MARYLAND HIGHER EDUCATION COMMMISSION
ACADEMIC PROGRAM PROPOSAL

PROPOSAL FOR:

__X__ NEW INSTRUCTIONAL PROGRAM
_____ SUBSTANTIAL EXPANSION/MAJOR MODIFICATION
_____ COOPERATIVE DEGREE PROGRAM
__X__ WITHIN EXISTING RESOURCES or ____ REQUIRING NEW RESOURCES

(For each proposed program, attach a separate cover page. For example, two cover pages would accompany a proposal for a degree program and a certificate program.)

Fortis College
Institution Submitting Proposal

October 2015
Projected Implementation Date

Associate of Science
Award to be Offered

Radiologic Technology
Title of Proposed Program

5207.00
Suggested HEGIS Code

51.0911
Suggested CIP Code

Education
Department of Proposed Program

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Donald McMullen
Signature and Date

President/Chief Executive

3/31/2015
Date

Date Endorsed/Approved by Governing Board

Centrality to institutional mission statement and planning priorities

The proposed associate degree program is central to the mission of the school to provide "postsecondary career education to both traditional and nontraditional students through a variety of certificate and degree programs that assist adult students in enhancing their career opportunities and improving problem-solving abilities. Fortis College strives to develop within its students the desire for lifelong and continued education." By adding this degree program, as a replacement of the current certificate-level program that will be taught-out by our sister school in Baltimore, for students interested in a career in the radiography technology field, we are fulfilling our mission to aid students in enhancing their career opportunities by offering them a chance to enter a growing profession. In addition, this program offering complements our Medical Laboratory Technology and Dental Hygiene programs, offering our prospective students the chance to enter respected occupations which also offer significant earning potential, which often seems unobtainable to the majority of non-traditional students we serve at Fortis College.

Additionally, through the general education component of the proposed program, we are fulfilling our mission to develop students' desire for lifelong learning, by offering them exposure to far greater breadth of coursework than would be seen in a certificate-level program. This aspect of the proposed program also aligns with the Maryland State Plan for Postsecondary Education's statement that "general education establishes an important foundation for students to succeed in higher education and in the workplace."

Rationale for the Program

Fortis College has been researching the possible relocation of Fortis Institute's (in Baltimore, MD) Radiologic Technology program for some time, in order to offer prospective students the opportunity for the greater depth and breadth in the educational experience of an associate degree, as well as to meet an impending change in professional eligibility requirements of the American Registry of Radiologic Technologists (ARRT). The eligibility requirements for ARRT certification in Radiography will, for graduates after January 1, 2015, call for candidates to have earned an associate (or more advanced) degree from an accrediting agency recognized by ARRT in order to sit for licensure examinations. As such, the continuation of the Radiologic Technology program at Fortis Institute in Baltimore, at the diploma level, will no longer qualify students to sit for licensure, which is required to enter employment in the field. In addition, an associate degree program will offer greater opportunity to further develop students' ability to think and communicate creatively, critically, and clearly. This ability is much sought after by employers in the field, and those candidates possessing these traits will be at a significant advantage in a competitive job market. It should be pointed out that this program relocation will not increase the number of statewide graduates annually, but instead will continue to operate with the same program capacity as the current Fortis Institute program, as determined by the Joint Review Committee on Education in Radiologic Technology (JRCERT), which is based upon our available clinical site capacities, which will not change in this program relocation. Although this program addition will result in no increase in the number of new entrants to the field in Maryland, we have supplied occupational demand information within this submission document.

Description of program as it would appear in the catalog

Radiologic Technology
Associate of Science
105.0 Quarter Credits

Program Mission
The mission of the Radiologic Technology program is to prepare competent, entry-level radiographers to serve the public healthcare needs. The program administrator and faculty are committed to providing each student with a high quality education through innovative and engaging instruction, and role modeling.

Program Description
The radiologic technology field is fascinating because it is part science and part art. During this program, students study subjects such as anatomy and physiology, microbiology, radiation safety and physics. Students also learn to use computers to acquire and manipulate radiographic images. This program prepares students to work in this technological field successfully by developing skills in communication, diversity, scientific inquiry, critical thinking and judgment. Students learn to communicate with patients, to solve problems and to work with other members of the health care team, including doctors, nurses and experienced radiologic technologists.

Program Outline

Course No.	Course Title	Quarter Credits
BIO111	Anatomy and Physiology I	5
BIO116	Anatomy and Physiology II	5
RAD102	Introduction to Radiography	3
RAD106	Patient Care and Pharamcology	4
RAD110	Radiation Biology and Protection	4
RAD116	Positioning – Chest, Abdomen and Upper Extremities	4
RAD121	Radiographic Image Production	6
RAD126	Positioning – Lower Extremities and Pelvis	4
RAD136	Radiologic Physics	6
RAD141	Positioning – Spine and Bony Thorax	4
RAD145	Radiography I	4
RAD155	Radiography II	4
RAD206	Positioning - Contrast Procedures	4
RAD211	Positioning - Skull and Facial Bones	4
RAD225	Radiography III	4
RAD230	Radiography IV	5
RAD235	Radiography V	5

RAD240	Radiography VI	6
RAD245	Radiographic Registry Review	4
PSY101	Psychology	5
SOC101	Sociology	5
ENG101	English Composition I	5
MAT101	College Mathematics I	5
Total		105

Course Descriptions

BIO111 Anatomy and Physiology I
This course presents an introduction to the structure and function of the human body, including basic cellular principles, the skin, skeletal tissues, joints, and the muscular system. Also included, are the nervous system cells, central and peripheral nervous systems, sense organs, and endocrine system. Medical terminology associated with the systems covered in this course is also included. Virtual laboratory experiences are included in the course.

BIO116 Anatomy and Physiology II
This course presents an introduction to the structure and function of the human body, including transportation of blood and its many vital functions, including how it links the body's internal and external environments. This course also includes instruction in the following systems: cardiovascular, lymphatic and Immunities, digestive and nutrition, respiratory, urinary and reproductive. Also covered is the importance of maintaining homeostasis in the body by balancing water and electrolytes. Medical terminology associated with the systems covered in this course is also included. Virtual laboratory experiences are included in the course.

RAD102 Introduction to Radiography
Content provides an overview of the foundations of radiography and the practitioner's role in the health care delivery system. Principles, practices and policies of health care organizations are examined and discussed in addition to the professional responsibilities of the radiographer. Content also provides a foundation in ethics and law related to the practice of medical imaging. An introduction to terminology, concepts and principles will be presented. Students will examine a variety of ethical and legal issues found in clinical practice.

RAD106 Patient Care and Pharamcology
Content provides the concepts of optimal patient care, including consideration for the physical and psychological needs of the patient and family. Routine and emergency patient care procedures are described, as well as infection control procedures using standard precautions. The role of the radiographer in patient education is identified.

RAD110 Radiation Biology and Protection
Content provides an overview of the principles of the interaction of radiation with living systems. Radiation effects on molecules, cells, tissues and the body as a whole are presented.

Factors affecting biological response are presented, including acute and chronic effects of radiation. Content also presents an overview of the principles of radiation protection, including the responsibilities of the radiographer for patients, personnel and the public. Radiation health and safety requirements of federal and state regulatory agencies, accreditation agencies and health care organizations are incorporated.

RAD116 Positioning - Chest, Abdomen and Upper Extremities
Content provides the knowledge base necessary to perform standard imaging procedures of the chest, abdomen, and upper extremities. Consideration is given to the evaluation of optimal diagnostic images.

RAD121 Radiographic Image Production
This course is designed to establish a knowledge base in factors that govern the image production process. Guidelines for calculating and selecting exposure factors, proper use of accessory devices, and the factors affecting imaging quality are also presented.

RAD126 Positioning - Lower Extremities and Pelvis
Content provides the knowledge base necessary to perform standard imaging procedures of the lower extremities and pelvis. Consideration is given to the evaluation of optimal diagnostic images.

RAD136 Radiologic Physics
Content establishes a basic knowledge of atomic structure and terminology. Also presented are the nature and characteristics of radiation, x-ray production and the fundamentals of photon interactions with matter.

RAD141 Positioning - Spine and Bony Thorax
Content provides the knowledge base necessary to perform standard imaging procedures of the spine and bony thorax. Consideration is given to the evaluation of optimal diagnostic images.

RAD145 Radiography I
This course allows the student to apply what they have learned in the program curriculum to practical use in a healthcare facility under the supervision of a preceptor on the site. Through the externship experience, the student gain first-hand knowledge of the workplace and perform the assigned duties to meet the expectations in a professional setting. Students are expected to adapt to the work environment and reflect regularly on their learning and observations. The externship work performed, is not to be paid.

RAD155 Radiography II
This course allows the student to apply what they have learned in the program curriculum to practical use in a healthcare facility under the supervision of a preceptor on the site. Through the externship experience, the student gain first-hand knowledge of the workplace and perform the assigned duties to meet the expectations in a professional setting. Students are expected to adapt to the work environment and reflect regularly on their learning and observations. The externship work performed, is not to be paid.

RAD206 Positioning - Contrast Procedures
Content provides the knowledge base necessary to perform imaging procedures utilizing contrast media. Consideration is given to the evaluation of optimal diagnostic images.

RAD211 Positioning - Skull and Facial Bones
Content provides the knowledge base necessary to perform imaging procedures of the cranium and mandible. Consideration is given to the evaluation of optimal diagnostic images.

RAD215 Radiographic Pathology
Content introduces concepts related to disease and etiological considerations with emphasis on radiographic appearance of disease and impact on exposure factor selection.

RAD220 Pharmacology for Radiography
Content provides basic concepts of pharmacology, venipuncture and administration of diagnostic contrast agents and intravenous medications. The appropriate delivery of patient care during these procedures is emphasized.

RAD225 Radiography III
This course allows the student to apply what they have learned in the program curriculum to practical use in a healthcare facility under the supervision of a preceptor on the site. Through the externship experience, the student gain first-hand knowledge of the workplace and perform the assigned duties to meet the expectations in a professional setting. Students are expected to adapt to the work environment and reflect regularly on their learning and observations. The externship work performed, is not to be paid.

RAD230 Radiography IV
This course allows the student to apply what they have learned in the program curriculum to practical use in a healthcare facility under the supervision of a preceptor on the site. Through the externship experience, the student gain first-hand knowledge of the workplace and perform the assigned duties to meet the expectations in a professional setting. Students are expected to adapt to the work environment and reflect regularly on their learning and observations. The externship work performed, is not to be paid.

RAD235 Radiography V
This course allows the student to apply what they have learned in the program curriculum to practical use in a healthcare facility under the supervision of a preceptor on the site. Through the externship experience, the student gain first-hand knowledge of the workplace and perform the assigned duties to meet the expectations in a professional setting. Students are expected to adapt to the work environment and reflect regularly on their learning and observations. The externship work performed, is not to be paid.

RAD240 Radiography VI
This course allows the student to apply what they have learned in the program curriculum to practical use in a healthcare facility under the supervision of a preceptor on the site. Through the externship experience, the student gain first-hand knowledge of the workplace and perform

the assigned duties to meet the expectations in a professional setting. Students are expected to adapt to the work environment and reflect regularly on their learning and observations. The externship work performed, is not to be paid.

RAD245 Radiographic Registry Review
This course is designed to provide a comprehensive review of the program learning objectives and to prepare students to take and pass the American Registry of Radiologic Technologists certification exam.

ENG101 English Composition I
This course will introduce the students to English Composition and covers all aspects of writing for a College-level course, beginning with components of the essay, and ending with modes of writing and argumentation. Students cover all writing stages and strategies and learn to adapt them to their own writing and learning preferences. The student acquires skills for generating ideas and drafting preliminary outlines using brainstorming, drafting, outlining, and topic selection, while learning to revise, rewrite, and polish structure, syntax, argumentation, grammar, punctuation, word choice, and diction.

COM101 Communication
This course will introduce the students to communication with the goal of helping the student become more effective in verbal and non-verbal communication, and to be able to manage interpersonal as well as group communication. The course focuses on learning and applying practical principles to one's daily life, both in formal and informal settings. The course takes a look at the psychological, social, cultural, and linguistic factors that influence person-to-person interaction. This course is designed to give students strategies for improving their communication behavior. Some of the topics addressed include human perceptions, interpersonal dynamics, and patterns of influence, listening and verbal and visual symbols.

MAT101 College Mathematics I
This course provides an introduction to college level math with the goal of teaching students to read, write, and think mathematically in support of real world applications. Topics include solving problems using equations, developing graphs for linear equations and functions, solving polynomial equations, factoring and solving problems using quadratic equations, solving problems using rational expressions, solving systems of equations, and solving problems using roots and radicals. The focus of this course is to apply mathematics to solve problems mathematically.

PSY101 Psychology
This course provides a general overview of the field of psychology. It begins by discussing psychological research methods used to gather psychological data to provide students with a foundation for critically analyzing information. The course then discusses basic psychological concepts from the perspective and with the goal of improving the quality of life for self and others. Topics include the brain and human development, learning and memory, intelligence and creativity, motivation and emotion, personality, and the impact of stress on health. The course then discusses selected psychological disorders and associated common therapies.

SOC101 Sociology
This course is designed to introduce students to the application of the principles, methods, and major theoretical orientations of sociology in providing basic understanding of social aspects of human life.

Statewide Need

As noted previously in this document, this program will not increase the number of Maryland graduates annually, but instead will maintain the current levels, as we relocate this program, including the same program capacity number, from our sister school in Baltimore. Although there will be no change in the number of new entrants to the field as a result of this program addition at our campus, we have researched occupational demand information for Radiologic Technologists, with those results included below.

In researching the projected employment opportunities in Maryland, Department of Labor, Licensing and Regulation data shows significant employment opportunities for Radiologic Technologists in the state, with over 1,450 openings projected over the 2012 – 2022 timeframe.

On a broader scale, the U.S. Department of Labor's Bureau of Labor Statistics' Occupational Outlook Handbook (January 8, 2014 publish date) reports that "Employment of radiologic technologists is projected to grow 21 percent from 2012 to 2022, faster than the average for all occupations. Employment of MRI technologists is projected to grow 24 percent from 2012 to 2022, much faster than the average for all occupations. As the population grows older, there will be an increase in medical conditions, such as breaks and fractures caused by osteoporosis, which can require imaging to diagnose them. Radiologic and MRI technologists will be needed to maintain and use the diagnostic equipment. In addition, federal health legislation will expand the number of patients who have access to health insurance, increasing patient access to medical care."

Data gathered from the U.S. Department of Labor, Employment & Training Administration's O*NET website further validated the outlook and need for Radiologic Technicians, listing this occupation among it's "Bright Outlook Occupations" with the following rationale:

"This occupation, Radiologic Technicians, is expected to grow rapidly."

Beyond these projections, current local job opportunities in the market were researched to validate the need for radiologic technologists in our local area. Using only employment opportunities poste within the last 30 days, we found 10 current openings for Radiologic Technologists in the greater Landover area. As such, it is clear that not only is the future outlook for the occupation bright, but the current market continues to offer significant opportunity for trained professionals.

Reasonableness of program duplication

As noted previously in this document, this proposed associate degree program will be a relocation of the Fortis Institute (in Baltimore, MD) Radiologic Technology program, in order to offer prospective students the opportunity for the greater depth and breadth in the educational experience of an associate degree, as well as to meet an impending change in professional eligibility requirements of the American Registry of Radiologic Technologists (ARRT). The eligibility requirements for ARRT certification in Radiography will, for graduates after January 1, 2015, call for candidates to have earned an associate (or more advanced) degree from an accrediting agency recognized by ARRT in order to sit for licensure examinations. As such, the continuation of the Radiologic Technology program at Fortis Institute in Baltimore, at the diploma level, will no longer qualify students to sit for licensure, which is required to enter employment in the field. In addition, an associate degree program will offer greater opportunity to further develop students' ability to think and communicate creatively, critically, and clearly.

It should be noted that this program relocation will not increase the number of statewide graduates annually, but instead will maintain the current graduate levels, as this program will continue to operate with the same program capacity as the current Fortis Institute program, as determined by the Joint Review Committee on Education in Radiologic Technology (JRCERT), which is based upon our available clinical site capacities, which will not change in this program relocation. Although this program addition will result in no increase in the number of new entrants to the field in Maryland, and is not an additional program in the state, but rather a replacement for a current program that will be taught out, there are no program duplication issues.

Adequacy of faculty resources

As we currently offer a JRCERT-Accredited diploma Radiologic Technology program at our sister school in Baltimore, we have a qualified program director in our organization that will make the transition to our campus to supervise the associate degree program version proposed here. Our current staffing summary is as follows:

Name	Academic Title	Terminal Degree/Field	Status
Joanne M. Niewood	Program Director, Radiologic Technology	Master's/Education	Full Time

Upon approval of the program at Fortis College by MHEC and our institutional accrediting body, the Accrediting Council for Independent Colleges and Schools (ACICS), we will seek additional faculty members to join Ms. Niewood. Those additional faculty members will be a combination of full-time and adjunct staff members.

Adequacy of library resources

At this time, we have a staffed Library Resource Center that is equipped with significant resources to support all of our current program offerings. Our physical materials consist of approximately 1,200 titles, in the following areas:

- Dental (Hygiene & Assisting)
- Career Development
- Pharmacy
- Medical Billing and Coding
- Medical Assisting
- General Education
- Medical Laboratory Technician
- General Interest
- Research and Development
- Reference

Additionally, our students have access to a number of online resources:

- ProQuest (Health & Medical Complete, Nursing & Allied Health, Psychology Journals)
  Contains 3397 journals with comprehensive coverage of Health, Medical, Nursing, Allied Health, and Psychology Journals.

- Gale InfoTrac
  Includes 33 databases comprising 33740 titles across all academic disciplines. 3716 of these are health and medical titles and 2726 of these are science and technology titles. Key databases include: Academic OneFile, Gale Virtual Reference Library, Health Reference Center Academic, and Science in Context.

- ELibrary
  Almost 2,600 resources which include: selected periodicals, reference books, maps, pictures, and newspapers from around the world, along with transcripts of news and public affairs broadcasts.

- Films on Demand
  Health & Medicine Video Collection over 2,700 videos. Subject areas include: Diseases, Disorders & Disabilities, Health Care & Treatment, Human Anatomy and Physiology, and Public Health.

Our LRC resources will continue to be monitored by LRC staff, our Dean of Education and the Campus President, to ensure relevancy to our program offerings, as well as quality and quantity to support our students' educational pursuits.

As this program represents a relocation of an existing Radiologic Technology program from our sister school in Baltimore, the program and occupation specific titles and resources for this program will also be relocated to our campus, along with the physical equipment, which is presented later in this document.

Adequacy of physical facilities, infrastructure and instructional equipment

As the proposed program represents a relocation a currently offered certificate program at our sister school in Baltimore, which includes a fully equipped Radiologic Technology lab area, with both ionizing and non-ionizing equipment, as well as dark room equipment, we have the appropriate resources, in sufficient quantity, to deliver the program. This equipment will be relocated to our campus as the final students in our Baltimore school have completed their program. It should be noted that the lab in Baltimore has been visited by both Maryland Higher Education Commission staff, as well as a site visit team from Joint Review Committee on Education in Radiologic Technology (JRCERT), with both groups approving of the quantity and quality of the equipment available for student use. On a continuing basis, the sufficiency of equipment available will be monitored by our Program Director, faculty, Dean of Education and the Program Advisory Committee.

Adequacy of financial resources

Any costs associated with the implementation of this new program version will be paid from the operating budget of Fortis College. Once operational, it is projected that the program will generate enough revenue to cover continuing costs of delivery, and return a modest profit. Our completed Resources and Expenditures Tables are included on the following pages.

TABLE 1: RESOURCES:					
Resource Categories	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**
1. Reallocated Funds	N/A	N/A	N/A	N/A	N/A
2. Tuition/Fee Revenue (c + g below)	330,000	330,000	330,000	330,000	330,000
a. Number of F/T Students	15	15	15	15	15
b. Annual Tuition/Fee Rate	22,000	22,000	22,000	22,000	22,000
c. Total F/T Revenue (a x b)	330,000	330,000	330,000	330,000	330,000
d. Number of P/T Students	0	0	0	0	0
e. Credit Hour Rate	N/A	N/A	N/A	N/A	N/A
f. Annual Credit Hour Rate	N/A	N/A	N/A	N/A	N/A
g. Total P/T Revenue (d x e x f)	0	0	0	0	0
3. Grants, Contracts & Other External Sources	N/A	N/A	N/A	N/A	N/A
4. Other Sources	N/A	N/A	N/A	N/A	N/A
TOTAL (Add 1 – 4)	330,000	330,000	330,000	330,000	330,000

TABLE 2: EXPENDITURES:					
Expenditure Categories	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**
1. Faculty (b + c below)	149,500	149,500	149,500	149,500	149,500
a. # FTE	2.0	2.0	2.0	2.0	2.0
b. Total Salary	130,000	130,000	130,000	130,000	130,000
c. Total Benefits	19,500	19,500	19,500	19,500	19,500
2. Admin. Staff (b + c below)	40,250	40,250	40,250	40,250	40,250
a. # FTE	1	1	1	1	1
b. Total Salary	35,000	35,000	35,000	35,000	35,000
c. Total Benefits	5,250	5,250	5,250	5,250	5,250
3. Support Staff (b + c below)	28,750	28,750	57,500	57,500	57,500
a. # FTE	1	1	1	1	1
b. Total Salary	25,000	25,000	25,000	25,000	25,000
c. Total Benefits	3,750	3,750	3,750	3,750	3,750
4. Equipment	12,000	12,000	12,000	12,000	12,000
5. Library	2,000	2,000	2,000	2,000	2,000
6. New or Renovated Space					
7. Other Expenses	40,000	42,500	45,000	47,500	50,000
TOTAL (Add 1 – 7)	272,500	275,000	277,500	280,000	282,500

Program Outline - A.S. in Radiologic Technology

105 Quarter Credits

Course No.	Course Title	Quarter Credits	Equivalent Semester Credits
BIO111	Anatomy and Physiology I	5	3.33
BIO116	Anatomy and Physiology II	5	3.33
RAD102	Introduction to Radiography	3	2.00
RAD106	Patient Care and Pharmacology	4	2.67
RAD110	Radiation Biology and Protection	4	2.67
RAD116	Positioning – Chest, Abdomen and Upper Extremities	4	2.67
RAD121	Radiographic Image Production	6	4.00
RAD126	Positioning – Lower Extremities and Pelvis	4	2.67
RAD136	Radiologic Physics	6	4.00
RAD141	Positioning – Spine and Bony Thorax	4	2.67
RAD145	Radiography I	4	2.67
RAD155	Radiography II	4	2.67
RAD206	Positioning - Contrast Procedures	4	2.67
RAD211	Positioning - Skull and Facial Bones	4	2.67
RAD225	Radiography III	4	2.67
RAD230	Radiography IV	5	3.33
RAD235	Radiography V	5	3.33
RAD240	Radiography VI	6	4.00
RAD245	Radiographic Registry Review	4	2.67
PSY101	Psychology	5	3.33
SOC101	Sociology	5	3.33
ENG101	English Composition I	5	3.33
MAT101	College Mathematics I	5	3.33
Total		105	70.00

Fortis College Response

In response to this item, our instructional designers have made minor revisions to our suite of general education course offerings, with these revised courses reflected in the chart below:

General Education Requirement (GERs)	Fortis College Courses	Quarter Credits	Equivalent Semester Credit Hours
Arts and Humanities	Sociology	5.0	3.333
Social/Behavioral Science	Psychology	5.0	3.333
Biological/Physical Science	Anatomy and Physiology I	5.0	3.333
Mathematics	College Mathematics I	5.0	3.333
English	English Composition I	5.0	3.333
Other	Anatomy and Physiology II	5.0	3.333
Total General Education Requirements (GERs)		30	20

We appreciate your thorough review of our proposal documents, and for your feedback regarding these issues. As we have addressed the concerns and issues conveyed in your February 6, 2015 e-mail, and are submitting a full proposal document with this response, we would request an update from you as our proposal continues through the process of further review and, ultimately, approval.

Sincerely,

Don McMullen

Don McMullen
Campus President