

PROGRAM AGREEMENT

This **AGREEMENT** is made and entered into as of the date of the last signature below (the "Effective Date") by and between **CARROLL COMMUNITY COLLEGE** (hereinafter the "College"), and **THE JOHNS HOPKINS HOSPITAL on behalf of its SCHOOLS OF MEDICAL IMAGING** (hereinafter the "Program"), a tax-exempt Maryland corporation.

WHEREAS, the College has an undergraduate curriculum that can serve as a prerequisite to certification in Radiological Sciences,

WHEREAS, clinical experience is a required and integral component of the radiological sciences curriculum, hereinafter referred to as the "internship",

WHEREAS, the College desires the cooperation of the Program in the development and implementation of the Associate of Applied Arts in Technical and Professional Studies associate degree,

WHEREAS, the College recognizes the above-noted Program as an institution qualified to aid in the development and implementation of clinical experience for radiological sciences students,

WHEREAS, the Program recognizes its professional responsibility to participate in the education of radiological sciences students, and

WHEREAS, the Program wishes to join the College in development and implementation of clinical experience for radiological sciences students.

NOW, THEREFORE, in consideration of the mutual agreement set forth herein, the College and the Program will cooperate as hereinafter described.

THE COLLEGE

1. The College will provide the educational prerequisites for admission to the accredited medical imaging Program as established by the Joint Review Committees on Education in Radiologic Technology.
2. The College will award an associate's degree to students who meet the requirements of the College and the Program and successfully complete the prescribed course of study in the Radiography Program.
3. The criteria for admission to the College will be determined by the College.
4. A faculty member or advisor at Carroll Community College will function as Program Advisor and work with the Radiography Program Director. The two will form a faculty advisory group consisting of members of both institutions to assume oversight over curriculum, student admission and advising, and program assessment.

5. There shall be at least one annual meeting for curriculum review and program development and evaluation and compliance to Joint Review Committee (JRC) on Education in Radiologic Technology standards by the faculty advisory group. There shall be periodic meetings of the Program Coordinator or his/her designee for the College and the Program Director for the Program.
6. The College will list the name of the Program in the College catalog and other appropriate brochures and materials.
7. The College will assist in the distribution of brochures, catalogs, applications and other materials to student aspirants in Radiological Sciences.

THE PROGRAM

1. The Program will provide curricula in radiological sciences which meets the requirements of the respective JRCs for Accreditation.
2. The Program will provide the physical facilities and equipment necessary to conduct the clinical laboratory science internship.
3. The Program will determine its policy regarding the payment of tuition and other fees for the clinical internship by the student and will notify the College of any revisions to this policy.
4. Criteria for admission to the Program are outlined in the current edition of the JRC Standards and in the Program's Criteria for Admission. Other student Admission decisions are made by the Program's Admissions Committee. Admissions criteria include: the student's cumulative grade point average, performance in the prerequisite math and science courses, the recommendations of instructors, and a personal interview.
5. The Program may accept students from the College provided that the student has met or intends to meet the admissions requirements and are considered qualified for admission by the Program's Admissions Committee. Students from other affiliated institutions may also be accepted by the Program. Equivalency of other hospital based programs will be determined by the Program's Admission Committee. All students will have to complete at least one area of clinical certification at the Program.
6. The Program will provide the College with student grades within 3 weeks of completion of each semester of the Program's clinical internship.
7. The Program will establish annually a schedule of tuition and other fees and communicate this information to the College.
8. The Program agrees to furnish medical care, at the standard charge, for minor illnesses or first aid for students until said student can be transferred to another Program for continued care. The Program assumes no financial responsibility for the care or treatment of students under the terms of this Agreement. Bill for services rendered shall be forwarded to the student for payment. Accepted applicants for admission must submit to a routine physical examination, TB test, and drug test prior to admission to the clinical internship. Accepted applicants will be offered, free of charge, Hepatitis B immunizations by the Program.

9. The Program agrees to advise the College of any changes in its personnel, operation, or policies, which may affect clinical experience.
10. The Program agrees to award a certificate upon satisfactory completion of the clinical internship.
11. The Program will be responsible for providing counseling to the students during the clinical internship. Academic counseling is provided by the Program Director. Other counseling is provided by pastoral services or the JHH Program.
12. The Program assumes primary responsibility during the clinical internship for curriculum planning and selection of course content; for coordination of classroom activities and supervised clinical education; for appointment of faculty to the Program; for receipt and processing applicants for admissions; and for granting the certificate documenting successful completion of the Program.

MUTUAL PROVISIONS

1. The grading policy will be such that while the student is at the College the grading procedure will be that of the College; while the student is at the Program, the grading procedure will be that of the Program. Determination of failure and right to repeat a course will be made by the applicable institution.
2. The Program and the College agree to continue their respective policies of nondiscrimination based on Title VI of the Civil Rights Act of 1964 in regard to sex, age, race, color, creed, national origin, Title IX of the Education Amendments of 1972 and other applicable laws, as well as the provisions of the Americans with Disabilities Act.
3. Either party may terminate this agreement upon thirty (30) day's notice of material breach of the other party, and failure of the breaching party to cure within the thirty (30) day notice period. The foregoing notwithstanding, if the Program of the College or the Program is discontinued, this Agreement shall also terminate.
4. This Agreement can be terminated by either party without cause upon ninety (90) days prior written notice under the condition that the parties will use best efforts to permit students already accepted or enrolled to complete the Program.
5. This Agreement shall be reviewed every 5 years by the signatories listed below. It is the responsibility of both the Program Director of the Program and the College to review this document for necessary changes and to notify the other signatories accordingly.
6. Each party is responsible for its own acts and omissions, and neither party shall become liable for the acts or omissions of the other party as a result of entering into this Agreement. specifically
7. This Agreement may not be assigned, modified or altered in whole or in part, without the prior written consent of both parties.

8. This Agreement constitutes the entire understanding between the parties hereto, shall be governed by and construed in accordance with the laws of the State of Maryland (excepting any conflict of law's provisions which would serve to defeat application of Maryland substantive law), and shall be binding upon and inure to the benefit of the respective successors and assigns of the parties hereto.
9. Notices. All notices required to be given hereunder shall be in writing and shall be sent by certified mail, return receipt requested, postage prepaid, addressed as follows:

If to the College:

Carroll Community College
1601 Washington Road
Westminster, MD 21157
ATTN: Dr. April Herring Sr.
Director of Advising and
Retention
Phone: 410-386-8435
Email: aherring@carrollcc.edu

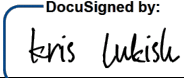
If to JHH:

The Johns Hopkins Hospital
Schools of Medical Imaging
111 Market Place, Suite 830
Baltimore, MD 21202
ATTN: Mary Fasano, MBA,
BS, CNMT,
NMTCB(CT)
Phone: 410-223-1855
Email: mfasano4@jhmi.edu


10. Amendment. No amendment or modification of this Agreement shall be effective unless in writing and executed by authorized representatives of the parties hereto.

IN WITNESS WHEREOF, The Johns Hopkins Hospital and Carroll Community College have caused this Agreement to be executed and delivered on the date first written above by their duly authorized representatives.

THE JOHNS HOPKINS HOSPITAL


DocuSigned by:

By: _____
Name: Kristena Lukish
Title: Vice President, Human Resources
Date: 2/28/2023

This Agreement has been reviewed by The Johns Hopkins Health System Corporation Legal Department

DocuSigned by:


Legal Department

CARROLL COMMUNITY COLLEGE


By: _____
Name: Dr. Rosalie Mince
Title: Vice President for Academic and Student Affairs
Date: 2/27/23

**Educational Plan – Carroll Community College
Associate of Applied Science in Technical and
Professional Studies**

+Indicates prerequisite course for Johns Hopkins Radiography Program

Course	Credit
+MATH-118 College Algebra MATHEMATICS	4
BIOL-101 Fundamentals of Biology BIOLOGICAL AND PHYSICAL	4
+ENGL-101 College Writing ENGLISH COMPOSTION	3
+COMM-105 Introduction to Speech and Communication ARTS AND	3
Diversity General Education required SOCIAL AND BEHAVIORAL	3
+BIOL-210 Anatomy and Physiology I GENERAL EDUCATION ELECTIVE	4
+BIOL-211 Anatomy and Physiology II	4
Johns Hopkins Radiography Program	35

Class Clock hours translated to credit hours. 15 clock hours = 1 credit hour.
Clinical hours are not included in credit hour total.

Radiography Curriculum Outline: 18-Month Program

Curriculum Outline	Lecture Hours	Lab Hours	Clinical Hours	Credit Hours
Rad 101: Orientation and Introduction to Radiography	93	24		6
Rad 102: Radiographic Procedures I	50	16		3
Rad 103: Equipment Operation	30			2
Rad 104: Radiation Biology and Protection	36			2
Rad 105: Image Acquisition and Evaluation I	20			1
Rad 106: Patient Care and Pharmacology	35	2		2
Rad 107: Osteology	30			2
Rad 108: Medical Terminology	32			2
Rad 110: Clinical Practicum I			662	
Rad 202: Radiographic Procedures II	40	12		3
Rad 203: Medical Ethics and Law for the Imaging Professional	22			1
Rad 204: Equipment Operation and Quality Control	20			1
Rad 205: Image Acquisition Evaluation II	28			2
Rad 206: Venipuncture Training	8	8		0.5
Rad 220: Clinical Practicum II			716	
Rad 302: Imaging Modalities and Radiation Therapy	22			1
Rad 303: Comprehensive Registry Review	40			2.5
Rad 304: Introduction to Radiographic Pathology	34			2
Rad 305: Advanced Topics in Radiography	34			2
Rad 330: Clinical Practicum III			624	
	574	62	2,002	35

Total Program Hours: 2638

Program hours are only listed for those hours the student will be in attendance in the program and do not include hours for breaks, 96 hours of leave or hospital holidays.

Radiography Curriculum Outline: 23-Month Program

Curriculum Outline	Lecture Hours	Lab Hours	Clinical Hours	Credit Hours
Rad 101: Orientation and Introduction to Radiography	93	24		6
Rad 102: Radiographic Procedures I	50	16		3
Rad 103: Equipment Operation	30			2
Rad 104: Radiation Biology and Protection	36			2
Rad 105: Image Acquisition and Evaluation I	20			1
Rad 106: Patient Care and Pharmacology	35	2		2
Rad 107: Osteology	30			2
Rad 108: Medical Terminology	32			2
Rad 110: Clinical Practicum I			422	
Rad 202: Radiographic Procedures II	40	12		3
Rad 203: Medical Ethics and Law for the Imaging Professional	22			1
Rad 204: Equipment Operation and Quality Control	20			1
Rad 205: Image Acquisition Evaluation II	28			2
Rad 206: Venipuncture Training	8	8		0.5
Rad 220: Clinical Practicum II			516	
Rad 302: Imaging Modalities and Radiation Therapy	24			1
Rad 303: Comprehensive Registry Review	40			2.5
Rad 304: Introduction to Radiographic Pathology	34			2
Rad 305: Advanced Topics in Radiography	34			2
Rad 330: Clinical Practicum III			448	
Rad 440: Clinical Practicum IV			600	
	574	62	1986	35

Total Program Hours: 2624

Program hours are only listed for those hours the student will be in attendance in the program and do not include hours for breaks, 96 hours of leave or hospital holidays.

Course Descriptions

Semester I

RAD 101 Orientation and Introduction to Radiography

This course is designed to provide the student with an overview of the field of radiography and its role in the healthcare system. Topics covered include Radiography Program policies and procedures, the profession of radiography, relevant accreditation and credentialing agencies, hospital and radiology department organization, an overview of other allied health care professions, and professional opportunities for growth and development. Additional topics include training related to cultural competencies, critical thinking, and working with different generations and the LBGTQ community. Clinical orientation will cover an introduction to terms and concepts that are basic to radiographic procedures, the basic operation of the x-ray unit, image processing and radiation protection. Students will attend hospital employee orientation, which will train the student in handling blood and bodily fluid, borne pathogens, harassment, chemical and fire safety. The student will receive training to be CPR certified. Coursework is assigned in the JHH online learning system. Students are expected to pass both clinical and classroom competency evaluations related to this course.

RAD 102 Radiographic Procedures I

This course, the first of a two-semester sequence, provides detailed instruction in the fundamental principles of positioning for all routine radiographic procedures. It includes relevant topographic anatomy and cross-sectional anatomy instruction. Also included in this course is an instruction in procedures that are unique to pediatrics, geriatrics, obesity, mobile radiography, trauma and operating room. This course integrates with the Clinical Competency Program. This course is divided into categories with each category having a laboratory component. The categories are chest, abdomen, extremities, pelvis, and the bony thorax. Emphasis is placed on critical evaluation of images and problem-solving skills about producing diagnostic radiographs.

RAD 103 Equipment Operation

In this course, commonly called Radiation Physics, the first semester radiography student will be introduced to the fundamental principles of ionizing radiation. During the course of this semester, the student will be presented with material covering the discovery of x-ray, x-ray properties, x-ray terminology, electricity and magnetism, electromagnetic radiation, the x-ray unit and tube, x-ray production, and the x-ray emission spectrum.

RAD 104 Radiation Biology and Protection

This course is designed to acquaint the student with the effects of ionizing radiation on the human body, and optimizing radiation protection for patients, self and other healthcare providers. The first half of the course will focus on radiation biology and covers such concepts as ALARA, ionizing radiation interaction with matter, and early and late effects of ionizing radiation. The second half of the course will focus on means of minimizing radiation exposure to both patients, imaging technologists and other healthcare workers. Also covered are agencies and regulations related to radiation exposure and x-ray equipment.

RAD 105 Image Acquisition and Evaluation I

This course, the first in a two-semester sequence, will provide students with the principles of image creation. The primary focus of this course will be the process of digital imaging to include characteristics, image identification, computed radiography, direct radiography, image processing and display, as well as information about RIS, DICOM and PACS.

RAD 106 Patient Care and Pharmacology

This course will provide a basic understanding of the skills needed to allow the student to work comfortably and safely with patients. Some of the areas covered will include standard precautions, infection control, proper body mechanics, aseptic technique, communication, age-specific criteria, basic nursing care, and patient monitoring to include vital signs and medical emergencies. Pharmacology and the use of radiographic contrast and radiopharmaceuticals, including risk factors and reactions, will also be taught. Students will learn to critically evaluate patients and examinations to determine possible risks to the patient or staff. The course will also include a laboratory component in which the student will be evaluated on basic nursing skills, sterile technique, and aseptic technique.

RAD 107 Osteology

This course will provide detailed content in the subject of human osteology. Information will cover the structure and function of bone tissue. Students will learn to identify bones using various instructional means such as dry specimens, drawings and radiographs. Emphasis will be placed throughout the course on arthrology of various joints. This course integrates with Radiographic Positioning and the Clinical Competency Program to prepare the student to identify various bony anatomy on radiographs.

RAD 108 Medical Terminology

This course will provide the student with a sound background in the language of the medical profession. The content will be based on word-

building skills that begin with a study of prefixes, suffixes and root words. Specific terminology related to radiology will be discussed. Also included in this course will be abbreviations and symbols. An ability to break down and analyze words, correct spelling and pronunciation will be emphasized.

RAD 110 Clinical Practicum I

This clinical course will introduce the radiography student to the day-to-day operations of clinical practice. The first part of the course will be spent introducing the student to the clinical area and assisting the technologist. Students may then begin performing radiographic procedures on patients under the direct supervision of a qualified technologist. Latter portions of the course will allow the students to begin documenting and testing on procedures that have been presented in Radiographic Procedures I, once clinical laboratory and classroom testing have been completed.

Semester II

RAD 202 Radiographic Procedures II

This course will continue to provide students with detailed instruction on increasingly difficult radiographic examinations to include; spine, headwork, contrast imaging, urinary studies, venography, arthrography, myelography and hysterosalpingography. It includes relevant topographic anatomy and cross-sectional anatomy instruction. Continued emphasis is placed on critical evaluation of images and problem-solving skills about producing diagnostic radiographs. This course integrates with the Clinical Competency Program and is divided into categories, each having a laboratory component.

RAD 203 Medical Ethics and Law for the Imaging Professional

The purpose of this course is to give the medical imaging student a basic background in ethics, medical-legal issues and ethical decision-making. The field of medical imaging is one where students will be called upon to make decisions that will involve personal and professional ethics and values. This course is a combination of lecture and class discussion. Student contribution to class discussion is important to this course.

RAD 204 Equipment Operation and Quality Control

This course, a continuation of Equipment Operation, will cover the operation of different equipment that uses x-radiation to produce images. This course will include lectures on fluoroscopy, both analog and digital, mammography, tomography, subtraction, and CT equipment. Quality assurance and quality control will be discussed.

RAD 205 Image Acquisition and Evaluation II

This course allows the student to develop a working knowledge of the theory and principles of radiographic exposure. The three primary image quality factors of spatial resolution, distortion, and receptor exposure will be covered. Controlling and influencing factors that affect radiographic quality are emphasized. Critical thinking and problem-solving skills will be emphasized as the student learns to manipulate various controlling and influencing factors of radiographic quality to produce the optimal radiograph.

RAD 206 Venipuncture

This non-graded course will be successfully completed when the student proves competency through completing the check of by simulating the procedure. Students will complete a self-learning packet of materials required by the Radiology Department for all technologists, nurses, and students who wish to practice venipuncture in the department. Students will participate in a series of classroom demonstrations and simulated practice.

RAD 220 Clinical Practicum II

This clinical course will allow the student to perform radiographic examinations under the supervision of a qualified radiographer. The students will continue documenting and testing on studies that have been presented in Radiographic Procedures II, once clinical laboratory and classroom testing has been completed. Emphasis will be placed on continuous improvement of imaging skills and speed in performing examinations.

Semester III

RAD 302 Imaging Modalities and Radiation Therapy

This course provides an overview of alternate imaging modalities including: Cardiovascular – Interventional Imaging, Neuro-Interventional, Computed Tomography, Nuclear Medicine Technology, DEXA, Diagnostic Medical Sonography, Mammography and Magnetic Resonance Imaging, and Radiation Therapy. Included in the discussions of these alternate imaging modalities will be necessary requirements to become certified in the areas.

RAD 303 Comprehensive Review

This non-graded course is intended to prepare the student for the ARRT Registry Exam in Radiography. The content areas correspond to those content areas of the registry exam. Students will review content, practice exam questions, and have the opportunity to direct the review content to specific areas they determine to be necessary.

RAD 304 Introduction to Radiographic Pathology

This course is designed to enable the second-year radiography student to integrate information learned from courses in radiographic positioning and anatomy into pathological processes diagnosed from radiographs. Commonly seen pathologies will be discussed, and their radiographic appearance demonstrated. Included in this course will be a formal presentation on a pathology that has been independently researched by the student.

RAD 305 Advanced Topics in Radiography

This course is designed for extensive group and individual participation in the critical evaluation of radiographs, typical and atypical radiographs, procedures and imaging the non-conforming patient. The student is guided by the instructor in using critical thinking skills to identify problems in regard to diagnostic quality of the radiograph. Anatomical structures, associated pathology, positioning, processing problems and pertinent patient clinical data are discussed. This course will also include critical evaluation of journal and internet articles relevant to radiology. The student will create a clinical portfolio during this course.

RAD 330 Clinical Practicum III

This clinical course will allow the student to perform radiographic examinations under the supervision of a qualified radiographer. The students will continue documenting and testing on studies that have been presented in Radiographic Procedures I and II. Emphasis will be placed on continuous improvement of imaging skills and speed in performing examinations. During this clinical course, the student in the 18-month track will be expected to complete all outstanding clinical competency testing, and complete two Global (terminal) competencies in the areas of Orthopedics and Emergency Department.