YAVAPAI COLLEGE
RADIOLOGIC TECHNOLOGY

LIMITED X-RAY MACHINE OPERATOR

CERTIFICATE

Pre-Admission Workshop

2026

Updated 1.23.26

HELLO!

Tracy Rogers, MBA, RT(R)(M)(ARRT)
Director of Radiology

Avery Liggett, BS, RT(R)(CT)(ARRT)
Clinical Coordinator

Emily Underwood, BS, RT(R)(M)(BD)(BS)(ARRT)
Positioning I Instructor

Jennifer Kreterfield, RT(R)(CT)(ARRT)
Positioning II Instructor

Online Course Instructors:
Brian Spence
Candice McCoy

Alexandria Peralta
Instructional Support Specialist

left to right: Avery Liggett, Tracy Rogers, Emily Underwood

YAVAPAI COLLEGE
RADIOLOGIC TECHNOLOGY

OBJECTIVES

01 What is Radiologic Technology?

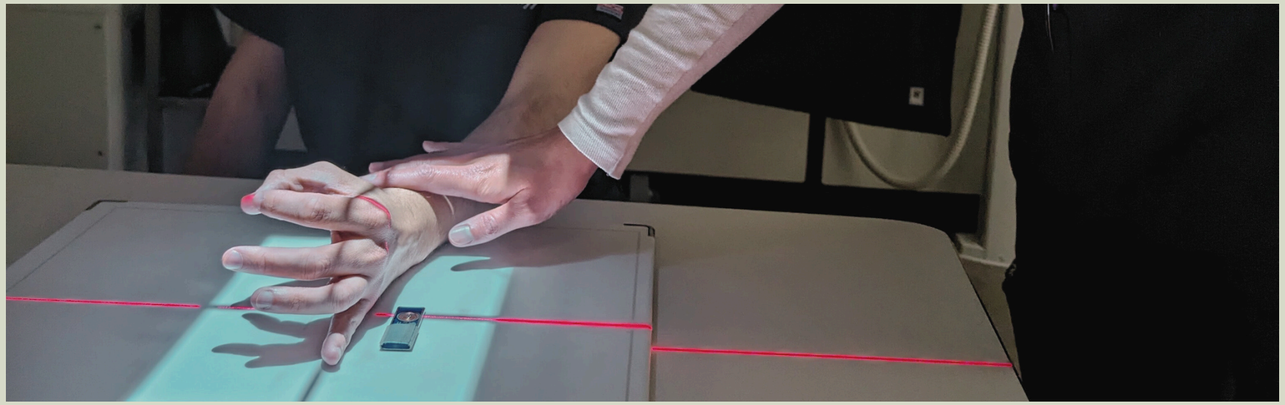
02 What is a Limited X-Ray Machine Operator

03 About our Program

YAVAPAI COLLEGE
RADIOLOGIC TECHNOLOGY

WHAT IS RADIOLOGIC TECHNOLOGY?

The art & science of using radiation to provide images of the bones, organs, soft tissue and vessels that comprise the human body.



Radiologic technologists make up the third-largest group of health care professionals—surpassed in number only by physicians and nurses.

A primary responsibility of many technologists is to create images of patients' bodies using medical equipment. This helps doctors diagnose and treat diseases and injuries. Depending on your specialty, you might use X-ray, MRI, CT, fluoroscopy, or sonography equipment.

Limited Technologists

A DAY IN THE LIFE...

You'll promote safety and provide the highest level of patient care as you complete your daily work.

No matter your specialty, you'll be an important part of a medical team. Your work will help uncover health problems and could ultimately save lives. You'll be active throughout your working hours, and no two days will be the same.

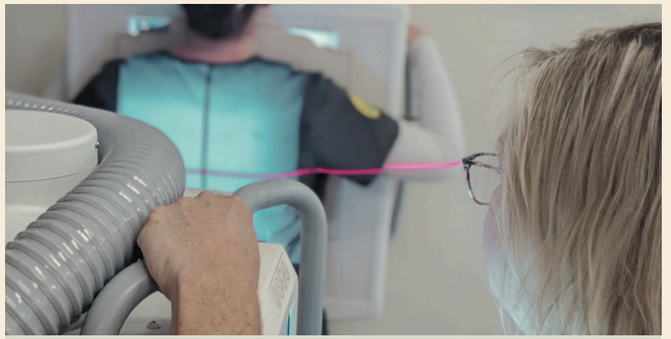
Places of Employment

Hospital

- Radiology department

Physician's Office

- Orthopedic
- Pain Management
- Arthritis Clinic
- Primary Care Office
- Urgent Care



Outpatient Center

- Outpatient Imaging Centers

LIMITED TECHNOLOGISTS

LIMITED X-RAY MACHINE OPERATORS (LXMO), PRACTICAL TECHS, CPTRS, PTRS

ARIZONA SCOPE OF PRACTICE

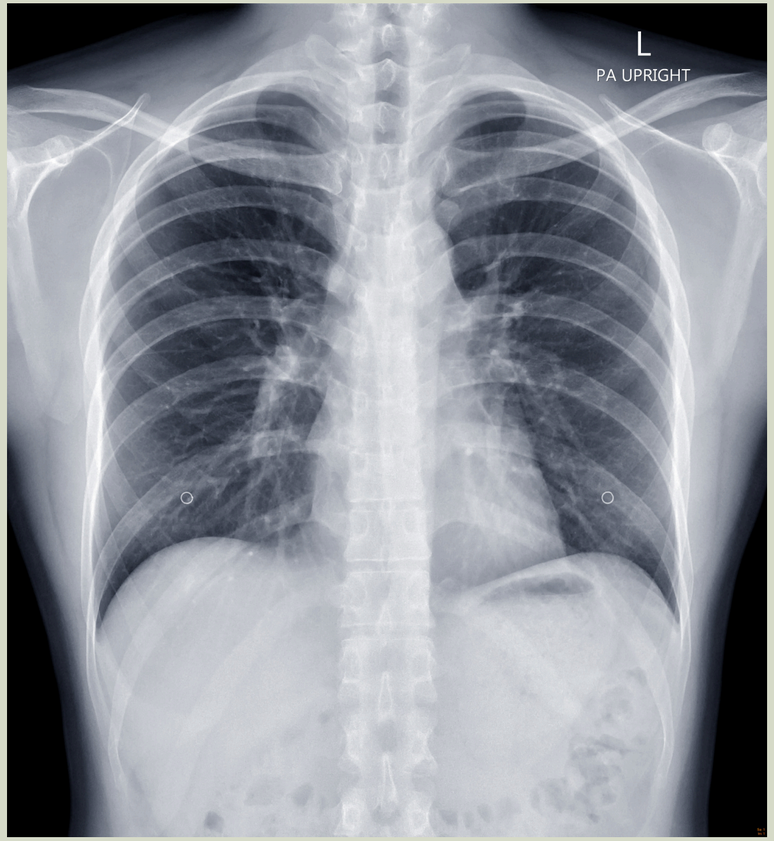
A limited x-ray machine operator, limited technologist, CPTR, PTR or Practical Tech are all inner changeable terms to describe this specific scope of practice within the state of Arizona.

A Certified Practical Technologist in Radiology (CPTR) is an imaging professional within the state of Arizona who has completed specific training to perform limited radiographic procedures, typically focusing on basic x-rays of the chest and extremities. They are qualified to operate imaging equipment but have more restricted scope of practice compared to a full certified radiographer.

A CPTR is not permitted to operate stationary or mobile fluoroscopy nor can they utilize contrast media.

In accordance with 32-2815 practical technologists in radiology are not prohibited from performing bone densitometry exams and do not require additional certification to do so. This is equivalent in the state of Arizona to guidelines for Certified Radiologic Technologists.

SCOPE OF PRACTICE & EDUCATION



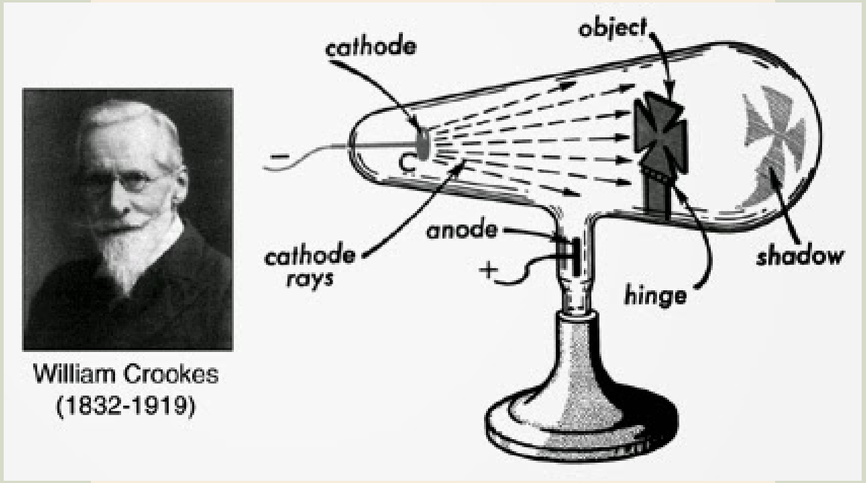
Limited Scope: They are not allowed to perform all types of radiographic examinations and are usually restricted to specific body areas or types of ionizing radiation they can administer. Limited Technologists are most likely to work in an outpatient setting such as an urgent care or physician's office.

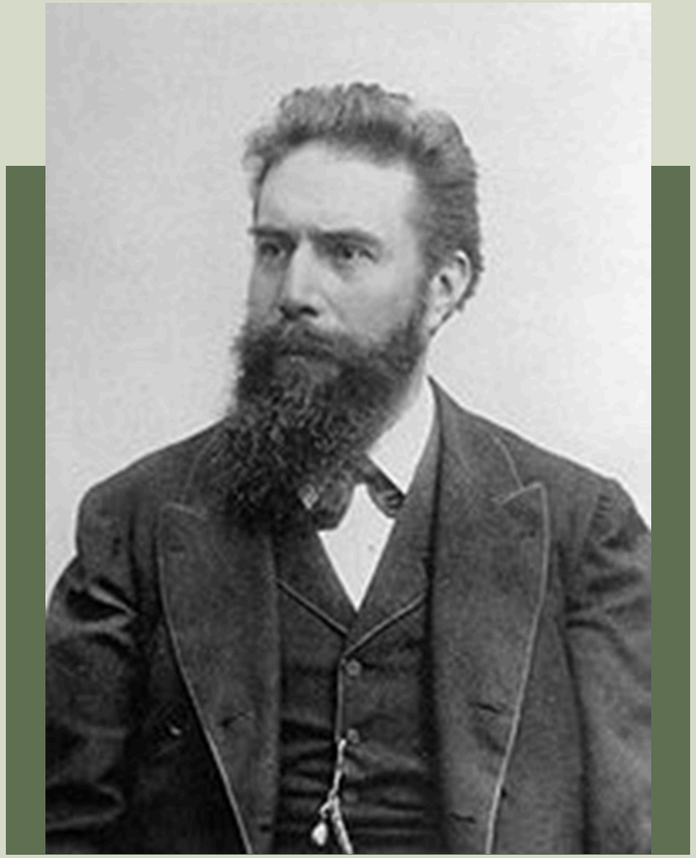
Training and Certification: To become a Limited Technologists, individuals need to complete a specialized training program and pass a certification exam, often administered by the state where they practice but the American Society of Radiologic Technologists is releasing a national credentialing exam. The exact release date is unknown at this time.

Certification will be applicable in the state of Arizona only. ARRT State Licensing Guide until the ARRT releases the National Credential.

BRIEF HISTORY

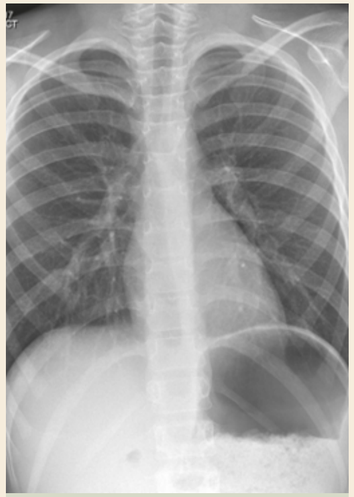
X-Rays were discovered on November 8, 1895





TYPES OF MEDICAL IMAGING PROGRAMS

Limited X-Ray Machine Operators cannot earn post-primary certifications without, first becoming a fully licensed Radiologic Technologist.



Radiography

Radiologic Technology can lead to:

- CT (Computed Tomography)
- MRI
- Interventional
- Vascular US
- Mammography
- Bone Densitometry
- Radiologist Assitant

Ultrasound (Sonography)

US can lead to:

- MRI
- Vascular US
- Cardiac US
- Abdominal US
- General US
- Musculoskeletal US
- and more...

Nuclear Medicine

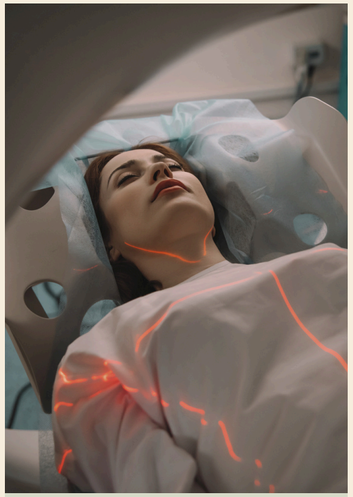
Nuclear Medicine can lead to:

- MRI
- CT
- Vascular US
- Bone Densitometry

Radiation Therapy

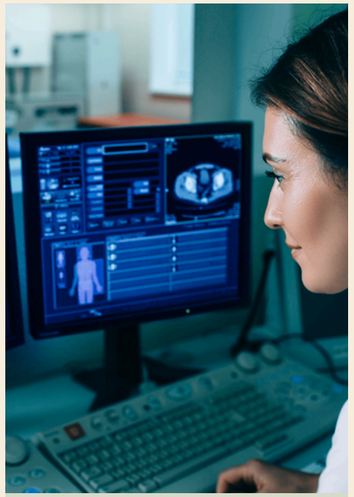
Radiation Therapy can lead to:

- MRI
- CT
- Vascular US
- Bone Densitometry



MRI

A primary pathway of MRI does not allow for any post-primary opportunities at this time.



Radiologist Assistant

- ARRT-recognized radiologist assistant education program
- Master's degree or higher
- You must hold a Radiography credential.

ABOUT OUR PROGRAM

Located at the Prescott Valley Center

The majority of the program's courses are online with the exception of lab and clinical education.

Seeking accreditation through: Joint Review Committee on Education in Radiologic Technology.

Competency Based Program

- [1] year program based on a combination of coursework (didactic) and clinical skills.
- Students are required by the ARRT to completed a specific number of competencies prior to graduation from the program.
- Students are required to complete a minimum of 650 hours prior to graduation.
- **This program has been designed to nationally prepare students and students will be able to challenge the state or national credentialing examinations.**

ABOUT OUR PROGRAM

Program/Course Grading Scale

Students will need to meet a 75% or higher for each class to be considered passing.

Students must reach the minimum required competencies required each semester to be considered passing.

ARRT State Registry Examination

The minimum passing score for the state registry examination is 68%. In order to become state licensed you must pass the ARRT state examination for limited radiography.

National registry will require a 75% as the minimum passing score.

This program is rigorous and you're held to a high standard to ensure that you'll graduate and be able to successfully pass the high stakes exam.

STUDENT QUALIFICATIONS

National background check
Ethics review by ARRT if needed (CONTACT PROGRAM DIRECTOR)

- Felony
- Misdemeanor

Drug test-zero tolerance

- Medical marijuana is not acceptable while a student in any health science program.

- Current Health Insurance (must maintain throughout program)
- Immunizations (or proof of titers)
  - Done at the expense of the student and requires upkeep during the program
- COVID-19 & Flu exemptions are available contact the radiology department for more information.

STUDENT QUALIFICATIONS

- Ability to lift and move patients safely
- Reach above your head to move heavy equipment
- Ability to stand a significant amount of time while moving patients and equipment.
- Must wear protective lead apparel during patient care (at certain times)
- Ability to see and hear clearly
- Please see technical standards in the application packet for more details

- Effective oral & written communication skills
- Work effectively in a team setting
- Ability to work in a multi-cultural environment
- Use of critical-thinking skills
- Emotional stability & maturity
- Ability to work compassionately with patients and their families
- Organize & perform sequentially the individual steps necessary for an x-ray exam

PROGRAM PROGRESSION

PRE-ENTRY REQUIREMENTS

Spring Term 1 *4 credit hours*	Hours
2nd 8 weeks	
• BIO 160 Introduction to Human Anatomy and Physiology	4
Term hours subtotal:	***4***

APPLICATION PROCESS

All deadlines will be posted on the yc.edu/radiology website under the Application Forms and Information link.

Aug. to Dec.

- HESI A2 Entrance Exam
- 2-attempts per year during the fall semester only.
- In-person Information Sessions

Feb. to Mar.

- Online application opens for 1 month
- Applications submitted outside of the posted deadlines will not be considered.
- Incomplete applications will not be considered.

Required Uploads for the application:

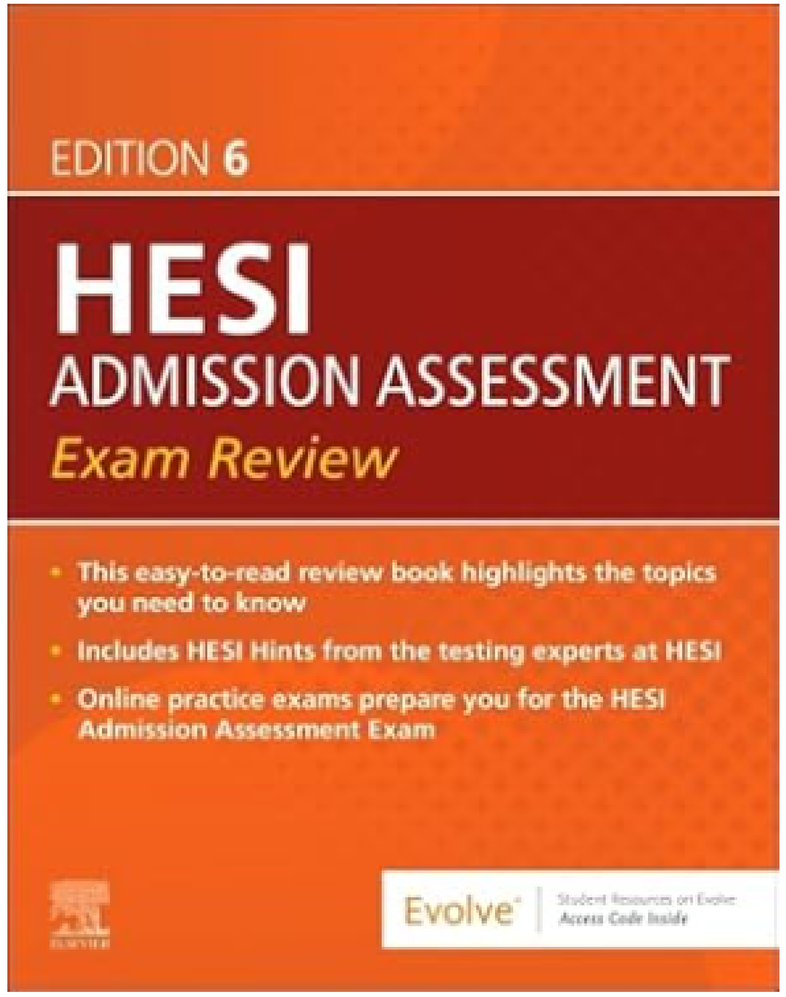
- HESI Exam Results (highest attempt score)
- Proof of Completion of a Pre-Radiology Workshop (online OR in-person)
- All Unofficial Transcripts (including Yavapai College)
- Advisor Check Sheet (prerequisite verification)
- Medical Release Form (signed by a medical provider)
- Immunization Coversheet
- Proof of Residency
- Preliminary Clinical Schedule

March

- Student's programmatic status will be emailed.
- If conditionally accepted; students will be required to respond via email confirming their position in the program.

HESI A2 ENTRANCE EXAM INFORMATION

Available in Yavapai College's Library for free or amazon at low cost.



ISBN: 978-0443114090

Instructions on how to get started at: yc.edu/radiology
3 hour exam
75% or better prior to applying to the program
Cost: $65.00 *subject to change*

English:
- Reading comprehension
- Vocabulary
- Grammar

Math: Basic Math Skills

Science:
- Biology
- Anatomy & Physiology

Critical Thinking Skills
- Problem Solving
- Biases & Ethical Dilemmas
- Argument Analysis
- Analysis of Data
- Prioritization of Care

Call & schedule at the Prescott or Verde Test Center:
https://www.yc.edu/v6/testing-center/

- **You must bring a photo ID**
- **Your evolve username/password**
- **Proof of payment**

SELECTION CRITERIA

SELECTIVE ADMISSIONS POINT SYSTEM (BASED ON 900 POINTS)

- HESI A2 Entrance Exam
  - 95-100% = 500 points
  - 90-94.99% = 425 points
  - 84-89.99% = 350 points
  - 75-83.99% = 175 points
- Agency Affiliation: are you employed by a healthcare agency?
  - Yes = 50 points
  - No = 25 points
- 4 Biology course credits = 50 points
  - in-progress = 25 points
- Residency
  - Yavapai/Coconino County=150
  - State of Arizona=50
  - Out of state=0
- Current YC student: Completed credits
  - 12 or more credits = 150 points
  - 9-11 credits = 100 points
  - 6-8 credits = 75 points
  - 3-5 credits = 50 points

PROGRAM PROGRESSION

Summer Term 1	Hours	Notes
• RAD 100 Introduction to Medical Imaging [online]	2	Prerequisite: Program Admission. BIO 160 may be taken concurrently
• RAD 101 Limited Radiographic Positioning I [online]	3	
• RAD 105 Limited Radiographic Positioning Lab I [in-person 2 days/week]	1	
Term hours subtotal:	***6***	
Fall Term 1	**Hours**	**Notes**
• RAD 161 Radiology Clinical Education I [off site clinical location] [approx. 24 hrs per week-travel in excess of 1.5 hours may be required] [clinical courses begin before the semester start date on the academic calendar]	3	
• RAD 158 Radiographic Image Production [online]	2	
• RAD 103 Limited Radiographic Positioning II [online]	3	
• RAD 104 Limited Radiographic Positioning Lab II [in-person 2 days/week]	2	
• RAD 170 Radiology Patient Care and Pharmacology [online]	2	
Term hours subtotal:	***12***	

PROGRAM PROGRESSION

Spring Term 2	Hours	Notes
1st 8 weeks		
• RAD 185 Radiographic Image Analysis [online]	2	
Full Term		
• RAD 135 Radiation Physics & Equipment [online]	3	
• RAD 162 Radiology Clinical Education II [off site clinical location] [approx. 24 hrs per week-travel in excess of 1.5 hours may be required] [clinical courses begin before the semester start date on the academic calendar]	4	
2nd 8 weeks		
• RAD 175 Radiation Biology & Protection [online]	2	
• RAD 115 Introduction to Bone Densitometry [online]	1	
Term hours subtotal:	***12***	

CLINICAL EDUCATION REQUIREMENTS

We have a number of clinical affiliations in Prescott, Prescott Valley, Williams, Flagstaff, Cottonwood, Sedona, Camp Verde and the Phoenix area.

ALL radiology students should expect to travel.

COMMUTING:

can be in excess of 1.5 hours.

YOU'RE RESPONSIBLE FOR:

- Gas
- Lodging
- Car Maintenance

SCHEDULE:

- Mon-Fri
- 8-10 hour shifts
- Between 6am-11pm
- Minimum 650 hrs

PROFESSIONALISM

- Appearance
- Behavior
- Conversation
- Attendance

!!!WARNING!!!

Within every profession involving patient care you will be exposed to sick & injured members of the community.

- Bodily fluids
  - Blood, urine, vomit, sputum, feces
- Disease
- COVID-19
- Death
- Mental Illness
- Infection
- Abuse/Domestic Violence

PROGRAM COSTS

ALL COSTS LISTED ARE ESTIMATES AND COULD CHANGE.

Trajecsys (clinical tracker) $100.00

MyClinicalExchange (clinical compliance) $40

CastleBranch (immunization tracker, background check, drug test) $151.49

Level 1 Fingerprint clearance card: approx. $75.00

2x2 passport photo (hospital ID badges) $20.00

Vaccinations (upkeep required) variable

- COVID & Flu declinations available

Annual TB Skin Test- up to $100.00/yr

BLS Certification (offered in program) $7.00

Students are provided x-ray markers: Replacement Markers are at the student's expense and must be approved by the clinical coordinator.

Radiology Tuition:
$203.00/credit hour

$6090.00

Pre-Entry Tuition:
$524.00

Tuition Total: $6614.00

Textbook Fees: (e-book or print)
$356.00-$450.00

Uniforms are required in the classroom, lab and clinical setting.

Student Scrubs & Shoes: approx. $200.00

RADIOLOGY PROGRAM TUTOR

YAVAPAI COLLEGE

Be More

TRANSFER & ARTICULATION

The Limited X-Ray Machine Operator Certificate does not transfer outside of Yavapai College.

Please check with an academic advisor for more information. Employment opportunities are limited to the state of Arizona for Certified Practical Technologists of Radiology. (State licensing exam)

Once the ARRT releases the national credentialing exam Limited Technologists, (LT) should have easier reciprocity throughout the United States to work under each state's specific scope of practice without the need for more examinations.

THANK YOU

Click on the class verification link on the YC.edu/radiology page &
answer all of the questions.

This will generate a certificate of completion that will be sent to your email. You must include the certificate of completion with your Radiologic Technology program application.

Make sure to include your Name, Email, & Phone Number
If you have additional questions please email: radiology@yc.edu

YAVAPAI COLLEGE
RADIOLOGIC TECHNOLOGY