

RADIOLOGICAL SCIENCES, A.S.

Begin Campus: New Kensington, Schuylkill

End Campus: New Kensington, Schuylkill

Program Description

For students interested in pursuing an education in the paramedical field of radiography (radiologic technology), the radiological sciences major meets the educational and clinical requirements for the graduate to function as an entry-level radiographer. Required course work is divided into three interrelated areas including general education, radiography specific, and clinical education components. During the clinical education component, students perform radiographic exams under the directed supervision of certified radiographers at multiple area clinical education settings. The clinical component emphasizes the concepts of team practice and patient-centered care. Both the radiography-specific course work and the clinical component are structured sequentially over six consecutive semesters, commencing each fall semester. Upon successful completion of the associate degree, the graduate will be eligible to attempt the American Registry of Radiologic Technologists (ARRT) examination for certification.

What is Radiological Sciences?

Radiography is a science combining medical imaging technology with empathetic patient care. Radiologic technologists, often referred to as radiographers, apply their knowledge of physics, human anatomy and physiology to create permanent radiographic images that assist in the examination, diagnosis and treatment of medical conditions in the body. These imaging professionals provide a wide range of services using technology founded on theoretical knowledge and scientific concepts. As a part of the healthcare team, the radiographers provide patient care using safe radiation practices; operate sophisticated technical equipment; exercise independent judgment; and make informed decisions daily. All program graduates are prepared, both academically and clinically, to join a healthcare team.

You Might Like This Program If...

- You have a desire to help people and a passion for patient care.
- You want to pursue a career that includes math and sciences.
- You want to be a part of diagnosis and treatment of patients.
- You want to pursue a rewarding career in healthcare.
- You thrive in a field where technology is ever evolving.
- You have a passion for lifelong learning.

Entrance to Major

Incoming first-year students who meet the program and campus admission requirements are admitted directly into the major. For more information about the admission process for this major, please send a request to the campus undergraduate admissions office or to the program contact (listed in the Contact tab).

Change of Major and Change of Location requests are submitted via LionPATH Update Academics and require Dean's review. Requests will be considered for entrance into the Radiological Sciences program based on academic performance and space available.

Additional Information

Radiologic Science students are required to submit criminal background records, must have a complete physical, including documentation of required immunizations, Hepatitis B vaccine, current Tuberculosis (TB) screening test, routine drug testing, COVID -19 (FULLY VACCINATED) and other medical tests as required by clinical facilities. Students are required to purchase liability insurance.

Retention Requirements

This policy delineates the academic standards students admitted to the undergraduate Radiological Sciences Program. The following requirements are necessary for progression in the RADSC program.

Overall Criteria:

1. Required RADSC courses may only be repeated once.
2. Successful completion of required RADSC courses is defined as a "C" or better according to the Radiological Sciences grading scale.
3. All RADSC courses are sequential in nature and must be completed with a "C" or better to progress with the program. Students who do not maintain a "C" or better will be on an automatic academic stop-out according to RADSC policy and procedure. Students requesting a stop-out procedure must follow the RADSC policy and procedure.
4. A student who earns a "D" or "F" in the required RADSC course for a second time will be dismissed from the RADSC major and counseling relative to other majors/options will be provided.
5. Late course drop, with the designation of withdraw failing (WF), from a required RADSC course is considered a failure.
6. Students who wish to return to the RADSC program after a stop-out will re-enter under the current curricular requirements. Clinical assignments will depend on availability of clinical space.

Degree Requirements

For the Associate in Science degree in Radiological Sciences, a minimum of 67 credits is required:

Requirement	Credits
General Education	21
Requirements for the Major	61

15 of the 21 credits for General Education are included in the Requirements for the Major. This includes: 3 credits of GH courses; 6 credits of GN courses; 3 credits of GS; 3 credits of GWS courses.

Requirements for the Major

A grade of C or better is required for all courses in the major. To graduate, a student enrolled in the major must earn at least a C grade in each course designated by the major as a C-required course, as specified by Senate Policy 82-44 (<https://senate.psu.edu/policies-and-rules-for-undergraduate-students/82-00-and-83-00-degree-requirements/#82-44>).

Code	Title	Credits
Prescribed Courses		
<i>Prescribed Courses: Require a grade of C or better</i>		
BIOL 161	Human Anatomy and Physiology I - Lecture	3
BIOL 162	Human Anatomy and Physiology I - Laboratory	1
BIOL 163	Human Anatomy and Physiology II - Lecture	3
BIOL 164	Human Anatomy and Physiology II - Laboratory	1

ENGL 15	Rhetoric and Composition	3
IST 110	Information, People and Technology	3
PHIL 103	Ethics	3
RADSC 101	Radiographic Introduction and Procedures/Lab I	4
RADSC 102	Radiographic Procedures/Lab II	4
RADSC 103	Radiographic Procedures/Lab III	3
RADSC 110	Patient Care in Radiologic Sciences	3
RADSC 204	Radiographic Exposure I	3
RADSC 205	Radiographic Exposure II	3
RADSC 206	Advanced Radiographic Procedures	3
RADSC 207	Registry Review	4
RADSC 210W	Radiographic Pathology	3
RADSC 220	Radiation Biology and Protection	3
RADSC 230	Radiographic Physics	3

Supporting Courses and Related Areas

Supporting Courses and Related Areas: Require a grade of C or better

Take 8 credits from: 8

RADSC 295A	Radiologic Science Clinical Internship I
RADSC 295B	Radiological Sciences Clinical Internship II
RADSC 295C	Radiological Sciences Clinical Internship III
RADSC 295D	Radiologic Science Clinical Internship IV
RADSC 295E	Radiologic Science Clinical Internship V
RADSC 295F	Radiologic Science Clinical Internship VI

General Education

Connecting career and curiosity, the General Education curriculum provides the opportunity for students to acquire transferable skills necessary to be successful in the future and to thrive while living in interconnected contexts. General Education aids students in developing intellectual curiosity, a strengthened ability to think, and a deeper sense of aesthetic appreciation. These are requirements for all associate degree students and are often partially incorporated into the requirements of a program. For additional information, see the General Education Requirements (<https://bulletins.psu.edu/undergraduate/general-education/associate-degree-general-education-program/>) section of the Bulletin and consult your academic adviser.

The keystone symbol appears next to the title of any course that is designated as a General Education course. Program requirements may also satisfy General Education requirements and vary for each program.

Foundations (grade of C or better is required and Inter-Domain courses do not meet this requirement.)

- **Quantification (GQ):** 3 credits
- **Writing and Speaking (GWS):** 3 credits

Knowledge Domains

- **Arts (GA):** 3 credits
- **Humanities (GH):** 3 credits
- **Social and Behavioral Sciences (GS):** 3 credits
- **Natural Sciences (GN):** 3 credits

Note: Up to six credits of Inter-Domain courses may be used for any Knowledge Domain requirement, but when a course may be used to satisfy more than one requirement, the credits from the course can be counted only once.

Exploration

- **Any General Education course (including GHW and Inter-Domain):** 3 credits

University Degree Requirements

Cultures Requirement

3 credits of United States (US) or International (IL) cultures coursework are required and may satisfy other requirements

Writing Across the Curriculum

3 credits required from the college of graduation and likely prescribed as part of major requirements.

Total Minimum Credits

A minimum of 60 degree credits must be earned for an associates degree. The requirements for some programs may exceed 60 credits. Students should consult with their college or department adviser for information on specific credit requirements.

Quality of Work

Candidates must complete the degree requirements for their major and earn at least a 2.00 grade-point average for all courses completed within their degree program.

Limitations on Source and Time for Credit Acquisition

Credit used toward degree programs may need to be earned from a particular source or within time constraints (see Senate Policy 83-80 (<https://senate.psu.edu/policies-and-rules-for-undergraduate-students/82-00-and-83-00-degree-requirements/#83-80>)). For more information, check the Suggested Academic Plan for your intended program.

Program Learning Objectives

New Kensington Campus

Practice as Entry Level Technologists

1. The student will provide proper radiation protection.
2. The student will demonstrate proper positioning skills.
3. The student will evaluate diagnostic images.

Effectively Communicate in the Healthcare Environment

1. The student will demonstrate effective written communication skills.
2. The student will provide effective oral communication skills.
3. The student will treat patients with compassion.

Think Critically and Apply Problem Solving Skills in the Healthcare Environment

1. The student will manipulate technical factors to produce diagnostic images.
2. The student will modify procedures to meet patient needs.

Understand and Promote the Importance of Professional Growth and Development

1. The student will demonstrate professional behavior and participate in professional organizations.
2. The student will develop a career portfolio and plan for compliance within the profession.

Schuylkill Campus

Students will communicate effectively in the clinical setting

1. Students will use effective oral communication skills
2. Students will practice written communication skills

Students will demonstrate clinical competence consistent with an entry level radiographer

1. Students will apply radiographic positioning skills
2. Students will select appropriate technical factors
3. Students will demonstrate radiation protection

Students will gain an awareness of the importance of professional growth and development

1. Students will demonstrate knowledge of professional societies.
2. Students will research and present advancements in medical imaging.

Students will demonstrate critical thinking and problem-solving skills

1. Students will adequately provide age appropriate patient care
2. Students will exercise independent judgment and discretion in the technical performance of medical imaging procedures
3. Students will successfully complete trauma and multi-case competencies

Academic Advising

The objectives of the university's academic advising program are to help advisees identify and achieve their academic goals, to promote their intellectual discovery, and to encourage students to take advantage of both in-and out-of class educational opportunities in order that they become self-directed learners and decision makers.

Both advisers and advisees share responsibility for making the advising relationship succeed. By encouraging their advisees to become engaged in their education, to meet their educational goals, and to develop the habit of learning, advisers assume a significant educational role. The advisee's unit of enrollment will provide each advisee with a primary academic adviser, the information needed to plan the chosen program of study, and referrals to other specialized resources.

READ SENATE POLICY 32-00: ADVISING POLICY (<https://senate.psu.edu/policies-and-rules-for-undergraduate-students/32-00-advising-policy/>)

New Kensington

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Schuylkill

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Suggested Academic Plan

The suggested academic plan(s) listed on this page are the plan(s) that are in effect during the 2024-25 academic year. To access previous years' suggested academic plans, please visit the archive (<https://bulletins.psu.edu/undergraduate/archive/>) to view the appropriate Undergraduate Bulletin edition.

Radiological Sciences, A.S. at New Kensington Campus

The course series listed below provides **only one** of the many possible ways to move through this curriculum. The University may make changes in policies, procedures, educational offerings, and requirements at any time. This plan should be used in conjunction with your degree audit (accessible in LionPATH as either an **Academic Requirements** or **What If** report). Please consult with a Penn State academic adviser on a regular basis to develop and refine an academic plan that is appropriate for you.

First Year

Fall	Credits Spring	Credits Summer	Credits
RADSC 101*	4 BIOL 163*†	3 RADSC 103*	3
RADSC 110*	3 BIOL 164*	1 RADSC 295C*	1.5
RADSC 295A*	1.5 RADSC 102*	4 RADSC 210W*	3
BIOL 161*†	3 RADSC 204*	3	
BIOL 162*	1 RADSC 295B*	1	
ENGL 15††	3 MATH (GQ)††	3	
	15.5	15	7.5

Second Year

Fall	Credits Spring	Credits Summer	Credits
RADSC 220*	3 RADSC 205*	3 RADSC 207*	2
RADSC 230*	3 RADSC 206*	3 RADSC 295F*	1.5
RADSC 295D*	1 RADSC 207*	2	
IST 110†	3 RADSC 295E*	1.5	
PHIL 103*†	3 AAP 100 preferred (GA) (IL,US)†	3	
	13	12.5	3.5

Total Credits 67

* Course requires a grade of C or better for the major

‡ Course requires a grade of C or better for General Education

Course is an Entrance to Major requirement

† Course satisfies General Education and degree requirement

University Requirements and General Education Notes:

US and IL are abbreviations used to designate courses that satisfy Cultural Diversity Requirements (United States and International Cultures).

W, M, X, and Y are the suffixes at the end of a course number used to designate courses that satisfy University Writing Across the Curriculum requirement.

General Education includes Foundations (GWS and GQ) and Knowledge Domains (GHW, GN, GA, GH, GS) requirements. Foundations courses (GWS and GQ) require a grade of 'C' or better.

Radiological Sciences, A.S. at Schuylkill Campus

The course series listed below provides **only one** of the many possible ways to move through this curriculum. The University may make changes in policies, procedures, educational offerings, and requirements at any time. This plan should be used in conjunction with your degree audit (accessible in LionPATH as either an **Academic Requirements** or **What If** report). Please consult with a Penn State academic adviser on a regular basis to develop and refine an academic plan that is appropriate for you.

First Year

Fall	Credits Spring	Credits Summer	Credits
RADSC 101*	4 BIOL 163**†	3 RADSC 103*	3
RADSC 110*	3 BIOL 164*	1 RADSC 295C*	1.5
RADSC 295A*	1.5 RADSC 102*	4 RADSC 204*	3
BIOL 161**†	3 RADSC 230*	3	
BIOL 162*	1 RADSC 295B*	1	
	MATH (GQ)**††	3	
	12.5	15	7.5

Second Year

Fall	Credits Spring	Credits Summer	Credits
RADSC 220*	3 RADSC 205*	3 RADSC 207*	4
RADSC 295D*	1 RADSC 210W*	3 RADSC 295F*	1.5
ENGL 15†‡	3 RADSC 295E*	1.5	
IST 110†	3 Arts (GA)†	3	
PHIL 103†	3 RADSC 206*	3	
	13	13.5	5.5

Total Credits 67

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General Education includes Foundations (GWS and GQ) and Knowledge Domains (GHW, GN, GA, GH, GS) requirements. Foundations courses (GWS and GQ) require a grade of 'C' or better.

Career Paths

Students graduating from this program may apply their credits earned toward a Bachelor of Science degree in Applied Health Studies at the Pennsylvania College of Technology, which will help further their careers in management or education.

Penn State also offers degree opportunities for students wishing to complete a baccalaureate degree including Health Policy and Administration.

Upon program completion, graduates meeting all eligibility and ethics requirements will be eligible to take the American Registry of Radiologic

Technologists certification examination in radiography. Registered radiologic technologists may pursue various career options or complete advanced training to perform radiography, and advanced modalities including MRI, CT, Mammography, Interventional Radiography, and Cardiac Catheterization.

Careers

Radiologic technologists are needed in a variety of professional settings, including hospitals, healthcare facilities, physician offices, and research centers. Radiologic technologists may also pursue career opportunities in equipment sales and education. Careers in radiography offer flexible work schedules that accommodate various lifestyles and employment needs. Opportunities exist to pursue advanced degrees. Program coordinators often assist students in their quest to identify potential schools and programs to continue their studies and further their professional development.

Opportunities for Graduate Studies

Students graduating from this program may apply their credits earned toward a bachelor's of science degree in Applied Health Studies at the Pennsylvania College of Technology, which will help further their careers in management or education.

Professional Resources

- Pennsylvania Society of Radiologic Technologists (PSRT) (<https://psrtonline.org>)
- American Society of Radiologic Technologists (ASRT) (<https://www.asrt.org/>)
- American Registry of Radiologic Technologists (ARRT) (<https://www.arrt.org>)
- The Joint Review Committee on Education in Radiologic Technology (JRCERT) (<https://www.jrcert.org>)

Accreditation

Penn State recognizes the need for continuous program assessment. The Radiologic Sciences program at both New Kensington and Schuylkill are fully accredited by the Joint Review Committee on Education in Radiologic Technology (JRCERT). The JRCERT provides programmatic accreditation and ensures the Radiological Sciences Program follows established standards. The JRCERT is the only agency recognized by the United States Department of Education (USDE) and the Council for Higher Education Accreditation (CHEA), for the accreditation of traditional and distance delivery educational programs in radiography, radiation therapy, magnetic resonance, and medical dosimetry.

The JRCERT can be contacted at:

The Joint Review Committee on Education in Radiologic Technology
20 N. Wacker Drive, Suite 2850 Chicago, IL 60606-3182, Phone:
312-704-5300, www.jrcert.org (<https://www.jrcert.org/>).

MORE INFORMATION ABOUT THE JOINT REVIEW COMMITTEE ON EDUCATION IN RADIOLOGIC TECHNOLOGY (<https://www.jrcert.org/>)

Professional Licensure/Certification

Many U.S. states and territories require professional licensure/certification to be employed. If you plan to pursue employment in a licensed profession after completing this program, please visit the Professional Licensure/Certification Disclosures by State (<https://www.psu.edu/state-licensure-disclosures/>) interactive map.

Contact

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