WVU Medicine

West Virginia University Hospitals
IMAGING SCIENCE EDUCATION PROGRAMS

Radiography Student Handbook

Volume II

Radiography Specific Policies & Procedures

2026-2027 Academic Year

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West Virginia University Hospitals **Radiography**
Imaging Science Education Programs

Program Structure

West Virginia University Hospitals offers a 22-month education program in Radiography designed to provide students with the fundamental knowledge and principles of all procedures in Radiologic Technology. The Program is accredited by the Joint Review Committee on Education in Radiologic Technology (JRCERT) and is recognized by the United States Department of Education to participate in the Title IV Student Financial Aid programs. The "Standards for an Accredited Educational Program in Radiography" is available for students to review and may be found in the office of the program director or online at www.jrcert.org. Contact information for the JRCERT is as follows:

Joint Review Committee on Education in Radiologic Technology
20 North Wacker Drive, Suite 2850
Chicago, IL 60606-3182
Phone: (312) 704-5300 email: mail@jrcert.org

West Virginia University Hospitals awards a certificate to each student who satisfactorily completes the required course of study. To be eligible to sit for the certification exam in Radiography administered by the American Registry of Radiologic Technologists, students must….

(1) Document completion of an Associate's degree (or higher) from an accredited post-secondary institution prior to entering the program.

OR

(2) Complete one of the following degree options:

a. Enroll through WVU- Potomac State while attending our program and complete an Associate's degree upon graduation (see web-site for details). https://wvumedicine.org/radtech/radiography/

b. Enroll through Pierpont Community & Technical College while attending our program and complete an Associate's degree upon graduation (see web-site for details). https://wvumedicine.org/radtech/radiography/

Students enrolled in the Program are regarded as mature, responsible persons seeking education in the field of Radiologic Technology. They are not considered employees of West Virginia University Hospital and/or students of West Virginia University. The following information has been prepared to inform the student of the policies and requirements of this educational endeavor.

West Virginia University Hospitals
Imaging Science Education Programs

Radiography

Record of Graduates

Year	Med. Director	Program Director	Enrolled	Graduated
1965-67	Dr. H. Amory	D. Mellquist	9	8
1966-68	Dr. H. Amory	L. Tharp	9	7
1967-69	Dr. H. Amory	T. Christenberry	11	9
1968-70	Dr. C.A.Smith	T. Christenberry	11	9
1969-71	Dr. C.A. Smith	T. Christenberry	12	9
1970-72	Dr. C.A.Smith	B. Cunningham	15	12
1971-73	Dr. C.A.Smith	D. Goddin	17	13
1972-74	Dr. O.F. Gabriele	D. Goddin / J. Skowern	14	14
1973-75	Dr. O.F. Gabriele	J. Skowern	16	8
1974-76	Dr. O.F. Gabriele	J. Skowern	16	16
1975-77	Dr. O.F. Gabriele	J. Skowern	16	14
1976-78	Dr. O.F. Gabriele	J. Skowern	16	11
1977-79	Dr. O.F. Gabriele	J. Skowern	17	17
1978-80	Dr. O.F. Gabriele	J. Skowern / J Freeman	14	9
1979-81	Dr. O.F. Gabriele	J. Freeman	11	10
1980-82	Dr. O.F. Gabriele	J. Freeman	12	9
1981-83	Dr. O.F.Gabriele	J. Freeman	15	11
1982-84	Dr. O.F. Gabriele	J. Freeman / D. Shock	15	12
1983-85	Dr. O.F. Gabriele	D. Shock	15	10
1984-86	Dr. O.F. Gabriele	D. Shock	15	11
1985-87	Dr. O.F. Gabriele	D. Shock	15	10
1986-88	Dr. O.F. Gabriele	D. Shock	15	11
1987-89	Dr. D. Willard	D. Shock	15	14
1988-90	Dr. D. Willard	D.Shock / G. Shaver	15	13
1989-91	Dr. D. Willard	G. Shaver	15	13
1990-92	Dr. D. Willard	G. Shaver	15	13
1991-93	Dr. D. Willard	G. Shaver	13	10
1992-94	Dr. Schreiman	G.Shaver / J. Shock	15	14
1993-95	Dr. M. Frick	J. Shock	14	14
1994-96	Dr. M. Frick	J. Shock	14	14
1995-97	Dr. M. Frick	J. Shock	14	13
1996-98	Dr. M. Frick	J. Shock/J. Morris	14	14
1997-99	Dr. M. Frick	J. Morris	12	11
1998-00	Dr. M. Frick	J. Morris	12	11
1999-01	Dr. M. Frick	J. Morris	12	11
2000-02	Dr. M. Frick	J. Morris	14	13
2001-03	Dr. M. Frick	J. Morris	18	18
2002-04	Dr. M. Frick	J. Morris	18	13
2003-05	Dr. M. Frick	J. Morris	18	17
2004-06	Dr. M. Frick	J. Morris	18	16
2005-07	Dr. M. Frick	J. Morris	18	16
2006-08	Dr. M. Frick	J. Morris	17	16
2007-09	Dr. M. Frick	J. Morris	17	15
2008-10	Dr. M. Frick	J. Morris	18	16
2009-11	Dr. M. Frick	J. Morris	17	17
2010-12	Dr. M. Frick	J. Morris	18	17
2011-13	Dr. M. Frick	J. Morris	15	13
2012-14	Dr. M. Frick	J. Morris	15	14
2013-15	Dr. M. Frick	J. Morris	15	14
2014-16	Dr. M. Frick	J. Morris	15	13
2015-17	Dr. M. Frick	J. Morris	15	12
2016-18	Dr. M. Frick	J. Morris	15	15
2017-19	Dr. M. Frick	J. Morris	18	16
2018-20	Dr. M. Frick	J. Morris	18	16
2019-21	Dr. M. Frick	J. Morris	18	18
2020-22	Dr. M. Frick	J. Morris	18	15
2021-23	Dr. M. Frick	J. Morris	18	17
2022-24	Dr. M. Frick	J. Morris	20	20
2023-25	Dr. M. Frick	J. Morris	22	19
2024-26	Dr. M. Frick	J. Morris	23	23
2025-27	Dr. A. Rai	J. Morris	24	
2026-28	Dr. A. Rai	J. Morris	24	
TOTAL ENROLLMENT /GRADUATES			**970**	**802**

West Virginia University Hospitals
Imaging Science Education Programs / Radiography

Faculty Roster

Faculty Member	Course (s)
Jay S. Morris MA., RT(R)(CV) Education Manager/Program Director	Radiation Physics I & II Image Production & Characteristics I, II, & III Neuro - Interventional Imaging Digital Imaging & Computerized Tomography Professional Development & Medical Ethics
Joy Mason MA. RT(R)(M)(QA) Clinical Education Coordinator	Radiation Biology & Protection Image Analysis & Evaluation I & II Quality Assurance / Quality Control Drugs & Pharmacology in Imaging Intro to Mammography Radiography Seminar (Registry Review)
Neal Humphries BA, RT(R) Clinical Preceptor	Radiographic Procedures I & II Radiographic Procedures Lab I & II Radiographic Pathology Math Review
Debbie Ferencz MA. RT(R) Clinical Preceptor	Sectional Anatomy Patient Care & Nursing Procedures Medical Terminology OR Procedures Fundamental of Radiologic Technology
Samantha Eakle BS. RT(R) Clinical Preceptor	Anatomy & Physiology I, II & III
Kathleen Riley BS, RT(R) (RDMS) Education Coordinator (Ultrasound)	Intro to Ultrasound (Adv. Imaging Modalities)
Tiffany Davis MA., RT(R)(N) (CNMT) Education Coordinator (Nuclear Medicine)	Intro to Nuclear Medicine (Adv. Imaging Modalities)
Chris Paugh MA, RT(R)(T) Education Coordinator (Radiation Therapy)	Intro to Radiation Therapy (Adv. Imaging Modalities)
Brad Holben MA, RT(R) (MR) Education Coordinator (MRI)	Intro to MRI (Adv. Imaging Modalities)
Stephanie Hardy BA, RT(R)(ret) RCS Education Coordinator (Echocardiography)	Intro to Echo (Adv. Imaging Modalities)

IMAGING SCIENCE EDUCATION PROGRAMS

Radiography Program

Mission Statement

The Radiography program at West Virginia University Hospitals serves to facilitate the growth and development of the entry-level professional in the Radiologic Sciences thus supporting the mission of our sponsoring institution. Through continued technological advancement and a strong commitment to education, West Virginia University Hospitals serves as the foundation on which students can cultivate and expand their knowledge of the technical, professional, and philosophical aspects of Radiologic Technology and the health care environment. The program strives to provide our students with an educational environment that is conducive to attaining positive learning outcomes and is comprehensive in providing clinical experience and patient care opportunities.

Program Goals & Student Learning Outcomes

1) **Students will demonstrate entry-level clinical competence in diagnostic imaging.**
   1.1 Students will demonstrate appropriate positioning skills.
   1.2 Students will select and manipulate appropriate technical factors.
   1.3 Students will utilize appropriate radiation protection procedures

2) **Students will practice effective communication skills.**
   2.1 Students will demonstrate effective verbal communication skills.
   2.2 Students will demonstrate appropriate written communication skills

3) **Students will employ critical thinking / problem solving skills.**
   3.1 Students will assess patient needs and adapt clinical exams as required.
   3.2 Students will describe modifications employed in compensating for exam variables.

4) **Students will demonstrate professionalism**
   4.1 Students will demonstrate work ethics and responsibility to the imaging profession.
   4.2 Students will summarize and reflect the value of life-long learning.

Clinical Education / Standards Policy

The Radiography program at West Virginia University Hospitals (WVUH) recognizes that the application of didactic material in the clinical environment is an essential component of the education process and that the student's clinical performance is valid indicator of professional achievement. In accordance with our accreditation Standards, WVUH has developed a competency-based curriculum designed to document the student's clinical performance in the Clinical Experience course. Clinical rotation schedules are designed so that the required 1:1 staff to student ratio is maintained and the equity in student placement is ensured. This policy serves to identify the structure and standards by which the clinical education process is administered.

I. Clinical Education Obligations / Overview

Clinical education is conducted exclusively at imaging facilities owned and operated by the program sponsor (WVUH) and a single liability policy covers students at all sites. With the exception of the Fairmont Gateway clinic and the Fairmont Medical Center hospital, which are both located approximately 25 miles away, all clinical sites are located on or in close proximity to the main campus. Upon admission, mandatory WVUH orientation procedures including background checks, drug screenings, health assessments and vaccinations are provided on the main campus at no cost to the student. Students are not required to complete any additional orientation procedures to participate in clinical rotations at any other site. Core clinical assignments include routine diagnostic, mobile, fluoroscopy, operating room, and computerized tomography imaging with limited rotations through various advanced imaging modalities. Approximately 80% of all clinical rotations occur on the main campus. Clinical rotations are scheduled between 8 am - 4 pm each weekday with 2 - 4 weeks of evening clinical rotations assigned each semester. Clinical education assignments vary by semester but average approximately 18-20 hours per week. No clinical education is conducted on weekends, holidays, and/or midnight shifts.

II. Clinical Education Process:

The following describes the progressive procedures employed in achieving and validating clinical competence:

a. Didactic Instruction

After matriculation into the program, students are progressively introduced to the various positioning and technical requirements for each radiographic examination through didactic instruction and testing during Semesters I & II.

b. Positioning Laboratory

Concurrent with didactic instruction, the practical application of the various radiographic examinations is demonstrated by a clinical faculty member (clinical preceptor or coordinator) in an energized radiographic laboratory.

c. Simulation Examinations

After an appropriate time frame for individual practice and review, students are required to successfully complete a simulated study prior to attempting any radiographic examination on a patient. Successful completion is documented by a clinical faculty member.

d. Core Competency

After satisfactorily completing a simulated study, the student may request that a Core Competency exam be attempted on a patient for that specific examination. Core Competency exams may be conducted by a clinical faculty member or a staff technologist. Successful completion of a Core Competency does not automatically qualify a student to perform that particular examination under indirect supervision unless there is no qualifying examination for that particular exam, in which case a student may operate under indirect supervision.

e. Qualifying Examination

After successful completion of a Core Competency examination in a specific category, the student may request that a Qualifying Examination be attempted for that category. Qualifying exams should be performed by a clinical faculty member; however, in the event that no clinical faculty member is immediately available, a staff technologist

may perform the exam. Successful completion of a Qualifying Examination certifies that a student may perform the examinations in that specific category under indirect supervision.

f. Comprehensive Examination

At midterm and at semester end, each student will be required to complete a comprehensive exam on a radiographic procedure in which they have previously demonstrated competence. All comprehensive exams are to be performed by clinical faculty member. The specific imaging procedures designated as approved comprehensive exams will be semester dependent and will be determined by a clinical faculty member.

Refer to the following for clarification of specifics depicted in the previous policy:

a. Direct / Indirect Supervision of Students
b. Guidelines for Core Competency Exams
c. Guidelines for Qualifying Examinations
d. Student Clinical Education Handbooks

III. Clinical Grade Calculation

The student's clinical grade consists of several components, each utilizing a different mechanism to assure a complete and comprehensive evaluation of clinical performance. The following components and weighted averages are utilized:

Component	Weighted Average
Clinical Instructor Points	8%
Performance Objectives / Rotational Evaluations / Technologist Evaluation	22%
Core Competencies	20%
Qualifying Exams	25%
Comprehensive Exams	25%

Each clinical grading component and related forms are included and explained in the student Clinical Handbook for each performance level.

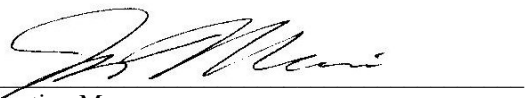
III. Clinical Grade Scale

The following grading scale will be utilized as an objective evaluation mechanism for representing the student's clinical grade and performance.

Percentage Grade	Letter Grade	Quality Points
100% - 93%	A	4.0
92% - 86%	B	3.0
85% - 78%	C	2.0
77% - 70%	D	1.0
< 70%	F	0.0

IV. Clinical Grade Standard (minimum)

Each student is required to achieve a minimum overall weighted clinical average of 86% (B Letter Grade) at the end of each semester in order to successfully complete the clinical education component of the program. Due to the progressive nature of the clinical education component, no provisions are provided for repeating a clinical level. Each clinical education level must be completed before advancing to the subsequent semester; therefore, students who fail to achieve an 86% (B Letter Grade) weighted clinical average at the end of each semester will be dismissed from the program. Students are counseled by a clinical faculty member regarding their clinical progress at mid-term, semester end, and/or as needed; however, it is the student's responsibility to maintain awareness of their clinical progress at all times.



Education Manager

Direct / Indirect Supervision of Student Radiographers

This policy serves to identify the current guidelines for clinical supervision of student radiographers in reference to the direct and indirect provisions stated in the JRCERT Standards for an Accredited Educational Program in Radiography.

Direct Supervision
All students are required to perform radiographic imaging procedures under direct supervision until they have achieved and documented successful completion of a core competency and a qualifying exam for a particular exam category.

The parameters of direct supervision are:

1. A qualified radiographer (ARRT registered in Radiography) reviews the request for examination in relation to the student's level of clinical competence.
2. A qualified radiographer evaluates the condition of the patient in relation to the student's level of clinical competence.
3. A qualified radiographer is present during the performance of the examination to offer advice and assist the student radiographer if needed.
4. A qualified radiographer reviews and approves all images.
5. A qualified radiographer is present during any repeat exposures.

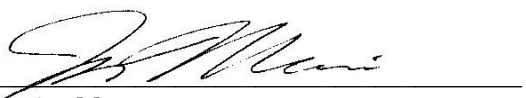
Indirect Supervision
After achieving and documenting successful completion of a core competency and a qualifying examination for a particular exam category, the student may perform those imaging procedures under indirect supervision.

Indirect supervision is defined as supervision that is provided by a qualified radiographer immediately available to assist students regardless of the level of student achievement.

Immediately available is interpreted as the presence of a qualified radiographer adjacent to the room or location where a radiographic procedure is being performed. This availability applies to all areas where ionizing radiation equipment is in use.

The parameters of indirect supervision are:

1. A qualified radiographer certifies the student's ability to perform under indirect supervision.
2. The student evaluates the request for examination and the patient's condition and consults with a qualified radiographer, if necessary.
3. The student performs the radiographic imaging procedure under indirect supervision.
4. A qualified radiographer reviews and approves all radiographic images.
5. A qualified radiographer is present during any repeat exposures (Direct supervision).
6. NO provisions are made for performing the following examinations under indirect supervision. Direct supervision guidelines must be followed regardless of the student's level of clinical competence:
    a. Mobile examinations
    b. OR examinations
    c. Special procedures



Education Manager

Attendance Policy

A student's daily attendance is vitally important in order for them to maintain satisfactory didactic and clinical performance. Students that miss exceptional amounts of clinic time will find it difficult to acquire the exams needed to fulfill their clinical education requirements. Students need to realize that poor attendance during their education can have a negative effect on their future. Employers tend to be wary of student applicants that have a record of excessive absenteeism. It is natural to relate absenteeism with a poor work ethic and a lack of commitment to the profession. This should also be considered by those students that are planning to apply for a position in one of the other educational modalities such as Radiation Therapy, Ultrasound, Nuclear Medicine, & MRI.

Personal Days Off: (PDO)

Student Radiographers will be allotted ten (10) personal days off (PDO) for the two-year period. In addition, each school year will include three (3) weeks of leave to include: 2 weeks over the Christmas / New Year holiday, and one week in April or June, and a day-off every 2 weeks contingent upon performance.

Personal days off (PDO) may be utilized for unscheduled absences (illness, personal emergency, etc.) and scheduled absences (job interviews, doctor appointments, etc.).

Alternating Friday Clinical Assignments

The program has implemented a performance based incentive schedule that assigns students to Friday clinical rotations on an alternating basis. 1st and 2nd year students will alternate with a day-off every other week on Fridays. Students should be aware that although program official will make all efforts to maintain this schedule, there may be occasions in which specific educational events (training sessions, make-up classes, grade counseling, etc.) must be held on a scheduled Friday off. In the event this occurs, program officials will provide timely notification and students will be required to be in attendance on that day for the extent of the scheduled event.
Students should note the following additional considerations regarding this provision:

1. Students should use this scheduled time off for self-directed study, completing assignments, and/or research.
2. Students may elect to attend and participate in their designated clinical rotation on a scheduled day off so as to gain further experience and/or complete required exams. However, students should notify program officials of their intent to attend so that compliance with staff-to-student ratios is maintained.
3. If a scheduled Friday off falls on the last day of the semester, students should plan on being in attendance on that day for final exams and/or grade counseling.
4. Program officials reserve the right to revoke this privilege for students exhibiting poor attendance and/or clinical performance. (See Excessive Absenteeism & Tardiness).

Scheduled & Unscheduled absences

1. When reporting a scheduled or unscheduled absence, it is the student's responsibility to notify a program official prior to the beginning of their next scheduled didactic or clinical assignment. Failure to follow this reporting requirement will result in the student receiving an unexcused absence for that day.
2. All correspondence documenting scheduled or unscheduled absences are to be sent to the following e-mail address: wvumradeducation@wvumedicine.org. This will ensure that each program faculty member is notified of all pending student absences and the time submitted is accurately documented.
3. Students that miss consecutive days due to an illness will be charged only **one (1) personal day off (PDO) for every three (3) days of absence**, providing the student has a valid medical excuse from a physician stating the amount of time that the student is excused. The provision does not apply to time missed due to illnesses or incapacitation related to elective procedures or surgeries. Please refer to the Medical Leave of Absence policy regarding extended illnesses.
4. PDO shall be granted in **minimum** increments of 0.5 days (4 hours) for both scheduled and unscheduled absences.
5. Out of professional courtesy, it is preferred that students requesting time-off for non-emergent reasons should do so at least one (1) day in advance.

6. Unless extenuating or emergency situations exist, students should submit only one request for time off each day for a predetermined amount of time. (i.e. Students should not submit time off for 2 hours on a particular day and then subsequently extend their time off for an addition hour on the same day).

Excessive Absenteeism

This policy serves to identify the procedure and criteria implemented when a student exceeds their allotted 10 personal days off (PDO) for the two (2) year period.

1. Excessive absenteeism is not acceptable for a healthcare professional and will result in disciplinary action. If a student exhausts their 10 allotted PDO days, they will be subjected to the following disciplinary action.

a. If the 10 allotted PDO days are exhausted, the student will receive an oral warning and counseling regarding their attendance.
b. If 1 additional day is missed (total of 11), the student will receive a formal written warning regarding their position in the Program and they will be required to be in attendance for the next 4 scheduled incentive Friday's off or through graduation whichever is the lesser amount. In addition, the student's official transcript will reflect that attendance was unsatisfactory during their enrollment in the program.
c. If 1 more additional day is missed (total of 12), the student will receive a 2nd formal written warning regarding their position in the Program and they will be required to be in attendance for an additional 4 scheduled incentive Friday's off or through graduation whichever is the lesser amount.
d. If 1 more additional day is missed (total of 13), the student will receive a 3rd and final warning regarding their position in the Program and they will be required to be in attendance for an additional 4 scheduled incentive Friday's off or through graduation whichever is the lesser amount.
e. Any additional absences (greater than 13) will result in dismissal from the program.

Unexcused absences

Unexcused absences are classified as the following:

- Leaving the facility grounds without a program official's permission.
- Leaving your assigned clinical area without notifying a program official or a staff technologist in your designated area.
- Missing one hour or more of a scheduled clinic day or class day due to tardiness. (see section below regarding tardiness)
- Failure to report an unscheduled absence to program officials prior to the start of your next scheduled didactic or clinical assignment.
- Absences that occur as a result of disciplinary action (e.g. suspension)

In the event that a student incurs an unexcused absence, the Disciplinary Action policy will be implemented and the student will be assessed PDO for the time missed with a minimum .5 PDO deduction.

Tardiness

Students are required to be in their assigned clinical or didactic area prior to or by their designated starting time and are responsible for properly documenting their attendance**.** Students should be aware that falsifying attendance records is grounds for immediate dismissal. "Tardy" means a student is not present at his or her designated area at the start of a scheduled clinic / class day. Once a student is more than one hour tardy, it is considered an unscheduled/ unexcused absence. It is the expectation that the student uses the department's designated time station to clock-in and clock-out as appropriate. If no time clock is available at certain clinical sites, students are permitted to use the KRONOS time-stamp system.

Tardiness is subject to the following guidelines and provisions:

- Tardiness is considered as the following:
  - For scheduled class hours, tardiness is defined as the failure to log-in and physically be in the classroom ***by the designated start time.***
  - For scheduled clinical hours, tardiness is defined as the failure to clock / log-in and physically be in your clinical rotation ***within 1 minute of the designated start time.***

- Tardiness beyond 60 minutes will be considered an unscheduled/ unexcused absence and will result in the student being charged at least 0.5 days (4 hours) of PDO.
- Excessive tardiness will not be tolerated and will result in the loss of the performance incentive specified in the following:

Each event of tardiness and/or failure to log in and out correctly (see Attendance documentation policy) will be deemed an occurrence. "Occurrence" is the measurement (Absence or Tardy) used to determine the applicability of corrective action for attendance. Occurrences do not include scheduled absences, Special Circumstances or approved leave of absence.

- Occurrences are cumulative for the duration of the students enrollment and are subject to the following actions:
  - For every ten (10) occurrences, the student will lose one incentive day off and will be required to be in attendance the next Friday in which their class is schedule off.
  - Once a student exceeds 30 occurrences during their enrollment, their attendance on every Friday will be mandatory through graduation.
- Exceptions to this policy will be at the program official's discretion and will be limited to unforeseen events such as inclement weather.

Funeral Leave

Students will be given a maximum of three (3) days excused absence for deaths in their immediate family. Immediate family shall include: husband, wife, mother, father, brother, sister, mother-in-law, father-in-law, and grandparents. Exceptions to this policy may be granted only by the Program Director.

Military Leave

West Virginia University Hospitals supports the Military Services of the Government of the United States and provides the following provisions for students serving in the Military Reserves during their enrollment in the program.

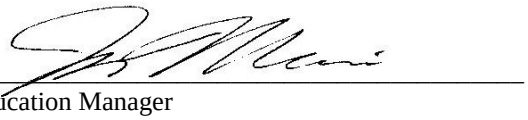
- Students serving in any branch of the U.S. Military Reserves are allotted 2 weeks (10 days) of leave per academic year to fulfill their required military commitment. Student that miss additional time (>10 days) due to military service will be required to utilized personal leave or arrange an acceptable time frame in which to make-up the time missed so that the program's clinical requirements can fulfilled. Make-up time is subject to the Education Coordinator's discretion and subsequent approval.
- Students are responsible for all didactic and clinical course materials presented during their absences related to military service.
- In the event that a student is called-up to active military duty, the program will reserve a position for that student so that they can be re-enrolled upon the completion of their active duty assignment.

Vacation and Holidays

Students are granted three (3) weeks of vacation during each year enrolled in the Program. Vacations are scheduled as two (2) weeks over Christmas/New Year's for both classes and one week in April for the 2nd year students & one week in June for the 1st year students. Program officials reserve the right to alter vacation dates.

Students are granted seven (7) holidays per year which include the following:

New Year's Day
Memorial Day
Independence Day (July 4th)
Labor Day
Thanksgiving
Friday following Thanksgiving
Christmas



Education Manager

Pregnancy Policy

It is the policy of the West Virginia University Hospitals Imaging Science Education Programs to provide reasonable radiation protection to student radiographers occupationally exposed to radiation. Pregnant students are expected to follow the additional protective measures detailed below which have been developed to restrict the fetal radiation dose below the maximum permissible dose (MPD) as recommended by the National Council on Radiation Protection (NCRP) and the Nuclear Regulatory Commission (NRC).

Orientation

Upon initial enrollment to the program, all radiography students will receive an orientation / in-service in regard to prenatal radiation exposure as currently recommended by the National Council on Radiation Protection (NCRP) and the Nuclear Regulatory Commission (NRC). This orientation / in-service will be given by a Radiation Safety Officer during student orientation week.

Voluntary Disclosure

Disclosure of all medical conditions, including pregnancy, is strictly voluntary and at the student's discretion. Students have the right to refuse disclosure of medical information; however, in the event that a student chooses not to disclose information regarding pregnancy, the student is acknowledging that they are assuming all responsibly for their condition and the related risks.

If the student chooses to voluntarily disclose information regarding their pregnancy (see Options #2 & #3 below), the Education Coordinator will contact the Radiation Safety Officer to arrange for the student to review their previous radiation exposure history and to review protective actions as well as the risks associated with radiation exposure to the fetus. The student shall be issued an additional dosimeter which is to be worn at the level of the pelvis to monitor fetal dose. The student also shall read appendix to NRC 8.13-3 (instruction concerning prenatal radiation exposure).

Enrollment Options

With regards to programmatic enrollment and completion, students have the following (3) three options:

Option #1 – Choose Not to Disclose Information Regarding Pregnant Condition
By choosing this option, the student implies acknowledgment that they are assuming responsibility for all potential radiation risks and related complications. No policy or performance exceptions can or will be implemented should the student choose this option.

Option # 2 – Request a Leave of Absence during pregnancy.
A student may request a leave of absence by voluntarily notifying program officials of a pregnant condition. Students may request to initiate a leave of absence upon disclosure or may elect to defer the leave until the completion of the current semester. Students desiring to complete the current semester before taking a leave of absence should notify program officials as soon as possible so that the appropriate radiation safety procedures for pregnant students may be employed for the remainder of the term. The terms and conditions of the leave of absence are specified in the Medical Leave of Absence policy.

Option # 3 - Remain in Program throughout pregnancy.
The following conditions are applicable if the student elects to remains in the program during pregnancy:

a. The student shall wear additional exposure monitoring devices as determined by the Radiation Safety Officer's recommendation.

b. The student shall wear a wrap-around lead apron during clinical procedures. Lead aprons of 0. 5 mm lead equivalent are considered sufficient to attenuate 88% of the beam at 75 kVp. Above 75 kVp, aprons with 1.0 mm of lead equivalent are recommended.

c. The student shall participate in all scheduled clinical rotation areas as assigned.

d. The student shall not participate in Iodine 131 / 125 procedures and nuclear generator activities during the Nuclear Medicine clinical rotation (Level III).

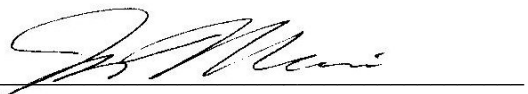
e. The student shall not participate in source implant procedures during the Radiation Therapy clinical rotation (Level III).

f. Absences due to pregnancy are governed by the Attendance and Medical Leave of Absence policy

Written Notifications

Disclosure:
After voluntary disclosure and subsequent consultation with the Radiation Safety Officer, students choosing Options #2 or #3 shall complete and submit the attached Pregnancy Verification form. All documentation shall be entered into the student's permanent personal file.

Withdrawal of Declaration of Pregnancy
The student has the right to withdraw their written declaration of pregnancy at any time by completing the attached Withdrawal of Declaration form. By completing and submitting the form, the student acknowledges that their previously disclosed medical condition (i.e., pregnancy) no longer exists.



Education Manager

West Virginia University Hospitals
Imaging Science Education Programs / Radiography

Pregnancy / Radiation Safety Protection
Verification Form

I verify by my signature below that:

1. I have voluntarily notified a program official and the Radiation Safety Officer of my pregnancy.

2. I have been advised by the Radiation Safety Officer in regard to protective actions as well as the risks associated with radiation exposure to the fetus. I have also read the appendix to NRC 8.13-3.

3. I have received an additional dosimeter which I am wearing at the level of the pelvis to monitor radiation dose to the fetus.

4. It has been explained to me that by wearing a 0.5 mm lead equivalent protective apron, the dosage to the abdomen/pelvis can be reduced by more than 88% at 75 kVp. It also has been explained to me that a lead apron with 1.0 mm of lead equivalent should be worn when the beam is above 75 kVp.

5. I have had the opportunity to discuss questions concerning radiation safety during my pregnancy with the Radiation Safety Officer. Furthermore, I understand that should additional questions arise, I may again consult with the Radiation Safety Officer.

_____ I understand the potential radiation risks to myself and my fetus during my pregnancy while participating in the clinical education components of the Radiography program. I elect **to remain** in the Program and adhere to the requirements as stated in Option # 3 of the attached Pregnancy Policy.

_____ I understand the potential radiation risks to myself and my fetus during my pregnancy while participating in the clinical education components of the Radiography program. I elect **not to remain** in the Program and request that a medical leave of absence be granted. I have read, understand, and agree to the conditions specified in the Medical Leave of Absence policy.

_____ _____
Student Date

_____ _____
Education Manager Date

West Virginia University Hospitals
Imaging Science Education Programs

Withdrawal of Declaration of Pregnancy Form

I verify, by my signature below, that I withdraw and/ or void my previous declaration of pregnancy.

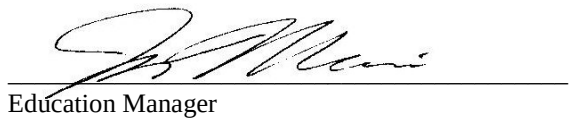
_____ _____
Student Date

_____ _____
Education Manager Date

Hours of Academic and Clinical Education

In accordance with the JRCERT Standards for an Accredited Educational Program in Radiography, the WVUH Radiography program limits clinical and academic education to not more than 40 hours per week. Unless utilizing Personal Leave or Compensatory time, students are required to attend all scheduled clinical and didactic hours.

WVUH offers only full-time enrollment options for students in the Imaging Science Education Programs. Clinical and academic course assignments will be scheduled Monday through Friday from 8:00 am to 4:00 pm with the exception of occasional evening clinical assignments. Students will not be scheduled to clinical rotations on midnight (third shift), weekends, or designated student holidays. Students will be assigned to participate in at least one evening (second shift) clinical rotation per semester. Evening clinical education assignments will require the student to be in attendance Monday through Friday into the evening hours. Didactic course attendance requires students to begin evening clinical assignments at the time of their 1st class of each day and to be attendance for 8 hours from that point. (If a didactic course is scheduled for 1:00pm on a particular day, then the student assigned to an evening clinical rotation would be in attendance from 1:00pm to 9:00pm on that day). Students may electively attend additional clinical hours but must first obtain instructor approval and can only do so within the operational hours of the program.



Education Manager

Advanced Placement / Part-time Enrollment/ Distance Education Policy

This policy serves to identify the Program's philosophy relative to advanced placement into the program, part-time student attendance, and distance education.

With consideration to the following:

1. The program enrolls only one new cohort of students each year in July.
2. Upon matriculation, enrollment is continuous for the entire length of the program (≈ 23 month)
3. The course content is specific in nature and is exclusive to Radiologic Technology.
4. The didactic curriculum is closely correlated with the clinical education process.
5. The educational structure is sequential in nature.
6. The nature of effective clinical education requires on-site participation with direct patient interactions.
7. The enrollment process is competitive and a limited number of positions are available.

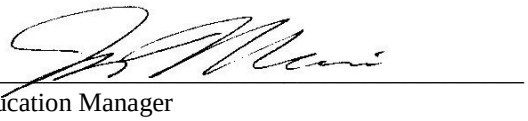
Exclusive of the provisions established by the Transfer policy, the Radiography program does not make provisions for advanced placement, part-time enrollment or distance / on-line education.

Education Manager

Graduation Requirements

Students enrolled in the Radiography program must complete the following to be eligible for graduation and receive authorization from program officials that they have completed the necessary didactic and clinical criteria to sit for the A.R.R.T. certification exam in Radiography.

- Achieve a passing grade (78% or >) in each Radiography didactic course.
- Achieve a passing grade (86% or >) in each clinical course by the end of each semester.
- Document completion of a minimum Associates degree with satisfactory completion of 15 credit hours of coursework in general education studies, which must include at least one course in Mathematics, and one course in Written/ Oral Communications.
- Successfully complete the required core competencies as specified by the program's clinical requirements.
- Complete the published number of clinical hours within the provisions established by the program's attendance policy.
- Demonstrate critical thinking, effective communication, and problem solving skills within the framework of the education structure.
- Demonstrate ethical and professional behavior within the standards of the institution and the A.R.R.T.'s code of ethics.
- Meet all financial obligations to the school and the facility.



Education Manager

Compensatory Time

Compensatory time is a provision by which program faculty can award students time-off for various reasons including but not limited to the following:

1. As an incentive mechanism for rewarding student performance that goes above and beyond normal expectations.

2. Compensation for "non-elective" clinical time that exceeds published program hours.

3. Compensation for time spent providing clinical support in situations in which the inclement weather policy is initiated (See Policy 1.021 Inclement Weather).

General Guidelines/Provisions:

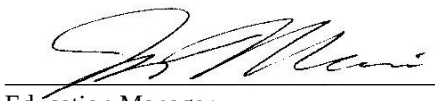
1. Students must submit a request to utilize compensatory time **prior** to the start of the designated clinical assignment during which they wish to take compensatory time.

2. All requests to utilize compensatory time must be submitted through the wvumradeducation@wvumedicine.org e-mail address.

3. Compensation time earned by the student **may not** be taken during scheduled didactic course hours.

4. Compensatory time awarded will be recorded in the student's attendance log and deducted accordingly.

5. Technologists or other department personnel are encouraged to report exceptional student behavior to program faculty and recommend that compensatory time be awarded; however, the amount of time awarded will be at the discretion of the program faculty member.



Education Manager

Didactic Course Make-up policy

Program faculty and course instructors will abide by the following procedure for permitting students to make-up course work missed as a result of being absent from a scheduled lecture session. This policy serves to eliminate, as much as possible, any potential advantage that a student may achieve by being absent from a scheduled didactic session and thereby obtaining a greater amount of study and/or preparation time, for the scheduled activities of the class, than those students in attendance.

1. The student is solely responsible for the lecture material covered and for making up any examinations, quizzes, homework assignments, etc. which occurred during their absence from a didactic session.

2. All examinations and/or quizzes must be made up on the student's first regular scheduled day of attendance (Monday thru Friday) following their absence from a didactic session.

3. Instructors reserve the right to revise the structure of a make-up exam or quiz within the context of the material covered.

4. The student must follow the following procedures:
    a. Contact the course instructor by **9 am** on the day of your return and inform the instructor that you are presenting yourself to make-up the missed examination and/or quiz.

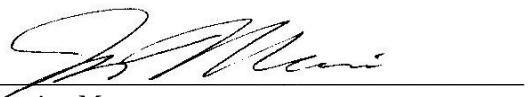
    b. In the event that the course instructor is not available, contact another faculty member immediately and inform him/her to this affect.

5. Instructors may submit the examination and/or quiz to another program faculty member who will proctor the make-up session for the instructor. Instructors who anticipate that they will not be available for the make-up session should arrange in advance for another program faculty member to proctor the session.

6. Failure of the student to follow the aforementioned make-up guidelines imposes a mandatory requirement upon the instructor to record a percentage grade of zero for the examination and/or quiz.

7. A student who fails to meet an assignment (i.e. term paper) deadline as a result of being absent on the deadline day must submit the assignment on the first regular scheduled day of attendance following the absence. The equivalent of a 10% reduction in grade will be imposed as a penalty for missing the deadline. If the student fails to submit the assignment as described above, the instructor is required to enter a percentage grade of zero for the assignment.

This policy and procedure will be followed in all cases except where the program director and the course instructor have agreed to waive this policy because of special extenuating circumstances.



Education Manager

Attendance Documentation Policy

Students are required to document their attendance by utilizing the Trajecsys ® clinical documentation system. This system provides program officials with a method by which to regulate student attendance as they rotate through their various clinical and didactic assignments.

1. Upon arriving to the designated clinical or didactic assignment, students are required to clock into Trajecsys ® utilizing their phone or a facility computer. Location services are programmed into the Trajecsys ® system by the clinical coordinator and will indicate if a student is outside of the geographic location for their current clinical assignment.

2. Upon leaving the main campus after a designated clinical or didactic assignment, students are required to clock out of the Trajecsys ® system using their phone or facility computer.

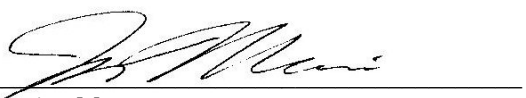
3. Students remaining on-campus for lunch are NOT required clock out of the Trajecsys ® system; however, if students elect to leave the campus or are changing location due to an offsite clinical rotation, they must log out of the Trajecsys ® system and log back into their assigned area.

Policy Enforcement:

Accurate evaluation and interpretation of student attendance can only be accomplished if students are methodical and precise in documenting their attendance in Trajecsys ®. For this reason, the following guidelines have been established and will be strictly enforced.

1. Each student must log in and out with Trajecsys ® using their log in credentials. Students are not permitted to log in and out for each other. Students must be within the set geographic location in Trajecsys ® in order to be marked present.

2. Each event in which a student fails to either log in or log out in accordance with this policy will be deemed an occurrence. Occurrences of this nature will be combined with and added to occurrences relating to tardiness. Occurrences reaching and/or exceeding the threshold value will be subject to the provisions specified in the Attendance policy in the Tardiness section.



Education Manager

Clinical Staff Technologist Evaluation

Policy:
The Clinical Staff Technologist Evaluation provides program official with a mechanism for the evaluation of quality of the clinical education provided by clinical staff. These evaluations are completed by the student radiographers after the completion of each clinical rotation. The objective of this evaluation process is to identify the strengths and weaknesses of each technologist and to identify potential student / technologist issues.

The evaluation process will be conducted as follows:

A. During the student orientation week, the components of the Clinical Staff Technologist Evaluation form will be explained to the student. After the completion of each clinical assignment, each student will be required to complete an evaluation on the technologist to which they were assigned during that rotation. The student will be instructed to base their evaluation rating on the technologist instruction performance only. The importance of remaining objective in their evaluation criteria will be stressed.

B. Each student will be assigned a random identification number which will be known only to the Program officials. Prior to submission, the student will place their identification number, the name of the technologist, and the rotational area on the evaluation.

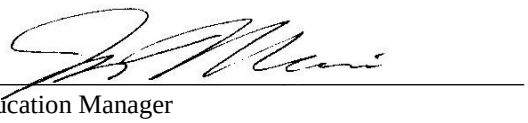
C. The student will rate the technologist from a scale of 1 to 3 in each category on the evaluation form. (1 = Unsatisfactory, 2 = Satisfactory, 3 = Excellent). The points will be cumulated and divided by the total number of categories to produce an overall rating. The following scale will be utilized:
1.0 -1.99 =Unsatisfactory 2.0 -2.99 = Satisfactory 3 = Excellent

D. The student will submit the evaluation to the Clinical Coordinator (s) along with their required clinical paperwork at the end of each clinical rotation.

E. Evaluations will be retained by the Clinical Coordinator(s) for a period of one year. At the end of each semester, each technologist will be permitted to review their evaluation for the previous semester. These evaluations will be submitted to the Radiology Manager for use in the annual performance review of each staff technologist relative to their duties as staff clinical instructors.

F. In the event that a technologist receives an evaluation that falls into the unsatisfactory category, the Clinical Coordinator will discuss the evaluation with the student evaluator. If the Clinical Coordinator deems that the evaluation is accurate and the performance of the technologist is detrimental to the clinical education process, the evaluation will be discussed with the Program Director and the Radiology Manager. If deemed necessary, the technologist will be counseled regarding their clinical instruction performance.

G. In order to maintain the integrity of the evaluation and to allow students to complete the evaluation without fear of retribution, the student's identification number will be kept extremely confidential. At no time will the staff clinical instructor be provided with information regarding the identity of the student evaluator. Technologists who wish to challenge a student's evaluation may do so by submitting a formal complaint in writing to the Program Director. The Program Director, the Radiology Manager, and the Clinical Coordinator (s) will investigate the compliant and provide feedback to the technologist relative to the validity of the student's evaluation.



Education Manager

Clinical Card Verification

The student clinical card verification provides a mechanism by which a staff technologist can evaluate a student with regards to their level of competency achievement. By reviewing the student's clinical card, prior to each clinical rotation, the technologist can ascertain the level of supervision (direct or indirect) required for that student during that rotation.

Procedure:

1. During orientation, the clinical faculty will issue each student a clinical card. Students will be instructed to have the clinical card immediately available during all clinical education hours.

2. The clinical card contains a listing of all clinical examination requirements for the entire Program. Each examination requirement listing has a corresponding section for the date of completion and the clinical faculty's signature for the following categories: (1) simulation, (2) core examination, and (3) qualifying examination.

3. Upon the student's successful completion of a simulation, core examination, or qualifying examination, a clinical faculty member will date and sign the corresponding section in the student's clinical card. Through this process, the handbook will provide the staff technologists with a current record of the student's clinical achievement.

4. At the beginning of each clinical rotation, the staff technologist will review the student clinical card. Completion of a Core Competency **does not automatically** qualify a student to perform that particular examination under indirect supervision unless there is no qualifying examination for that particular exam, in which case a student may operate under indirect supervision. Refer to Policy 2.003/ Direct & Indirect Supervision of Students

5. Any questions, doubts, or concerns regarding the competency level of a student should be directed to a Clinical Instructor or the Clinical Education Coordinator.

Education Manager

West Virginia University Hospitals
Imaging Science Education Programs
Radiography Program

Course / Clock-hour Profile

Fall / Semester I

Course Number	Title		Clock hours
RADI 1000	Mathematics for the Radiologic Sciences		10
RADI 1160	Image Production & Characteristics I + Laboratory		60
RADI 1120	Human Structure and Function I		48
RADI 1130	Medical Terminology for Rad Tech		24
RADI 1150	Radiographic Procedures I + Laboratory		72
RADI 1020	Image Analysis & Evaluation I		30
RADI 2230	Radiation Physics I		38
RADI 1010	Nursing Procedures and Patient Care		24
RADI 1100	Fundamentals of Radiologic Technology		24
		Total Didactic	**330**
RADI 2295	Clinical Experience I	**Total Clinic**	**400**
	Semester I Educational Clock-hour Total		**730**
Holidays	Labor Day, Thanksgiving x2	Total Holiday	24
Vacation	Christmas & New Year's Week	Total Vacation	80

West Virginia University Hospitals
Imaging Science Education Programs
Radiography Program

Course / Clock-hour Profile

Spring / Semester II

Course Number	Title		Clock hours
RADI 1121	Human Structure and Function II		48
RADI 1151 &1030	Radiographic Procedures II + Laboratory		72
RADI 2260	Image Analysis & Evaluation II		30
RADI 1161	Image Production & Characteristics II + Laboratory		48
RADI 2231	Radiation Physics II		48
RADI 1040	O.R. Procedures		10
		Total Didactic	**256**
RADI 2295	Clinical Experience II	**Total Clinic**	**444**
	Semester II Educational Clock-hour Total		**700**
Holiday	Memorial Day	Total Holiday	8
Vacation	Last Week of June	Total Vacation	40

West Virginia University Hospitals
Imaging Science Education Programs
Radiography Program

Course / Clock-hour Profile

Summer & Fall / Semester III

Course Number	Title		Clock hours
RADI 2212	Radiologic Pathology		30
RADI 2050	Image Production & Characteristics III		36
RADI 2240	Radiation Protection & Radiobiology		48
RADI 2220	Neuro-Interventional Procedures (Spec. Procedures)		36
RADI 2200	Advanced Imaging Modalities		16
RADI 2288	Senior Research		18
RADI 2010	Human Structure and Function III		24
		Total Didactic	**208**
RADI 2295	Clinical Experience III	**Total Clinic**	**444**
	Semester III Educational Clock-hour Total		**652**
Holidays	July 4th, Labor Day, Thanksgiving x2	**Total Holiday**	**32**
Vacation	Christmas & New Years Week	**Total Vacation**	**80**

West Virginia University Hospitals
Imaging Science Education Programs
Radiography Program

Course / Clock-hour Profile

Spring / Semester IV

Course Number	Title		Clock hours
RADI 2284	Radiography Seminar (Registry Review)		45
RADI 2237	Digital Imaging and Computerized Tomography		45
RADI 2236	Drugs and Pharmacology in Imaging		15
RADI 1140	Medical Ethics & Professional Development		15
RADI 2213	Sectional Anatomy		30
RADI 2020	Quality Assurance & Quality Control		10
RADI 2030	Introduction to Mammography		8
		Total Didactic	**168**
RADI 2295	Clinical Experience IV	**Total Clinic**	**333**
	Semester IV Educational Clock-hour Total		**501**
Vacation	Spring Break	**Total Vacation**	**40**

WVUMedicine
IMAGING SCIENCE EDUCATION PROGRAMS

West Virginia University Hospitals
Medical Center Drive, Box 8062
Morgantown, WV 26506
(304)598-4251

Courses of Instruction in Radiologic Technology (Radiography)

Course #	Title & Description	Credit hour (AAS degree) / Clock-hour

RADI 1000 — **Mathematics for the Radiologic Sciences** — **10 clock hour**
Review of algebraic and geometric concepts as applied to the Radiologic Sciences. Conducted at the start of Semester I.

RADI 1010 — **Nursing Procedures and Patient Care** — **24 clock hours**
A study of the fundamentals of optimum patient care and nursing procedures applicable to the radiologic sciences.

RADI 1040 — **Operating Room Procedures** — **10 clock-hours**
This course provides the student with an introduction to operating room theory with a practical application of the skills to be performed in the role of a technologist. Principles and concepts of aseptic technique, sterilization and disinfection, and their relationship to the surgical suite and all other associated techniques are presented. The students will have access to a surgical suite for the purpose of practicing and learning basic skills outlined in the objectives of this course. Emphasis is on the use and application of radiography equipment utilized intra-operatively (mobile and c-arm units) and basic operating room procedures.

RADI 1100 — **Fundamentals of Radiologic Technology** — **1 credit hr / 24 clock-hrs**
Introductory course designed to familiarize students to the healthcare environment with emphasis on professional behaviors and human diversity. Include discussion on the evolution of medicine and more specifically, radiology and imaging with a focus on the general overall operations and services provided by the Radiology Department.

RADI 1120, 1121 — **Human Structure and Function I, II** — **3 credit hrs ea. / 48 clock-hrs ea.**
An in-depth study of the human body, its structure and function. Special emphasis is placed on the skeletal system, although a comprehensive study is required of all remaining body systems and the interrelationship of these systems with each other and the total body.

RADI 1130 — **Medical Terminology for Rad. Tech** — **1 credit hr / 24 clock-hrs**
Enables the student radiographer to master medical terminology as it applies to the specialty of Radiology. Specifically this unit introduces medical abbreviations, symbols, and terms which the student will employ throughout his/her career in order to enhance the ability to select the appropriate technical factors and perform radiographic positions required to meet imaging criteria.

RADI 1140 — **Medical Ethics & Professional Development** — **1 credit hr / 15 clock-hrs**
To identify and discuss the professional responsibilities of a Radiologic Technologist and to provide students with a basic understanding of the medico-legal aspects of imaging with insight into some of today's controversial ethical problems.

RADI 1150, 1151 — **Radiographic Procedures I, II and Lab** — **3 credit hrs ea. / 48 clock-hrs ea.**
Provides precise and detailed information on the various radiographic positions of the structures and organs of the body . The relationships of organs to regions of the body and surface landmarks is taught to enable the student radiographer to locate the structures to be imaged. A Positioning / Practicum lab is included (RADI 1030 - 24 clock-hrs each semester.)

WVUMedicine
IMAGING SCIENCE EDUCATION PROGRAMS

West Virginia University Hospitals
Medical Center Drive, Box 8062
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(304)598-4251

Course #	Title & Description	Credit hour / Clock-hour
RADI 1160, 1161	**Image Production & Characteristics I & II** Provides comprehensive instruction in the primary image qualities and explains the characteristics of x-rays and their ability to interact with matter and image recording devices. Discusses the various technical factors and accessory devices factors employed in the production of optimal quality radiographs. A lab component is also incorporated.	**2 credit hrs ea. / 60 & 48 clock-hrs**
RADI 2010	**Human Structure & Function III** Provides the 2nd year student with in-depth study of human anatomy and physiology utilizing a body systems approach including the following systems: Cardiovascular, Genitourinary, Gastrointestinal, Nervous, Endocrine, Reproductive, Respiratory, and Sensory.	**24 clock hours**
RADI 2020	**Quality Assurance & Quality Control** Students will be provided with instruction regarding the concepts and procedures involved in maintaining a quality assurance / quality control program in the radiology department. Students will be given classroom instruction regarding basic quality assurance testing that can be completed non-invasively in the imaging department. Students will be instructed in the importance of maintaining a quality assurance and control program in order to assure radiation safety for the patient and radiologic technologist.	**10 clock hours**
RADI 2030	**Mammography** This course introduces the radiography student to the concepts and techniques involved with imaging the breast tissue. Students will recognize the vital role of mammography in the medical imaging community. Students will understand the essential components of mammography including routine and screening exams, interventional procedures, breast anatomy, and various breast disease processes.	**8 clock hours**
RADI 2200	**Advanced Imaging Modalities** Course provides students with an introduction and basic instruction in the development and application of advanced technologies utilized in diagnostic imaging. Topics includes are Radiation Therapy, Ultrasound, Nuclear Medicine, and Magnetic Resonance imaging.	**1 credit hr / 16 clock-hrs**
RADI 2213	**Sectional Anatomy** Provides the student with instruction in identifying and evaluating anatomy in the axial, sagittal, and coronal planes as acquired through advanced imaging technologies such as Computerized Tomography and Magnetic Resonance Imaging	**2 credit hrs / 30 clock-hrs**
RADI 2220	**Neuro-Interventional Procedures** A study of the specialized and highly technical procedures in Imaging including the equipment, techniques, and the general indications and contraindications, for each procedure. The focus is directed towards Vascular, Neurological, and Interventional Imaging and related anatomy.	**1 credit hr / 36 clock-hrs**
RADI 2299, 2231	**Radiation Physics I, II** Introduces the student to the fundamentals of matter, energy and mechanics and provides a detail study of the application in the radiologic sciences. The course also covers electromagnetic & particulate radiation, radiation production, energy transmission, interaction with matter, and x-ray generating equipment. The course is designed to provide the student with a comprehensive knowledge of radiation and its properties in an effort to minimize the potential radiation hazards to the patient and radiographer	**2 credit hrs ea. / 38 & 48 clock-hrs**

West Virginia University Hospitals
Medical Center Drive, Box 8062
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(304)598-4251

IMAGING SCIENCE EDUCATION PROGRAMS

Course #	Title & Description	Credit hour / Clock-hour
RADI 2236	**Drugs & Pharmacology in Imaging** Curriculum provides an overview of pharmacological agents and their application in the imaging sciences. Provides information regarding scope of practice for the imaging professional in relation to drug and contrast administration .The curriculum will also cover the principles of pharmacology, drug classifications, contrast agent properties and a review of administration routes.	**1 credit hr / 15 clock-hrs**
RADI 2237	**Digital Imaging & Computed Tomography** Curriculum includes a comprehensive study into digital imaging to include computer basics, electronic image capture, computerized (CR) & direct radiography (DR), PACs, and image display systems. The course also includes study in the technical aspects of Computerized Tomography.	**3 credit hrs / 45 clock-hrs**
RADI 2240	**Radiation Protection & Radiobiology** An in-depth theoretical study of the nature of radiation and its potential short and long term effects on the human organism and a comprehensive study on the concept of dose limitation and radiation protection.	**3 credit hrs / 48 clock-hrs**
RADI 1020 & 2260	**Image Analysis & Evaluation I & II** Instructs students in the evaluation of diagnostic images for the purpose of assessing technique, positioning, and other pertinent technical qualities; facilitates remediation of student technical difficulties in obtaining high quality images.	**1 credit hr / 30 clock-hrs ea**
RADI 2212	**Radiographic Pathology** Via a systems approach, students become familiar with the pathological processes which affect the human organism (i.e. contagious diseases, tumors, congenital abnormalities, blood dyscrasia) and are commonly diagnosed through imaging technologies.	**2 credit hrs / 36 clock-hrs**
RADI 2284	**Radiography Seminar (Registry Review)** A review of the radiologic technology curriculum aimed at preparing the student for the American Registry of Radiologic Technologists examination. Professional, organizational, and current health care issues are also explored via lecture/discussion.	**1 credit hr / 45 clock-hrs**
RADI 2288	**Senior Research** The course is designed to engage the student in the basics concepts, strategies and methodologies of conducting research in the imaging sciences. Through the use of various informational and data mechanisms, the student will conduct research on a particular topic primarily related to the healthcare industry and/or the imaging profession. Student projects will be presented at the annual WVSRT conference	**1 credit hr / 16 clock-hrs**
RADI 2050	**Image Production & Characteristics III** An advanced course in image production principles designed to further the student's knowledge and proficiency in the operation of imaging equipment and in the application of technical factors utilized in the production of diagnostic images. The course curriculum includes Fluoroscopy, Image Intensification, Automatic Exposure Control, and Computer Basics. A comprehensive review of material presented during previous image production and characteristics courses is provided. .	**24 clock hours**

West Virginia University Hospitals
Medical Center Drive, Box 8062
Morgantown, WV 26506
(304)598-4251

Course #	Title & Description	Credit hour / Clock-hour

RADI 2295 **Clinical Experience I** **2 credit hrs / 444 clock-hrs**

This course is conducted within the healthcare facilities at West Virginia University Hospital and offers students comprehensive clinical education in Radiography. The course consists of 1 week clinical rotations through various sections of the imaging department. The course is designed to introduce students to the imaging environment and direct patient care. Students will primarily function under direct supervision while completing all Level I clinical competencies and requirements.

RADI 2295 **Clinical Experience II** **3 credit hrs / 444 clock-hrs**

This course is conducted within the healthcare facilities at West Virginia University Hospital and offers students comprehensive clinical education in Radiography. This course is composed of bi-weekly rotations through clinical areas which include routine skeletal, mobile, trauma, evening, fluoroscopic, computerized tomography, and interventional imaging. Students are expected to function under indirect supervision, when applicable, while completing all Level II clinical competencies and requirements.

RADI 2295 **Clinical Experience (Summer)** **2 credit hours / 120 clock hours**

This course is conducted within the healthcare facilities at West Virginia University Hospital and offers students comprehensive clinical education in Radiography. This course is designed around weekly & bi-weekly rotations through the equivalent clinical areas assigned to include a rotation in a general diagnostic area and an advanced imaging modality.

RADI 2295 **Clinical Experience III** **5 credit hrs / 324 clock-hrs**

This course is conducted within the healthcare facilities at West Virginia University Hospital and offers students comprehensive clinical education in Radiography. This course is designed around bi-weekly rotations through the equivalent clinical areas assigned in Level II with additional rotations in the Operating Room, Radiation Therapy, Nuclear Medicine, Ultrasound & MRI. Students are expected to function under indirect supervision, when applicable, while completing all Level III clinical competencies and requirements.

RADI 2295 **Clinical Experience IV** **4 credit hrs / 333 clock-hrs**

This course is conducted within the healthcare facilities at West Virginia University Hospital and is the final level of clinical education in Radiography. This course is designed around bi-weekly rotations in equivalent clinical areas as those assigned in Level III with additional rotations in Cardiac Cath. and Mammography. Students are expected to function under indirect supervision, when applicable, while completing all Level IV clinical competencies and requirements.

Admission Policy

West Virginia University Hospitals (WVUH) and those responsible for the administration and management of the Imaging Science Education Programs consider each applicant for admission without regards to race, religion, color, national origin, ancestry, age, sex, sexual orientation, gender identity, disability, veteran status or any other status protected by applicable law. Although authorized to enroll 24 students per academic year, program officials reserve the right to limit enrollment based upon the quality of the applicant pool and current employment market conditions. Admission to the program in Radiography is competitive and is governed in accordance with the following minimum admission requirements.

Requirements for Admission Consideration

All of the following criteria are required for admission consideration and documents must be received on or before **March 1st** of the year in which the student is applying for admission:

1. Applicant must **review** the Essential Performance Standards form located on the program's website. https://wvumedicine.org/radtech/radiography/

2. Applicant must **submit** the following by the March 1st to be considered for the program starting in July each year:
    a. Program application
    b. Official transcript of high school grades or G.E.D. scores.
    c. Official transcript(s) of all post-secondary education (college, technical school, etc.)
    d. American College Test (ACT) scores ***OR*** Scholastic Aptitude Test (SAT) scores
        1. Applicants must meet the following minimum scores for admission considerations:
            - 19 ACT Composite
            OR
            - 990 SAT Total
            - ACT / SAT requirements are waived for applicants possessing a **baccalaureate** degree or higher.
            - ACT School Code - 4549 SAT School code - 3863

3. High School graduate or equivalent (GED) with a minimum GPA of 2.0
    a. High school seniors are considered contingent upon their successful completion of high school prior to matriculation.

4. To be eligible to sit for the certification exam in Radiography administered by the American Registry of Radiologic Technologists (ARRT) (www.arrt.org), applicants must document /complete one of the following options:

    Option #1: Prior to enrolling, document completion of an Associate's degree (or higher) from a post-secondary institution accredited by an ARRT recognized accrediting agency. The degree can be in any field or discipline but must include a course in mathematics and a course in written/ oral communications.

    OR

    Option #2: Enroll through either WVU-Potomac State **or** Pierpont Community & Technical College while attending our program and complete an Associate's degree upon graduation. (See website for more information)

Evaluation

Program officials utilize an established, objective screening mechanism to assign academic points to a candidate based on their current level of academic achievement. To qualify for an interview, candidates must score in the top 60 of their applicant pool **and** score a minimum of 30 cumulative academic points. The following categories are evaluated in assigning academic points:

1. ACT Composite ***OR*** SAT Total scores

2. High school grades (Chemistry, Physics, Biology, Algebra, Human Anatomy and Physiology, Computer Literacy, Cumulative Mathematics, and other applicable courses (at the discretion of the Admission Committee Chairperson)

3. GED scores (Math, Writing Skills, Science and Average standard scores)

4. High School Cumulative G.P.A.

5. College grades (Chemistry, Physics, Biology, Algebra, Human Anatomy and Physiology, Computer Science, Cumulative Mathematics, and other applicable courses (at the discretion of the Admission Committee Chairperson)

6. College Credits based on GPA relative to the number of hours completed.

7. College degree awarded (Graduate, Undergraduate)

8. Work experience (Health-related / Non- health related)

9. Military Service / VA Benefit Eligible
   For applicants that will potentially be using VA educational benefits if accepted, WVUH will accept, review and maintain a written record of previous education and training for each candidate. Such materials will be reviewed to determine if credit towards admission or program completion is possible.

Candidates not achieving the 30 academic point minimum or not scoring in the top 60 of their respective applicant pool will be notified by letter regarding their non-admission status.

Interview

Candidates meeting the aforementioned criteria will be granted a personal interview and will be notified by email regarding the date and time of their interview. Interviews will be conducted during late March/early April. Members of the Admissions Committee (Education Coordinator, Clinical Education Coordinators, and/or Clinical Preceptors) will conduct the interview(s). Each member will score the applicant's interview on the Interview Report form. A candidate must score a **minimum of 25** (out of 40) interview points to be considered for a position in the program. The mean interview score will be calculated, and the total number of points (academic & interview) will be summated on the applicant's admission scoring sheet.

Selection

Each applicant is ranked according to the total number of points accumulated and the 24 applicants with the highest point totals are offered a position in the program. The next four applicants, ranked in positions 25-28, are wait-listed according to their point totals. In the event that a position becomes available prior to August 1st, the vacancy will be offered to the remaining wait-listed applicant with the highest point total. If a position is not offered to a wait-listed applicant prior to August 1st, the applicant will be required to reapply if they wish to be considered for admission to the next enrollment period.

The 24 applicants chosen for admission will receive:

a. Acceptance letter
b. Copy of the student handbook
c. Enrollment Contract (to be signed and returned)
d. Essential Performance Standards form
e. Invoice for Admission Fee

All other applicants interviewed will receive a written verification of their status.

Acceptance

The 24 selected applicants are be given approximately 10-15 business days to respond to the offer of admission by completing the following prior to the established deadline:

1. Read the Student Handbook
2. Sign and return the Enrollment Contract
3. Sign and return the Essential Performance Standards form
4. Submit a $50.00 check to WVUH for the admissions fee.

If an applicant fails to respond to the offer of admission by the established deadline, program officials will consider the offer as null and void, and will proceed by offering the position to a wait-listed applicant.

Enrollment

Enrollment is contingent upon the student satisfactorily completing the following screening and assessment procedures within the guidelines specified by West Virginia University Hospitals (WVUH). These screenings will be conducted during the orientation time frame or at a time specified by program officials. Students will be provided with additional information regarding these procedures prior to the program start date.

Students will be required to:

(1) Complete a health assessment and a vaccination record review conducted by the Employee Health department.
(2) Complete the criminal background investigation process. (See WVUH Policy V.036)
(3) Complete the drug screening / testing process. (See WVUH Policy V.035)
(4) Complete all other WVUH mandatory orientation procedures.

Education Manager

Intravenous (IV) Policy for Radiography Students

I. Purpose

The purpose of this policy is to establish guidelines regarding the removal and insertion of intravenous (IV) lines by radiography students during clinical rotations in Computed Tomography (CT) and other applicable rotations in which IV access is needed.

II. Policy Statement

1. Radiography students assigned to clinical rotations in computerized tomography (CT) or other areas are prohibited from inserting or removing IV lines until they have successfully completed the program's designated IV training and competency requirements.

2. Students will complete IV training during the beginning of the third or summer semester of the radiography program. Upon successful completion of the required training and demonstration of competency, students will be permitted to insert or remove IV lines under direct supervision and according to the policies of WVU Medicine.

III. Procedures

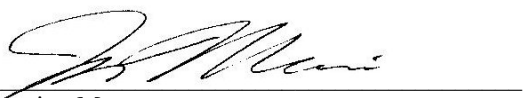
1. Prior to completion of IV training, students may observe IV insertion and removal procedures but may not independently remove or insert IV lines under any circumstances.

2. IV training will include:
   a) Instruction in infection control and standard precautions
   b) Proper techniques for IV placement and removal
   c) Patient safety considerations
   d) Management of potential complications
   e) Documentation procedures

3. Students must demonstrate competency in IV placement and removal as determined by program faculty and/or designated clinical instructors before performing IV insertions or removals in the clinical setting.

4. After competency has been verified:
   a) Students may insert/ remove IV lines while assigned to CT or other applicable clinical rotations.
   b) Students must adhere to all clinical site policies and procedures.
   c) Appropriate direct supervision is always required by qualified clinical personnel.

5. Any student who performs IV removal prior to successful completion of training and competency verification will be subject to disciplinary action consistent with program policies.



Education Manager