

Advanced Placement Track Radiography Program Prospective Student Handout

A CAREER AS A RADIOLOGIC TECHNOLOGIST

Radiologic technologists, better known as radiographers, are the medical personnel who perform diagnostic imaging examinations, including X-rays. Radiographers who perform imaging examinations are responsible for accurately positioning patients and ensuring that a quality diagnostic image is produced. They work closely with radiologists, the physicians who interpret medical images to either diagnose or rule out disease/injury. For the images to be interpreted correctly by the radiologist, the imaging examinations must be performed properly and competently by the imaging experts, the radiographer(s).

They may specialize in specific imaging techniques such as bone densitometry, cardiovascular-interventional radiography, computed tomography (CT), mammography, magnetic resonance imaging (MRI), nuclear medicine, ultrasound, or general diagnostic radiography. In addition to employment in hospitals, jobs may be found in physicians' offices and diagnostic imaging centers.



JOB OUTLOOK FOR RADIOLOGIC TECHNOLOGISTS

U.S. Bureau of Labor Statistics states that job opportunities for radiographers are expected to be favorable, and employment of radiologic technologists is expected to increase by about 9 percent through 2024, faster than average for all occupations.*

Note: Job opportunities will vary from state to state, and city to city. It is advisable for applicants to research the job opportunities in the area they expect to seek employment.

*Bureau of Labor Statistics, U.S. Department of Labor, Occupational Outlook Handbook, 2012-13 Edition, Radiologic Technologists
<http://www.bls.gov/ooh/healthcare/radiologic-technologists.htm>



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Admissions
1-800-477-7462

Radiography Program Mission Statement

It is the mission of our program to graduate students with the entry-level employment skills required of a Radiologic Technologist. Students will graduate to be successful radiographers who can safely and competently perform radiographic exams as specified by ARRT guidelines.

Radiography Program Goals & Student Learning Outcomes

Goal 1: Students will demonstrate clinical competence.

SLO 1: Student will demonstrate positioning competence

SLO 2: Students will demonstrate comprehension of technical and radiographic procedures skills.

SLO 3: Students will demonstrate radiation safety.

Goal 2: Students will demonstrate critical thinking skills.

SLO 4: Students will use problem solving and critical thinking skills to determine safe and effective transfer methods for patients in given scenarios.

SLO 5: Students will demonstrate ability to modify positioning and technical factors for uniquely challenging examinations in the clinical setting.

SLO 6: Students will demonstrate the ability to evaluate and critique images for technical and positioning factors.

Goal 3: Students will demonstrate effective communication skills.

SLO 7: Students will demonstrate oral and written communication skills in the classroom.

SLO 8: Students will demonstrate effective communication skills with peers.

SLO 9: Students will demonstrate effective communication skills with patients.

Goal 4: Students will grow and develop professionally.

SLO 10: Students will demonstrate effective professional development by obtaining membership in state or national society OR Advanced training OR pursuing additional post-secondary education.

SLO 11: Students will demonstrate knowledge and understanding of ethical decision making processes in given scenarios in the classroom

SLO 12: Students will demonstrate professional and ethical decision making in the clinical setting.

Course Outline and Calendar

The program is four semesters in length and takes approximately 15 months to complete.

Advanced Placement Track Radiography Program

This radiography program is accredited by the Joint Review Committee on Education in Radiologic Technology (JRCERT).

JRCERT
20 N. Wacker Drive, Suite 2850
Chicago, IL 60606-3182.
Phone: (312) 704-5300.

JRCERT The Joint Review Committee on Education in Radiologic Technology

Pursuant to the JRCERT Standard One, Objective 1.7, students shall be made aware of the JRCERT Standards for an Accredited Educational Program in Radiography and the avenue to pursue allegations of non-compliance with the standards. Students are able to contact the JRCERT via the address below or the website above at any time, with questions, concerns, or allegations of non-compliance for the Pima Medical Institute Radiography Program.

Graduates are eligible to sit for the national certification examination administered by the [American Registry of Radiologic Technologists](#) (ARRT).

ARRT
1255 Northland Drive
St. Paul, MN 55120
Phone: (651) 687-0048.

Note that felony convictions, charges involving drugs or alcohol, charges regarding crimes against a minor, military court-martials, disciplinary actions taken by a state or federal regulatory authority or certification board, and honor code violations (a suspension, dismissal, or expulsion from an educational program attended in order to meet ARRT certification requirements) may affect a graduate's ability to sit for the ARRT certification examination or attain state licensure. Applicants to the program who have any of the above violations are encouraged to complete the ARRT Pre-ethics review (cost \$100) and provide documentation to the APTR Program Director stating that all violations have been resolved to the satisfaction of the ARRT. Additionally, individuals who have outstanding warrants must provide documentation to the program director stating that the warrants have been quashed prior to beginning the radiography program. Regardless of any documentation provided, acceptance into the radiography program is dependent on successfully meeting the admissions and acceptance requirements.

After successful completion of this exam, the individual will be a Registered Radiologic Technologist R.T. (R). In addition, most states also require state licensure in order to practice. For more licensure information on a particular state refer to information from the [American Society of Radiologic Technologists](#) (ASRT).

Admissions Policy

Policy

Applicants must go through an admissions process that will determine eligibility for enrollment and selection for an interview with the APTR Program Director and APTR Clinical Director.

Purpose

To ensure the equitable selection of prospective students

Procedure

The application procedure for the Advanced Radiography Program is as follows:

Step 1: The inquiring applicant is directed to one of our Online Admissions Advisors and the program details are discussed. A phone interview is conducted to determine basic eligibility into the program. Applicants must be experienced in five of the eight categories listed below. Experience must be verified by an ARRT registered technologist, supervising physician, or other suitable representative.

- Head
- Chest
- Upper Extremities
- Mobile (bedside or OR)
- Spine
- Fluoroscopy
- Lower Extremities
- Bony Thorax

Step 2: Once initial eligibility is determined, screened applicants are then set up for the Wonderlic Scholastic Entrance Level Exam (SLE) and Math Admissions Test. The applicant is sent test directions via email and confirmation of receipt is required before the applicant can begin the assessment.

Step 3: Applicants are scheduled for a 30 minute interview with the Program Director and a 30 minute interview with the Clinical Director based on the following criteria:

1. Passing scores on both the math and Wonderlic placement entrance exams.
2. High School or GED verification.
3. Receipt of unofficial college transcripts.
 - a. College transcripts are evaluated by the APTR Program Director for transfer credit. Only those courses completed with a letter grade of "C" or better will be considered for transfer.
 - b. Official transcripts must be received within one week of starting the program or students risk forfeiting their place in the cohort.
4. Verification of clinical experience.
 - a. Applicants with no work experience in diagnostic imaging must begin the program within one year of their graduation from a previous radiography program.
 - b. Applicants with prior work experience in diagnostic imaging will be evaluated on a case by case basis.

Entrance Exam Policy

Policy

Applicants must take an entrance exam(s) and pass with a minimum score.

Purpose

Measure the cognitive and general math ability of prospective students.

Procedure

Wonderlic Test

- Applicants for degree programs are required to take the Wonderlic SLE and receive the minimum scores indicated on separate Wonderlic Cut Score Matrix. Exceptions to standard cut scores require signed authorization from the Corporate Director of Education. The minimum score for Radiography is 20.
- The use of a calculator is not allowed.
- Time limit of 12 minutes; time limit can only be waived if a learning disability can be documented.
- The test can be taken up to 4 times using a different version for each attempt.
- SLE versions must be given in the following order: T-51, T-71, Form IV, and Form V.
- All attempts are scored using the same scoring guidelines. The highest score achieved is used to determine if the standard cut score is met.

Math Admission Test

- Applicants for degree programs are required to take a Math Admission Test and receive a minimum of 80% (24 out of 30 correct).
- The use of a calculator is allowed.
- No time limit.
- The test can be taken up to 3 times using a different version for each attempt; it is suggested applicants wait 24 hours between testing sessions.
- Please inform applicants that a math refresher course or Math Self-Help Guide is available.

Note: Entrance exam scores expire after one year. For more information, see the [Pima Medical Institute Academic Catalog](#).

Acceptance Policy

Policy

Qualified students will interview with the APTR Program Director and APTR Clinical Director to determine final acceptance into the program.

Purpose

To ensure the equitable selection of qualified applicants.

Procedure

After interviews are conducted, students will be either accepted or not accepted.

A. Acceptance criteria:

1. Completed admissions documentation
2. Successful completion of preadmissions testing
3. Submission of college transcripts (Official transcripts must be submitted within one week of starting the program.)
4. Appropriate prior clinical experience
5. Successful Interview with program faculty
6. Timely completion of online orientation
7. Completed background check (must be submitted before beginning classes)

Note: The number of applicants accepted is based on the number of seats available in the program. If the program is filled, applicants have the opportunity to be placed on an alternate list.

B. Not Accepted:

1. Applicants not meeting acceptance criteria into the program will be notified by their Admissions or Program Director

Radiation Safety Policy

Policy

OSHA and other pertinent safety guidelines are followed regarding radiation safety in the classroom and on externship. Personnel Whole Body Radiation Dosimeters for radiation monitoring are furnished for Radiography students. The dosimeter is to be worn at all times, and is monitored on a regular basis. The Radiation Safety Office (RSO) and the Radiography Program Director review compliance and monitor radiation exposure.

Purpose

To inform students, faculty, and administrators of procedures that must be followed to ensure radiation safety through the proper use and monitoring of radiation exposure.

Procedure

Radiation Monitoring

- Personal Radiation Dosimeters for radiation monitoring are furnished for Radiography students and are to be part of their uniform.
- The dosimeter must be worn during all exposure activities.
- The dosimeter is to be worn at all times while at the clinical externship site.
- Dosimetry reports will be distributed after students have submitted the dosimeter to the vendor and the vendor has provided a dose report.
- The report is reviewed by the RSO and sent to students electronically.
- Students must review and sign the report. By signing the report, the students indicate that they have read and acknowledge their exposure dose.
- Students must upload their signed reports into the designated Blackboard course for confirmation.
- Social Security Numbers and birthdates are removed from the report prior to the distribution of the report.
- Radiation exposure records are maintained in the office of the Program Director.

ALARA Program for Student Exposure Limits

- The following levels of exposure for the ALARA program have been established and are listed below.
- If a student exceeds the exposure limit during their clinical assignment, the student will receive verbal advising of that exposure to determine the cause of the high exposure, and will be advised on how to minimize their occupational dose.
- This advisement will be documented in writing by the Radiation Safety Officer or Program Director.

Region

Whole body (quarterly)	125 mrem (1.2mSv)
Pregnancy monitor (monthly)	25 mrem (0.25mSv)

Excessive Radiation Exposure

- The Radiation Safety Officer will monitor all dosimetry reports.
- If a student's dosimeter reading exceeds the limit, the Radiation Safety Officer will investigate the causes for the excessive exposure reading.
- The investigation may include interviews with the student, the student's clinical instructor, the clinical education facility supervisor, the clinical coordinator and/or other relevant individuals.
- Previous exposure readings for the student and for the clinical facility will be evaluated.
- The objective of the investigation is to learn why the student received the excessive exposure and to determine what type of corrective action may be required.
- A report of the information obtained from the interviews, other sources, and subsequent recommendations will indicate the corrective action.

Radiation Safety Procedures for the Declared-Pregnant Student

- The following prescribed radiation safety procedures must be followed:
 1. Continue to wear your whole body dosimeter on the outside of your collar.
 2. Wear a second dosimeter (fetal dosimeter), at the waist level.
 3. If wearing a lead apron, the fetal dosimeter should be worn under the apron at the waist level.
 4. When performing fluoroscopy or portable exams, wear a wrap-around apron. In the event this type of apron is not available, wear a full apron anterior, and a half-apron to cover the posterior aspect of the body.
 5. Maintain the maximum distance possible between yourself, the x-ray tube and the patient.
 6. Turn in the fetal dosimeter monthly.
 7. Review the monthly fetal dosimeter exposure reading with the Radiation Safety Officer or Program Director.

Joint Review Committee on Education in Radiologic Technology Compliance:

The following is an addendum to the above policy: To demonstrate compliance with JRCERT Standard Four, students enrolled in the Advanced Placement Radiography Track Program may at no time hold or restrain a patient during a radiologic examination when ionizing radiation is being utilized. This policy is in place to assure the health and safety of students and guard them from unnecessary exposure to ionizing radiation when the exposure button is activated.

MRI Safety Policy

Policy

Students are made aware of safety issues and guidelines related to Magnetic Resonance Imaging (MRI) and radiofrequency hazards, and complete and sign the MRI screening form prior to participating in any clinical experiences.

Purpose

To inform students, faculty, and administrators of education, screening and preparation processes that must be followed to ensure safety and avoid adverse events, injuries or problems associated with using an MRI or radiofrequency system. When one is in the MRI environment, any metallic objects in the room or on or within a body could be affected by the magnetic field. Students, during their externship training are not expected to perform any MRI procedures, but as part of the healthcare team, may be requested to assist with the transfer or transport of patients within the MRI suite, which would require them to enter the scan room and become subject to the magnetic field.

Procedure

Education

- Students are provided with information concerning MRI and safety concerns associated with MRI and radiofrequency systems.
- The “missile effect” refers to the capability of the fringe field of the static main magnetic field to attract ferromagnetic objects into the MR system with considerable force. These objects effectively become missiles that fly into the bore (center hole) of the MRI magnet and pose significant risk to the patient and personnel and anyone in the path of the ferromagnetic object being attracted.
- Prior to entering the MR environment, all metallic objects should be removed. See the waiver for a list of common objects that are representative, but not inclusive of all possible objects of concern.
- Prior to the first externship rotation, students are counseled on the safety considerations of MRI, with discussion to include the effects of MRI on any metals and related products present in the patient, healthcare worker and medical devices and equipment that may accompany the patient.
- The following reading material is made available to students and to faculty: “Magnetic Resonance Imaging” from *Merrill’s Atlas of Radiographic Positioning and Procedures*, Elsevier.
- The FDA website provides information on safety considerations for patients and healthcare workers in the use of MRI. Students can access this website for more information or request this information from the Program Director or Clinical Director.

Screening

- Students are provided with information concerning MRI and given the opportunity to ask questions.
- Students are provided with a screening/disclosure form which must be completed before externship attendance.
- Some of the questions asked of the students include, but are not limited to details concerning:
 - any type of operation that involved the use of screws, surgical clips, or any kind of prosthetic devices or surgical implants
 - related surgical procedures and approximate dates related to any operations
 - working on tasks related to the fabrication or alteration of metal products (as machinist, grinder, welder or similar)
 - any injury to the eye related to a metal object
 - any injury from a metallic foreign body (bullet, BB, shrapnel, etc.)
 - permanent coloring technique (i.e. tattooing) applied to any part of the body, including eyeliner, lip liner, surgical markers, or decorative designs
- Information on the screening/disclosure form includes a list of some of the many metallic objects that are not permitted in the MRI environment.

- Students sign that they have read and understood the information presented in the MRI screening form.
- The Program Director and/or Clinical Director will discuss the information provided by the student on the form. Depending upon information listed on the form, students may be permitted or restricted from entering the MRI environment during clinical externship.

Procedures prior to entering an MRI Environment

- The Magnetic Resonance Imaging system magnet is always on and precautions must be respected prior to the entry of staff, patients and equipment in that environment.
- No standard oxygen tanks, wheelchairs or gurneys are ever permitted into the MRI environment.
- Prior to entering the MRI environment, all metallic objects should be removed from patients and members of the healthcare team. Those objects include, but are not limited to the following:
 - hearing aids
 - beepers
 - cell phones
 - keys
 - eyeglasses
 - hair pins & barrettes
 - jewelry, including all body piercings
 - watch
 - safety pins, paperclips
 - money clips, credit cards, bank cards and other magnetic strip cards
 - coins
 - small tools such as pocket knives or nail clippers
 - pens
 - steel-toed boots or shoes
- If the student has any questions or concerns, they should be brought to the attention of the MRI Technologist or Radiologist prior to entering the MRI environment

Pregnancy Policy

Policy

Instruction concerning prenatal radiation exposure and its risks to the embryo/fetus are provided to radiation workers before they will be allowed to work in a restricted area. Radiation protection regulations allow a pregnant woman to decide whether she wants to formally declare her pregnancy, thereby taking advantage of the special dose limits provided to protect the developing embryo/fetus. Students indicate that they have been made aware of this policy by signing an awareness form.

Purpose

To inform students of health risks associated with participation in the Radiologic Technologist program during pregnancy and the procedures that must be followed once the pregnancy is declared.

Procedure

Informed Consent

- Prior to participating in the program, Radiography students are informed of the potential health risks associated with participation in the program during pregnancy.
- Radiography students sign the Pregnancy Health Awareness Form prior to participating in the program.
- Written disclosure of pregnancy to Pima Medical Institute school officials is voluntary.
- Voluntary disclosure of pregnancy provides the student with three options:
 1. Option One: To waive liability, choose not to voluntarily withdraw from the program, and opt to not be assigned to participate in fluoroscopy
 2. Option Two: To waive liability, choose not to voluntarily withdraw from the program, and opt to participate in all procedures, including fluoroscopy.
 3. Option Three: To temporarily withdraw from the program if and when the pregnancy interferes with her education.
- Following a disclosure of pregnancy, students also have the option to submit a written withdrawal of their declaration of pregnancy.
- The following document is made available to students and faculty: The US Nuclear Regulatory Commission Technical Bulletin: "Instruction Concerning Prenatal Radiation Exposure."
- The following reading material is made available to students and faculty: Pregnant Technologist/Radiologist, from Bushong, S., *Radiologic Science for Technologists, Physics, Biology and Protection*. Elsevier, St. Louis.

Clinical Education

- The PMI radiography Clinical Coordinator will make every effort to place the student at an available clinical site.

Withdraw from the Program and Graduation Requirements

- Students who are pregnant maintain the right to withdraw from the Radiography program at any time during their pregnancy.
- Students who withdraw after the completion of a semester may re-enroll for the subsequent semester the next time classes are offered, and students are advised to meet with the financial aid officers to determine the effect a withdrawal will have on financial aid status.
- Students who choose to withdraw partway through a semester will not receive credit for those classes and will have to re-enroll the next time the classes are offered.
- Student must satisfactorily complete all classroom and externship credits necessary to fulfill the program requirements.

- Students must demonstrate all essential skills and competencies as set forth by the Radiography program in order to complete program coursework with a passing grade. During a pregnancy, students may not be able to complete all skills/competencies required, which may delay graduation.

Radiation Safety Procedures for the Declared-Pregnant Student

- The following prescribed radiation safety procedures must be followed:
 1. Continue to wear your whole body dosimeter on the outside of your collar.
 2. Wear a second dosimeter (fetal dosimeter), at the waist level.
 3. If wearing a lead apron, the fetal dosimeter should be worn under the apron at the waist level.
 4. When performing fluoroscopy or portable exams, wear a wrap-around apron; if this type of apron is not available, wear a full apron as usual and a half-apron to cover the posterior aspect of the body.
 5. Maintain the maximum distance possible between yourself, the x-ray tube and the patient.
 6. Turn in the fetal dosimeter monthly.
 7. Review and acknowledge the monthly fetal dosimeter exposure reading with the Radiation Safety Officer or Program Director.

Program Requirements:

1. Medical Insurance

No medical insurance is offered by Pima Medical Institute but coverage is required for clinical externships. Students who are injured while at their clinical extern site and require medical attention may do so at their expense using their own medical insurance. Proof of medical insurance must be provided to the Clinical Director upon request and before clinical externship.

2. Immunizations

No immunizations are offered by Pima Medical Institute but are required for clinical externships. Proof of immunization must be provided to the Clinical Director upon request and before clinical externship

- MMR (Measles, Mumps, Rubella) – evidence of 2 immunizations or a titer
- Varicella (Chicken Pox) – evidence of 2 immunizations or a titer
- TDaP (Tetanus, Diphtheria, Pertussis) – evidence of an immunization given in the last 10 years.
- Hepatitis B - evidence of 3 immunization series or a titer

3. Urine Drug Screen

Students will be required to submit to an initial urine drug screen 30 days before starting their clinical rotation. The cost of drug screens will be at the expense of the student. Results of drug screens will be reviewed by the Program and Clinical Director and used as a factor to determine eligibility to attend clinical externship. All positive results will be discussed with the student, at which time the student will be required to provide valid proof of a current prescription to explain the positive results. Students will also be required to submit to random urine drug screens if requested anytime throughout the subsequent semesters by either the Radiography Program Director or clinical affiliate. Students who are unable to provide valid proof of a current prescription to explain positive results may be withdraw or terminated from the program at the discretion of the Program Director and the Online Education Director.

4. Tuberculosis Testing

Students will be required to have a current annual test for exposure to tuberculosis (TB test/CXR). Students who work in a facility that requires annual TB tests/CXR may provide copies of these results from their employer to fulfill the requirement. Current TB documentation must be provided to the Clinical Director upon request and before clinical externship.

5. Influenza Vaccinations

Students may be required to get a seasonal flu vaccine prior to starting their clinical externship. The flu vaccine needs to be within 12 months of the extern start date. The cost of the flu vaccine will be at the expense of the student.

6. CPR Certification

Students will be required to complete the Basic Life Support (BLS) course for Healthcare Providers approved by the American Heart Association for cardiopulmonary respiration (CPR.) The cost of CPR training is at the expense of the student and must be current before they are assigned to a clinical site. Students who work in a facility that requires annual CPR training may provide a copy of their CPR card to fulfill the requirement. Students who cannot provide proof of current CPR training may be dropped from the semester. Student's CPR certification must be valid for the entire duration of the clinical training and provided to the Clinical Director upon request.

Documentation provided to clinical extern sites may include but is not limited to:

- Copy of immunizations
- Proof of Influenza vaccination
- TB test/CXR results
- Proof of medical insurance
- Proof of CPR certification
- Urine drug screen results
- Background check
- Signed notifications and agreements
- Social Security Number (only if required by the clinical facility)
- Physical exam (only if requested by the facility)

Students who fail to provide this documentation may not attend clinical externship. This may also result in a withdrawal or termination from the program.

Communicable Disease and Infection Control

Radiography students are not to report to a clinical site with a contagious communicable disease such as mumps, chicken pox, measles, influenza, or strep throat. Students who have been diagnosed as having a communicable disease are to notify the Program Director or Clinical Director. The student will not report a clinic until a signed statement from their physician is given to the Program Director or Clinical Director which states they are no longer contagious.