

Curriculum

Conemaugh School of Radiologic Technology follows the American Society of Radiologic Technology (ASRT) Radiography Curriculum. The full-time radiography program is 21 months in length. An academic pre-requisite to the first-year enrollment into Conemaugh School of Radiologic Technology is completion of Basic Anatomy (3 college credits) with a minimum passing grade of "C".

The ARRT has formally approved the Associate Degree as the minimum educational requirement for its certification examination in radiography. The new ARRT regulation states that candidates applying for certification beginning January 1, 2015 must have earned an associate degree.

In July 2010, Conemaugh entered into an agreement with Pennsylvania Highlands Community College. The Radiologic Technology Class that started in August 2010 was the 1st class to graduate with a certificate from Conemaugh and an Associate of Applied Science Degree in Health Professions – Radiologic Technology from Pennsylvania Highlands Community College.

Prerequisite to First-Year Enrollment

HSC 130 Basic Anatomy (3 college credits) with a minimum grade of "C" prior to enrollment. Courses are taught by Pennsylvania Highlands Community College. Refer questions about admission and college prerequisite requirements to the Program Director. An official college transcript must be submitted prior to enrollment.

Conemaugh School of Radiologic Technology Pennsylvania Highlands Community College

15 hours college theory = 1 college credit

30 hours college lab = 1 college credit

15 hours radiologic technology theory = 1 credit

45 hours radiologic technology clinic = 1 credit

Description of Courses

Taught by Conemaugh Memorial Medical Center School of Radiologic Technology

RAD 100 - Intro to Radiologic Technology/Medical Terminology/Positioning I • 3 credits

Introduction to the field of radiologic technology and becomes aware of its importance as a part of the health care team. The student's medical vocabulary will increase so that they may implement what they have learned in the professional setting. This course will teach the student the positioning skills necessary to demonstrate the chest, abdomen, upper and lower extremities radiographically. Pertinent anatomy will be reviewed and positioning theories discussed. These theories are applied in a laboratory setting and then in a clinical setting.

RAD 101 - Medical Ethics/Patient Care • 3 credits

This course is designed to provide the student with a basic understanding of the physical and psychosocial aspects of patient care. Ethical and legal issues facing future technologists are addressed. Emergency procedures, assessment of vital signs and the proper care of drainage tubes are included. Medical and surgical aseptic techniques, as well as isolation precautions are presented. This course will prepare students to work effectively as radiography health care role models by demonstrating professional attitudes and behavior.

RAD 103 - Radiographic Positioning & Procedures II • 3 credits

This course is a continuation of Rad 100 Intro to Rad Tech. The major emphasis of Radiographic Positioning and Procedures II is vertebral column and completion of lower extremity from IRT course. Pertinent anatomy is reviewed and positioning theories discussed. These theories are applied in a laboratory and clinical setting.

RAD 104 - Radiation Protection/Radiobiology • 3 credits

This course teaches the safe practice and procedures in the use of ionizing Radiation. The concepts and principles of radiation protection and radiobiology will be included. This course also reviews cellular anatomy and informs the students of two theories of interaction between ionizing radiation and molecular bodies. It discusses the effects of ionizing radiation on the human body. It covers in depth the short and long term effects of exposure and provides an opportunity for the student to distinguish between threshold and non-threshold graphs.

RAD 106 - Radiographic Technique I • 3 credits

The purpose of this course is to give the student a clear understanding of how to formulate techniques of radiographic exposure. It does so, in a step-by-step, logical sequence. First the student must learn about the x-ray imaging system, the x-ray tube, radiographic film, processing techniques and intensifying screens.

RAD 107 - Radiographic Positioning & Procedures III (VP) • 3 credits

This course is a continuation of Radiographic Positioning II. The major emphasis of Radiographic Positioning III is skull positioning, gastrointestinal imaging, and urinary and reproductive systems imaging. This course is also designed to familiarize the students with the following contrast studies: Bronchograms, Myelography, Arthrography, Sialography, Venograms and Lymphangiograms. Pertinent anatomy is reviewed and positioning theories discussed. These theories are applied in a laboratory setting and then in a clinical setting. Also included in this course is a section for Phlebotomy/Venipuncture which provides the radiologic technology student with the basic theoretical knowledge of Venipuncture IV techniques. Various Contrast agents, their administration and intravenous medication specific to Radiology will be discussed.

RAD 201 - Physics II • 3 credits

This course discussed in detail the production of x-rays and the operation of the thermionic diode tube. The student is instructed on the multiple interactions between x-rays and matter. X-ray emission curves are discussed and mathematical computations are demonstrated concerning photon frequency and minimum wavelength.

RAD 202 - Human Pathology • 3 credits

This course introduces basic terminology related to disease. It covers the most commonly occurring diseases of each system. It instructs the student on origin, symptoms, diagnosis and prognosis of each disorder. Radiographic demonstration occurs when possible. Common medications used to treat the disorders are discussed.

RAD 204 - Radiographic Techniques II/EIS • 2 credits

This course follows the introductory RT course and describes beam-restricting devices, grids and radiographic exposure factors. It also covers principles of conventional fluoroscopy, image intensification, video camera tubes, TV chains and imaging devices. It includes discussions on cinefluorography, tomography and mobile radiography. It introduces the student to digital imaging, computer tomography, computer radiography, nuclear medicine, positron emission tomography (PET), single photon emission computer tomography (SPECT), ultrasonography, cardiac cauterization, DEXA and magnetic resonance imaging.

RAD 205 - Quality Assurance/Quality Control • 2 credits

This course is designed to introduce the student to the various Quality Assurance and Quality Control methods utilized in radiology departments today. It is also designed to give the students a full understanding of the Quality system as a whole and how it is useful in today's working radiology departments.

RAD 207 - Registry Professional Review • 2 credits

This course is designed to provide focus and direction for the student's review, thus helping them to do the very best on their certification exam. The review course is divided into 5 sections: (1) Patient Care, (2) Radiographic Exposure, (3) Radiation Protection, (4) Equipment Operation and Maintenance and (5) Image Production and Evaluation. This comprehensive review course consists of practice tests that are designed to duplicate the experience of taking the certification exam. The test is then reviewed which helps to determine the student's area of strengths and weaknesses. This will enable the student to be prepared for the certification exam. Students will be able to design a study schedule to help them prepare for the exam. Test-taking strategies will also be reviewed.

The Clinical performance grade is based on the student meeting established standards of achievement, Clinical Evaluations, Clinical Competencies, Positioning Grade, Comprehensive Exams, attendance and program requirements for each semester.

RAD 102	Clinical Education I	3 credits
RAD 105	Clinical Education II	4 credits
RAD 108	Clinical Education III	3 credits
RAD 203	Clinical Education IV	7 credits
RAD 206	Clinical Education V	7 credits

Courses taught by Pennsylvania Highlands Community College**HSC 130 Basic Anatomy (pre-requisite) • 3 credits**

This course introduces the student to the basic human anatomy and physiology. All systems are discussed in a primary learning level. Included is clinical application of related disease processes, diagnostic procedures and therapeutic measures. This is a foundation course for concurrent and upper level courses.

ACP 100 – Academic and Career Planning • 1 credit

This course is designed to give first semester students a solid foundation of planning and professionalism to successfully complete their education and career goals, and to help them become engaged members of the College and professional community. Students will be involved in career exploration, setting real-world goals with academic planning and resume building, learning the tools available for their academic success, and the professionalism needed to carry them forward into the academic world and the job market.

HSC 100 – Medical Terminology • 3 credits

As a study of professional language of medicine, this course includes description, interpretation building and spelling of medical terms related to human anatomy and physiology, health care related diagnostic testing, medical procedures and various modes of treatment. The course correlates a basic knowledge of anatomy and physiology. Medical abbreviations are introduced and incorporated throughout the course. This course is a foundation course that allows the student to be able to communicate with medical language in other health science courses and prepares the graduate to communicate effectively in the health care arena.

CIT 100 - Microcomputer Applications • 3 credits

This hands on courses introduces the student to the more popular microcomputer software packages available including Windows, word processing, spreadsheets and presentations. This course provides students with a working knowledge of these software packages to accomplish the more common tasks. The Microsoft Office suite, Word, Excel and PowerPoint is used.

ENG 110 - English Composition I • 3 credits

This course emphasizes the techniques of writing expository essays with stress upon careful thinking, word choice, sentence structure, thesis statement, and methods of organization. Students practice the writing of clear, coherent, and unified paragraphs and essays. Editing skills and the use of correct grammar and mechanics are also emphasized. Students are taught research and documentation skills and are required to write an argumentative research paper. This is the standard college English composition course.

ENG 220 - Business Letter and Report Writing • 3 credits

The strategies and techniques of writing letters, memos and reports are emphasized for situations that arise in business. Business communication skills are developed and refined through assignments that include the writing of positive letters, negative letters and other business messages. For greater development of these skills, a business report and an oral report are assigned to apply principles for writing analytical or informational reports.

PSY 130 - Human Development Across the Life Span • 3 credits

This course examines the factors that influence the total development of the individual and the psychological and sociological through that affects how we interpret developmental ages and stages from birth to death. The individual is explored with respect to his or her ability to participate and shape life choices. The student has a unique opportunity to concentrate on an area of interest such as developmental disabilities, juvenile justice, and sociology of growing old.

MAT 131 - Intermediate Algebra • 3 credits

This course is designed to prepare students for higher-level mathematics through a mastery of algebraic concepts. Topics include factoring polynomials, variable expressions, equalities and inequalities, literal equation, absolute value, graphing systems of equations, matricides and functions.

PHY 102 - Physics • 3 credits

This course introduces students to phenomena concepts and principles of physics. Concepts are taught in context of how they relate to energy systems: mechanical, fluid, electrical and thermal. The course is for students why may not have prior physics instructions.

PHY 103 - Physics Laboratory • 1 credit

Illustrates the topics introduced in lecture through hands-on laboratory experiments on force, work, acceleration, energy, waves, reflection, and refraction.

LIF 111 - Health and Wellness • 3 credits

Healthy lifestyle behaviors contribute to wellness throughout the life cycle. This health science course explores variables related to achieving a longer and healthier life. This course discusses how informed personal choices in regards to behavior, exercise, and food intake can promote health and wellness; as well as choices in regard to various health disorders, such as chronic disease, sexually transmitted disease, eating disorders, alcohol and drug abuse, allergies and food intolerances. The goal is to use this new knowledge to make informed choices in daily life.

COM 120 - Organizational Communications • 3 credits

Communication within an organization is a requirement for success and growth in today's competitive business environment. Classic and contemporary theoretical approaches to organizational communication are examined, as well as communication issues in the work place related to cultural, social and leadership issues. Students study formal flow of information as well as the grapevine channels of communication. Students review information technologies, such as the Internet, The World Wide Web, and teleconferencing.

PSY 100 - General Psychology • 3 credits

A general introduction to the scientific study of the brain, behavior, and mental processes of humans and animals, with emphasis on the goals of psychology, to describe, explain, predict and control behavior. Students examine the substance of psychology such as biopsychology, sensation and perception, learning, memory, cognitive processes, affective behaviors and mental illness through an examination of the theories, principles, and methods of research used in the field. Examples and applications enable the student to acquire the elements of critical thinking as adapted to the research environment. Students produce an APA formatted research paper. This course applied the fundamentals principles of psychology as a natural science. Students explore current research through reading original empirical research and write an APA formatted analytic research paper. Classroom, web-supported, and web-based delivery.