



Program Manual

Advanced Imaging Certificate in Computed Tomography (CT)
Advanced Imaging Certificate in Magnetic Resonance Imaging (MRI)

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Introduction

The transformation of dedicated imaging technologists into superb, advanced imaging technologists is the prime goal of this Department and all aspects related to its activities and mission are centered on the training of you as a Computed Tomography (CT) or Magnetic Resonance Imaging (MRI) student. This is a unique and somewhat daunting task that must have commitment by the faculty as well as a structured objective manual to guide us in our endeavors.

We must work together to undertake and combine all opportunities of educational support systems to help you acquire an enormous body of knowledge encompassing the clinical and basic science of CT/MRI, the development of technical skills and above all, the mastery of superb clinical judgment that is fashioned around a professional approach to your patients and their families.

During your training, the time you have on your own is perhaps the most precious commodity, vital not only to your personal development in your relationship with your family, friends, etc., but also time to structure your educational environment. This is also time to develop your professional goals.

This manual serves as an extension of the B.S. Imaging Sciences manual. The information found within both manuals is essential to your understanding of our expectations of you as a student as well as provides you with a structure for success in the online learning environment.

Should you come in contact with areas that are not addressed within this manual, please bring this to the attention of the Clinical Coordinator.

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Technical Support

Technical Support (Help Desk) is responsible for:

- Toll-free 24/7 telephone access at 877-642-1902
- Assisting students having difficulties accessing the course website, discussion forums, and course e-mail, and submitting/posting assignments, and quizzes online
- Support for basic hardware, software, ISP, and Internet browser issues

Department of Imaging Sciences

Mission Statement

Consistent with the mission of the University, the Imaging Sciences Program at AdventHealth University (AHU) provides a Christian educational environment that prepares students to become skilled imaging professionals who possess technical expertise and personal characteristics for successful employment.

Program Goals and Objectives

Upon completion of the Advanced Imaging Certificate Program, the imaging professional will be able to meet the following goals and objectives:

1. Patient Care

Goal

Students will be able to provide patient care that is compassionate, appropriate, and effective for the treatment of health problems and the promotion of health.

Objectives

- 1.1 communicate effectively and demonstrate caring and respectful behaviors when interacting with patients and their families
- 1.2 gather essential and accurate information about their patients
- 1.3 perform competently all medical and invasive procedures considered essential for the area of practice
- 1.4 provide health care services aimed at preventing health problems or maintaining health

2. Practice Based Learning and Improvement

Goal

Students will be able to investigate and evaluate their professional practices, appraise and assimilate scientific evidence, and improve their patient care practices.

Objectives

- 2.1 use information technology to support patient care decisions and patient education
- 2.2 know and apply the basic and clinically supportive sciences which are appropriate to their discipline
- 2.3 locate, appraise, and assimilate evidence from scientific studies related to their patients' health problems
- 2.4 use information technology to manage information, access on-line medical information, and support their own education

3. Interpersonal and Communication Skills

Goal

Students will be able to demonstrate interpersonal and communication skills that result in effective information exchange and teaming with patients, their patients' families, and professional associates.

Objectives

- 3.1 create and sustain a therapeutic and ethically sound relationship with patients and their families
- 3.2 use effective listening skills and elicit and provide information using effective nonverbal, explanatory, questioning, and writing skills
- 3.3 communicate and work effectively with others as a member or leader of a health care team or other professional group

4. Professionalism

Goal

Students will demonstrate a commitment to carrying out professional responsibilities, adherence to organizational and ethical principles, and sensitivity to a diverse patient population.

Objectives

- 4.1 understand the importance of ethical behavior in the interprofessional health care team

- 4.2 demonstrate an open and responsive attitude to feedback from technologists, supervisors, patients, families, faculty and peers
- 4.3 demonstrate a commitment to ethical principles pertaining to provision or withholding of clinical care, confidentiality of patient information, informed consent, and business practices
- 4.4 demonstrate sensitivity and responsiveness to patients' culture, age, gender, and disabilities
- 4.5 practice self-initiative and integrity

5. System Based Practice

Goal

Students will demonstrate an awareness of and responsiveness to the larger context and system of health care and the ability to effectively call on system resources to provide care that is of optimal value.

Objectives

- 5.1 work with other interprofessionals to provide patient focused care within the larger system
- 5.2 practice cost-effective health care and resource allocation that does not compromise quality of care
- 5.3 advocate for quality patient care and assist patients in dealing with system complexities
- 5.4 know how to partner with health care managers and health care providers to assess, coordinate, and improve health care, and know how these activities can affect system performance

Institutional and Program Policies

The following section describes regulations of the program governing such situations. Please read this information thoroughly. Students participating in the program are expected to abide by these policies.

Criteria for Admission

1. Overall GPA of 2.5 or above in all previous college coursework.
2. The applicant must hold current registration in Radiography, Radiologic Technology, Radiologic Sciences, Nuclear Medicine Technology, or Sonography by the American Registry of Radiologic Technologists (ARRT), Nuclear Medicine Technology Certification Board (NMTCB), or American Registry of Diagnostic Medical Sonography/Cardiovascular Certification International (not applicable for Computed Tomography program).
 1. Please refer to ARRT Post Primary Eligibility Pathways for accepted licensures: <https://www.arrt.org/earn-arrt-credentials/requirements/postprimary-requirements>
3. The applicant must have graduated from an accredited program approved by the JRCERT or JRCNMT.

Licensure Status

All students in the program are required to maintain a current license with the ARRT or NMTCB in good standing throughout their course of studies. Any changes in licensure status must be documented by submitting a copy of your current license. The Program reserves the right to request updated evidence of licensure status at any time. If at any time you become unlicensed for any reason, or if you are obligated to surrender licensure in any jurisdiction for disciplinary reasons, you must inform us of your change of status. This notification must occur immediately if you are currently participating in a course, or at the time of registration for your next course. Please be aware that we are obligated to report any attempts at misrepresenting your licensure status to appropriate regulatory agencies.

Academic and Personal Integrity

Students in the Advanced Imaging Certificate Program are expected to exhibit high levels of integrity in all activities. AHU reserves the right to deny admission to or remove students from any program if they have a record of misconduct or demonstrate behaviors that would jeopardize their professional performance.

Academic dishonesty is not tolerated in the Advanced Imaging Certificate Program. Academic dishonesty includes but is not limited to:

- Cheating on assignments or examinations
- Stealing, accepting, or studying from stolen quizzes or examinations
- Plagiarism
- Forgery of signatures
- Falsification of official documents
- Falsification of data and assignments
- Falsification of clinical records
- Misrepresentation of qualifications
- Misuse of materials which are University property

Students who violate these standards of professional and academic integrity may receive a failing grade for the assignment or the course. The student will not be granted a grade of “W” in the course and may, depending on the nature of the offense, be dismissed or suspended from the program or the University. For further information regarding disciplinary action and procedure for violations of academic and personal integrity, refer to the current *Academic Catalog*.

Health Insurance Portability and Accountability Act (HIPAA)

The Health Insurance Portability and Accountability Act of 1996 (HIPAA) requires health care providers to abide by the regulations for privacy and confidentiality of protected health information (PHI). The HIPAA privacy rule covers all individually identifiable health information at AdventHealth University and the affiliated clinical sites facilities, whether the information is electronic, paper, or spoken. In accordance with HIPAA, the Department of Imaging Sciences has implemented and provides training for students within the CT/MRI Programs. All students are required to observe these regulations and comply in all aspects of

their academic education, both didactic and clinical. Regulations specific to the clinical environment include, but are not limited to:

- Taking any photos or video on clinical site property
- Discussing patient cases in public areas
- Communicating information about clinicals outside of academic use
- Transmitting by way of any electronic media (texting, social media, etc.) any patient related information or image that is reasonably anticipated to violate patient rights to confidentiality or privacy

If a student is found to be in violation of this policy, they are subject to the penalties as outline in the Disciplinary Action Policy.

Title IX

AdventHealth University (“University”) is committed to providing a learning, working, and living environment that promotes personal integrity, civility, and mutual respect in an environment free of discrimination on the basis of sex/gender. The University considers Sex Discrimination in all its forms to be a serious offense. Sex Discrimination constitutes a violation of the Title IX policy, is unacceptable, and will not be tolerated.

Sexual Harassment, whether verbal, physical, or visual, is always inconsistent with the mission and expectations of the University and may constitute a form of Sex Discrimination and is in violation of this policy. Sexual Harassment also includes Sexual Violence/Assault. Definitions and examples of specific conduct that constitutes Sexual Harassment and Sexual Violence/Assault are set forth in the [Harassment and Non-Discrimination Policy \(Links to an external site.\)](#) and the [Resolution Process A \(Links to an external site.\)](#) or [Resolution Process B \(Links to an external site.\)](#).

A notice or complaint of an alleged violation of the policy should be reported to the Title IX Coordinator, Starr Bender, or the Deputy Title IX Coordinator, Katie Shaw (Denver Campus). A notice or complaint can be verbal or in writing. The complaint should include:

1. Date(s) and time(s) of the alleged sex discrimination
2. Names of all persons involved, including possible witnesses
3. Details outlining what happened
4. Contact information for the complainant

Starr Bender - Starr.Bender@ahu.edu All Campuses 407-303-5765

Katie Shaw - Katie.Shaw@ahu.edu Denver Campus Only 303-765-6271

Disability Services

AHU is dedicated to serving students that require academic accommodations due to a documented disability. Students requesting accommodations should contact the Program Director and Course Instructor prior to each trimester in which services are needed. The Office of Disability Services will assist in reasonable accommodations. Please visit the University’s website for additional information.

Jury Duty

The faculty will make reasonable accommodations for any student required to fulfill Jury Duty obligations (Refer to *Academic Catalog*).

Active Military Duty

Refer to the *Academic Catalog* for the policy relates to students in the Reserves or National Guard called into active duty.

Criminal Background Checks

A background check is required for admission into the advanced imaging clinical education program. The American Registry of Radiologic Technologists and various state licensing agencies require disclosure of all misdemeanor and felony convictions. The results of the background check may impact eligibility for certification and licensure and should be determined in advance of beginning an educational program. Results of background checks may be shared with clinical site Human Resource Departments as part of their required onboarding process.

CPR Certification

Verification of current professional certification in cardiopulmonary resuscitation (CPR) from the American Heart Association including infant, child, and adult CPR is required.

Immunizations

Students in the clinical environment must present evidence of updated immunization records as required and described in the *Academic Catalog*. Students will purchase access to the health record management system and upload all required health records. This must be complete before students can begin clinical rotations. Failure to upload in a timely fashion will result in a delayed start to clinicals.

Student Bereavement

Students are allowed to consider time off for bereavement as excused if the death was an immediate family member (spouse, parent, sibling, child, or grandparent). Other family members such as aunts, uncles, and cousins are usually not in this category unless they were part of the immediate family. In general, two days are given that are not counted against attendance. Additional time must be requested by the student and agreed to by the instructor(s). Verification must be provided at the time of the student's return to class. All coursework needs to be made up within a timeframe agreed upon with the course instructor (Refer to *Academic Catalog*).

Counseling Services

Counseling is the process of exploring your true self with someone who is a trained mental health professional. Individuals may decide to see a counselor for various reasons. If you are facing stressful situations and personal issues, counseling can offer emotional support, new perspectives, and help in considering possible solutions.

Counselors are also available for academic concerns and a variety of other issues. Please contact the student services department on campus for more information (Refer to *Academic Catalog*).

Grading

The Department of Imaging Sciences does not accept grades of “B-” or below. A passing grade must be achieved for successful completion of an advanced imaging course.

The Department of Imaging Sciences uses the following grade scale for all advanced imaging courses:

A: 94.5 – 100	B+: 86.5 – 89.4	C+: 76.5 – 79.4	D: 59.5 – 69.4
A-: 89.5 – 94.4	B: 82.5 – 86.4	C: 72.5 – 76.4	F: 0- 59.4
	B-: 79.5 – 82.4	C-: 69.5 – 72.4	

To be assured of satisfactory completion of this course applicable to the certification, the student must achieve a grade of B- (79.5%) or better.

Unsuccessful Course Completion

All courses are graded on a letter grade system, with a minimum passing grade of “B-” (2.67) or better in the core program curriculum and a “C” (2.00) or better in any cognate/general education course. Grading guidelines for each course may be found in the syllabus section of the particular Course Manual. Students who unsuccessfully complete a course can repeat it. However, they will be charged again, and there is still a 2-year time limit for completion of the program.

Unsuccessful completion (B- or below) of two professional courses will result in an ineligibility to continue in the program.

Academic Grievance

If you feel your grade is in error, the first step in the appeal process is to discuss the outcome with the Course Instructor. If the issue is not resolved to your satisfaction, you should follow the grievance procedure outlined in the *Academic Catalog*.

Refund Policy

If you need to withdraw from a course, you must inform the Program Director writing with a completed official Withdrawal Form. Refer to the *Academic Catalog* for current refund policy.

Academic Withdrawal Policy

The last date to withdraw from a course with no record is during the first week of the course. Students who withdraw from a course by the end of the third week of that class will receive a “W” on their transcript, indicating the withdrawal.

IMPORTANT: Those who do not withdraw prior to the third week deadline will receive an “F” for that course (Refer to *Academic Catalog*).

Incomplete Course Grade

Students who have substantially completed the course but for serious extenuating circumstances are unable to complete the final course assignments or exams, may request an Incomplete Grade. This request must be submitted in writing or by e-mail to the Clinical Coordinator prior to the

end of the course. Students must receive approval from the course instructor. **Incomplete grades must be made by the end of the following trimester. Failure to complete the course within the time frame will result in a grade reflective of the work that was completed.**

Academic Probation

The University's academic probation policy can be found in the *Academic Catalog*. The program reserves the right to modify the probation period given the length of the certificate program.

Academic Dismissal

Academic Dismissal is in accordance with the University's policy found in the *Academic Catalog*.

Disciplinary Policy

Students in the advanced imaging clinical education program are required to abide by the policies and procedures of AdventHealth University, the Department of Imaging Sciences, and any clinical affiliates to which they are assigned. As candidates for the National Registry examination, students are also expected to abide by the Code of Ethics of the American Registry of Radiologic Technologists.

Failure to conform to these regulations will result in one, or a combination of, the following:

- Written counseling report – This is usually given on a first offense, provided that the offense is a minor one. This will identify the offense and present a course of action that the student will take to correct the behavior. A written counseling report has no effect on the student's grade.
- Written warning – This is usually given for a second offense of a minor infraction or the first offense of a more serious infraction. This will identify the offense, present a course of action to correct the behavior, and instruct the student that another offense of this nature will result in a written reprimand. A written counseling report has no effect on the student's grade.
- Written reprimand – This is usually given for the third offense of a minor infraction. It is assumed that the student has not learned from the first two offenses. The issuance of a written reprimand will automatically result in the lowering of the trimester clinical grade by one step (i.e. from B+ to B).
- Probation or dismissal – This action may be taken as a last resort for those students who continue to display inappropriate behavior or who commit an infraction that is considered to be of a serious nature.

Termination from the Program

Termination from the Program will occur for the following reasons:

- Becoming ineligible for licensure
- Surrender of a license in any jurisdiction for disciplinary reasons
- Documented academic dishonesty, as described in the University Academic Integrity Policy
- Unethical or unprofessional behavior. (Please note that this also includes course Website postings and e-mail communications with faculty and staff. Students are advised that

their behavior while participating in the Program should exemplify the ethical behavior of a professional health care provider with respect to all communications with patients, colleagues, fellow students, faculty, and staff)

- Academic Failure (See “Unsuccessful Course Completion”)

Termination will be at the discretion of the AHU Program Director as recommended to Academic Administration working in consultation with appropriate personnel of the Program.

Evaluation

Course and Instructor Evaluation – Students will evaluate each course, instructor, and course facilitator upon completion of the course.

Graduate Assessments – The Department of Imaging Sciences requests graduates to complete a *Program Survey*.

Transfer Credit

Credit earned at another institution will be transferred and applied toward degree requirements under the policies as found in the current *Academic Catalog*.

Progression

Students may progress in the Advanced Imaging Certificate Program when they:

1. Have a current ARRT, NMTCB, or ARDMS/CCI license in good standing prior to any Advanced Imaging Certificate Program course
 - a. Refer to ARRT Post Primary Eligibility Pathways for accepted licensures:
<https://www.arrt.org/earn-arrt-credentials/requirements/postprimary-requirements>
2. Earn a grade of at least “B-” (2.67) in each Advanced Imaging Certificate course and maintain a minimum program GPA of 2.70
3. Earn a grade of at least “C” (2.00) in each cognate course
4. Repeat successfully all courses in which the minimum grade of “B-” (2.70) was not achieved in a core course or “C” (2.00) in a cognate/general education course. No more than two courses may be repeated

Readmission

Students who do not enroll in course work leading toward the Certification for a period of 6 months or more must reactivate their application to the Advanced Imaging Certificate Program.

Readmission after Unsuccessful Progression in a Professional Program

Students who have not successfully progressed in a certificate program will be dropped from that program (but not from the University). They must notify the Program Director of their desire to be readmitted to the program. Readmission is not automatic and is contingent on available space.

Students will be readmitted under current program policies (see individual program section for additional requirements and details).

Completion

AHU will consider students for completion of an Advanced Imaging Certificate program when they have met the general requirements for completion (refer to *Academic Catalog*) and when they:

1. Complete a minimum of 21 trimester hours of credit
2. Complete the prescribed course of study for the Advanced Imaging Certificate Program with a minimum GPA of 2.70
3. Achieve a grade of at least “B-” (2.67) in each Advanced Imaging Certificate course

Ethics

Enrollment in each of the courses in the Advanced Imaging Certificate Program requires and implies adherence to professional standards of practice and patient confidentiality. The Program will remain consistent with the Code of Ethics set forth by the American Registry of Radiologic Technologists (ARRT, 1255 Northland Drive, St. Paul, MN 55120).

Advisement and Counseling

Upon acceptance into the Advanced Imaging Certificate Program, each student is assigned an advisor for academic advisement, orientation, and individual counseling. The advisor and student may discuss progress in current courses, questions, concerns, and plans for future course work. To facilitate this process, the advisors and faculty will offer guidance, advice, and counsel in a variety of situations that include, but are not limited to:

1. Selection and sequencing of course
2. Strategies for improving grades
3. Changes in class schedules

Program Curriculum

Students enrolled in the Advanced Imaging Certificate Program will complete the didactic and clinical components as follows:

CT Certificate Program

Course	Credit Hours	Trimester
BIOL 144 – Sectional Anatomy	3	Summer
RADS 371 – Physics and Instrumentation of CT	3	Summer
RADS 372 – CT Imaging Procedures	3	Summer
RADS 373 – CT Pathology and Case Studies	3	Fall
RADS 420 – Advanced Procedures and Technology in CT	3	Fall
RADS 425 – CT Registry Review	3	Fall
RADS 440 – CT Clinical Internship	3	Spring

MRI Certificate Program

Course	Credit Hours	Trimester
BIOL 144 – Sectional Anatomy	3	Spring
RADS 381 – Physics and Instrumentation of MRI	3	Spring
RADS 382 – MRI Imaging Procedures	3	Spring
RADS 383 – MRI Pathology and Case Studies	3	Summer
RADS 430 – Advanced Procedures and Technology in MRI	3	Summer
RADS 435 – MRI Registry Review	3	Summer
RADS 445 – MRI Clinical Internship	3	Fall

Clinical Internship

The Clinical Internship portion of the program requires a minimum of 280 clinical hours. Students are encouraged to dedicate at least 20 hours per week to clinicals. AHU will work with the clinical site and the student to develop a specific clinical schedule to complete these hours. Completion of the clinical experience requirements set forth by the American Registry of Radiologic Technology (ARRT) is the responsibility of the individual student. The appropriate number of examinations will be completed at the individual student's assigned clinical site. The clinical requirements can be found on the ARRT website (<https://www.arrt.org/arrt-reference-documents/by-discipline>).

Clinical placement is not guaranteed upon admission to the program. Students may be required to submit additional documentation or meet specific obligations required of individual clinical sites; including, but not limited to, a copy of their current CPR certification through the American Heart Association, proof of mask FIT test, copy of current immunizations, proof of the Flu shot, copy of background check and/or drug screening, recommendation letter, essay, or a candidate interview. Students will be informed by the Clinical Coordinator prior to the start of the Clinical Internship if any of these documents are required.

Course Descriptions

BIOL 144 - Sectional Anatomy (3)

Prerequisites: BIOL 102, BIOL 102L

All prerequisites must be completed with a minimum grade of "C" (2.70). This course is a study of human anatomy, primarily emphasizing axial planes, but also including sagittal, coronal, and oblique planes. It is designed to aid imaging modality students in recognizing, locating, and identifying normal anatomy on various computer images. Two hours of lecture each week.

RADS 371 - Physics and Instrumentation of Computed Tomography (3)

Co-requisites: BIOL 144

Online course available only for the students enrolled in online an online certificate program. This course provides an overview of the physical principles and instrumentation associated with computed tomography. Topics include methods of data acquisition and manipulation, CT systems and operations, and image processing and display. Quality management and artifact recognition will also be discussed.

RADS 372 - Computed Tomography Imaging Procedures (3)

Co-requisites: BIOL 144

Online course available only for the students enrolled in an online certificate program. This course is an overview of scanning techniques related to the central nervous system, neck, thorax, abdomen and pelvis, vascular (CTA), spine and musculoskeletal regions. Anatomy, positioning criteria, and various protocols will be studied. Research paper and case studies will be presented.

RADS 373 - Computed Tomography Pathology and Case Studies (3)

Prerequisites: RADS 371, RADS 372

Online course available only for the students enrolled in an online certificate program. This course is designed to introduce the various pathological disorders that can be seen while performing CT scans on the various anatomical sections of the body. Clinical manifestations and radiographic appearance of pathological conditions will be discussed. Research paper and case studies will be presented.

RADS 381 - Physics and Instrumentation of MRI (3)

Co-requisites: BIOL 144

Online course available only for the students enrolled in online an online certificate program. This course provides the student with the physical principles of image formation, data acquisition and processing related to magnetic resonance imaging. Topics include electromagnetism, gradients, pulse sequences, imaging parameters, and image analysis. Quality management and artifact recognition will also be discussed.

RADS 382 - MRI Imaging Procedures (3)

Co-requisites: BIOL 144

Online course available only for the students enrolled in online an online certificate program. This course provides an overview of scanning techniques related to the central nervous system, neck, thorax, breast, abdomen and pelvis, vascular (MRA/MRV), spine and musculoskeletal regions. Anatomy, positioning criteria, coil selection, and various protocols will be studied. Research paper and case studies will be presented.

RADS 383 - MRI Pathology and Case Studies (3)

Prerequisites: RADS 382, BIOL 144

Online course available only for the students enrolled in online an online certificate program. This course is designed to introduce the various pathological disorders that can be seen while performing MRI scans on the various anatomical sections of the body. Clinical manifestations and radiographic appearance of pathological conditions will be discussed. Research paper and case studies will be presented.

RADS 420 - Advanced Procedures and Technology in CT (3)

Prerequisites: RADS 371, RADS 372

Online course available only for the students enrolled in an online certificate program. This course introduces students to the principles of 3D formatting, multi-slice advancements and considerations, computer software innovations, and post-processing techniques. Advanced imaging procedures, such as CT-guided biopsy, calcium scoring, and PET/CT, will also be covered.

RADS 425 - Computed Tomography Registry Review (3)

Prerequisites: RADS 371, RADS 372

Online course available only for the students enrolled in an online certificate program. This course provides a comprehensive review of CT in preparation for the National Certification Examination. Numerous simulated registry examinations will be administered during the course.

RADS 430 - Advanced Procedures and Technology in MRI (3)

Prerequisites: RADS 381, RADS 382

Online course available only for the students enrolled in an online certificate program. This course introduces students to the principles of 3-D post-processing techniques, scanner and magnet advancements, computer software innovations, and dynamic imaging. Special procedures and techniques, such as diffusion/perfusion scanning, spectroscopy, and MRI, will also be discussed.

RADS 435 - MRI Registry Review (3)

Prerequisites: RADS 381, RADS 382

Online course available only for the students enrolled in online an online certificate program. This course provides a comprehensive review of MRI in preparation for the National Certification Examination. Numerous simulated registry examinations will be administered during the course.

RADS 440 – CT Clinical Internship (3)

Prerequisites: BIOL 144

This course is designed to provide the student with experience in the clinical environment of computed tomography. Throughout this course, the student will gain valuable experience in imaging techniques, protocols, scanning procedures, acquisition methods, parameter selection, and contrast use and administration. The student will also demonstrate the ability to obtain a pertinent patient history and employ proper patient screening techniques. As clinical experience is gained, the student will refine imaging techniques and scanning procedures while progressing in and improving upon deductive reasoning and critical thinking in the clinical setting. The student will be placed under direct supervision of a licensed CT technologist.

RADS 445 MRI Clinical Internship (3)

Prerequisites: BIOL 144

This course is designed to provide the student with experience in the clinical environment of magnetic resonance imaging. Throughout this course, the student will gain valuable experience in imaging techniques, protocols, scanning procedures, acquisition methods, parameter selection, and contrast use and administration. The student will also demonstrate the ability to obtain a pertinent patient history and employ proper patient screening techniques. As clinical experience is gained, the student will refine imaging techniques and scanning procedures while progressing in and improving upon deductive reasoning and critical thinking in the clinical setting. The student will be placed under direct supervision of a licensed MRI technologist.

Clinical Education

Philosophy of Clinical Education

Clinical education is a vital part of the total program in developing an advanced imaging professional. Clinical education programs in healthcare settings provide opportunities for the student to:

- Observe and apply the knowledge required for the practice of advanced imaging
- Correlate the academic knowledge with clinical practice of advanced imaging
- Begin to develop the theoretical and technical skills appropriate for the practice of advanced imaging

The provision of quality clinical experiences involves 4 partners: the clinical instructor, the clinical site, the student, and the educational institution. All four must make contributions and cooperate. The clinical educators/ partners provide their time and expertise. Without their support and interest, the chances for successful student experiences are severely jeopardized. A key responsibility is to create and structure a safe and rich learning environment.

Clinical Assignments & Expectations

The clinical education courses have been designed to provide the student with a variety of patient experiences. These experiences are coordinated with the didactic portion of the curriculum. The

goal of the clinical educators/partners is to ensure that each student has a well-rounded exposure to the advanced imaging sciences.

Supervision

1. All patient care must be supervised by a certified and licensed advanced imaging professional and/or medical physician.
2. Students must conduct verification, to confirm the correct patient, procedure and injection site using active communication techniques.
3. Students must use appropriate standardized medical abbreviations, acronyms, and symbols used throughout the organization.
4. Injecting patients with contrast for certain examinations is part of the requirements of this program. While you are a student, you will follow the requirements of the clinical affiliation site where it pertains to injecting patients. Because of various reasons, some of the clinical affiliation sites do not allow students to inject patients.

Pregnancy Policy

Although not required, it is recommended that the Program Director and Clinical Coordinator be notified as soon as possible of any pregnancy of a Department of Imaging Sciences student. This is because of the potential radiation hazard to the embryo/fetus, particularly during the first trimester. It is further recommended that the pregnant student discuss her situation with her physician. Upon declaring herself pregnant, the student will meet with the Program Director or Clinical Coordinator who will review the program's pregnancy policy with her. The student will be given the following options:

- Option 1: Terminate her clinical education and continue the didactic (classroom) portion of the program. Lost clinical time will be made up after delivery. This may result in postponement of graduating from the certificate program and sitting for the national certification examination.
- Option 2: Continue her clinical rotations with **no** changes in the types of assignment and in performance/behavior responsibilities required of all students.

The pregnant student will read and sign an election form indicating her choice. Her signature will attest to the fact that she has been given proper attention and that she understands the level of risk associated with her continued training if she chooses Option 2.

The Clinical Coordinator will work with the facility to acquire an additional radiation monitor badge.

At any time, the student has the right to submit a written withdrawal of declaration of pregnancy to the Program Director and/or Clinical Coordinator

Communicable Diseases and Infection Control

Clinical affiliates are not responsible for providing testing or treatment in the event that students become injured or exposed to a communicable disease while performing clinical responsibilities. The student is required to obtain insurance coverage, and to consult their personal physician for follow-up of any injury or exposure.

For the purpose of this policy, a communicable disease is defined as any disease transmitted from one person to another, i.e. tuberculosis, hepatitis, meningitis, chicken pox, or HIV/AIDS.

When a student is exposed to a communicable disease in the clinical environment, he/she should notify the department coordinator and call the Infection Control office. Follow-up should be made with the student's personal physician.

If the student experiences a needle-stick injury, they should first wash the wound and notify both the onsite preceptor and Clinical Coordinator to determine the appropriate steps and protocol at the assigned facility.

If a student develops a communicable disease, he/she must notify the program faculty immediately. The student will be temporarily relieved from clinical responsibilities according to the recommendation of the Infection Control Department. All employees/students/patients exposed to the individual will be identified and notified by Infection Control. Refer to the AHU *Student Handbook* for the entire text of the "Communicable Disease Policy."

Clinical Evaluations

At the conclusion of each week, every student is evaluated in writing by the attending staff of that experience. The evaluations, which include a number of criteria encompassing various aspects of clinical performance, are compiled and summarized each trimester. Such evaluations are to be communicated to each student in a timely manner.

Failure of the student to exhibit improvement in performance following counseling will constitute grounds for probation or dismissal.

The appeals process is outlined in the *Academic Catalog*.

Clinical Appearance

Students in the Advanced Imaging Clinical Program will abide by the affiliation site's policy on clinical appearance and hygiene practices. Students are required to adhere an AHU Patch on all clinical uniform attire.

Students arriving in the clinical area inappropriately dressed or unshaven (as determined by the program faculty or department staff) may be asked to leave. Any time missed because of this will be required to be made up. Additionally, the student will receive a written warning or reprimand as appropriate.

Radiation Monitoring

Students in clinical areas that utilize radiation are required to wear a radiation monitoring badge. It is acceptable that the monitoring device is utilized for both the student's work and clinical experience. Students will submit an annual report to the clinical faculty member.

Students not currently practicing in the imaging sciences will be provided a radiation monitoring badge and annual reports from the program's Radiation Safety Officer.

Transportation

Students are responsible for their own transportation and living arrangements related to clinical affiliation sites unless other arrangements have been supported by the clinical faculty.

Attendance Policy

The student is responsible for being present for all scheduled clinical hours for each course.

Absence

The student must notify the program faculty and the clinical site in the event of an absence or late arrival. This notification must be prior to the start of the clinical shift. Failure to do so will result in disciplinary action. All clinical time missed, regardless of the reason, must be made up no later than the following 2 weeks. Consideration will be given to time missed due to extenuating circumstances such as personal surgery, etc. Make-up time must be scheduled with the program clinical faculty a minimum of two days prior to the day that it is to be performed.

Tardiness

The student must arrive at the clinical site on time. Failure to arrive at the clinical site on time will be recorded as tardy.

Ethical / Professional Conduct

Serious breaches of professional or ethical behavior may result in disciplinary action or dismissal from the program. These include, but are not limited to:

- Insubordination or refusal of a student to follow instructions or perform designated duties where such instructions or duties normally and properly may be required of a student for educational experience and purpose
- Theft or dishonesty
- Violating safety rules or creating safety hazards
- Abuse or waste of hospital property, supplies, equipment, etc.
- Possession of intoxicants or narcotics, or being found under the influence of alcohol or drugs
- Use of abusive or profane language

Student Work Policy

Students enrolled in the Advanced Imaging Certificate Program have a rigorous academic load. The following policies are in effect:

- Students who work while enrolled in the program do so without compromising their academic and clinical responsibilities
- During assigned clinical rotations, students may not take the responsibilities or be substituted for clinical staff
- Students employed by an affiliated clinical facility are not permitted to perform program clinical objectives during their work shift

BSIS Program Manual Resource

Additional policies applicable to the AHU Online Advanced Imaging Modalities can be found in the B.S. Imaging Sciences program manual.