sponsored by the Maryland Society of Radiologic Technologists. 3 credit hours: 4 lecture hours per week; 10 weeks. Offered spring semester. Prerequisite: RADT 221. Corequisites: RADT 223, RADT 225.

RADT 225 – Clinical Education V concludes the clinical professional portion of the Radiography program. Students participate in actual radiographic/imaging procedures and perform imaging exams under mostly indirect supervision. 3 credit hours: 24 clinical hours and 2 lab hours per week; 15 weeks. Offered spring semester. Prerequisite: RADT 221. Corequisites: RADT 223, RADT 224.

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

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

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

   The CCBC Radiography Program is programmatically accredited through the Joint Review Committee on Education in Radiologic Technology (JRCERT-www.jrcert.org) through 2022. A substantive change application to the JRCERT has been submitted and is under review. After receiving approvals from MHEC and JRCERT, the Maryland Board of Physicians will be notified of the update.

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

   N/A

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

   CCBC provides clear, complete and accurate information regarding curriculum, course and degree requirements on the CCBC website as accessed through our online catalog: http://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 class meeting times and are posted on the course syllabus. CCBC uses Quality Matters standards in online learning as their measure of online course design quality. These standards specifically require the following to be addressed within each course: minimum technical requirements of the course, minimum technology expectations, learning management system basic requirements and instructions, links and instructions for all student support services including disability support services, financial aid, etc. The same information can be found on the CCBC Online website: http://www.ccbcmd.edu/Programs-and-Courses/CCBC-Online.aspx . Course sections (face to face, blended and online) utilize a learning management system course shell and instructors are required, at a minimum, to post the course syllabus, progress grades and final grades online. Links to academic support services are available at: http://www.ccbcmd.edu/resources-for-students. Information on financial aid and the cost of attending CCBC and its payment policies can be accessed here: http://www.ccbcmd.edu/costs-and-paying-for-college .

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

   Recruitment and admissions materials are revised each year when the CCBC catalog is finalized. Accurate admission information can be found at this site: http://www.ccbcmd.edu/get-started . The college catalog is updated yearly and all program and course information is current. The college catalog can be accessed at this link: http://catalog.ccbcmd.edu/index.php .

H. Adequacy of Articulation

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

   The CCBC Radiography Program currently has an articulation agreement in place with Towson University where students can directly transfer to pursue a Bachelor of Technical or Professional Studies in Allied Health: https://www.ccbcmd.edu/~/media/CCBC/Resources%20for%20Students/Online%20Transfer%20Center/Articulation%20Agreements/PDFs/Radiation/Towson_Radiography.ashx?la=en This agreement will be updated to reflect the proposed curriculum changes once

approved. In addition, the Program wishes to explore other potential articulation agreements with other institutions in the Baltimore area.

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

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

Table 4: Faculty Resources for Radiography Program

Faculty Member Name	Terminal Degree and Discipline	Full-time or Adjunct	Courses Taught/Credits
Erin Myers	MA, Notre Dame of Maryland University RT(R), CNMT, Johns Hopkins Hospital, School of Medical Imaging Radiography Program Director	Full-time	RADT 101 (3), RADT 113 (3), RADT 206 (2), RADT 207(3), RADT 214 (3)
Rhande Meggett	BTPS, Towson University RT(R)(CT), Associate degree from Cuyahoga Community College Radiography Program Clinical Coordinator	Full-time	RADT 101 (3), RADT 103 (3), RADT 105 (2), RADT 121 (1), RADT 115 (2), RADT 204 (4), RADT 205 (3), RADT 208 (3), RADT 221 (1), RADT 215 (3)
Rick Svoboda	BTPS, Towson University RT(R) (CT), AAS from CCBC Radiography Program Lab Coordinator	Full-time	RADT 101 (3), RADT 104 (1), RADT 114 (1), RADT 115 (2), RADT 204 (4), RADT 205 (3), RADT 207 (3), RADT 208 (3),
Kelly Gonzalez	AAS in Radiography from Anne Arundel Community College, RT(R)	Adjunct	RADT 204 (4), RADT 207 (3), RADT 213 (1)
Jessica Ruffner	AAS in Radiography from CCBC, RT(R)	Adjunct	RADT 113 (3)

Our three full time faculty members, Ms. Myers, Ms. Meggett, and Mr. Svoboda teach more than 90%, of the program courses. All faculty members are required to have a terminal license in Radiography, must have a minimum of 2 years of practical professional field experience, and must have an active Maryland license as a Licensed Radiographer in order to be qualified to teach in 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) Evidenced-based best practices for distance education, if distance education is offered.

    The Center for Excellence in Teaching and Learning (CETL) provides ongoing professional development opportunities for faculty and staff throughout the academic year: http://www.ccbcmd.edu/About-CCBC/Administrative-Offices/Instruction/Center-for-Excellence-in-Teaching-and-Learning.aspx.
    Additional professional development is provided at yearly Fall Focus, Teaching Learning Fair, and Professional Development Day events. CETL offers peer to peer training for some areas in distance education, in coordination with CCBC's Online Learning department, In addition, faculty are provided funding, on a regular basis, to present at regional and national conferences that relate to pedagogy and discipline areas of interest. CCBC recognizes that up-to-date pedagogy is essential in student success initiatives, as the college serves primarily in a teaching role.

    CCBC expects that faculty teaching an online course complete training called the "Teaching Online Course" (TOC). This is a five-week/twenty hour online course that provides training on how to facilitate an established online course through CCBC's Online Learning department. The institution also requires faculty to complete an eighty hour training in online course pedagogy and course design prior to the development of any new online course. Prerequisites for this course include Quality Matters training and TOC. CCBC also has multiple online learning policies designed to foster best practices in online learning. These policies include, but are not limited to a thirty percent (30%) authenticated assessment requirement, online office hours and a consistent LMS menu template.

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

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

    Current library resources are sufficient and appropriate for the continuation of the Radiography Program. The College also subscribes to several online databases that

would be helpful to students in this program. The CCBC Libraries' collection includes over 69,000 e-books and access to over 49,000 different journals and magazines. Students can access these resources anytime from any computer or mobile device on or off-campus.

Beyond the resources provided through CCBC, the CCBC Library has a reciprocal use and borrowing agreement with the University of Maryland Baltimore County, Albin 0. Kuhn Library and the University of Baltimore, Robert L. Bogomolny 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 InterLibrary Loan service: CCBC Library ILL Webpage. In addition, to make library services more accessible to students, the CCBC Library participates in a 24/7 online reference service through the AskUsNow Maryland statewide program.

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

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

1. Provide an assurance that physical facilities, infrastructure and instruction equipment are adequate to initiate the program, particularly as related to spaces for classrooms, staff and faculty offices, and laboratories for studies in the technologies and sciences. 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 CCBC Radiography Program has a designated laboratory classroom and adjoining second lab room. The radiography laboratory classroom contains a Computed Radiography energized x-ray machine, accessory equipment, bones for study, and a 30-unit iPad cart. The adjoining second lab room contains the newer Digital Radiography energized x-ray machine and radiographic phantoms. All of the didactic courses are held in the Radiography classroom. The classroom is considered a standard instructional room that include tabletop desks and chairs with SMART classroom technology for lecturing purposes. Located on the floor above the radiography lab/clinic classroom are the Radiography program offices.

   CCBC is in the process of constructing a new building for the School of Health Professions scheduled to open in fall 2020. The new Carol D. Eustis Center for Health Professions has allotted for more space for the Medical Imaging programs, with larger classroom and lab rooms, a larger storage room big enough for a new hospital bed and new portable x-ray machines, a new Mammography lab, an office for the MRI computer labs, and state of the art audio and video technology. It will also have space for an adjunct faculty office in close proximity to the Program Director and Clinical Coordinator's offices on the same floor as the classroom/labs. In addition, the building will feature a large Student Resource Room with computers, study aids, and breakout rooms for student study purposes.

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.

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 email address at the time of application and has a single sign on (SSO) login process for all technologies. CCBC uses Blackboard Learn 9.1 as its LMS. Help Desk support for all technology and distance education questions can be accessed both online and via a technical hotline: http://www.ccbcmd.edu/resources-for-students/technology-support .

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 5: RESOURCES Adequacy of financial resources for the Radiography Program (as outlined in COMAR 13B.02.03.14)

Narrative: The following breakdown of costs is based on in-county tuition rates and having one student complete 20 credits total during the summer, fall, winter, and spring semesters over a one-year period.

Tuition ($122 x 20)	$2,400.00
General Services Fee ($21 per credit hour)	420.00
Registration Fee ($55 per semester)	220.00
Capital Fee ($20 per semester)	80.00
Technology Fee ($15 per billable hour)	300.00
Activity Fee ($48 maximum per semester)	192.00
Total	$3,612.00
Graduation fee	$ 75.00

All students are eligible for regular CCBC financial aid.

Resources 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)	0	0	0	0	0
a. # F.T. Students	0	0	0	0	0
b. Annual Tuition/ Fee Rate	$3,687	$ 3,687	$ 3,687	$ 3,687	$ 3,687
c. Annual Full Time Revenue (a x b)	0	0	0	0	0
d. # Part Time Students	60	60	60	60	60
e. Credit Hour Rate	$122	$122	$122	$122	$122
f. Annual Credit Hours	20	20	20	20	20
g. Total Part Time **Revenue (d x e x f)**	$146, 400	$146, 400	$146, 400	$146, 400	$146, 400
3. Grants, Contracts, & Other External Sources	0	0	0	0	0

4. Other Sources	0	0	0	0	0
TOTAL (Add 1-4)	$146, 400	$146, 400	$146, 400	$146, 400	$146, 400

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 6: EXPENDITURES for Program X					
Expenditure Categories	Year 1	Year 2	Year 3	Year 4	Year 5
1. Faculty (b+c below)	0	0	0	0	0
a. # FTE	0	0	0	0	0
b. Total Salary	0	0	0	0	0
c. Total Benefits	0	0	0	0	0
2. Admin. Staff (b+c below)	0	0	0	0	0
a. # 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. # FTE	0	0	0	0	0
b. Total Salary	0	0	0	0	0
c. Total Benefits	0	0	0	0	0
4. Equipment	0	0	0	0	0
5. Library	0	0	0	0	0
6. New or Renovated Space	0	0	0	0	0
7. Other Expenses	0	0	0	0	0
8. TOTAL (Add 1 – 7)	0	0	0	0	0

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.

To promote quality in instruction, online student evaluations are administered via SmartEvals on a regular rotation. In addition, faculty performance is evaluated each year through the Annual Professional Summary Evaluation process. Changes to course requirements and content are approved through the Curriculum and Instruction Committee and College Senate. Additionally, online and blended courses are assessed by the Quality Matters rubric for course design elements.

CCBC has a noteworthy student learning outcomes assessment program that received a Commendation and an Exemplary Practice award as part of the College's most recent Middle States decennial review. 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. Learning outcomes assessment in both discipline and general education courses provide a mechanism for continuous improvement.

CCBC's Office of Planning, Research and Evaluation (PRE) maintains information on student retention in academic programs. This data is provided as part of the program review process for analysis and program improvement. Academic programs are reviewed on a five-year cycle. Part of this process includes curriculum mapping to program objectives.

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 Assignment, College and Community Service, and Professional Development. Supervisors use this information to complete annual evaluation of faculty performance. Students can also complete course evaluations on a regular basis. Courses are evaluated by anonymous comments/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 skills every three years. Academic programs are reviewed on a five-year cycle. Program review includes curriculum assessment as well as market

feasibility analyses. As part of the program review, the Radiography Program 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. It is noteworthy that CCBC's student learning assessment program received a Commendation and an Exemplary Practice award as part of the College's most recent Middle States decennial review.

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 does not discriminate based on race, sex, age, religion, national origin, marital status, sexual orientation, or disabilities. CCBC is devoted to providing an environment where cultural diversity thrives. CCBC has a dedicated multicultural affairs office and offers a host of programs designed to enhance minority student success including guest speakers, study programs, clubs, and academic counseling.

To promote minority student success, one of the hallmarks of CCBC's strategic plan is the value of inclusiveness. That is, we honor the diversity of people, cultures, ideas, and viewpoints. To help faculty appreciate and to maximize the potential of a diverse student population in their classrooms, CCBC has a Culturally Responsive Teaching and Learning (CRT-L) training program. The CRT-L 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 the Leah Meyer Austin Award at the Achieving the Dream Conference in 2015, and the CRT-L program was an important component to enable CCBC to improve student achievement and to meet equity goals.

Since its inception in 2004, the CRT-L 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 through 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 through our regional accreditor, the Middle States Commission on Higher 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.

CCBC's mission is to provide students accessible, affordable, and high quality education. Its current strategic plan places an increased emphasis on online learning (distance education). Sustaining and growing online learning is interwoven into the academic schools' plans as well as the Department of Online Learning's (DOL) goals and objectives. The Instructional Technology budget supports technologies related to online learning. The DOL also has a budget, which provides resources for faculty training, technology, course development and the promotion of a quality assurance process.

CCBC has a dedicated, public facing webpage for online learning, which displays programs offered in an online format. It also provides both potential and current students with links to all of the services they might need. Potential students are provided with a questionnaire to help determine if online learning is right for them. Students also have access to technical requirements for online coursework and online class policies which they may need to know prior to admission. Academic requirements for online programs do not differ from traditional face-to-face programs. Potential and current students have access to links to all relevant student services, such as disability support services, financial aid, etc. In addition, each online course clearly identifies links to these same services for students.

CCBC is a Quality Matters (QM) institution, and as such uses the QM rubric as its basis for design, faculty training and quality assurance of all online course offerings. Faculty, as subject matter experts, are the principal course developers, while the DOL oversees the overall process and schedule of online course creation. Additionally, DOL provides the faculty mandatory training for course facilitation and course development. Online course development incorporates sound online learning pedagogy to provide students with the most appropriate experiences in the discipline. Additionally, the DOL has its own internal website pages dedicated to providing faculty with policy, training and best practice resources. CCBC has developed its own internal quality assurance process, now in its 5th year of reviews, using the 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.

Many of online learning policies have been vetted and approved by the CCBC College Senate. DOL is responsible for implementation of those polices. Additionally, shared governance is an integral part of the college's standard curriculum approval and review process for all of its courses, regardless of the mode of delivery. Curricular expectations of online course do not differ from those in the traditional format. CCBC faculty and staff understand the challenges that online learning students face. Online course class sizes maximums are limited to 25. CCBC tracks success rates of online classes and compares that data to its face-to-face counterpart. CCBC uses Quality Matters standards, online faculty observations and student evaluations to monitor the effectiveness of the faculty member and the course design. Online courses are also

subject to the college's standard evaluations, with the Common Course Outline reviewed on a regular basis. The institution also assesses general education outcomes for all General Education (Core) coursework on a three-year cycle and course-level objectives are assessed through learning outcomes assessment projects.

CCBC uses single-sign-on access for student email and college identification. The intuition also has an authenticated assessment policy, to ensure integrity in the proctoring of major assessments. Faculty have access to the college's testing centers as well as a remote proctoring tool, vetted by faculty and staff, to ensure students have access to options for authenticated proctoring. CCBC's academic integrity policies and procedures are not just part of the college's catalog, but are incorporated into each faculty member's course and CCBC's student portal (MyCCBC)