RADIOLOGIC SCIENCE (RS)

RS-101 INTRO TO RADIOGRAPHIC SCI (1 Credit)
An introduction to the field of radiologic sciences, including the significance of radiation protection.

RS-102 ETHICS & LAW IN THE RADIOLOGIC SCIENCES (1 Credit)
An introduction to radiographer standards that promote professional conduct. Studies involve patients' rights and the respective role of the radiographer, including introductory law in the radiologic sciences, elements of malpratice, and causes of actions. Employment issues, contracts, litigation process, and the radiographer's responsibility in health care delivery are also discussed.

RS-103 "RS, PATIENT CARE & CONTRAST MEDIA" (3 Credits)

RS-104 MEDICAL TERMINOLOGY (2 Credits)
Recognition of medical terminology elements; prefixes, suffixes, and root words in singular and plural forms; spelling of words classified as homonyms; terms applied to special examinations; interpretation of abbreviations an symbols; correct pronunciation of medical terms; terms associated with radiographic positions, landmarks, and all systems of the body.

RS-105 ADVANCED RADIATION PROTECTION (2 Credits)
Explains at a more advanced level the need for radiation protection, biological effects of ionizing radiation, patient protection, personnel radiation monitoring, radiation measuring instrumentation, applicable laws, and protection in related fields (nuclear medicine and therapy).

RS-106 RADIOGRAPHIC ANATOMY & PHYSIOLOGY I (3 Credits)
These courses provide the skills to perform radiographic examinations. Body positions, positioning terms, positioning aids, contrast media, and their application to positioning are discussed. Laboratory and clinical application of theoretical and practical concepts are performed where applicable. Areas studied include the skeletal system and more systems. Methods employed for pediatric and geriatric examinations are studied and discussed.

RS-107 RADIOGRAPHIC ANATOMY AND PROCEDURES II (3 Credits)
These courses provide the skills to perform radiographic examinations. Body positions, positioning terms, positioning aids, contrast media, and their application to positioning are discussed. Laboratory and clinical application of theoretical and practical concepts are performed where applicable. Areas studied include the skeletal system and more systems. Methods employed for pediatric and geriatric examinations are studied and discussed.

RS-108 ANATOMY & PHYSIOLOGY III (3 Credits)
These courses provide the skills to perform radiographic examinations. Body positions, positioning terms, positioning aids, contrast media, and their application to positioning are discussed. Laboratory and clinical application of theoretical and practical concepts are performed where applicable. Areas studied include the skeletal system and more systems. Methods employed for pediatric and geriatric examinations are studied and discussed.

RS-109 RADIOGRAPHIC PROCEDURES IV (3 Credits)
This course acquaints the student with the specialized and highly technical procedures in radiography, the equipment and the contrast media used, and the preparation and general indications for each examination.

RS-110 EVALUATION OF RADIOGRAPHS I (2 Credits)
These units provide the student with knowledge necessary to evaluate radiographic examination and identify and recognize their diagnostic qualities. Film evaluation combines knowledge and skills from multiple didactic units, laboratory assignments, and clinical evaluations. Areas that influence evaluation of radiology are discussed.

RS-111 EVALUATION OF RADIOGRAPHS II (2 Credits)
These units provide the student with knowledge necessary to evaluate radiographic examination and identify and recognize their diagnostic qualities. Film evaluation combines knowledge and skills from multiple didactic units, laboratory assignments, and clinical evaluations. Areas that influence evaluation of radiology are discussed.

RS-112 EVALUATION OF RADIOGRAPHS III (2 Credits)

RS-113 EVALUATION OF RADIOGRAPHS IV (1 Credit)
These units provide the student with knowledge necessary to evaluate radiographic examination and identify and recognize their diagnostic qualities. Film evaluation combines knowledge and skills from multiple didactic units, laboratory assignments, and clinical evaluations. Areas that influence evaluation of radiology are discussed.

RS-114 RADIATION PHYSICS II (3 Credits)
This course provides the student with the knowledge of basic physics, mechanics, structure of matter, basic electricity, magnetism, electromagnetism, electrical physics, radiation physics, and basic x-ray circuitry. Information regarding x-ray production, x-ray interaction with matter, aspects of emission spectrum, and units of measurement is provided. Also included is a review of fundamental principles of mathematics essential for mastering various phases of radiologic physics and medical imaging.

RS-115 RADIATION PHYSICS (4 Credits)

RS-116 RADIATION PHYSICS III (3 Credits)
This course provides the student with the knowledge of basic physics, mechanics, structure of matter, basic electricity, magnetism, electromagnetism, electrical physics, radiation physics, and basic x-ray circuitry. Information regarding x-ray production, x-ray interaction with matter, aspects of emission spectrum, and units of measurement is provided. Also included is a review of fundamental principles of mathematics essential for mastering various phases of radiologic physics and medical imaging.

RS-117 MEDICAL IMAGING I (PRE) (1 Credit)
These courses acquaint the student with film identification systems available in radiography and stress the medico-legal value of proper identification on the radiographs. They also provide comprehensive analysis of the factors that govern and influence the production of the radiograph and the direct effect of these factors on radiographic quality and patient dose. Students practice manipulating the prime exposure factors by completing problems and radiographic experiments. Stress on the purpose and importance of technique formation and the various types of technique stems.

RS-118 MEDICAL IMAGING II (PRE) (1 Credit)
These courses acquaint the student with film identification systems available in radiography and stress the medico-legal value of proper identification on the radiographs. They also provide comprehensive analysis of the factors that govern and influence the production of the radiograph and the direct effect of these factors on radiographic quality and patient dose. Students practice manipulating the prime exposure factors by completing problems and radiographic experiments. Stress on the purpose and importance of technique formation and the various types of technique stems.

RS-120 RADIOGRAPHIC PROCESSING TECH. (1 Credit)
A course designed so that the student can understand all components involved in film processing.

RS-121 IMAGING EQUIPMENT (2 Credits)
This course enables the student to distinguish differences between modes of imaging systems and to analyze the different types of image intensification systems. It explains the advantages of image intensification and discusses new types of imaging modalities.

RS-122 RADIATION BIOLOGY (2 Credits)
This course provides an overview of the principles of the interaction with living systems. Correlates concepts studied in physics, biology, and physiology and offers an understanding of the effects of radiation on living organisms. Acute and chronic effects of radiation are discussed.

RS-123 PATHOPHYSIOLOGY 1 (3 Credits)
This course provides the information on structure, function, and development of disease in the body. Emphasis is on physiology, the progress of diseases, and clinical application, illustrated with radiographs.

RS-124 INTRO TO QUALITY ASSURANCE (1 Credit)
This course stresses the importance of quality control in todays radiology department and analyzes methods of enhancing image quality within a range of variables. It also discusses effective testing and correction of image quality. The components involved in the quality improvement system are identified.

RS-125 CLINICAL EDUCATION I
A well-designed and developed competency-based clinical education in which the student has an active role in developing the skills required to administer quality patient care services. This component demonstrates integration and correlation with the didactic component and also includes cognitive, psychomotor, and effective capabilities of the student. The system provides objective evaluation of each competency, using a consistent method to measure student success.

RS-126 CLINICAL EDUCATION II
A well-designed and developed competency-based clinical education in which the student has an active role in developing the skills required to administer quality patient care services. This component demonstrates integration and correlation with the didactic component and also includes cognitive, psychomotor, and effective capabilities of the student. The system provides objective evaluation of each competency, using a consistent method to measure student success.

RS-127 CLINICAL EDUCATION III
A well-designed and developed competency-based clinical education in which the student has an active role in developing the skills required to administer quality patient care services. This component demonstrates integration and correlation with the didactic component and also includes cognitive, psychomotor, and effective capabilities of the student. The system provides objective evaluation of each competency, using a consistent method to measure student success.

RS-128 CLINICAL EDUCATION IV (1 Credit)
This area of clinical education establishes anatomic and clinical orientation, with sectional anatomy information necessary to meet the needs of special imaging examinations. These special imaging areas include mammography and CT/MRI.

RS-129 PHARMACOLOGY (3 Credits)
This unit provides pharmacology concepts, venipuncture theory and practice, and the administration of diagnostic contrast agents and/or intravenous medications, with emphasis on appropriate delivery of patient care during these procedures.

RS-130 RADIOGRAPHIC PROCEDURES I (3 Credits)

RS-131 RADIOGRAPHIC PROCEDURES II (3 Credits)

RS-132 RADIOGRAPHIC PROCEDURES III (3 Credits)

RS-133 Computers in Radiological Science (1 Credit)

RS-134 PATHOPHYSIOLOGY II (3 Credits)

RS-137 INTRO TO MAMMOGRAPHY (2 Credits)

RS-138 SPECIAL PROCEDURE (2 Credits)

RS-1101 "Intro to Rs Incl Protect, Ethics & Law" (2 Credits)
An introduction to the field of radiology technology explains the guidelines of the program, developments of the field, organizational structure of the radiology Department and an introduction to the standards for radiographers promoting professional conduct. This course also includes basic radiation protection, the value of patient rights and the role of the radiographer. Introductory law, the elements of malpractice and cause for actions, employment issues, contracts, litigation and the radiographers responsibility to deliver healthcare that us free from bias will also be discussed.

RS-1103 RS Patient Care & Pharmacology (2 Credits)
This course provides students with the basic concepts of 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 utilizing universal precautions. The role of the radiographer in patient education and radiation protection are identified. This course also includes a systematic study of radiographic contrast agents as they are used in specific organ systems of the body. Basic concepts of pharmacology will be discussed. The theory and basic practice of basic techniques and venipuncture for the administration of diagnostic contrast agents and/or intravenous medications are included.

RS-1104 Medical Terminology (2 Credits)
Recognition of the elements of medical terminology. Prefixes, suffixes, root words in the singular and plural forms. Proper spelling of words, terminology used to describe special examinations, interpretations of abbreviations and symbols, as well as correct pronunciations of medical terms. Terms associated with radiographic positions, landmarks and all body systems will be discussed.

RS-1106 Radiographic Anatomy & Pro I (4 Credits)
These courses provide the skills to perform radiographic examinations. Body positions, positioning terms, positioning aids, contrast media, and their application to positioning are discussed. Laboratory and clinical application of theoretical and practical concepts are performed where applicable. Areas studied include the skeletal system and more systems. Methods employed for pediatric and geriatric examinations are studied and discussed.

RS-1107 Radiographic Anatomy & Procedures II (4 Credits)
These courses provide students with the skills necessary to perform radiographic examinations. Areas studied include body positions, positioning terms, positioning aids, contrast medial ad their applications to positioning methods of producing quality radiographs are discussed. Clinical applications of theoretical areas include the skeletal system and major organ systems, incorporating pediatric, geriatric examinations and special procedures are studied and discussed.

RS-1110 Radiographic Human Structure & Func I (3 Credits)
These courses provide the student with the components of cells, tissues, organs, and organ systems will be described and discussed.

RS-1111 Radiographic Human Structure & Funct II (3 Credits)
These courses provide the student with the components of cells, tissues, organs, and organ systems will be described and discussed.

RS-1114 Radiographic Physics & Imaging Equip I (3 Credits)
These courses provide the student with the knowledge of fundamental principles of mathematics essential for mastering radiographic physics, basic physics, mechanics, structure of matter, basic electricity, magnetism, electromagnetism, electrical physics, radiation physics, and basic x-ray circuitry. Production of ionizing radiation, interaction between x-rays and matter, aspects of the emission spectrum and radiation units of measurements are discussed. Radiographic equipment including the x-ray tube, fluoroscopy, and the imaging system s a whole will be discussed.

RS-1115 Radiographic Physics & Imaging Equip II (3 Credits)
These courses provide the student with the knowledge of fundamental principles of mathematics essential for mastering radiographic physics, basic physics, mechanics, structure of matter, basic electricity, magnetism, electromagnetism, electrical physics, radiation physics, and basic x-ray circuitry. Production of ionizing radiation, interaction between x-rays and matter, aspects of the emission spectrum and radiation units of measurements are discussed. Radiographic equipment including the x-ray tube, fluoroscopy, and the imaging system s a whole will be discussed.

RS-1125 Clinical Education I (3 Credits)
A well designed and developed competency based education at supervised clinical education sites. This provides the students with an active roll in developing the skills required to deliver high quality imaging services. Objective competency evaluations are used for consistent methods of measuring student outcomes for each ARRT mandated part. Students will begin their clinical experience observing the technologist, and as they progress, and students have been tested didactically, they will work with direct supervision until competency has been achieved. After competency has been achieved the student may work under indirect supervision.

RS-1126 Clinical Education II
A well designed and developed competency based education at supervised clinical education sites. This provides the students with an active roll in developing the skills required to deliver high quality imaging services. Objective competency evaluations are used for consistent methods of measuring student outcomes for each ARRT mandated part. Students will begin their clinical experience observing the technologist, and as they progress, and students have been tested didactically, they will work with direct supervision until competency has been achieved. After competency has been achieved the student may work under indirect supervision.

RS-1129 Clinical Education III
A well designed and developed competency based education at supervised clinical education sites. This provides the students with an active roll in developing the skills required to deliver high quality imaging services. Objective competency evaluations are used for consistent methods of measuring student outcomes for each ARRT mandated part. Students will begin their clinical experience observing the technologist, and as they progress, and students have been tested didactically, they will work with direct supervision until competency has been achieved. After competency has been achieved the student may work under indirect supervision.

RS-1131 Intro to Mammography (1 Credit)
This course provides students with the basic concepts of performing mammography. Areas studied include, anatomy and physiology of the breast, imaging techniques, pathology, standard and advanced positioning views, QA/QC of mammographic equipment and MQSA federal guidelines.

RS-2105 Advance Radioation Protection and Radiation Biology (3 Credits)
An advanced level course designed to address the need for radiation protection, biological effects of ionizing radiation. Patient protection, personal radiation monitoring, and radiation measuring instrumentation, as well as applicable state and federal laws. The interaction of radiation on biologic systems, and their correlation with concepts studied in Physics, Biology and Physiology. Acute and chronic effects of radiation are discussed.

RS-2108 Radiographic Antmy & Pro III (4 Credits)
These courses provide students with the skills necessary to perform radiographic examinations. Areas studied include body positions, positioning terms, positioning aids, contrast medial ad their applications to positioning methods of producing quality radiographs are discussed. Clinical applications of theoretical areas include the skeletal system and major organ systems, incorporating pediatric, geriatric examinations and special procedures are studied and discussed.

RS-2109 Radiographic Anatomy & Pro IV (4 Credits)
These courses provide students with the skills necessary to perform radiographic examinations. Areas studied include body positions, positioning terms, positioning aids, contrast medial ad their applications to positioning methods of producing quality radiographs are discussed. Clinical applications of theoretical areas include the skeletal system and major organ systems, incorporating pediatric, geriatric examinations and special procedures are studied and discussed.

RS-2117 Medical Imaging Principles of Radiographic Exposure (PRE) (4 Credits)
This course provides students with the various film processing systems available in radiography. A comprehensive analysis of density, contrast, detail and distortion which govern and influence the production of a radiograph, and the direct effect of these factors on radiographic quality and patient dose.

RS-2123 Pathophysiology With Film Review (2 Credits)
This course provides students with information on the structure, function and development of disease in the body. Emphasis is placed on physiology the progression of disease and the chemical changes that take place within the diseased state. How the effects the disease process has on imaging techniques.

RS-2124 INTRO TO QUALITY ASSURANCE (1 Credit)
The importance of quality control in the radiology department will be discussed. Students will learn to analyze methods of enhancing imaging quality within a range of variables. Testing scores that cause poor image quality will be reviewed and corrective actions will be discussed. All necessary QA/QC equipment as well as state and federal guidelines will be discussed.

RS-2127 Clinical Education IV
A well designed and developed competency based education at supervised clinical education sites. This provides the students with an active roll in developing the skills required to deliver high quality imaging services. Objective competency evaluations are used for consistent methods of measuring student outcomes for each ARRT mandated part. Students will begin their clinical experience observing the technologist, and as they progress, and students have been tested didactically, they will work with direct supervision until competency has been achieved. After competency has been achieved the student may work under indirect supervision.

RS-2128 Clinical Education V
A well designed and developed competency based education at supervised clinical education sites. This provides the students with an active roll in developing the skills required to deliver high quality imaging services. Objective competency evaluations are used for consistent methods of measuring student outcomes for each ARRT mandated part. Students will begin their clinical experience observing the technologist, and as they progress, and students have been tested didactically, they will work with direct supervision until competency has been achieved. After competency has been achieved the student may work under indirect supervision.

RS-2130 Clinical Education VI
A well designed and developed competency based education at supervised clinical education sites. This provides the students with an active roll in developing the skills required to deliver high quality imaging services. Objective competency evaluations are used for consistent methods of measuring student outcomes for each ARRT mandated part. Students will begin their clinical experience observing the technologist, and as they progress, and students have been tested didactically, they will work with direct supervision until competency has been achieved. After competency has been achieved the student may work under indirect supervision.

RS-2132 Registry Review (3 Credits)
Learning Objectives: Upon completion of this course, the student radiographer will be able to: 1. Pass the New York State Licensing Examination 2. Pass the ARRT Certification examination in Radiography 3. Have an understanding of what the NYS, ARRT examination language.

RS-2133 Computers in Rad Tech/Digital Imaging (1 Credit)
The use of computers in the health care setting and the specific use in the radiology and imaging department, including Computered Radiography, Digital Radiography, and film screen radiography.