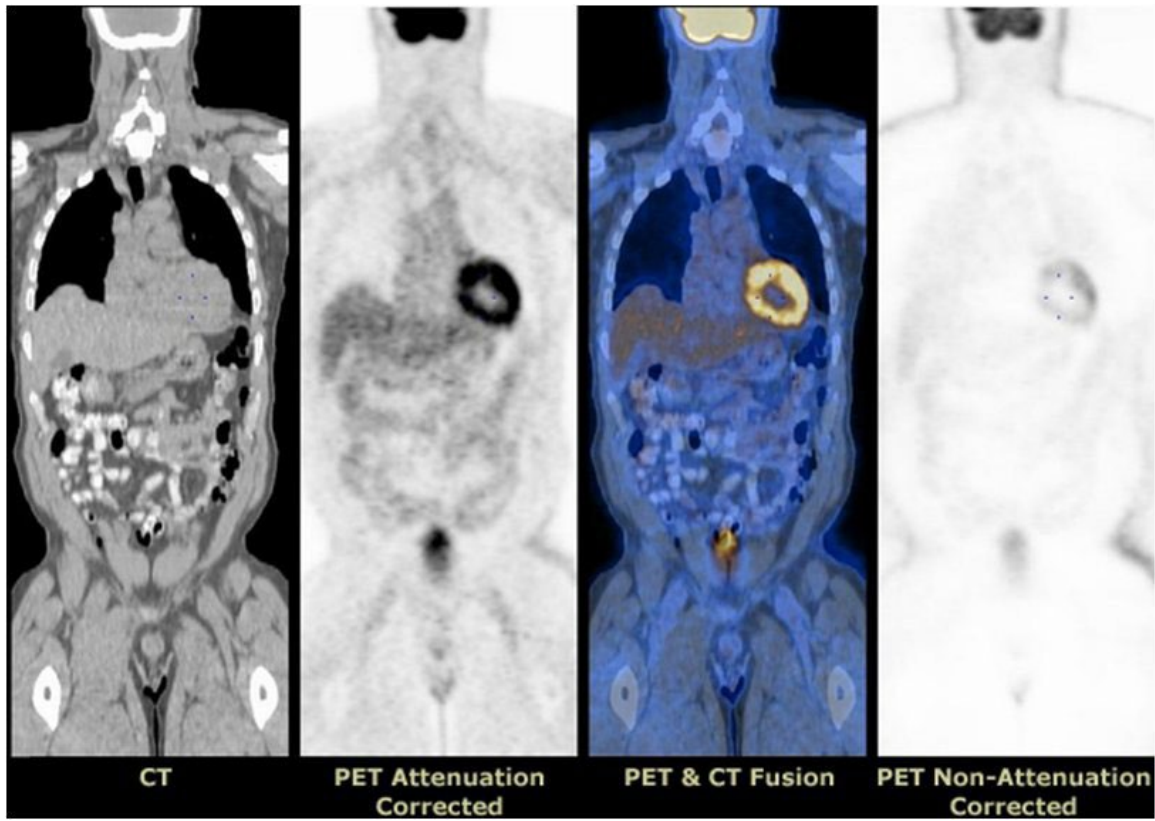


Division of
Nuclear Medicine Imaging Sciences

Clinical Handbook 2025-2026



UAMS[®]

COLLEGE OF
HEALTH PROFESSIONS

UNIVERSITY OF ARKANSAS
FOR MEDICAL SCIENCES

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Introduction: Clinical Internships

It is during the clinical internships that student's are able to apply the knowledge and skills acquired during the academic core courses. Student's are assigned clinical

experiences throughout the academic year in two clinical areas: imaging and radiopharmacy. Under the direction of nuclear medicine technologists and nuclear pharmacists, student's perform diagnostic imaging procedures and observe radiopharmaceuticals for patient administration. Student's follow established protocols and develop organizational skills and proficiency under actual working conditions. Student's will receive a clinical rotation schedule during the fall orientation week and will be available on Blackboard. Clinical rotation schedules are set so that the student achieves the best possible clinical educational experience, covering all aspects of nuclear medicine.

Rotation schedules cannot be changed without the approval of the NMIS Clinical Coordinator and/or the NMIS Program Director. The cities and their respective hospitals and affiliate education supervisor (AES) are listed in the Blackboard Student Center.

The Introduction to Nuclear Medicine course will begin on the first day of the fall semester. The first week of the two week orientation will consist of various classroom and clinical experiences designed to prepare the student for the clinical setting. The second week of orientation will be conducted in the city where the student's' clinical rotations will be conducted. During this week, the student will complete their orientation course assignments, including attending required hospital orientations as scheduled.

The remainder of the year is divided into 9 or 10 clinical rotational units of approximately 12 to 16 clinical days each depending on geographical location. Generally speaking, student's will stay at a clinical site for the entire clinical rotation. The Radiopharmacy rotation will be split, with student's spending two weeks in the Radiopharmacy and two weeks at a hospital clinical rotation. For course purposes, clinical rotational units are combined into three clinical internships. The first clinical internship lasts throughout the fall semester and will take place at various clinical sites, depending on student's' assignments. Student's are expected to participate at a beginning level progressing from observation only to completion of designated procedures with close supervision. For the second clinical internship, student's will continue their clinical experiences in the spring semester at various clinical sites, working at the intermediate level. Student's are expected to progress from working under close supervision to working on a more independent basis.

The third and final clinical internship will take place during the summer session with student's continuing their clinical coursework at the advanced level. Although student's are still working under supervision, they are expected to work on an independent basis, honing their skills in preparation for entry-level work as a technologist.

The contents of the Clinical Handbook are available on Trajecsys, along with the student's log sheets and time sheets and other clinical paperwork to be entered online. However, student's should keep copies for their own records as backup.

Mission Statement

The mission of the Nuclear Medicine Imaging Sciences program is to enable the student to confidently possess the knowledge and skills necessary to safely perform a wide variety of clinical procedures, effectively communicate with patients with competent skills in radiopharmaceutical dosage, calculation and administration, the operation of imaging devices, and operation of radiation detection monitoring devices.

Accreditation

Accreditation The program offered by the University of Arkansas for Medical Sciences, College of Health Professions, Division of Nuclear Medicine Imaging Sciences is accredited by the Joint Review Committee of Educational Programs in Nuclear Medicine Technology (JRCNMT). The Program was initially accredited in 1987. Since that date, the Program has been reviewed and accredited several times. In October 2019, the Program received a full 7 year accreditation. The JRCNMT contact information is: Joint Review Committee on Educational Programs in Nuclear Medicine Technology (JRCNMT) 820 W Danforth Rd, #B1 Edmond, OK 73003 Phone: (405) 285-0546, Fax: (405) 285-0579 E-mail: mail@jrcnmt.org Essentials and guidelines for Nuclear Medicine Technology programs may be found on their website at www.jrcnmt.org.

Program Curriculum

Bachelor of Sciences in Nuclear Medicine Imaging Sciences

The following 40 credits are required in the Bachelor of Science degree program.

<u>COURSE NUMBER</u>	<u>TITLE</u>	<u>SC</u>
Fall Semester		
NMIS 41161	Journal Review/Research Methods	1
NMIS 42102	Introduction to Nuclear Medicine	2
NMIS 43103	Clinical Procedures & Diagnosis I	3
NMIS 42132	Nuclear Physics	2
NMIS 42142	Instrumentation I	2
NMIS 41151	Radiopharmacy I	1
NMIS 45175	Clinical Internship I	5
CHPI 31031	Legal and Ethical Issues 1	Total: 17
Spring Semester		
NMIS 42242	Radiation Biology	2
NMIS 42202	Health Physics	2
NMIS 43203	Clinical Procedures & Diagnosis II	3
NMIS 42232	Instrumentation II	2
NMIS 42252	Radiopharmacy II	2
NMIS 45245	Clinical Internship II	5
CHPI 31041	Health Care Management Issues 1	Total: 17

Summer Semester

NMIS 45375	Clinical Internship III	4
NMIS 42404	CT Physics and Instrumentation	2
		Total: 6

NMIS students must complete Interprofessional Education (IPE) requirements as required by UAMS in order to meet CHP graduation requirements. The current IPE requirements for NMIS students include completing 4 of the 7 phases of IPE. These will be scheduled during Orientation week and the Fall semester.

GUIDELINES FOR PROFESSIONALISM

Professionalism/Appearance

To look and conduct oneself in a manner perceived as positive by others. To create a work environment and work ethic that communicates excellence.

Key areas:

- Self-presentation
- Dress code
- Managing emotions and stress
- Equipment handling
- Work area
- Record keeping
- Report presentation

Knowledge/Expertise

To be perceived as knowledgeable and up-to-date in the field of medical imaging and in the services offered by the institution.

Key areas:

- Keep up-to-date in the field
- Knowledge of the services offered
- Ability to describe efforts to others
- Established reputation
- Professional memberships
- Advanced certifications
- Equipment knowledge
- Networking with others

Communication/Projection

To communicate positively with patients, visitors, physicians, and staff, and to project, through communication, professionalism, knowledge, and high standards.

Key areas:

- Be prepared
- Show energy and enthusiasm
- Be positive and friendly
- Know what you are talking about
- Be confident
- Speak up
- Possess integrity
- Conform to a code of ethics
- Respect others

- Use effective delivery and tonal quality

Student Code of Conduct Policy

The NMIS program adheres to the UAMS Student Code of Conduct Policy 2.2.14. The Student Code of Conduct Policy sets forth behavioral standards for students to follow as they live, study, work, and pursue their educational goals in a safe and secure learning environment at the University of Arkansas for Medical Sciences. The Code reflects expectations based on values essential to a flourishing academic environment, such as honesty, integrity, respect, and fairness. The policy can be found at the following link: <https://academicaffairs.uams.edu/wp-content/uploads/sites/12/2023/12/2.2.14-Student-Code-of-Conduct-2023.11.17-1.pdf>.

Basic Code of Conduct Policy

The NMIS program adheres to the UAMS Basic Code of Conduct Policy 4.4.01. The policy can be found at the following link:

<https://secure.compliance360.com/Common/ViewUploadedFile.aspx?PD=PbRt%2bA78MS7DkR7t3eswz7a nWkqil1%2bSkvwapXQMxGrpWWqZXM8Qe2IIJvqkLsF%2bOzymrGf6pC6MBU6TxiK4j9c5hvHyGes%2bPgt Etb73ueCb%2bdLWTFxYwRgiBHaAWQcIXeqdKm9SRH5vdabyW3NZCvhpZztWRYnJuYe2jUoeqFhDU%2biQR 2EaCDVtZGJfJIOFU3aZ7Z1c2aBNNxzBMHIGs7To7X9ktg%2ftMjUO1DnkU%2bbUjoxfesFpB7oxQxCUFOQzej% 2boO%2ba3pLUkn%2faNpzFQ%3d%3d>

Non-discrimination Statement

The NMIS program adheres to the UAMS Policy 2.1.3, Non-discrimination Statement. The policy can be found at the following link:

<https://secure.compliance360.com/Common/ViewUploadedFile.aspx?PD=PbRt%2bA78MS7DkR7t3eswzxc dcs7mJ01jzS78UhNXnxAD1ZtDu3MvINb7XIRVPRMsBiiJ%2fj%2bhWy7kP1BaUAMjd%2bah3ngL4IBYkUHK4 WfZVgmMLjC7BYFrCtg8fff%2bv0t6jz2NiUBOYbnesnDdIW5EQZY%2fajefcGn%2b3MqAf1IOf79fSW9qGzKO1 W3qwYT2E1ldmyAKQB0bsr5kRDTTy8e0q75t1OCXNI0ycEI3CCWZb0pvOITON2fSdvG1r%2bnfwhHHqRUJI4FO FUYacmO%2fNwM7UQ%3d%3d>

Anti-Discrimination Policy

The NMIS program adheres to the UAMS policy 3.1.10, Anti-Discrimination Policy. The policy can be found at the following link:

<https://secure.compliance360.com/Common/ViewUploadedFile.aspx?PD=PbRt%2bA78MS7DkR7t3eswz% 2fmlaj4vKbGw45ChuQtYmvdCNpmnu%2blsdnqb8YjcepVbn4P9R3mMv0VOS6q8zxRdinPOjfuTZ9dYxMBKBFz 4iDffcG75jkEraFQe4zrWMJPANEJF6Inhxms38Tu2fbVKCp9bVNy5pqQa5Gx%2bCA0e3wpmwJWtWLZxeoDj3 2Di5BpV2lyrQqSizsmsK%2fCalrPq37cOPe5dDxqXJ0IKWSHXX7ApPqb0is5g1ZWFzG0Fyte1rq1G0r5RqbtF0zg8 uj1Q%3d%3d>

Hazing Policy

The NMIS program adheres to the UAMS policy 12.1.03, Hazing Policy. The policy can be found at the following link: <https://secure.compliance360.com/ext/DxyRhGTmJEr2tXKf23J3OA==>

Hazing Awareness and Prevention Program

The NMIS program adheres to the UAMS policy 12.1.04, Hazing Awareness and Prevention Program. The policy can be found at the following link:

https://secure.compliance360.com/ext/AC4cpiVuEj8joSe_7R7eww==

Student Leave of Absence Policy

The NMIS program adheres to the UAMS Policy 2.2.10. A Leave of Absence (LOA) is an officially approved period of time during which a student is not enrolled in regular coursework, but is not discontinued from a program of study, and has a predetermined date of anticipated return to regular study. An LOA may have significant implications not only for student academic progression, but also for institutional reporting, financial aid and veterans' benefits. This policy defines three categories of LOA and helps to ensure consistent practice, compliance with federal student aid guidelines, and accurate enrollment reporting to state and national agencies. The policy can be found at the following link: <https://academicaffairs.uams.edu/wp-content/uploads/sites/12/2022/08/2.2.10-Student-Leave-of-Absence-Policy-2022.07.26.pdf>.

Student Academic Appeals Policy

The purpose of the College Health Professions Student Academic Appeals Policy, 01.15.01, is to provide students with an opportunity to dispute the charges and/or penalties related to an academic issue. The appeal procedures below provide opportunities for students to request a review of decisions made by the program faculty, submit information not previously available or suggest alternative remedies. The policy can be found at the following link: https://healthprofessions.uams.edu/wp-content/uploads/sites/9/2024/01/Student-academic-appeal-policy_FINAL_1-11-24.pdf.

Scholastic Dishonesty Policy

The NMIS program adheres to the College of Health Professions Scholastic Dishonesty Policy 01.000.02. Scholastic dishonesty can undermine the educational process by distorting the true academic performance of individual students and jeopardizing the success of their entire educational program. The policy can be found at the following link: https://healthprofessions.uams.edu/wp-content/uploads/sites/9/2024/01/Scholastic-dishonesty-policy_FINAL_1-11-24.pdf.

Artificial Intelligence Generative Tool Use Policy

The NMIS program adheres to the UAMS Artificial Intelligence Generative Tool Use Policy 2.1.6. The policy aids in clarifying the use and misuse of artificial intelligence generative tools at UAMS. The policy can be found at the following link: <https://academicaffairs.uams.edu/wp-content/uploads/sites/12/2024/02/2.1.6-UAMS-AI-Policy-2024.02.09.pdf>

Student Academic Professional Standards

The NMIS program adheres to the College of Health Professions Student Academic Professional Standards Policy 02.00.02. The Student Academic Professional Standards encompass principles that embody the ethical foundation of health professions practice. Students are expected to maintain unwavering integrity in all professional interactions. To achieve this, students should show a dedication to fulfilling their professional duties and adhering to ethical principles. The policy can be found using the following link: https://healthprofessions.uams.edu/wp-content/uploads/sites/9/2024/01/Academic-Prof-Standards-Policy_FINAL_1-11-24.pdf.

Family Educational Rights and Privacy Act of 1974 (FERPA)

The NMIS program adheres to the Family Educational Rights and Privacy Act of 1974 (FERPA), UAMS Policy 2.1.2. FERPA affords all students in higher education institutions certain rights with respect to their education records. Some of these rights are only applicable to students over 18 years of age. The policy can be found using the following link:

<https://academicaffairs.uams.edu/wp-content/uploads/sites/12/2022/09/2.1.2-UAMS-FERPA-Policy-2022.09.12.pdf>

HIPAA Education and Training Policy

The NMIS program adheres to the UAMS HIPAA Education and Training Policy 2.2.15. The purpose of the policy is to ensure that the University of Arkansas for Medical Sciences (“UAMS”) Workforce is properly educated and trained to protect the privacy and security of patients’ health care information. The policy can be found using the following link: <https://hipaa.uams.edu/wp-content/uploads/sites/136/2020/12/2-1-15-HIPAA-Education-and-Training-Dec-2020.pdf>

Student Request for Academic Accommodations Policy

The NMIS program adheres the UAMS Student Accommodations Policy 2.2.5. The University of Arkansas for Medical Sciences is committed to a policy of ensuring that no otherwise qualified individual with a disability is excluded from participation in, denied the benefits of, or subjected to discrimination in University programs or activities due to their disability. The University is fully committed to complying with all requirements of the Americans with Disabilities Act of 1990 (ADA) and the Rehabilitation Act of 1973 (Section 504) and to providing equal educational opportunities to otherwise qualified students with disabilities. The purpose of this policy is to define the process students should follow if accommodations in an academic setting are needed due to a disability. The policy can be found at the following link:

<https://secure.compliance360.com/Common/ViewUploadedFile.aspx?PD=PbRt%2bA78MS7DkR7t3eswzyKRWxHyREmi0ZI%2b7FMvC4Kez33IVDLgajkH76pE2%2fABOER2g%2bX3Otn0TnW98zfgUnfuv1X%2bOnYhrowFHAIWMA%2bl1Hbin9S7DV3tl8dbNS0cLOBPdpZAwZVMxIMVCeTn3qxXSSONkl6bY6F8jeP5iPN7Pd9jdDg5jgRqkM3kGm%2bcQXuexJ4rKMQXxo3L7LQmF%2bE6%2bkrTjwuwNyvJ2i%2frLSZ2xAywrhgEdF5vLvEM2FoGzu9EnZI%2f6g1UzkFOlq2kg%3d%3d>

Student Health Screening/Immunization Requirements

The NMIS program adheres to the UAMS Student Health Screening 1.4.2. The purpose of this policy is to help minimize potential exposure to infectious disease for or by UAMS students who are enrolled in classes at UAMS. The policy can be found at the following link:

<https://academicaffairs.uams.edu/wp-content/uploads/sites/12/2023/09/1.4.2-Student-Health-Screening-2023.09.01.pdf>.

UAMS Student Health Insurance Requirement

Students enrolled at the University of Arkansas for Medical Sciences are required by University of Arkansas Board policy (Policy 1260.1) to have health insurance coverage at all times. The proof of personal health insurance process is required every semester in which a student is enrolled. The responsibility for obtaining health insurance coverage rests with the student. The policy can be found at the following link: <https://healthprofessions.uams.edu/wp-content/uploads/sites/9/2018/12/UAMS-Student-Health-Insurance-Requirement.pdf>

Background Check and Drug Screens for Applicants and Students

The purpose of this policy is to establish guidelines and procedures for conducting criminal background check(s) and drug screens for applicants who have been offered admission or students enrolled in a College of Health Professions program. The policy can be found at the following link: <https://healthprofessions.uams.edu/wp-content/uploads/sites/9/2021/10/policy-library-02.12.02-background-check-policy-revised-2021-10-13.pdf>.

Acceptable Grades for Progression

“The nuclear medicine imaging sciences program is a progressive program in that the core classes build on one another from one semester to the next. All classes are only one time per academic year. In order to progress from one semester to the next, students are expected to make a passing grade of “C” or above in all classes. Failure to achieve a passing grade in just one class will prevent the student from progressing to the next class in sequence and therefore may result in the student being recommended for dismissal or suspension from the NMIS program. NMIS grading scheme is outlined below. Students who withdraw must follow the re-admission policy for the NMIS program found in this handbook under “Re-admission policy for Nuclear Medicine Imaging Sciences”.

1. Students must receive a grade of "Satisfactory" or "C" or better in all professional courses in order to progress in the program from one semester to the next. Students with course grades of "D" or "F" or "Unsatisfactory" may be recommended for dismissal or suspension from the NMIS program.
2. Successful completion of this program is dependent upon attendance and active participation in class. NMIS instructors may include evaluations of student attendance and class participation as part of their respective course grades. Attendance and participation policies and procedures are outlined in individual course syllabi.
3. All NMIS classroom coursework is graded on an ‘A’, ‘B’, ‘C’, ‘D’, or ‘F’ letter grade basis. All faculty use the following percentage grading scale to assign course letter grades:

A	= 93%	- 100%
B	= 85%	- 92%
C	= 77%	- 84%
D	= 70%	- 76%
F	= Less than 70%	

Course specific assessment policies and procedures are outlined in individual course syllabi.

4. All clinical internship coursework is graded on a “Satisfactory”/“Unsatisfactory” basis. The AES will grade students on attendance, integrity, communication skills, cooperation, self-confidence, motivation, efficiency, and professionalism. All clinical rotation requirements are outlined in the clinical handbook.

5. Graduation requirements include:

- Successful completion of all Pre-professional required coursework.
- Successful completion of all NMIS Program coursework.
- Successful completion of all NMIS required clinical internship requirements.
- Achieving a passing grade (80%) on the Fall Comprehensive Examination and any required Oral Examinations.
- Achieve a passing grade (80%) on the Spring Comprehensive Examination and any required Oral Examinations.
- Achieving a passing grade (80%) on the Radiopharmacy Oral Examination.

- Achieving a passing grade (80%) on the Health Physics/Instrumentation Oral Examination.
- Achieving a passing grade (75%) on the Final Comprehensive Examination.

Examinations and Quizzes and Homework

Block examinations will be administered approximately every five weeks during the semester and will be at a proctored test site. Block examination dates will be posted in the syllabus and/or Blackboard. Block examinations are open for a set period of time and must be completed within the posted time frame. Make-up block examinations are permitted only in the case of an emergency or illness. Documentation may be required regarding the illness or emergency before permission to take the make-up block examination is granted. If a student is to miss a block examination, it is the responsibility of the student to contact the instructor by phone **and** e-mail **prior** to the scheduled block examination time. Make-up block examinations **must be taken within five calendar days after returning** to clinic or class and will be scheduled at a time that is mutually agreed upon by the instructor and the student. It may be necessary for the student to take the make-up examination in Little Rock due to contractual obligations and assessed fees with the testing centers. Every effort should be made to take the block examination at the regularly scheduled time.

Online homework or assignments and quizzes are usually open for a set period of time and must be completed within the posted time frame. A make-up online homework or assignment or quiz is permitted only in the case of an emergency, illness or computer problems. Documentation may be required regarding the illness or emergency before permission to complete the online homework or assignment or quiz is granted. If a student is to miss an online homework or assignment or quiz is necessary, it is the responsibility of the student to contact the instructor by phone **and** e-mail **prior** to the expiration of the homework or assignment or quiz time. The make-up homework or assignment or quiz must be completed and **submitted within 48 hours** of resolving the emergency.

Other homework or assignments are usually open for a set period of time and must be completed within the posted time frame. Make-up homework or assignment are permitted only in the case of an emergency or illness. Documentation may be required regarding the illness or emergency before permission to complete the homework or assignment is granted. If a homework or assignment is to be turned in late for the above reasons, it is the responsibility of the student to contact the instructor by phone **and** e-mail **prior** to the homework or assignment due date. Make-up homework or assignment must be completed and **submitted within 48 hours** of resolving the emergency.

Quizzes or homework or assignments completed late for reasons other than emergency or illness or computer problem **will have a 10% per calendar day reduction in grade**. Quizzes or homework or assignments submitted more than ten (10) days past the due date will receive a grade of zero (0).

No retakes of block examinations, online quizzes, online or other homework, assignments, discussions, projects or interesting case are permitted.

Specific course examination, quiz, homework or assignment policies and procedures are outlined in individual course syllabi.

Students may contact the NMIS program director at any time to inquire about specific examination policies and/or grading scales for each class. The NMIS program director will then discuss with the student the specifics of each class on a case-by-case basis.

Didactic Remediation

In order to support student learning, each course includes a Didactic Remediation Plan aimed at assisting students who may need additional support with foundational concepts. Remediation activities will focus on the specific needs of the student and each instructor will provide resources. Detailed guidelines and deadlines for remediation activities will be provided during a one-on-one session with the Program Director and/or instructor of the class. Students are encouraged to take advantage of these opportunities to strengthen their understanding of course material.

The remediation process is as follows:

1. Initiation of Remediation

- i. For courses currently in session, the course director will initiate remediation procedures any time a score of 77% or lower occurs on a single section examination.
- ii. Additional remediation procedures may also be initiated if the student has an overall section examination average of 77% or lower, even if the student has a passing score for the course. This would suggest the course quizzes, assignments, etc. are providing a passing score but content mastery is in question with a section exam average below passing.

2. Responsibility and Procedure

- i. Ideally, the course director will try to initiate the remediation process within 48 hours of the student meeting the criteria for remediation. The student will consult with the course director to form a collaborative remediation plan. It is during this initial meeting the personalized remediation word document will be completed and reviewed with the student.
- ii. After meeting with the course director and review of the personalized remediation word document, the student will be instructed to schedule an appointment with the CHP Learning Specialist in the UAMS Student Success Center. The appointment must be scheduled and completed prior to the next scheduled examination for the course. The student will take the remediation form (given by the course director) to the appointment. The Learning Specialist must sign the form indicating the student participated in the session. Students needing remediation for multiple courses and/or exams in a single course may not be required to the Learning Specialist if the remediation policy is initiated for exams taken close together. A single visit will meet the plan requirements.
- iii. The student will return the signed remediation form to the course director and discuss plans for academic coaching, peer-tutoring, and/or any other tools/options deemed necessary to assist the student.

3. Expectations

- i. Students can expect course directors to assist the student in remediation. Assistance from the course director can be through a variety of formats including, but not limited to, one-on-one conferences, exam reviews, providing additional resources, and/or identification of student or university resources.
- ii. Students are expected to adhere to the collaborative remediation plan as provided during the remediation process. Failure to complete the remediation plan and any assigned remedial activities in the defined time period may result in dismissal from the NMIS program.

CLINICAL COMPETENCY REMEDIATION AND PROBATION

As the clinical education component is competency based and self-directed, students should be aware of their strengths and weaknesses. Identified weak areas may be improved by requesting assistance from any faculty member. However, if improvement does not occur, a formal mechanism must exist to improve performance. After administrative review under the provisions of the UAMS Academic Catalog, Student Academic Profession Standards Policy, a student may be placed on Clinical Probation if there is found to be:

1. Repeated neglect or disregard of the Clinical Conduct policy; or
2. Skill levels persistently below those of the minimum requirement, (refer to the appropriate Clinical Practicum syllabus); or
3. An absence of more than 7 days (2 personal days off and 5 clinical days) per semester.

If a student does not achieve satisfactory evaluation for competency in any one examination type by the defined deadlines (refer to Clinical Practicum syllabi), this indicates below minimum performance levels in any or all of the following areas:

1. Scintigraphy technique
2. Protocol compliance
3. Patient care
4. Image or case evaluation

The student will then receive notice to schedule a counseling session with the NMIS Program Director and Clinical Coordinator. Upon completion of the counseling session, the faculty will review the student's record. Recommendations will be made and the student will be informed of the recommendations within 48 hours following the conference. The student will be assigned remedial activities which may include, but not be limited to, any of the following:

1. Scintigraphy critique
2. Written report of proper protocols
3. Modeling, simulation exercises
4. One-on-one clinical instruction

Upon satisfactory completion of the remedial activities, the student may continue with the clinical competency program and attempt to pass the originally failed/uncompleted competency. Continued unsatisfactory or lack of completion of the competency will result in a counseling session with the Program Director and placement on Clinical Probation.

A student placed on Clinical Probation will have two (2) opportunities to satisfactorily complete the originally failed/uncompleted competency. During this Clinical Probation period, the student's

clinical assignment schedule may be revised to limit their clinical participation until such time that the clinical deficiency is corrected.

Should the student be unsuccessful in the two attempts to complete and satisfactorily pass the clinical competency during the probation period, the student may not receive a passing grade for the respective clinical practicum course. All Professional Curriculum courses must be successfully completed for graduation from the NMIS program. In order for students to remain in good academic standing, a final grade of a “C” or better must be achieved in all clinical practicum courses. Failure to remain in good academic standing may result in dismissal from the program.

ACADEMIC PROBATION

Failure to comply with academic conduct standards, CHP non-cognitive performance standards, or professional conduct standards may result in disciplinary action including, but not limited to, documentation of a minor or major infraction, academic or probation, and/or dismissal from the program;

After administrative review under the provisions of the UAMS Catalog and CHP Student Academic Profession Standards policy, the department may initiate academic probation of the student:

1. Whose performance places others in physical or emotional jeopardy;
2. Who fails to comply with the aforementioned academic conduct standards, and/or CHP non-cognitive performance standards (defined in CHP Policy 02.00.02—Student Academic Profession Standards); or
3. Who misses three (3) or more days per semester without a valid excuse.

ACADEMIC WITHDRAWAL

After administrative review under the provisions of the UAMS Catalog, CHP Student Conduct and Discipline policy, the Department may initiate withdrawal of the student:

1. Who receives a course grade of less than a “C” in a course of the Professional Curriculum; or
2. Who fails to meet minimum academic requirements and/or professionalism/behavioral guidelines
3. Who has accumulated five (5) absences from educational assignments; or
4. Who commits four (4) or more minor infractions or two (2) or more major infractions of departmental policy or procedure.

Physical jeopardy is defined as any action or inaction which directly threatens the physical safety or well-being of another person. Emotional jeopardy is defined as any action or inaction which directly threatens the emotional or mental wellbeing of another person.

Administrative Withdrawal and Dismissal Policy

The NMIS program adheres to the UAMS Administrative Withdrawal and Dismissal Policy 2.2.13. The Associate Provost for Academics may administratively dismiss or withdraw a student (excluding College of Medicine (COM) students) and place them on an institutional leave of absence for failure to comply with a UAMS Administrative Guide or Academic Affairs policy excluding behavior addressed by the Academic Affairs 2.2.14 Student Code of Conduct policy. The Administrative Withdrawal and Dismissal Policy 2.2.13 can be found at the following link: <https://academicaffairs.uams.edu/wp-content/uploads/sites/12/2024/03/2.2.13-Administrative-withdrawal-and-dismissal-policy-2024.03.14.pdf>

Complaint Policy

If a student has a non-academic complaint that is not covered under one of the policies listed below, then they would follow the process for non-academic complaints described in Academic Affairs Policy 2.2.9 Formal Complaint Resolution Policy. If the efforts to resolve a complaint informally are not successful, students must file a formal complaint within 30 days following the incident via the [online complaint form](#). This form is only for student complaints. The policy can be found at the following link: <https://academicaffairs.uams.edu/wp-content/uploads/sites/12/2022/11/2.2.9-Formal-Complaint-Resolution-Policy-2022.11.10.pdf>

*A program may also have a complaint policy for their accrediting body that may need to be added.

**NMIS 45175
Clinical Internship I
Clinical Internship
001**

University of Arkansas for Medical Sciences
College of Health Professions

Department of Imaging and Radiation Sciences
Division of Nuclear Medicine Imaging Sciences

Credit Hours: 5
(320 Clinical hours)

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Fall 2025

1.0 General Information

1.1 Catalog Description

Practical application of coursework presented in the classroom. Students are assigned educational experiences in radiopharmaceutical preparation and clinical imaging. This course is offered on a satisfactory/unsatisfactory marking basis.

1.2 Course Rationale

In the clinical internship, students are able to apply the knowledge and skills acquired during the academic core courses. Under the direction of the nuclear medicine technologist and/or nuclear pharmacists, students will measure radiopharmaceutical activity for patient administration and students will perform diagnostic imaging. Students follow established protocols and develop organizational skills and proficiency under actual working conditions.

1.3 General Course Objectives

The objectives of the clinical internship are to provide learning experiences such that student's will be capable of competently completing the following tasks:

1. retrieve patient records as needed
2. after assessing proper identification, transport patients to and from the procedure room, and with assistance of the supervising technologist, to and/or from the department as necessary
3. assist with nursing care required by the patient while in the department
4. correctly position patients for all views for each assigned procedure.
5. load, process, label, and hang films according to departmental policies. For departments with PACS system, loads proper films in the PACS system for physician review.
6. locate radionuclide records kept by the department and explain the mechanism of record keeping
7. elute the generator and assay the generator eluant
8. perform routine quality control procedures on the generator eluant
9. calculate patient doses on the basis of half-life and activity
10. draw patient doses observing aseptic technique
11. using aseptic technique, administer radiopharmaceutical according to departmental policy
12. correctly dispose of radiopharmaceuticals and syringes
13. obtain serum and plasma specimens in the correct fashion
14. perform routine quality control procedures on imaging equipment, the dose calibrator, the uptake probe, and laboratory equipment
15. assist with routine cleaning of patient area, radiopharmaceutical preparation areas, labs, and so forth

16. locate the emergency equipment and supplies within the department
17. describe personnel safety regulations and emergency codes observed by the department
18. assume responsibility for personnel safety and hygiene
19. demonstrate correct professional behavior and concern for the patient
20. complete all Interprofessional Education (IPE) assignments scheduled during this semester

2.0 Instructional Methodology

2.1 General Technique

The principle form of instruction is the demonstration of procedures to students by the clinical instructor and the nuclear medicine staff. Additional methodologies include supervised participation, in-service seminars, case studies, discussion, hand-outs, manipulative/tactile, and special projects.

2.2 Resource Based Techniques

This course will incorporate clinical experience as the resource base for students. As directed by the JRCNMT, all technologists who work with the students must be certified nuclear medicine technologists. Therefore, we can guarantee that the technologists who are working with the students have passed national certification boards and must maintain continuing education credits in order to maintain their certification.

3.0 Instructional Methodology

3.1 Reference-Print Materials

The following resources will be used as reference sources and are available at the clinical sites.

1. Textbooks and references manuals used in core courses
2. Hospital and departmental policy and procedure manuals
3. Equipment manuals

3.2 Reference-Audiovisual Materials

There are no audiovisuals required for purchase by the students for this course.

3.3 Computer Requirements

The student must have a computer that has Internet connectivity with a Web browser that is compatible with the current learning management system.

Students are responsible for hardware and software issues off-campus (home or office). Questions about the course content and assignments should be directed to the instructor.

Students are required to clock-in and clock-out at their respective clinical site, as well as enter daily procedures and other rotation information. Most clinical sites will allow students to use their on-site computers. When a clinical site does not allow students to use their on-site computers, the student may use their phone. However, clock-in and clock-out **MUST** be done when the student is in the department. Other information can be entered when convenient. Remember, the IP address of the device used is tracked by Trajecsys.

3.4 Technical Assistance Notification

The UAMS Academic Affairs Educational and Student Success Center provides assistance with students' laptops and mobile devices. A Library and ESSC Systems Support Technician is available to assist with various technology issues, from connecting to the wireless network to troubleshooting possible software issues. The specialist is located on the 3rd floor of the Library (ED II 3/110) from Monday through Friday from 7:30 to 4:30 PM. Assistance is also available remotely. You can email him at CDWebb2@uams.edu or book an appointment at <https://outlook.office365.com/owa/calendar/ITSupportCalvinWebb@uams.edu/bookings/>.

4.0 General Evaluation Procedures

4.1 Student Evaluation Procedures

The Clinical Internship course is graded on a satisfactory (mark of "S") or unsatisfactory (mark of "U") basis.

Clinical competency examinations will be graded on a "S" or a "U" basis. A student must receive a satisfactory grade on all components of the clinical competency examination in order to pass that clinical competency examination. Student's must repeat all failed clinical competency examinations.

Upon completion of each rotation, student's will be evaluated by their affiliate education supervisor, using the criteria outlined in the clinical handbook, in each of the following areas:

Dependability	Integrity	Communication
Adaptability	Cooperation	Self-confidence
Initiative	Efficiency	Professionalism
Patient care	Radiation protection	

The affiliate education supervisor will score each area using the following descriptors:

- **Exceeds Expectations:** Student's performance in this area consistently exceeds expectations for his/her current stage of clinical education.

- **Meets Expectations:** Student’s performance in this area meets the expectations for his/her current stage of clinical education.
 - **Needs Improvement:** Student's performance in this area meets the minimum expectations of his/her current stage of clinical education; however, improvement is needed in order to establish progress.
 - **Unsatisfactory:** Student’s performance in this area fails to meet the minimum level expected for his/her current stage of clinical education.
- Based on the clinical evaluation grades received, the following provisions will be imposed:

- Any student receiving a “Needs Improvement” or “Unsatisfactory” grade in any area will be counseled by the clinical coordinator and/or program director.
- Any student receiving two or more “Needs Improvement” grades in the same area during the academic year will be counseled by the clinical coordinator and/or program director and may be placed on academic probation.
- Any student receiving two or more “Unsatisfactory” ratings in one area during the same semester will receive an “Unsatisfactory” grade for that semester’s Clinical Internship course and may be recommended for dismissal or suspension from the NMIS program.
- Each descriptor will be translated into a percentile score using the following conversion table:

Descriptor		Score
Unsatisfactory	=	60%
Needs Improvement	=	70%
Meets Expectations	=	85%
Exceeds Expectations	=	100%

Based on this conversion, students will receive a summary score for each rotation and a cumulative semester score on the Trajecsys[®] Performance Evaluation Report.

PERFORMANCE EVALUATION

Report creation date:
 Date range:
 Evaluator:

Eval		Totals		Eval Items
1	2	3		
Dependability				
Exceeds Expectations	Meets Expectations	Meets Expectations	90	Arrives and leaves clinical site at the proper time.
Exceeds Expectations	Meets Expectations	Meets Expectations	90	Notifies supervisor ASAP when late or absent.
Meets Expectations	Needs Improvement	Needs Improvement	75	Informs supervisor of whereabouts during the day.
Exceeds Expectations	Meets Expectations	Meets Expectations	90	Takes lunch and breaks within the time limits.
96.25	81.25	81.25		
Integrity				
Exceeds Expectations	Meets Expectations	Meets Expectations	90	Reports mistakes to supervisor.
Exceeds Expectations	Meets Expectations	Meets Expectations	90	Reports mistakes to supervisor.
Exceeds Expectations	Meets Expectations	Meets Expectations	90	Explains the procedure to the patient prior to performing an exam.
100	85	85		
Rating				
3	2	3		Please rate the students performance:
99.53	84.3	84.38	89.4	

Rotation Score

Cumulative Score

Note: all other numbers shown on the Performance Evaluation report are used for statistical purposes only.

Based on the clinical scores received, the following provisions will be imposed:

- Students must achieve a minimum cumulative score of 77% in order to receive a grade of “Satisfactory” for that semester’s Clinical Internship course.
- Any student receiving a rotation score of less than 77% will be counseled by the clinical coordinator and/or program director.
- Any student receiving a cumulative score less than 77% for the semester receive an “Unsatisfactory” grade for that semester’s Clinical Internship course and may be recommended for dismissal or suspension from the NMIS program.

In the clinical internship students are able to apply the knowledge and skills acquired during the academic core courses. Under the direction of the nuclear medicine technologist and/or nuclear pharmacists, students will prepare radiopharmaceuticals for patient administration and students’ will

perform diagnostic imaging. Students follow established protocols and develop organizational skills and proficiency under actual working conditions. As the student progresses through the clinical phases of his/her education, clinical skills acquired during the previous clinical rotations should be honed. Although the student still works under supervision, he/she is expected to evolve toward working on a more independent basis. The student should be encouraged to solve routine clinical problems autonomously.

A final rating will be assigned to the student's overall clinical proficiency by the affiliate education supervisor. (See Clinical Handbook, Section 7). Any student receiving two (2) or more overall performance evaluations at a level below his/her expected stage of performance during the fall and spring semesters will receive an "Unsatisfactory" grade for that semester's clinical rotation and may be recommended for dismissal or suspension from the NMIS program.

Students will have seven calendar days from the last day of a scheduled clinical rotation to complete all online forms and evaluations for that rotation. Students who submit forms and evaluations after the prescribed date will lose one accrued hour for each calendar day past the due date.

Upon completion of the course for the semester, the NMIS clinical coordinator and/or the NMIS program director must receive all clinical forms and clinical evaluations from the student. If all forms and evaluations are not handed in by the end of the semester the students will receive a mark of "U" for unsatisfactory for the semester.

4.2 Instructor Evaluation Procedures

While comments regarding the course and instruction are welcomed by the instructor at any time, students will be given the opportunity to complete CHP course and instructor evaluations. Your participation in this evaluation is appreciated.

4.3 Performance, Lab, Clinic, and Project Evaluation

As a student progresses throughout the clinical rotations, they will gain competence in each of the routine nuclear medicine technology procedures. Students must test out of all routine procedures as outlined in the clinical handbook. When a student is deemed competent to perform a particular procedure, arrangements should be made with the affiliate education supervisor to take a clinical competency exam. At that time the affiliate education supervisor will observe the student performing the procedure and will grade him/her according to the evaluation form. Each step of the procedure is graded on a satisfactory/unsatisfactory basis.

At the discretion of the clinical coordinator and/or the program director and/or the affiliate education supervisor, a student may be required to take a

continuing competency exam that will be administered by the clinical coordinator or faculty member. The continuing competency exam will be given at the student's clinical site and will be graded on a satisfactory/unsatisfactory basis.

A fall semester clinical comprehensive exam will be administered online during the summer semester. If the student fails to achieve a passing grade on any section of the fall semester clinical comprehensive exam, the student must take an oral exam over that section with a NMIS faculty member.

Students are required to participate in three outside activities. At least one of the three required activities must be a continuing education (CE) meeting or article that has been approved for "Category A" CE credit by either the Society of Nuclear Medicine and Molecular Imaging (SNMMI) or the American Society of Radiologic Technologists (ASRT). These activities must be completed prior to the end of the semester as part of receiving a grade of "S" for Satisfactory in Clinical Internship I. Student's that do not complete these three outside activities prior to the end of the semester will receive an "I" for the course.

The following is a sample list of approved activities. Other activities may be submitted to the NMIS Clinical Coordinator and/or the NMIS Program Director for approval. All outside activities must be able to provide documentation and/or a certificate of participation. Students are advised to check with the NMIS Clinical Coordinator and/or the NMIS Program Director before attending any activity to determine if that activity will meet this requirement.

Sample lists of outside activities:

Activities approved as outside Continuing Education Activities:

- Educational meeting put on by the SNMMI (national or chapter meeting) (write a 1 page summary of the meeting)
- Educational meeting put on by a radiopharmacy or equipment manufacturer company (e.g. Cardinal Health or GE / Siemens) (write a 1 page summary of the meeting)
- Educational meeting put on by a state or local radiologic science group (write a 1 page summary of the meeting)
- Continuing education article available online (must submit quiz results when required or write a 1 page summary of the article)
- Continuing education article available in professional journal (must submit quiz results when required or write a 1 page summary of the article)

The following are NOT considered Continuing Education Activities but may be considered as an outside activity

- Donating blood
- Attending hospital Grand Rounds
- Helping at a homeless shelter/kitchen

- Attending Hospital in-service programs
- Participating in Race for the Cure or other fundraisers for health care
- Volunteering at Red Cross
- Volunteering at Salvation Army (e.g. bell ringer at holidays)
- Volunteering for charitable organization

All personal electronic communication devices (i.e., cellular phones, pagers, iPads, etc...) must be turned OFF (not 'silent') while in class and in the clinical setting. At a student's discretion, the NMIS office telephone number may be provided to interested parties (i.e., child care facilities, family members, etc...) as a contact number for emergencies only. In the event of an emergency, the NMIS office must be notified first and personnel from that office will locate and communicate the information to the student. Student's may use their personal electronic communication devices when they are outside of their assigned clinical location AND on a designated break AND all facility rules and regulations pertaining to the use of personal electronic communication devices are followed. If a student is found using a personal electronic communication device while in the clinical setting, the occurrence will be documented in the student file and the student will be subject to the following:

First offense: Written warning

Second offense: Deduction of two (2) accrued hours from the accrued hour bank.

Subsequent offenses: Deduction of four (4) accrued hours from the accrued hour bank.

Because attendance in the clinical rotations is crucial to the learning process, students must complete the required number of clinic hours. Students are required to make requests for time off to their affiliate education supervisor for purposes of vacation, personal days, or any scheduled absence. Such requests must be made at least 48 hours in advance of the requested day off.

Students who fail to report to their clinical site according to the rotation schedule or who fail to provide an advanced leave request will be charged with an unscheduled absence and will result in a deduction of two (2) hours from accrued time off in addition to any time missed at the clinical rotation.

Any clinical time taken off within sixteen (16) working hours of the fall semester clinical comprehensive examination scheduled in the summer will be deducted from the student's accrued hours at a ratio of two accrued hours for every one hour taken off from clinic. If a student must miss clinical time within sixteen (16) hours of the fall semester clinical comprehensive examinations scheduled in the summer due to an illness, a doctor's excuse

must be submitted to the NMIS Program Director and/or the NMIS Clinical Coordinator before this examination can be scheduled. All information regarding the attendance policy can be found in the Student Handbook. Student's will be expected to display maturity and professionalism in daily contacts with faculty, hospital staff, fellow student's, patients, and visitors.

ABSENTEEISM

Students are expected to participate in all scheduled didactic clinical educational experiences. Absenteeism is defined as not being present for an assigned educational activity or not submitting Web-based assignments on time. Students should schedule all appointments during times when they are not participating in didactic or clinical education sessions if possible.

Students must notify the NMIS Program Office within 24 hours if they are unable to attend class. In addition, students must notify their Director of Clinical Education *and* Clinical Supervisor by 8:30am on the day of the absence (or sooner) if they are unable to attend clinic.

If a student is not present in clinic at the appropriate times and does not notify both the Director Clinical Education and Clinical Supervisor **PRIOR TO** the program faculty's discovery of the absence, an automatic five (5) pigs may be deducted.

Personal days off may be used in one-hour increments and, with the Director of Clinical Education and/or Clinical Coordinator approval.

Students may miss two (2) additional days of clinic per semester due to inclement weather with approval from the Clinical Coordinator and/or Director of Clinical Education. Additional days missed (more than 2) due to inclement weather will be made up without a grade penalty.

Clinical absences can affect a student's clinical grade. Excess clinical absences lower the number of cases a student observes, which adversely affects the student's clinical grade since clinical hours are included in the clinical practicum grade calculation process.

Students absent more than two (2) days in a row must submit documentation to excuse the absences. This documentation may include items such as physician certification of illness. After personal time is exhausted, physician certification or other documentation may be required to excuse any absence and prevent the student from accumulating unexcused absences, which can carry a grade penalty.

4.4 Make-up and Retake Examinations

Make-up block examinations are permitted only in the case of an emergency or illness. Documentation may be required regarding the illness or emergency before permission to take the make-up block examination is granted. If a student is to miss a block examination, it is the responsibility of the student to contact the instructor by phone **and** e-mail **prior** to the scheduled block examination time. Make-up block examinations **must be taken within five calendar days after returning** to clinic or class and will be scheduled at a time that is mutually agreed upon by the instructor and the student. It may be necessary for the student to take the make-up examination in Little Rock due to contractual obligations and assessed fees with the testing

centers. Every effort should be made to take the block examination at the regularly scheduled time.

Online homework or assignments and quizzes are usually open for a set period of time and must be completed within the posted time frame. A make-up online homework or assignment or quiz is permitted only in the case of an emergency, illness or computer problems. Documentation may be required regarding the illness or emergency before permission to complete the online homework or assignment or quiz is granted. If a student is to miss an online homework or assignment or quiz is necessary, it is the responsibility of the student to contact the instructor by phone **and** e-mail **prior** to the expiration of the homework or assignment or quiz time. The make-up homework or assignment or quiz must be completed and **submitted within 48 hours** of resolving the emergency.

Other homework or assignments are usually open for a set period of time and must be completed within the posted time frame. Make-up homework or assignment are permitted only in the case of an emergency or illness. Documentation may be required regarding the illness or emergency before permission to complete the homework or assignment is granted. If a homework or assignment is to be turned in late for the above reasons, it is the responsibility of the student to contact the instructor by phone **and** e-mail **prior** to the homework or assignment due date. Make-up homework or assignment must be completed and **submitted within 48 hours** of resolving the emergency.

Quizzes or homework or assignments completed late for reasons other than emergency or illness or computer problem **will have a 10% per calendar day reduction in grade**. Quizzes or homework or assignments submitted more than ten (10) days past the due date will receive a grade of zero (0).

No retakes of block examinations, online quizzes, online or other homework, assignments, discussions, projects or interesting case are permitted. Specific course examination, quiz, homework or assignment policies and procedures are outlined in individual course syllabi.

Students may contact the NMIS program director at any time to inquire about specific examination policies and/or grading scales for each class. The NMIS program director will then discuss with the student the specifics of each class on a case-by-case basis.

5.0 General Procedures

5.1 General Remarks

Students will arrive to pre-designated clinical sites for a total of three five-week rotations during the fall semester. Students are expected to be in clinic between 7:30 am – 3:30 pm Tuesday through Friday each week unless otherwise instructed by NMIS faculty and/or the clinical supervisor.

6.0 Class Attendance/Conduct/Dress Policy

6.1 General Remarks

In order to maximize learning opportunities, attendance will be taken at all class sessions.

Students are expected to actively engage in their education by attending and/or participating in class activities (face-to-face or at a distance). Faculty are expected to monitor their students' active participation and make contact by phone and UAMS email with those who have not initiated or maintained active participation in their course(s) for a period of one week. If a satisfactory reason is not presented to the faculty, the student does not actively engage in learning activities and/or the faculty member is unable to get in contact with the student, the faculty member should report this to the Associate Dean for Academic Affairs (ADAA). The ADAA will attempt to contact the student to learn the reason for his/her lack of participation. If a satisfactory reason is not presented, the student does not actively engage in learning activities and/or the ADAA is unable to get in contact with the student in a one- week period, the ADAA will notify the Registrar and the student will be administratively dropped from the class(es). If all classes are dropped, the student is administratively withdrawn from the CHP program.

Student's will receive a clinical rotation schedule during fall Orientation to Nuclear Medicine Imaging Sciences. Clinical rotation schedules are set so that the student achieves the best possible clinical educational experience, covering all aspects of nuclear medicine. Rotation schedules cannot be changed without the approval of the NMIS Clinical Coordinator and/or the NMIS Program Director. Clinical experiences are predominately in two areas: imaging and radiopharmacy. Imaging and radiopharmacy competencies and activities and evaluation procedures are listed in their respective objectives section of the clinical handbook.

Clinical internship I lasts throughout the fall semester and will be conducted at various clinical sites. Students are expected to participate at a beginning level, progressing from observation only to completion of designated procedures with close supervision.

The starting time for the first day of each clinical site is 7:30 am. A clinical site may require the student to start at a different time. The affiliate education supervisor will notify the student of the required starting time.

No matter the starting time, students are required to have eight (8) contact hours per day. Students are allowed a 15 minute break in the morning and in the afternoon and a required 30 minute lunch break. The break and lunch times will be designated by the affiliate education supervisor. The two 15 minute breaks are counted as part of the students' contact hours. Students are not allowed to work through lunch in order to leave early for the day. The clinical day consists of 8½ hours reported on the time sheet, with 30 minutes of that being lunch. 08:00 to 16:00 is 8 hours total, but only 7 ½ contact

hours. 08:00 to 16:30 is eight (8) contact hours.

Student's will be allowed to be sent home after a minimum of six (6) hours of work and get credit "Finished Early" (8 hours) as long as the following criteria have been met:

1. There are no more patients on the clinical schedule for the day or remaining patients are scheduled after the scheduled time to leave;
2. Being sent home early must be initiated by the affiliate education supervisor, not by the student;
3. Clinical paperwork, patient paperwork, and all appropriate documentation has been completed for the day;
4. Clinical duties (area is clean and neat, etc.) are completed.

Students who ask to go home early will receive credit only for the actual time worked.

In order for a student to receive credit for working extra hours, students **must** work a minimum of one (1) clinical hour beyond the day's regularly scheduled eight (8) clinical hours. Any hours that a student works in order to make up time for time missed, is made up on a one (1) hour worked to one (1) extra credit hour basis. Partial hour credit (15 minutes, 30 minutes) are not allowed. During the make-up hours, students are **not** allowed to:

1. Be sent home "Finished Early" and receive eight (8) hours of credit.
2. File "Time Exceptions" in the online system.

Students who wish to make-up missed clinical time on a Saturday or on another day where class(es) or clinical times are not scheduled, must have prior approval from the NMIS Clinical Coordinator and/or NMIS Program Director and the affiliate education supervisor of the clinical site the student wants to attend. Clinical time worked without prior approval will not be allowed and will not be counted as make up time.

All clinical times must be logged using the Trajecsys clock in/out function.

6.2 Session Absence Grading Effects

If an emergency situation arises (i.e. illness) that prevents a student from participating in a scheduled clinical rotation, that student must contact the clinical site's affiliate education supervisor by phone and the NMIS Clinical Coordinator and/or NMIS Program Director by e-mail **prior** to the regularly scheduled starting time for that clinical day. Failure to follow this procedure will result in a deduction of two hours from the student's accrued time.

6.3 Session Tardiness Grading Effects

If student's will be late for clinic or must leave clinic during the day, the affiliate education supervisor must be notified. Student's will be evaluated on punctuality. (See also the rule on tardiness located in the student handbook)

6.4 Conduct/Dress Code

Students are to adhere to the dress code as outlined in the Nuclear Medicine Imaging Sciences Student Handbook. At all times during their

clinical rotation students are to wear their UAMS ID badge (and any other ID badges as required by the clinical site), their personal dosimeters and a lab coat (as required by the clinical site). Student's will be evaluated on their professionalism, their overall conduct and appearance in the clinical rotation.

7.0 Due Dates/Deadlines

Students are to check the online system to verify that their time has been entered. If a student has not entered time into the system for a day that has been worked, when times are reviewed by the Clinical Coordinator, the time will be deducted. If the student did work that day and did not enter their time, it is the responsibility of the student to contact the affiliate education supervisor. The affiliate education supervisor must e-mail or call the NMIS Clinical Coordinator and/ or the NMIS Program Director to verify the day was actually worked. At that time, the NMIS Clinical Coordinator and/ or the NMIS Program Director will give the time back to the student. This must be done within the time frame listed below.

Affiliate education supervisors cannot be expected to remember the times student's have attended clinic. All clinical times for a clinical rotation must be approved by the affiliate education supervisor or the NMIS Clinical Coordinator within ten (10) calendar days from the end of the clinical rotation. If the clinical times are not approved within this time frame, the clinical times will not be approved. It is the responsibility of the student to verify that their clinical time has been entered.

8.0 Session Schedules

8.1 General Remarks

Student's will receive a clinical rotation schedule during fall orientation to Nuclear Medicine Imaging Sciences. Clinical rotation schedules are set so that the student achieves the best possible clinical educational experience, covering all aspects of nuclear medicine. Rotation schedules cannot be changed without the approval of the NMIS Clinical Coordinator and/or the NMIS Program Director. Clinical experiences are predominately in two areas: imaging and radiopharmacy. Imaging and radiopharmacy competencies, activities and evaluation procedures are listed in their respective objectives section of the clinical handbook.

8.2 Tentative Session Schedule

The fall semester consists of three five week "blocks" of class/clinical time.

Block 1 – September 2 – October 1

Block 2 – October 6 – November 5

Block 3 – November 11 – December 10

For each block:

- During weeks 1 – 4, students will have class on Monday and attend a clinical rotation Tuesday through Friday.
- During week 5, students will have class on Monday, Tuesday is a study day and Wednesday is the block examination day.
- During week 5, Thursday and Friday after the block exam, student's

will be preparing for the next block.
Occasionally a UAMS Holiday falls on a Monday. When this occurs, students will have class on Tuesday and attend a clinical rotation Wednesday through Friday

	Monday	Tuesday	Wednesday	Thursday	Friday
Week 1	Class Meeting	Clinical Day	Clinical Day	Clinical Day	Clinical Day
Week 2	Class Meeting	Clinical Day	Clinical Day	Clinical Day	Clinical Day
Week 3	Class Meeting	Clinical Day	Clinical Day	Clinical Day	Clinical Day
Week 4	Class Meeting	Clinical Day	Clinical Day	Clinical Day	Clinical Day
Week 5	Class Meeting	Block Exam Study Day	BLOCK EXAM	Study Day	Study Day

8.3 Tentative Media Schedule

None.

9.0 Instructional Staff

Thomas Cunningham, MHA CNMT, NMTCB(CT)

Jessi Bratton, MHA, CNMT, R.T.(N)

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10.0 CHP Policies

COPYRIGHT POLICY - The materials used in this course may include copyright protected materials provided for the personal educational use of the enrolled student's and may not be further redistributed.

INTELLECTUAL PROPERTY POLICY - Lecture, lab and other presentations are the intellectual property of the faculty and faculty must give their written permission for their lecture, lab, and other presentations to be recorded.

Recorded lectures/labs/presentations may only be posted on websites or other locations approved by the College of Health Professions and are provided for the personal educational use of student's enrolled in the course. Students are prohibited from providing or distributing any course materials in any manner – print, electronic, or any other media – or providing links to any course materials to anyone outside of their UAMS classes.

Failure to abide by this policy may result in disciplinary action including dismissal.

Failure to abide by this policy may constitute a copyright infringement which may have the following legal consequences:

Summary of Civil and Criminal Penalties for Violating Federal Copyright Laws

Copyright infringement is the act of exercising, without permission or legal authority, one or more of the exclusive rights granted to the copyright owner under section 106 of the Copyright Act (Title 17 of the United States Code). These rights include the right to reproduce or distribute a copyrighted work. In the

file-sharing context, downloading or uploading substantial parts of a copyrighted work without authority constitutes an infringement.

Penalties for copyright infringement include civil and criminal penalties. In general, anyone found liable for civil copyright infringement may be ordered to pay either actual damages or "statutory" damages affixed at not less than \$750 and not more than \$30,000 per work infringed. For "willful" infringement, a court may award up to \$150,000 per work infringed. A court can, in its discretion, also assess costs and attorneys' fees. For details, see Title 17, United States Code, Sections 504, 505.

Willful copyright infringement can also result in criminal penalties, including imprisonment of up to five years and fines of up to \$250,000 per offense.

For more information, see the web site of the U.S. Copyright Office at www.copyright.gov, and especially their FAQs at www.copyright.gov/help/faq

Title IX - The University of Arkansas for Medical Sciences (UAMS) does not discriminate on the basis of sex, gender, or sexual orientation in its education programs or activities. Title IX of the Education Amendments of 1972, and certain other federal and state laws, prohibit discrimination on the basis of sex in all education programs and activities operated by UAMS (both on and off campus). Title IX protects all people regardless of their gender or gender identity from sex discrimination, which includes sexual harassment and sexual violence. The UAMS Title IX Coordinator can be contacted at (501) 526-5641. She is available to explain and discuss: your right to file a criminal complaint (sexual assault and violence); the university's complaint process, including the investigation process; how confidentiality is handled; available resources (both on and off campus); and other related matters. **You may also contact the UAMS Police Department, 501-686-7777 (non-emergency) or 911 (emergency). If you are in the midst of an emergency, please call the police immediately by dialing 9-1-1.**

The United States Department of Education's Office of Civil Rights ("OCR") is responsible for enforcing Title IX, as well as other federal civil rights laws that prohibit discrimination in programs or activities that receive federal financial aid. Inquiries and complaints may also be directed to OCR at 1-800-421-3481 or ocr@ed.gov

DISABILITY POLICY - UAMS is committed to providing equal access to learning opportunities to students with disabilities. To ensure access to any class or program, please contact the ADA Coordinator to engage in a confidential conversation about the process of requesting accommodations in the classroom and clinical settings. Accommodations are not applied retroactively. Students are encouraged to register with the ADA Coordinator's office as soon as they begin their program or as soon as the student recognizes their need for an adjustment.

UAMS encourages students to access all resources available through the ADA Office for consistent support and access to their programs. More information can be found online at <http://student's.uams.edu/ada-disability-services/> or by contacting the disability services office at (501) 526-5641.

11.0 Scholastic Dishonesty

Scholastic dishonesty is defined as an act contrary to academic and/or professional ethics. Examples of scholastic dishonesty include, but are not limited to, cheating, plagiarism, collusion, submission for credit of any work or materials that are attributable in whole or part to another person or an artificial intelligence third-party service or site, taking an examination or submitting work or materials for another person, any act designed to give unfair advantage to a student, or the attempt to commit such acts. Additionally, submitting an assignment that was previously submitted in another course constitutes scholastic dishonesty, unless the resubmission was approved by the course director. The sanctions for scholastic dishonesty may include, but are not limited to, a failing grade on the test/assignment, failing grade for the course, probation, suspension, or dismissal from the college. Refer to CHP Policy 01.00.02 Scholastic Dishonesty for details regarding scholastic dishonesty.

Students are expected to submit original work for all assignments and exams. The CHP subscribes to a Web-based plagiarism detection and prevention system that has the ability to compare written work to a database of texts, journals, electronic and web sources, including web sites that provide pre-written essays or term papers. If a student is suspected of submitting work copied from another source, CHP reserves the right to use this plagiarism detection system, with or without the student's knowledge.

While Artificial Intelligence (AI) may serve as a learning resource for students, AI-generated content should not be submitted by students for assignments or exams, unless expressly permitted and approved by the course director. The CHP adheres to the UAMS Artificial Intelligence Generative Tool Use Policy, 2.1.6, located in the UAMS Academic Catalog. The policy aids in clarifying the use and misuse of artificial intelligence generative tools at UAMS.

12.0 PATIENT PRIVACY AND CONFIDENTIALITY

UAMS is committed to protecting the privacy of our patients' information. While privacy and confidentiality have always been a priority for health care providers, it has heightened importance in this era of electronic information due to the increased speed of information flow and the risks associated with protecting this information.

The standards for protecting patient health information are described in the federal law known as the Health Insurance Portability and Accountability Act (HIPAA). HIPAA limits access to medical records to authorized individuals and for specific purposes. It is not possible to summarize HIPAA here; however, you will have received HIPAA training prior to being granted access to patient information. Additional information and training on HIPAA, including UAMS HIPAA policies, are available on the HIPAA Office web page HIPAA.uams.edu. Please keep in mind that there are sanctions for inappropriate access to patient records. These include criminal penalties of up to one (1) year imprisonment and a \$50,000 fine; as well as, disciplinary action up to and including dismissal from your program.

If you have any questions pertaining to HIPAA, you may direct them to the UAMS HIPAA office at 501-603-1379.

While the provisions of this syllabus are as accurate and complete as possible, the instructor reserves the right to change any provision herein. Student's will be notified of any changes and it is the responsibility of each student to know what changes, if any, have been made to the provisions of this syllabus and to successfully complete the requirements of this course.

**NMIS 45245
Clinical Internship II
Clinical Internship
002**

University of Arkansas for Medical Sciences
College of Health Professions

Department of Imaging and Radiation Sciences
Division of Nuclear Medicine Imaging Sciences

Credit Hours: 5
(320 Clinical hours)

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Spring Semester 2026

1.0 General Information

1.1 Catalog Description

Practical application of coursework presented in the classroom. Students are assigned educational experiences in radiopharmaceutical preparation and clinical imaging. This course is offered on a satisfactory/unsatisfactory marking basis.

1.2 Course Rationale

In the clinical internship students are able to apply the knowledge and skills acquired during the academic core courses. Under the direction of the nuclear medicine technologist and/or nuclear pharmacists, students will measure radiopharmaceutical activity for patient administration and students will perform diagnostic imaging. Student's follow established protocols and develop organizational skills and proficiency under actual working conditions.

1.3 General Course Objectives

The objectives of the clinical internship are to provide learning experiences such that student's will be capable of competently completing the following tasks:

1. retrieve patient records as needed
2. after assessing proper identification, transport patients to and from the procedure room, and with assistance of the supervising technologist, to and/or from the department as necessary
3. assist with nursing care required by the patient while in the department
4. correctly position patients for all views for each assigned procedure.
5. load, process, label, and hang films according to departmental policies. For departments with PACS system, loads proper films in the PACS system for physician review.
6. locate radionuclide records kept by the department and explain the mechanism of record keeping
7. elute the generator and assay the generator eluant
8. perform routine quality control procedures on the generator eluant
9. calculate patient doses on the basis of half-life and activity
10. draw patient doses observing aseptic technique
11. using aseptic technique, administer radiopharmaceutical according to departmental policy
12. correctly dispose of radiopharmaceuticals and syringes
13. obtain serum and plasma specimens in the correct fashion
14. perform routine quality control procedures on imaging equipment, the dose calibrator, the uptake probe, and

laboratory equipment

15. assist with routine cleaning of patient area, radiopharmaceutical preparation areas, labs, and so forth
16. locate the emergency equipment and supplies within the department
17. describe personnel safety regulations and emergency codes observed by the department
18. assume responsibility for personnel safety and hygiene
19. demonstrate correct professional behavior and concern for the patient
20. complete all Interprofessional Education (IPE) assignments scheduled during this semester

2.0 Instructional Methodology

2.1 General Technique

The principle form of instruction is the demonstration of procedures to students by the clinical instructor and the nuclear medicine staff. Additional methodologies include supervised participation, in-service seminars, case studies, discussion, hand-outs, manipulative/tactile, and special projects.

2.2 Resource Based Techniques

This course will incorporate clinical experience as the resource base for students. As directed by the JRCNMT, all technologists who work with the students must be certified nuclear medicine technologists. Therefore, we can guarantee that the technologists who are working with the students have passed national certification boards and must maintain continuing education credits in order to maintain their certification.

3.0 Instructional Methodology

3.1 Reference-Print Materials

The following resources will be used as reference sources and are available at the clinical sites.

1. Textbooks and references manuals used in core courses
2. Hospital and departmental policy and procedure manuals
3. Equipment manuals

3.2 Reference-Audiovisual Materials

There are no audiovisuals required for purchase by the students for this course.

3.3 Computer Requirements

The student must have a computer that has Internet connectivity with a Web browser that is compatible with the current learning management system.

Students are responsible for hardware and software issues off-campus (home or office). Questions about the course content and assignments

should be directed to the instructor.

Students are required to clock-in and clock-out at their respective clinical site, as well as enter daily procedures and other rotation information. Most clinical sites will allow students to use their on-site computers. When a clinical site does not allow students to use their on-site computers, the student may use their phone. However, clock-in and clock-out **MUST** be done when the student is in the department. Other information can be entered when convenient. Remember, the IP address of the device used is tracked by Trajecsys.

3.4 Technical Assistance Notification

The UAMS Academic Affairs Educational and Student Success Center provides assistance with students' laptops and mobile devices. A Library and ESSC Systems Support Technician is available to assist with various technology issues, from connecting to the wireless network to troubleshooting possible software issues. The specialist is located on the 3rd floor of the Library (ED II 3/110) from Monday through Friday from 7:30 to 4:30 PM. Assistance is also available remotely. You can email him at CDWebb2@uams.edu or book an appointment at <https://outlook.office365.com/owa/calendar/ITSupportCalvinWebb@uams.edu/bookings/>.

4.0 General Evaluation Procedures

4.1 Student Evaluation Procedures

The Clinical Internship course is graded on a satisfactory (mark of "S") or unsatisfactory (mark of "U") basis.

Clinical competency examinations will be graded on a "S" or a "U" basis. A student must receive a satisfactory grade on all components of the clinical competency examination in order to pass that clinical competency examination. Student's must repeat all failed clinical competency examinations.

Upon completion of each rotation, student's will be evaluated by their affiliate education supervisor, using the criteria outlined in the clinical handbook, in each of the following areas:

Dependability	Integrity	Communication
Adaptability	Cooperation	Self-confidence
Initiative	Efficiency	Professionalism
Patient care	Radiation protection	

The affiliate education supervisor will score each area using the following descriptors:

- 1 Exceeds Expectations:** Student's performance in this

area consistently exceeds expectations for his/her current stage of clinical education.

2. **Meets Expectations:** Student's performance in this area meets the expectations for his/her current stage of clinical education.
3. **Needs Improvement:** Student's performance in this area meets the minimum expectations of his/her current stage of clinical education; however, improvement is needed in order to establish progress.
4. **Unsatisfactory:** Student's performance in this area fails to meet the minimum level expected for his/her current stage of clinical education.

Based on the clinical evaluation grades received, the following provisions will be imposed:

1. Any student receiving a "Needs Improvement" or "Unsatisfactory" grade in any area will be counseled by the clinical coordinator and/or program director.
2. Any student receiving two or more "Needs Improvement" grades in the same area during the academic year will be counseled by the clinical coordinator and/or program director and may be placed on academic probation.
3. Any student receiving two or more "Unsatisfactory" ratings in one area during the same semester will receive an "Unsatisfactory" grade for that semester's Clinical Internship course and may be recommended for dismissal or suspension from the NMIS program.
4. Each descriptor will be translated into a percentile score using the following conversion table:

Descriptor		Score
Unsatisfactory	=	60%
Needs Improvement	=	70%
Meets Expectations	=	85%
Exceeds Expectations	=	100%

Based on this conversion, students will receive a summary score for each rotation and a cumulative semester score on the Trajecsyst[®] Performance Evaluation Report.

PERFORMANCE EVALUATION

Report creation date:

Date range:

Evaluator:

Eval		Totals		Eval Items
1	2	3		
Dependability				
Exceeds Expectations	Meets Expectations	Meets Expectations	90	Arrives and leaves clinical site at the proper time.
Exceeds Expectations	Meets Expectations	Meets Expectations	90	Notifies supervisor ASAP when late or absent.
Meets Expectations	Needs Improvement	Needs Improvement	75	Informs supervisor of whereabouts during the day.
Exceeds Expectations	Meets Expectations	Meets Expectations	90	Takes lunch and breaks within the time limits.
96.25	81.25	81.25		
Integrity				
Exceeds Expectations	Meets Expectations	Meets Expectations	90	Reports mistakes to supervisor.
Exceeds Expectations	Meets Expectations	Meets Expectations	90	Reports mistakes to supervisor.
Exceeds Expectations	Meets Expectations	Meets Expectations	90	Explains the procedure to the patient prior to performing an exam.
100	85	85		
Rating				
3	2	3		Please rate the student's performance:
99.53	84.3	84.38	89.4	

Rotation Score

Cumulative Score

Note: all other numbers shown on the Performance Evaluation report are used for statistical purposes only.

Based on the clinical scores received, the following provisions will be imposed:

5. Students must achieve a minimum cumulative score of 77% in order to receive a grade of "Satisfactory" for that semester's Clinical Internship course.
6. Any student receiving a rotation score of less than 77% will be counseled by the clinical coordinator and/or program director.
7. Any student receiving a cumulative score less than 77% for the semester receive an "Unsatisfactory" grade for that semester's Clinical Internship course and may be recommended for dismissal or suspension from the NMIS program.

In the clinical internship students are able to apply the knowledge and skills acquired during the academic core courses. Under the direction of the nuclear medicine technologist and/or nuclear pharmacists, students will prepare radiopharmaceuticals for patient administration and students will

perform diagnostic imaging. Student's follow established protocols and develop organizational skills and proficiency under actual working conditions.

As the student progresses through the clinical phases of his/her education, clinical skills acquired during the previous clinical rotations should be honed. Although the student still works under supervision, he/she is expected to evolve toward working on a more independent basis. The student should be encouraged to solve routine clinical problems autonomously.

A final rating will be assigned to the student's overall clinical proficiency by the affiliate education supervisor. (See Clinical Handbook, Section 7). Any student receiving two (2) or more overall performance evaluations at a level below his/her expected stage of performance during the fall and spring semesters will receive an "Unsatisfactory" grade for that semester's clinical rotation and may be recommended for dismissal or suspension from the NMIS program.

Students will have seven calendar days from the last day of a scheduled clinical rotation to complete all online forms and evaluations for that rotation. Students who submit forms and evaluations after the prescribed date will lose one accrued hour for each calendar day past the due date.

Upon completion of the course for the semester, the NMIS clinical coordinator and/or the NMIS program director must receive all clinical forms and clinical evaluations from the student. If all forms and evaluations are not handed in by the end of the semester the students will receive a mark of "U" for unsatisfactory for the semester.

4.2 Instructor Evaluation Procedures

While comments regarding the course and instruction are welcomed by the instructor at any time, student's will be given the opportunity to complete CHP course and instructor evaluations. Your participation in this evaluation is appreciated.

4.3 Performance, Lab, Clinic, and Project Evaluation

As a student progresses throughout the clinical rotations, they will gain competence in each of the routine nuclear medicine technology procedures. Student's must test out of all routine procedures as outlined in the clinical handbook. When a student is deemed competent to perform a particular procedure, arrangements should be made with the affiliate education supervisor to take a clinical competency exam. At that time the affiliate education supervisor will observe the student performing the procedure and will grade him/her according to the evaluation form. Each step of the procedure is graded on a satisfactory/unsatisfactory basis.

At the discretion of the clinical coordinator and/or the program director and/or the affiliate education supervisor, a student may be required to take a

continuing competency exam that will be administered by the clinical coordinator or faculty member. The continuing competency exam will be given at the student's clinical site and will be graded on a satisfactory/unsatisfactory basis.

A fall semester clinical comprehensive exam will be administered online during the summer semester. If the student fails to achieve a passing grade on any section of the fall semester clinical comprehensive exam, the student must take an oral exam over that section with a NMIS faculty member.

Students are required to participate in three outside activities. At least one of the three required activities must be a continuing education (CE) meeting or article that has been approved for "Category A" CE credit by either the Society of Nuclear Medicine and Molecular Imaging (SNMMI) or the American Society of Radiologic Technologists (ASRT). These activities must be completed prior to the end of the semester as part of receiving a grade of "S" for Satisfactory in Clinical Internship I. Student's that do not complete these three outside activities prior to the end of the semester will receive an "I" for the course.

The following is a sample list of approved activities. Other activities may be submitted to the NMIS Clinical Coordinator and/or the NMIS Program Director for approval. All outside activities must be able to provide documentation and/or a certificate of participation. Students are advised to check with the NMIS Clinical Coordinator and/or the NMIS Program Director before attending any activity to determine if that activity will meet this requirement.

Sample lists of outside activities:

Activities approved as outside Continuing Education Activities:

- Educational meeting put on by the SNMMI (national or chapter meeting) (write a 1 page summary of the meeting)
- Educational meeting put on by a radiopharmacy or equipment manufacturer company (e.g. Cardinal Health or GE / Siemens) (write a 1 page summary of the meeting)
- Educational meeting put on by a state or local radiologic science group (write a 1 page summary of the meeting)
- Continuing education article available online (must submit quiz results when required or write a 1 page summary of the article)
- Continuing education article available in professional journal (must submit quiz results when required or write a 1 page summary of the article)

The following are NOT considered Continuing Education Activities but may be considered as an outside activity

- Donating blood
- Attending hospital Grand Rounds
- Helping at a homeless shelter/kitchen

- Attending Hospital in-service programs
- Participating in Race for the Cure or other fundraisers for health care
- Volunteering at Red Cross
- Volunteering at Salvation Army (e.g. bell ringer at holidays)
- Volunteering for charitable organization

All personal electronic communication devices (i.e., cellular phones, pagers, iPads, etc...) must be turned OFF (not 'silent') while in class and in the clinical setting. At a student's discretion, the NMIS office telephone number may be provided to interested parties (i.e., child care facilities, family members, etc...) as a contact number for emergencies only. In the event of an emergency, the NMIS office must be notified first and personnel from that office will locate and communicate the information to the student. Student's may use their personal electronic communication devices when they are outside of their assigned clinical location AND on a designated break AND all facility rules and regulations pertaining to the use of personal electronic communication devices are followed. If a student is found using a personal electronic communication device while in the clinical setting, the occurrence will be documented in the student file and the student will be subject to the following:

First offense: Written warning

Second offense: Deduction of two (2) accrued hours from the accrued hour bank.

Subsequent offenses: Deduction of four (4) accrued hours from the accrued hour bank.

Because attendance in the clinical rotations is crucial to the learning process, students must complete the required number of clinic hours. Students are required to make requests for time off to their affiliate education supervisor for purposes of vacation, personal days, or any scheduled absence. Such requests must be made at least 48 hours in advance of the requested day off.

Students who fail to report to their clinical site according to the rotation schedule or who fail to provide an advanced leave request will be charged with an unscheduled absence and will result in a deduction of two (2) hours from accrued time off in addition to any time missed at the clinical rotation.

Any clinical time taken off within sixteen (16) working hours of the fall semester clinical comprehensive examination scheduled in the summer will be deducted from the student's accrued hours at a ratio of two accrued hours for every one hour taken off from clinic. If a student must miss clinical time within sixteen (16) hours of the fall semester clinical comprehensive examinations scheduled in the summer due to an illness, a doctor's excuse

must be submitted to the NMIS Program Director and/or the NMIS Clinical Coordinator before this examination can be scheduled. All information regarding the attendance policy can be found in the Student Handbook. Student's will be expected to display maturity and professionalism in daily contacts with faculty, hospital staff, fellow student's, patients, and visitors.

ABSENTEEISM

Students are expected to participate in all scheduled didactic clinical educational experiences. Absenteeism is defined as not being present for an assigned educational activity or not submitting Web-based assignments on time. Students should schedule all appointments during times when they are not participating in didactic or clinical education sessions if possible.

Students must notify the NMIS Program Office within 24 hours if they are unable to attend class. In addition, students must notify their Director of Clinical Education *and* Clinical Supervisor by 8:30am on the day of the absence (or sooner) if they are unable to attend clinic.

If a student is not present in clinic at the appropriate times and does not notify both the Director Clinical Education and Clinical Supervisor PRIOR TO the program faculty's discovery of the absence, an automatic five (5) pigs may be deducted.

Personal days off may be used in one-hour increments and, with the Director of Clinical Education and/or Clinical Coordinator approval.

Students may miss two (2) additional days of clinic per semester due to inclement weather with approval from the Clinical Coordinator and/or Director of Clinical Education. Additional days missed (more than 2) due to inclement weather will be made up without a grade penalty.

Clinical absences can affect a student's clinical grade. Excess clinical absences lower the number of cases a student observes, which adversely affects the student's clinical grade since clinical hours are included in the clinical practicum grade calculation process.

Students absent more than two (2) days in a row must submit documentation to excuse the absences. This documentation may include items such as physician certification of illness. After personal time is exhausted, physician certification or other documentation may be required to excuse any absence and prevent the student from accumulating unexcused absences, which can carry a grade penalty.

4.4 Make-up and Retake Examinations

Make-up block examinations are permitted only in the case of an emergency or illness. Documentation may be required regarding the illness or emergency before permission to take the make-up block examination is granted. If a student is to miss a block examination, it is the responsibility of the student to contact the instructor by phone **and** e-mail **prior** to the scheduled block examination time. Make-up block examinations **must be taken within five calendar days after returning** to clinic or class and will be scheduled at a time

that is mutually agreed upon by the instructor and the student. It may be necessary for the student to take the make-up examination in Little Rock due to contractual obligations and assessed fees with the testing centers. Every effort should be made to take the block examination at the regularly scheduled time.

Online homework or assignments and quizzes are usually open for a set period of time and must be completed within the posted time frame. A make-up online homework or assignment or quiz is permitted only in the case of an emergency, illness or computer problems. Documentation may be required regarding the illness or emergency before permission to complete the online homework or assignment or quiz is granted. If a student is to miss an online homework or assignment or quiz is necessary, it is the responsibility of the student to contact the instructor by phone **and** e-mail **prior** to the expiration of the homework or assignment or quiz time. The make-up homework or assignment or quiz must be completed and **submitted within 48 hours** of resolving the emergency.

Other homework or assignments are usually open for a set period of time and must be completed within the posted time frame. Make-up homework or assignment are permitted only in the case of an emergency or illness. Documentation may be required regarding the illness or emergency before permission to complete the homework or assignment is granted. If a homework or assignment is to be turned in late for the above reasons, it is the responsibility of the student to contact the instructor by phone **and** e-mail **prior** to the homework or assignment due date. Make-up homework or assignment must be completed and **submitted within 48 hours** of resolving the emergency.

Quizzes or homework or assignments completed late for reasons other than emergency or illness or computer problem **will have a 10% per calendar day reduction in grade**. Quizzes or homework or assignments submitted more than ten (10) days past the due date will receive a grade of zero (0).

No retakes of block examinations, online quizzes, online or other homework, assignments, discussions, projects or interesting case are permitted. Specific course examination, quiz, homework or assignment policies and procedures are outlined in individual course syllabi.

Students may contact the NMIS program director at any time to inquire about specific examination policies and/or grading scales for each class. The NMIS program director will then discuss with the student the specifics of each class on a case-by-case basis.

5.0 General Procedures

5.1 General Remarks

Students will arrive to pre-designated clinical sites for a total of three five-week rotations during the spring semester. Students are expected to be in clinic between 7:30 am – 3:30 pm Tuesday through Friday each week unless

otherwise instructed by NMIS faculty and/or the clinical supervisor.

6.0 Class Attendance/Conduct/Dress Policy

6.1 General Remarks

In order to maximize learning opportunities, attendance will be taken at all class sessions.

Students are expected to actively engage in their education by attending and/or participating in class activities (face-to-face or at a distance).

Faculty are expected to monitor their students' active participation and make contact by phone and UAMS email with those who have not initiated or maintained active participation in their course(s) for a period of one week. If a satisfactory reason is not presented to the faculty, the student does not actively engage in learning activities and/or the faculty member is unable to get in contact with the student, the faculty member should report this to the Associate Dean for Academic Affairs (ADAA). The ADAA will attempt to contact the student to learn the reason for his/her lack of participation. If a satisfactory reason is not presented, the student does not actively engage in learning activities and/or the ADAA is unable to get in contact with the student in a one- week period, the ADAA will notify the Registrar and the student will be administratively dropped from the class(es). If all classes are dropped, the student is administratively withdrawn from the CHP program.

Student's will receive a clinical rotation schedule during fall Orientation to Nuclear Medicine Imaging Sciences. Clinical rotation schedules are set so that the student achieves the best possible clinical educational experience, covering all aspects of nuclear medicine. Rotation schedules cannot be changed without the approval of the NMIS Clinical Coordinator and/or the NMIS Program Director. Clinical experiences are predominately in two areas: imaging and radiopharmacy. Imaging and radiopharmacy competencies and activities and evaluation procedures are listed in their respective objectives section of the clinical handbook.

Clinical internship I lasts throughout the fall semester and will be conducted at various clinical sites. Students are expected to participate at a beginning level, progressing from observation only to completion of designated procedures with close supervision.

The starting time for the first day of each clinical site is 7:30 am. A clinical site may require the student to start at a different time. The affiliate education supervisor will notify the student of the required starting time.

No matter the starting time, students are required to have eight (8) contact hours per day. Students are allowed a 15 minute break in the morning and in the afternoon and a required 30 minute lunch break. The break and lunch times will be designated by the affiliate education supervisor. The two 15 minute breaks are counted as part of the student's contact hours. Students are not allowed to work through lunch in order to leave early for the day. The clinical day consists of 8½ hours reported on the time sheet, with 30 minutes of that being lunch. 08:00 to 16:00 is 8 hours total, but only 7 ½ contact hours. 08:00 to 16:30 is eight (8) contact hours.

Student's will be allowed to be sent home after a minimum of six (6) hours of work and get credit "Finished Early" (8 hours) as long as the following criteria have been met:

1. There are no more patients on the clinical schedule for the day or remaining patients are scheduled after the scheduled time to leave;
2. Being sent home early must be initiated by the affiliate education supervisor, not by the student;
3. Clinical paperwork, patient paperwork, and all appropriate documentation has been completed for the day;
4. Clinical duties (area is clean and neat, etc.) are completed.

Students who ask to go home early will receive credit only for the actual time worked.

In order for a student to receive credit for working extra hours, students **must** work a minimum of one (1) clinical hour beyond the day's regularly scheduled eight (8) clinical hours. Any hours that a student works in order to make up time for time missed, is made up on a one (1) hour worked to one (2) extra credit hour basis. Partial hour credit (15 minutes, 30 minutes) are not allowed. During the make-up hours, students are **not** allowed to:

1. Be sent home "Finished Early" and receive eight (8) hours of credit.
2. File "Time Exceptions" in the online system.

Students who wish to make-up missed clinical time on a Saturday or on another day where class(es) or clinical times are not scheduled, must have prior approval from the NMIS Clinical Coordinator and/or NMIS Program Director and the affiliate education supervisor of the clinical site the student wants to attend. Clinical time worked without prior approval will not be allowed and will not be counted as make

up time.

All clinical times must be logged using the Trajecsys clock in/out function.

6.2 Session Absence Grading Effects

If an emergency situation arises (i.e. illness) that prevents a student from participating in a scheduled clinical rotation, that student must contact the clinical site's affiliate education supervisor by phone and the NMIS Clinical Coordinator and/or NMIS Program Director by e-mail **prior** to the regularly

scheduled starting time for that clinical day. Failure to follow this procedure will result in a deduction of two hours from the student's accrued time.

6.3 Session Tardiness Grading Effects

If student's will be late for clinic or must leave clinic during the day, the affiliate education supervisor must be notified. Student's will be evaluated on punctuality. (See also the rule on tardiness located in the student handbook)

6.4 Conduct/Dress Code

Students are to adhere to the dress code as outlined in the Nuclear Medicine Imaging Sciences Student Handbook. At all times during their clinical rotation students are to wear their UAMS ID badge (and any other ID badges as required by the clinical site), their personal dosimeters and a lab coat (as required by the clinical site). Student's will be evaluated on their professionalism, their overall conduct and appearance in the clinical rotation.

7.0 Due Dates/Deadlines

Students are to check the online system to verify that their time has been entered. If a student has not entered time into the system for a day that has been worked, when times are reviewed by the Clinical Coordinator, the time will be deducted. If the student did work that day and did not enter their time, it is the responsibility of the student to contact the affiliate education supervisor. The affiliate education supervisor must e-mail or call the NMIS Clinical Coordinator and/ or the NMIS Program Director to verify the day was actually worked. At that time, the NMIS Clinical Coordinator and/ or the NMIS Program Director will give the time back to the student. This must be done within the time frame listed below.

Affiliate education supervisors cannot be expected to remember the times students have attended clinic. All clinical times for a clinical rotation must be approved by the affiliate education supervisor or the NMIS Clinical Coordinator within ten (10) calendar days from the end of the clinical rotation. If the clinical times are not approved within this time frame, the clinical times will not be approved. It is the responsibility of the student to verify that their clinical time has been

entered.

8.0 Session Schedules

8.1 General Remarks

Students will receive a clinical rotation schedule during fall orientation to Nuclear Medicine Imaging Sciences. Clinical rotation schedules are set so that the student achieves the best possible clinical educational experience, covering all aspects of nuclear medicine. Rotation schedules cannot be changed without the approval of the NMIS Clinical Coordinator and/or the NMIS Program Director. Clinical experiences are predominately in two areas: imaging and radiopharmacy. Imaging and radiopharmacy competencies, activities and evaluation procedures are listed in their respective objectives section of the clinical handbook.

8.2 Tentative Session Schedule

The spring semester consists of three five week “blocks” of class/clinical time.

Block 1 – January 5 – February 4

Block 2 – February 09 – March 11

Block 3 – March 23 – April 22

For each block:

- During weeks 1 – 4, students will have class on Monday and attend a clinical rotation Tuesday through Friday.
- During week 5, students will have class on Monday, Tuesday is a study day and Wednesday is the block examination day.
- During week 5, Thursday and Friday after the block exam, student's will be preparing for the next block.

Occasionally a UAMS Holiday falls on a Monday. When this occurs, students will have class on Tuesday and attend a clinical rotation Wednesday through Friday

	Monday	Tuesday	Wednesday	Thursday	Friday
Week 1	Class Meeting	Clinical Day	Clinical Day	Clinical Day	Clinical Day

Week 2	Class Meeting	Clinical Day	Clinical Day	Clinical Day	Clinical Day
Week 3	Class Meeting	Clinical Day	Clinical Day	Clinical Day	Clinical Day
Week 4	Class Meeting	Clinical Day	Clinical Day	Clinical Day	Clinical Day
Week 5	Class Meeting	Block Exam Study Day	BLOCK EXAM	Study Day	Study Day

8.3 Tentative Media Schedule

None.

Instructional Staff

Thomas Cunningham, MHA, CNMT, NMTCB(CT)
 Summer Khairi, MBA, CNMT, NMTCB(CT)
 Jessi Bratton, MHA, CNMT, R.T.(N)

Physical Location:

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Office Hours: By appointment

10.0 CHP Policies

COPYRIGHT POLICY - The materials used in this course may include copyright protected materials provided for the personal educational use of the enrolled student's and may not be further redistributed.

INTELLECTUAL PROPERTY POLICY - Lecture, lab and other presentations are the intellectual property of the faculty and faculty must give their written permission for their lecture, lab, and other presentations to be recorded.

Recorded lectures/labs/presentations may only be posted on websites or other locations approved by the College of Health Professions and are provided for the personal educational use of student's enrolled in the course. Students are prohibited from providing or distributing any course materials in any manner – print, electronic, or any other media – or providing links to any course materials to anyone outside of their UAMS classes.

Failure to abide by this policy may result in disciplinary action including dismissal.

Failure to abide by this policy may constitute a copyright infringement which may have the following legal consequences:

Summary of Civil and Criminal Penalties for Violating Federal Copyright Laws

Copyright infringement is the act of exercising, without permission or legal authority, one or more of the exclusive rights granted to the copyright owner under section 106 of the Copyright Act (Title 17 of the United States Code). These rights include the right to reproduce or distribute a copyrighted work. In the file-sharing context, downloading or uploading substantial parts of a copyrighted work without authority constitutes an infringement.

Penalties for copyright infringement include civil and criminal penalties. In general, anyone found liable for civil copyright infringement may be ordered to pay either actual damages or "statutory" damages affixed at not less than \$750 and not more than \$30,000 per work infringed. For "willful" infringement, a court may award up to \$150,000 per work infringed. A court can, in its discretion, also assess costs and attorneys' fees. For details, see Title 17, United States Code, Sections 504, 505.

Willful copyright infringement can also result in criminal penalties, including imprisonment of up to five years and fines of up to \$250,000 per offense.

For more information, see the web site of the U.S. Copyright Office at www.copyright.gov, and especially their FAQs at www.copyright.gov/help/faq

Title IX - The University of Arkansas for Medical Sciences (UAMS) does not discriminate on the basis of sex, gender, or sexual orientation in its education programs or activities. Title IX of the Education Amendments of 1972, and certain other federal and state laws, prohibit discrimination on the basis of sex in all education programs and activities operated by UAMS (both on and off campus). Title IX protects all people regardless of their gender or gender identity from sex discrimination, which includes sexual harassment and sexual violence. The UAMS Title IX Coordinator can be contacted at (501) 526-5641. She is available to explain and

discuss: your right to file a criminal complaint (sexual assault and violence); the university's complaint process, including the investigation process; how confidentiality is handled; available resources (both on and off campus); and other related matters. **You may also contact the UAMS Police Department, 501-686-7777 (non-emergency) or 911 (emergency). If you are in the midst of an emergency, please call the police immediately by dialing 9-1-1.**

The United States Department of Education's Office of Civil Rights ("OCR") is responsible for enforcing Title IX, as well as other federal civil rights laws that prohibit discrimination in programs or activities that receive federal financial aid. Inquiries and complaints may also be directed to OCR at 1-800-421-3481 or ocr@ed.gov

DISABILITY POLICY - UAMS is committed to providing equal access to learning opportunities to students with disabilities. To ensure access to any class or program, please contact the ADA Coordinator to engage in a confidential conversation about the process of requesting accommodations in the classroom and clinical settings. Accommodations are not applied retroactively. Students are encouraged to register with the ADA Coordinator's office as soon as they begin their program or as soon as the student recognizes their need for an adjustment.

UAMS encourages students to access all resources available through the ADA Office for consistent support and access to their programs. More information can be found online at <http://student's.uams.edu/ada-disability-services/> or by contacting the disability services office at (501) 526-5641.

11.0 SCHOLASTIC DISHONESTY

Scholastic dishonesty is defined as an act contrary to academic and/or professional ethics. Examples of scholastic dishonesty include, but are not limited to, cheating, plagiarism, collusion, submission for credit of any work or materials that are attributable in whole or part to another person or an artificial intelligence third-party service or site, taking an examination or submitting work or materials for another person, any act designed to give unfair advantage to a student, or the attempt to commit such acts. Additionally, submitting an assignment that was previously submitted in another course constitutes scholastic dishonesty, unless the resubmission was approved by the course director. The sanctions for scholastic dishonesty may include, but are not limited to, a failing grade on the test/assignment, failing grade for the course, probation, suspension, or dismissal from the college. Refer to CHP Policy 01.00.02 Scholastic Dishonesty for details regarding scholastic dishonesty.

Students are expected to submit original work for all assignments and exams. The CHP subscribes to a Web-based plagiarism detection and prevention system that has the ability to compare written work to a database of texts, journals, electronic

and web sources, including web sites that provide pre-written essays or term papers. If a student is suspected of submitting work copied from another source, CHP reserves the right to use this plagiarism detection system, with or without the student's knowledge.

While Artificial Intelligence (AI) may serve as a learning resource for students, AI-generated content should not be submitted by students for assignments or exams, unless expressly permitted and approved by the course director. The CHP adheres to the UAMS Artificial Intelligence Generative Tool Use Policy, 2.1.6, located in the UAMS Academic Catalog. The policy aids in clarifying the use and misuse of artificial intelligence generative tools at UAMS.

12.0 PATIENT PRIVACY AND CONFIDENTIALITY

UAMS is committed to protecting the privacy of our patients' information. While privacy and confidentiality have always been a priority for health care providers, it has heightened importance in this era of electronic information due to the increased speed of information flow and the risks associated with protecting this information.

The standards for protecting patient health information are described in the federal law known as the Health Insurance Portability and Accountability Act (HIPAA). HIPAA limits access to medical records to authorized individuals and for specific purposes. It is not possible to summarize HIPAA here; however, you will have received HIPAA training prior to being granted access to patient information. Additional information and training on HIPAA, including UAMS HIPAA policies, are available on the HIPAA Office web page HIPAA.uams.edu.

Please keep in mind that there are sanctions for inappropriate access to patient records. These include criminal penalties of up to one (1) year imprisonment and a \$50,000 fine; as well as, disciplinary action up to and including dismissal from your program.

If you have any questions pertaining to HIPAA, you may direct them to the UAMS HIPAA office at 501-603-1379.

While the provisions of this syllabus are as accurate and complete as possible, the instructor reserves the right to change any provision herein. Students will be notified of any changes and it is the responsibility of each student to know what changes, if any, have been made to the provisions of this syllabus and to successfully complete the requirements of this course.

**NMIS 45375
Clinical Internship III
Clinical Internship
003**

University of Arkansas for Medical Sciences
College of Health Professions

Department of Imaging and Radiation Sciences
Division of Nuclear Medicine Imaging Sciences

4 Credit Hours
(256 Clinical hours)

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Summer Semester 2026

1.0 General Information

1.1 Catalog Description

Practical application of coursework presented in the classroom. Students are assigned educational experiences in radiopharmaceutical preparation and clinical imaging. This course is offered on a satisfactory/unsatisfactory marking basis.

1.2 Course Rationale

In the clinical internship, students are able to apply the knowledge and skills acquired during the academic core courses. Under the direction of the nuclear medicine technologist and/or nuclear pharmacists, students will measure radiopharmaceutical activity for patient administration and students will perform diagnostic imaging. Student's follow established protocols and develop organizational skills and proficiency under actual working conditions.

1.3 General Course Objectives

The objectives of the clinical internship are to provide learning experiences such that student's will be capable of competently completing the following tasks:

- retrieve patient records as needed
- after assessing proper identification, transport patients to and from the procedure room, and with assistance of the supervising technologist, to and/or from the department as necessary
- assist with nursing care required by the patient while in the department
- correctly position patients for all views for each assigned procedure.
- load, process, label, and hang films according to departmental policies. For departments with PACS system, loads proper films in the PACS system for physician review.
- locate radionuclide records kept by the department and explain the mechanism of record keeping
- elute the generator and assay the generator eluant
- perform routine quality control procedures on the generator eluant
- calculate patient doses on the basis of half-life and activity
- draw patient doses observing aseptic technique
- using aseptic technique, administer radiopharmaceutical according to departmental policy
- correctly dispose of radiopharmaceuticals and syringes
- obtain serum and plasma specimens in the correct fashion
- perform routine quality control procedures on imaging equipment, the dose calibrator, the uptake probe, and laboratory equipment
- assist with routine cleaning of patient area, radiopharmaceutical preparation areas, labs, and so forth

- locate the emergency equipment and supplies within the department
- describe personnel safety regulations and emergency codes observed by the department
- assume responsibility for personnel safety and hygiene
- demonstrate correct professional behavior and concern for the patient
- complete all Interprofessional Education (IPE) assignments scheduled during this semester

2.0 Instructional Methodology

2.1 General Technique

The principle form of instruction is the demonstration of procedures to students by the clinical instructor and the nuclear medicine staff. Additional methodologies include supervised participation, in-service seminars, case studies, discussion, hand-outs, manipulative/tactile, and special projects.

2.2 Resource Based Techniques

This course will incorporate clinical experience as the resource base for students. As directed by the JRCNMT, all technologists who work with the students must be certified nuclear medicine technologists. Therefore, we can guarantee that the technologists who are working with the students have passed national certification boards and must maintain continuing education credits in order to maintain their certification.

3.0 Instructional Methodology

3.1 Reference-Print Materials

The following resources will be used as reference sources and are available at the clinical sites.

- Textbooks and references manuals used in core courses
- Hospital and departmental policy and procedure manuals
- Equipment manuals

3.2 Reference-Audiovisual Materials

There are no audiovisuals required for purchase by the students for this course.

3.3 Computer Requirements

The student must have a computer that has Internet connectivity with a Web browser that is compatible with the current learning management system.

Students are responsible for hardware and software issues off-campus (home or office). Questions about the course content and assignments should be directed to the instructor.

Students are required to clock-in and clock-out at their respective clinical site, as well as enter daily procedures and other rotation information. Most clinical sites will allow students to use their on-site computers. When a clinical site does not allow students to use their on-site computers, the student may use their phone. However, clock-in and clock-out **MUST** be done when the student is in the department. Other information can be entered when convenient. Remember, the IP address of the device used is tracked by Trajecsys.

3.4 Technical Assistance Notification

The UAMS Academic Affairs Educational and Student Success Center provides assistance with students' laptops and mobile devices. A Library and ESSC Systems Support Technician is available to assist with various technology issues, from connecting to the wireless network to troubleshooting possible software issues. The specialist is located on the 3rd floor of the Library (ED II 3/110) from Monday through Friday from 7:30 to 4:30 PM. Assistance is also available remotely. You can email him at CDWebb2@uams.edu or book an appointment at <https://outlook.office365.com/owa/calendar/ITSupportCalvinWebb@uams.edu/bookings/>.

.0 General Evaluation Procedures

.1 Student Evaluation Procedures

The Clinical Internship course is graded on a satisfactory (mark of "S") or unsatisfactory (mark of "U") basis.

Clinical competency examinations will be graded on a "S" or a "U" basis. A student must receive a satisfactory grade on all components of the clinical competency examination in order to pass that clinical competency examination. Student's must repeat all failed clinical competency examinations.

Upon completion of each rotation, student's will be evaluated by their affiliate education supervisor, using the criteria outlined in the clinical handbook, in each of the following areas:

Dependability	Integrity	Communication
Adaptability	Cooperation	Self-confidence
Initiative	Efficiency	Professionalism
Patient care	Radiation protection	

The affiliate education supervisor will score each area using the following descriptors:

- **Exceeds Expectations:** Student's performance in this area consistently exceeds expectations for his/her current stage of clinical education.

- **Meets Expectations:** Student's performance in this area meets the expectations for his/her current stage of clinical education.
- **Needs Improvement:** Student's performance in this area meets the minimum expectations of his/her current stage of clinical education; however, improvement is needed in order to establish progress.
- **Unsatisfactory:** Student's performance in this area fails to meet the minimum level expected for his/her current stage of clinical education.

Based on the clinical evaluation grades received, the following provisions will be imposed:

- Any student receiving a "Needs Improvement" or "Unsatisfactory" grade in any area will be counseled by the clinical coordinator and/or program director.
- Any student receiving two or more "Needs Improvement" grades in the same area during the academic year will be counseled by the clinical coordinator and/or program director and may be placed on academic probation.
- Any student receiving two or more "Unsatisfactory" ratings in one area during the same semester will receive an "Unsatisfactory" grade for that semester's Clinical Internship course and may be recommended for dismissal or suspension from the NMIS program.
- Each descriptor will be translated into a percentile score using the following conversion table:

Descriptor	Score
Unsatisfactory	= 60%
Needs Improvement	= 70%
Meets Expectations	= 85%
Exceeds Expectations	= 100%

Based on this conversion, students will receive a summary score for each rotation and a cumulative semester score on the Trajecsyst[®] Performance Evaluation Report.

PERFORMANCE EVALUATION

Report creation date:
 Date range:
 Evaluator:

Eval		Totals		Eval Items
1	2	3		
Dependability				
Exceeds Expectations	Meets Expectations	Meets Expectations	90	Arrives and leaves clinical site at the proper time.
Exceeds Expectations	Meets Expectations	Meets Expectations	90	Notifies supervisor ASAP when late or absent.
Meets Expectations	Needs Improvement	Needs Improvement	75	Informs supervisor of whereabouts during the day.
Exceeds Expectations	Meets Expectations	Meets Expectations	90	Takes lunch and breaks within the time limits.
96.25	81.25	81.25		
Integrity				
Exceeds Expectations	Meets Expectations	Meets Expectations	90	Reports mistakes to supervisor.
Exceeds Expectations	Meets Expectations	Meets Expectations	90	Reports mistakes to supervisor.
Exceeds Expectations	Meets Expectations	Meets Expectations	90	Explains the procedure to the patient prior to performing an exam.
100	85	85		
Rating				
3	2	3		Please rate the student's performance:
99.53	84.3	84.38	89.4	

Rotation Score

Cumulative Score

Note: all other numbers shown on the Performance Evaluation report are used for statistical purposes only.

Based on the clinical scores received, the following provisions will be imposed:

- Student's must achieve a minimum cumulative score of 77% in order to receive a grade of "Satisfactory" for that semester's Clinical Internship course.
- Any student receiving a rotation score of less than 77% will be counseled by the clinical coordinator and/or program director.
- Any student receiving a cumulative score less than 77% for the semester receive an "Unsatisfactory" grade for that semester's Clinical Internship course and may be recommended for dismissal or suspension from the NMIS program.

In the clinical internship, students are able to apply the knowledge and skills acquired during the academic core courses. Under the direction of the nuclear medicine technologist and/or nuclear pharmacists, students will prepare radiopharmaceuticals for patient administration and students will

perform diagnostic imaging. Students follow established protocols and develop organizational skills and proficiency under actual working conditions.

As the student progresses through the clinical phases of his/her education, clinical skills acquired during the previous clinical rotations should be honed. Although the student still works under supervision, he/she is expected to evolve toward working on a more independent basis. The student should be encouraged to solve routine clinical problems autonomously.

A final rating will be assigned to the student's overall clinical proficiency by the affiliate education supervisor. (See Clinical Handbook, Section 7). Any student receiving two (2) or more overall performance evaluations at a level below his/her expected stage of performance during the fall and spring semesters will receive an "Unsatisfactory" grade for that semester's clinical rotation and may be recommended for dismissal or suspension from the NMIS program.

Students will have seven calendar days from the last day of a scheduled clinical rotation to complete all online forms and evaluations for that rotation. Students who submit forms and evaluations after the prescribed date will lose one accrued hour for each calendar day past the due date.

Upon completion of the course for the semester, the NMIS clinical coordinator and/or the NMIS program director must receive all clinical forms and clinical evaluations from the student. If all forms and evaluations are not handed in by the end of the semester the students will receive a mark of "U" for unsatisfactory for the semester.

4.2 Instructor Evaluation Procedures

While comments regarding the course and instruction are welcomed by the instructor at any time, student's will be given the opportunity to complete CHP course and instructor evaluations. Your participation in this evaluation is appreciated.

4.3 Performance, Lab, Clinic, and Project Evaluation

As a student progresses throughout the clinical rotations, they will gain competence in each of the routine nuclear medicine technology procedures. Student's must test out of all routine procedures as outlined in the clinical handbook. When a student is deemed competent to perform a particular procedure, arrangements should be made with the affiliate education supervisor to take a clinical competency exam. At that time the affiliate education supervisor will observe the student performing the procedure and will grade him/her according to the evaluation form. Each step of the procedure is graded on a satisfactory/unsatisfactory basis.

At the discretion of the clinical coordinator and/or the program director and/or the affiliate education supervisor, a student may be required to take a

continuing competency exam that will be administered by the clinical coordinator or faculty member. The continuing competency exam will be given at the student's clinical site and will be graded on a satisfactory/unsatisfactory basis.

A fall semester clinical comprehensive exam will be administered online during the summer semester. If the student fails to achieve a passing grade on any section of the fall semester clinical comprehensive exam, the student must take an oral exam over that section with a NMIS faculty member.

A spring semester clinical comprehensive exam will be administered online approximately one month after the fall semester clinical comprehensive exam during the summer semester. If the student fails to achieve a passing grade on any section of the spring semester clinical comprehensive exam, the student must take an oral exam over that section with a NMIS faculty member.

Students are required to participate in three outside activities. At least one of the three required activities must be a continuing education (CE) meeting or article that has been approved for "Category A" CE credit by either the Society of Nuclear Medicine and Molecular Imaging (SNMMI) or the American Society of Radiologic Technologists (ASRT). These activities must be completed prior to the end of the semester as part of receiving a grade of "S" for Satisfactory in Clinical Internship I. Student's that do not complete these three outside activities prior to the end of the semester will receive an "I" for the course.

The following is a sample list of approved activities. Other activities may be submitted to the NMIS Clinical Coordinator and/or the NMIS Program Director for approval. All outside activities must be able to provide documentation and/or a certificate of participation. Students are advised to check with the NMIS Clinical Coordinator and/or the NMIS Program Director before attending any activity to determine if that activity will meet this requirement.

Sample lists of outside activities:

Activities approved as outside Continuing Education Activities:

- Educational meeting put on by the SNMMI (national or chapter meeting) (write a 1 page summary of the meeting)
- Educational meeting put on by a radiopharmacy or equipment manufacturer company (e.g. Cardinal Health or GE / Siemens) (write a 1 page summary of the meeting)
- Educational meeting put on by a state or local radiologic science group (write a 1 page summary of the meeting)
- Continuing education article available online (must submit quiz results when required or write a 1 page summary of the article)
- Continuing education article available in professional journal (must submit quiz results when required or write a 1 page summary of the article)

The following are NOT considered Continuing Education Activities but may be considered as an outside activity

- Donating blood
- Attending hospital Grand Rounds
- Helping at a homeless shelter/kitchen

- Attending Hospital in-service programs
- Participating in Race for the Cure or other fundraisers for health care
- Volunteering at Red Cross
- Volunteering at Salvation Army (e.g. bell ringer at holidays)
- Volunteering for charitable organization

All personal electronic communication devices (i.e., cellular phones, pagers, iPads, etc...) must be turned OFF (not 'silent') while in class and in the clinical setting. At a student's discretion, the NMIS office telephone number may be provided to interested parties (i.e., child care facilities, family members, etc...) as a contact number for emergencies only. In the event of an emergency, the NMIS office must be notified first and personnel from that office will locate and communicate the information to the student. Student's may use their personal electronic communication devices when they are outside of their assigned clinical location AND on a designated break AND all facility rules and regulations pertaining to the use of personal electronic communication devices are followed. If a student is found using a personal electronic communication device while in the clinical setting, the occurrence will be documented in the student file and the student will be subject to the following:

First offense: Written warning

Second offense: Deduction of two (2) accrued hours from the accrued hour bank.

Subsequent offenses: Deduction of four (4) accrued hours from the accrued hour bank.

Because attendance in the clinical rotations is crucial to the learning process, students must complete the required number of clinic hours. Students are required to make requests for time off to their affiliate education supervisor for purposes of vacation, personal days, or any scheduled absence. Such requests must be made at least 48 hours in advance of the requested day off.

Students who fail to report to their clinical site according to the rotation schedule or who fail to provide an advanced leave request will be charged with an unscheduled absence and will result in a deduction of two (2) hours from accrued time off in addition to any time missed at the clinical rotation.

Any clinical time taken off within sixteen (16) working hours of the fall semester clinical comprehensive examination scheduled in the summer

will be deducted from the student's accrued hours at a ratio of two accrued hours for every one hour taken off from clinic. If a student must miss clinical time within sixteen (16) hours of the fall semester clinical comprehensive examinations scheduled in the summer due to an illness, a doctor's excuse must be submitted to the NMIS Program Director and/or the NMIS Clinical Coordinator before this examination can be scheduled. All information regarding the attendance policy can be found in the Student Handbook. Students will be expected to display maturity and professionalism in daily contacts with faculty, hospital staff, fellow students, patients, and visitors.

ABSENTEEISM

Students are expected to participate in all scheduled didactic clinical educational experiences. Absenteeism is defined as not being present for an assigned educational activity or not submitting Web-based assignments on time. Students should schedule all appointments during times when they are not participating in didactic or clinical education sessions if possible.

Students must notify the NMIS Program Office within 24 hours if they are unable to attend class. In addition, students must notify their Director of Clinical Education *and* Clinical Supervisor by 8:30am on the day of the absence (or sooner) if they are unable to attend clinic.

If a student is not present in clinic at the appropriate times and does not notify both the Director Clinical Education and Clinical Supervisor **PRIOR TO** the program faculty's discovery of the absence, an automatic five (5) pigs may be deducted.

Personal days off may be used in one-hour increments and, with the Director of Clinical Education and/or Clinical Coordinator approval.

Students may miss two (2) additional days of clinic per semester due to inclement weather with approval from the Clinical Coordinator and/or Director of Clinical Education. Additional days missed (more than 2) due to inclement weather will be made up without a grade penalty.

Clinical absences can affect a student's clinical grade. Excess clinical absences lower the number of cases a student observes, which adversely affects the student's clinical grade since clinical hours are included in the clinical practicum grade calculation process.

Students absent more than two (2) days in a row must submit documentation to excuse the absences. This documentation may include items such as physician certification of illness. After personal time is exhausted, physician certification or other documentation may be required to excuse any absence and prevent the student from accumulating unexcused absences, which can carry a grade penalty.

4.4 Make-up and Retake Examinations

Make-up block examinations are permitted only in the case of an emergency or illness. Documentation may be required regarding the illness or emergency before permission to take the make-up block examination is granted. If a student is to miss a block examination, it is the responsibility of the student to contact the instructor by phone **and** e-mail **prior** to the scheduled block examination time. Make-up block examinations **must be taken within five calendar days after returning** to clinic or

class and will be scheduled at a time that is mutually agreed upon by the instructor and the student. It may be necessary for the student to take the make-up examination in Little Rock due to contractual obligations and assessed fees with the testing centers. Every effort should be made to take the block examination at the regularly scheduled time.

Online homework or assignments and quizzes are usually open for a set period of time and must be completed within the posted time frame. A make-up online homework or assignment or quiz is permitted only in the case of an emergency, illness or computer problems. Documentation may be required regarding the illness or emergency before permission to complete the online homework or assignment or quiz is granted. If a student is to miss an online homework or assignment or quiz is necessary, it is the responsibility of the student to contact the instructor by phone **and** e-mail **prior** to the expiration of the homework or assignment or quiz time. The make-up homework or assignment or quiz must be completed and **submitted within 48 hours** of resolving the emergency.

Other homework or assignments are usually open for a set period of time and must be completed within the posted time frame. Make-up homework or assignment are permitted only in the case of an emergency or illness. Documentation may be required regarding the illness or emergency before permission to complete the homework or assignment is granted. If a homework or assignment is to be turned in late for the above reasons, it is the responsibility of the student to contact the instructor by phone **and** e-mail **prior** to the homework or assignment due date. Make-up homework or assignment must be completed and **submitted within 48 hours** of resolving the emergency.

Quizzes or homework or assignments completed late for reasons other than emergency or illness or computer problem **will have a 10% per calendar day reduction in grade**. Quizzes or homework or assignments submitted more than ten (10) days past the due date will receive a grade of zero (0).

No retakes of block examinations, online quizzes, online or other homework, assignments, discussions, projects or interesting case are permitted. Specific course examination, quiz, homework or assignment policies and procedures are outlined in individual course syllabi.

Students may contact the NMIS program director at any time to inquire about specific examination policies and/or grading scales for each class. The NMIS program director will then discuss with the student the specifics of each class on a case-by-case basis.

5.0 General Procedures

5.1 General Remarks

Students will arrive to pre-designated clinical sites for a total of three five-week rotations during the fall semester. Students are expected to be in clinic between 7:30 am – 3:30 pm Tuesday through Friday each week unless otherwise instructed by NMIS faculty and/or the clinical supervisor.

6.0 Class Attendance/Conduct/Dress Policy

6.1 General Remarks

In order to maximize learning opportunities, attendance will be taken at all class sessions.

Students are expected to actively engage in their education by attending and/or participating in class activities (face-to-face or at a distance). Faculty are expected to monitor their students' active participation and make contact by phone and UAMS email with those who have not initiated or maintained active participation in their course(s) for a period of one week. If a satisfactory reason is not presented to the faculty, the student does not actively engage in learning activities and/or the faculty member is unable to get in contact with the student, the faculty member should report this to the Associate Dean for Academic Affairs (ADAA). The ADAA will attempt to contact the student to learn the reason for his/her lack of participation. If a satisfactory reason is not presented, the student does not actively engage in learning activities and/or the ADAA is unable to get in contact with the student in a one- week period, the ADAA will notify the Registrar and the student will be administratively dropped from the class(es). If all classes are dropped, the student is administratively withdrawn from the CHP program.

Students will receive a clinical rotation schedule during fall Orientation to Nuclear Medicine Imaging Sciences. Clinical rotation schedules are set so that the student achieves the best possible clinical educational experience, covering all aspects of nuclear medicine. Rotation schedules cannot be changed without the approval of the NMIS Clinical Coordinator and/or the NMIS Program Director. Clinical experiences are predominately in two areas: imaging and radiopharmacy. Imaging and radiopharmacy competencies and activities and evaluation procedures are listed in their respective objectives section of the clinical handbook.

Clinical internship III lasts throughout the summer semester and will be conducted at various clinical sites. Students are expected to participate at a beginning level, progressing from observation only to completion of designated procedures with close supervision.

The starting time for the first day of each clinical site is 7:30 am. A clinical site may require the student to start at a different time. The affiliate education supervisor will notify the student of the required starting time.

No matter the starting time, students are required to have eight (8) contact hours per day. Students are allowed a 15 minute break in the morning and in the afternoon and a required 30 minute lunch break. The break and lunch times will be designated by the affiliate education supervisor. The two 15 minute breaks are counted as part of the students' contact hours. Students are not allowed to work through lunch in order to leave early for the day. The

clinical day consists of 8½ hours reported on the time sheet, with 30 minutes of that being lunch. 08:00 to 16:00 is 8 hours total, but only 7 ½ contact hours. 08:00 to 16:30 is eight (8) contact hours.

Students will be allowed to be sent home after a minimum of six (6) hours of work and get credit “Finished Early” (8 hours) as long as the following criteria have been met:

- There are no more patients on the clinical schedule for the day or remaining patients are scheduled after the scheduled time to leave;
- Being sent home early must be initiated by the affiliate education supervisor, not by the student;
- Clinical paperwork, patient paperwork, and all appropriate documentation has been completed for the day;
- Clinical duties (area is clean and neat, etc.) are completed.

Students who ask to go home early will receive credit only for the actual time worked.

In order for a student to receive credit for working extra hours, students **must** work a minimum of one (1) clinical hour beyond the day’s regularly scheduled eight (8) clinical hours. Any hours that a student works in order to make up time for time missed, is made up on a one (1) hour worked to one (3) extra credit hour basis. Partial hour credit (15 minutes, 30 minutes) are not allowed. During the make-up hours, students are **not** allowed to:

1. Be sent home “Finished Early” and receive eight (8) hours of credit.
2. File “Time Exceptions” in the online system.

Students who wish to make-up missed clinical time on a Saturday or on another day where class(es) or clinical times are not scheduled, must have prior approval from the NMIS Clinical Coordinator and/or NMIS Program Director and the affiliate education supervisor of the clinical site the student wants to attend. Clinical time worked without prior approval will not be allowed and will not be counted as make up time.

All clinical times must be logged using the Trajecsys clock in/out function.

6.2 Session Absence Grading Effects

If an emergency situation arises (i.e. illness) that prevents a student from participating in a scheduled clinical rotation, that student must contact the clinical site’s affiliate education supervisor by phone and the NMIS Clinical Coordinator and/or NMIS Program Director by e-mail **prior** to the regularly scheduled starting time for that clinical day. Failure to follow this procedure will result in a deduction of two hours from the student’s accrued time.

6.3 Session Tardiness Grading Effects

If students will be late for clinic or must leave clinic during the day, the affiliate education supervisor must be notified. Students will be evaluated on punctuality. (See also the rule on tardiness located in the student handbook)

6.4 Conduct/Dress Code

Students are to adhere to the dress code as outlined in the Nuclear Medicine Imaging Sciences Student Handbook. At all times during their clinical rotation students are to wear their UAMS ID badge (and any other ID badges as required by the clinical site), their personal dosimeters and a lab coat (as required by the clinical site). Students will be evaluated on their professionalism, their overall conduct and appearance in the clinical rotation.

7.0 Due Dates/Deadlines

Students are to check the online system to verify that their time has been entered. If a student has not entered time into the system for a day that has been worked, when times are reviewed by the Clinical Coordinator, the time will be deducted. If the student did work that day and did not enter their time, it is the responsibility of the student to contact the affiliate education supervisor. The affiliate education supervisor must e-mail or call the NMIS Clinical Coordinator and/ or the NMIS Program Director to verify the day was actually worked. At that time, the NMIS Clinical Coordinator and/ or the NMIS Program Director will give the time back to the student. This must be done within the time frame listed below.

Affiliate education supervisors cannot be expected to remember the times students have attended clinic. All clinical times for a clinical rotation must be approved by the affiliate education supervisor or the NMIS Clinical Coordinator within ten (10) calendar days from the end of the clinical rotation. If the clinical times are not approved within this time frame, the clinical times will not be approved. It is the responsibility of the student to verify that their clinical time has been entered.

8.0 Session Schedules

8.1 General Remarks

Students will receive a clinical rotation schedule during fall orientation to Nuclear Medicine Imaging Sciences. Clinical rotation schedules are set so that the student achieves the best possible clinical educational experience, covering all aspects of nuclear medicine. Rotation schedules cannot be changed without the approval of the NMIS Clinical Coordinator and/or the NMIS Program Director. Clinical experiences are predominately in two areas: imaging and radiopharmacy. Imaging and radiopharmacy competencies, activities and evaluation procedures are listed in their respective objectives section of the clinical handbook.

8.2 Tentative Session Schedule

The summer semester consists of three three week “blocks” of class/clinical time.

Block 1 – May 26 – June 12

Block 2 – June 15 – July 3

Block 3 – July 6 – July 24

For each block:

- During weeks 1 – 3, students will have class on Monday and attend a clinical rotation Tuesday through Friday.
- During week 3, students will be preparing for the next block.

Occasionally a UAMS Holiday falls on a Monday. When this occurs, students will have class on Tuesday and attend a clinical rotation Wednesday through Friday

	Monday	Tuesday	Wednesday	Thursday	Friday
Week 1	Class Meeting	Clinical Day	Clinical Day	Clinical Day	Clinical Day
Week 2	Class Meeting	Clinical Day	Clinical Day	Clinical Day	Clinical Day
Week 3	Class Meeting	Clinical Day	Clinical Day	Clinical Day	Clinical Day

8.3 Tentative Media Schedule

None.

9.0 Instructional Staff

Thomas Cunningham, MHA, CNMT, NMTCB(CT)
 Summer Khairi, MBA, CNMT, NMTCB(CT)
 Jessi Bratton, MHA, CNMT R.T.(N)

Physical Location:

CHP Campus, Building 5, Room 5.103

Mailing Address:

4301 West Markham Street
 Mail Slot #714
 Little Rock, AR 72205

Office Phone: 501.686.6848

Cell Phone 501.271.2465 – **for emergency use only please**

Office Fax: 501.686.8770

E-mail: TCunningham2@uams.edu

Office Hours: By appointment

10.0 CHP Policies

COPYRIGHT POLICY - The materials used in this course may include copyright protected materials provided for the personal educational use of enrolled students and may not be further redistributed.

INTELLECTUAL PROPERTY POLICY - Lecture, lab and other presentations are the intellectual property of the faculty and faculty must give their written permission for their lecture, lab, and other presentations to be recorded.

Recorded lectures/labs/presentations may only be posted on websites or other locations approved by the College of Health Professions and are provided for the personal educational use of students enrolled in the course. Students are prohibited from providing or distributing any course materials in any manner – print, electronic, or any other media – or providing links to any course materials to anyone outside of their UAMS classes.

Failure to abide by this policy may result in disciplinary action including dismissal.

Failure to abide by this policy may constitute a copyright infringement which may have the following legal consequences:

Summary of Civil and Criminal Penalties for Violating Federal Copyright Laws

Copyright infringement is the act of exercising, without permission or legal authority, one or more of the exclusive rights granted to the copyright owner under section 106 of the Copyright Act (Title 17 of the United States Code). These rights include the right to reproduce or distribute a copyrighted work. In the file-sharing context, downloading or uploading substantial parts of a copyrighted work without authority constitutes an infringement.

Penalties for copyright infringement include civil and criminal penalties. In general, anyone found liable for civil copyright infringement may be ordered to pay either actual damages or "statutory" damages affixed at not less than \$750 and not more than \$30,000 per work infringed. For "willful" infringement, a court may award up to \$150,000 per work infringed. A court can, in its discretion, also assess costs and attorneys' fees. For details, see Title 17, United States Code, Sections 504, 505.

Willful copyright infringement can also result in criminal penalties, including imprisonment of up to five years and fines of up to \$250,000 per offense.

For more information, see the web site of the U.S. Copyright Office at www.copyright.gov, and especially their FAQs at www.copyright.gov/help/faq

Title IX - The University of Arkansas for Medical Sciences (UAMS) does not discriminate on the basis of sex, gender, or sexual orientation in its education programs or activities. Title IX of the Education Amendments of 1972, and certain other federal and state laws, prohibit discrimination on the basis of sex in all education programs and activities operated by UAMS (both on and off campus). Title IX protects all people regardless of their gender or gender identity from sex discrimination, which includes sexual harassment and sexual violence. The UAMS Title IX Coordinator can be contacted at (501) 526-5641. She is available to explain and discuss: your right to file a criminal complaint (sexual assault and violence); the university's complaint process, including the

investigation process; how confidentiality is handled; available resources (both on and off campus); and other related matters. **You may also contact the UAMS Police Department, 501-686-7777 (non-emergency) or 911 (emergency). If you are in the midst of an emergency, please call the police immediately by dialing 9-1-1.**

The United States Department of Education's Office of Civil Rights ("OCR") is responsible for enforcing Title IX, as well as other federal civil rights laws that prohibit discrimination in programs or activities that receive federal financial aid. Inquiries and complaints may also be directed to OCR at 1-800-421-3481 or ocr@ed.gov

DISABILITY POLICY - UAMS is committed to providing equal access to learning opportunities to students with disabilities. To ensure access to any class or program, please contact the ADA Coordinator to engage in a confidential conversation about the process of requesting accommodations in the classroom and clinical settings. Accommodations are not applied retroactively. Students are encouraged to register with the ADA Coordinator's office as soon as they begin their program or as soon as the student recognizes their need for an adjustment.

UAMS encourages students to access all resources available through the ADA Office for consistent support and access to their programs. More information can be found online at <http://student's.uams.edu/ada-disability-services/> or by the contacting the disability services office at (501) 526-5641.

11.0 SCHOLASTIC DISHONESTY

Scholastic dishonesty is defined as an act contrary to academic and/or professional ethics. Examples of scholastic dishonesty include, but are not limited to, cheating, plagiarism, collusion, submission for credit of any work or materials that are attributable in whole or part to another person or an artificial intelligence third-party service or site, taking an examination or submitting work or materials for another person, any act designed to give unfair advantage to a student, or the attempt to commit such acts. Additionally, submitting an assignment that was previously submitted in another course constitutes scholastic dishonesty, unless the resubmission was approved by the course director. The sanctions for scholastic dishonesty may include, but are not limited to, a failing grade on the test/assignment, failing grade for the course, probation, suspension, or dismissal from the college. Refer to CHP Policy 01.00.02 Scholastic Dishonesty for details regarding scholastic dishonesty.

Students are expected to submit original work for all assignments and exams. The CHP subscribes to a Web-based plagiarism detection and prevention system that has the ability to compare written work to a database of texts, journals, electronic and web sources, including web sites that provide pre-written essays or term papers. If a student is suspected of submitting work copied from another source, CHP reserves the right to use this plagiarism detection system, with or without the student's knowledge.

While Artificial Intelligence (AI) may serve as a learning resource for students, AI-generated content should not be submitted by students for assignments or exams, unless

expressly permitted and approved by the course director. The CHP adheres to the UAMS Artificial Intelligence Generative Tool Use Policy, 2.1.6, located in the UAMS Academic Catalog. The policy aids in clarifying the use and misuse of artificial intelligence generative tools at UAMS.

12.0 PATIENT PRIVACY AND CONFIDENTIALITY

UAMS is committed to protecting the privacy of our patients' information. While privacy and confidentiality have always been a priority for health care providers, it has heightened importance in this era of electronic information due to the increased speed of information flow and the risks associated with protecting this information.

The standards for protecting patient health information are described in the federal law known as the Health Insurance Portability and Accountability Act (HIPAA). HIPAA limits access to medical records to authorized individuals and for specific purposes. It is not possible to summarize HIPAA here; however, you will have received HIPAA training prior to being granted access to patient information. Additional information and training on HIPAA, including UAMS HIPAA policies, are available on the HIPAA Office web page HIPAA.uams.edu.

Please keep in mind that there are sanctions for inappropriate access to patient records. These include criminal penalties of up to one (1) year imprisonment and a \$50,000 fine; as well as, disciplinary action up to and including dismissal from your program.

If you have any questions pertaining to HIPAA, you may direct them to the UAMS HIPAA office at 501-603-1379.

While the provisions of this syllabus are as accurate and complete as possible, the instructor reserves the right to change any provision herein. Students will be notified of any changes and it is the responsibility of each student to know what changes, if any, have been made to the provisions of this syllabus and to successfully complete the requirements of this course.

**NMIS 4V41
Clinical Internship IV
Clinical Internship
004**

University of Arkansas for Medical Sciences
College of Health Professions

Department of Imaging and Radiation Sciences
Division of Nuclear Medicine Imaging Sciences

Variable Credit Hours
Variable Clinical hours

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TBA

1.0 General Information

1.1 Catalog Description

Practical application of coursework presented in the classroom. Students are assigned educational experiences in radiopharmaceutical preparation and clinical imaging. This course is offered on a satisfactory/unsatisfactory marking basis.

1.2 Course Rationale

In the clinical internship, students are able to apply the knowledge and skills acquired during the academic core courses. Under the direction of the nuclear medicine technologist and/or nuclear pharmacists, students will measure radiopharmaceutical activity for patient administration and students will perform diagnostic imaging. Student's follow established protocols and develop organizational skills and proficiency under actual working conditions.

1.3 General Course Objectives

The objectives of the clinical internship are to provide learning experiences such that student's will be capable of competently completing the following tasks:

- retrieve patient records as needed
- after assessing proper identification, transport patients to and from the procedure room, and with assistance of the supervising technologist, to and/or from the department as necessary
- assist with nursing care required by the patient while in the department
- correctly position patients for all views for each assigned procedure.
- load, process, label, and hang films according to departmental policies. For departments with PACS system, loads proper films in the PACS system for physician review.
- locate radionuclide records kept by the department and explain the mechanism of record keeping
- elute the generator and assay the generator eluant
- perform routine quality control procedures on the generator eluant
- calculate patient doses on the basis of half-life and activity
- draw patient doses observing aseptic technique
- using aseptic technique, administer radiopharmaceutical according to departmental policy
- correctly dispose of radiopharmaceuticals and syringes
- obtain serum and plasma specimens in the correct fashion
- perform routine quality control procedures on imaging equipment, the dose calibrator, the uptake probe, and laboratory equipment
- assist with routine cleaning of patient area, radiopharmaceutical preparation areas, labs, and so forth

- locate the emergency equipment and supplies within the department
- describe personnel safety regulations and emergency codes observed by the department
- assume responsibility for personnel safety and hygiene
- demonstrate correct professional behavior and concern for the patient
- complete all Interprofessional Education (IPE) assignments scheduled during this semester

2.0 Instructional Methodology

2.1 General Technique

The principle form of instruction is the demonstration of procedures to students by the clinical instructor and the nuclear medicine staff. Additional methodologies include supervised participation, in-service seminars, case studies, discussion, hand-outs, manipulative/tactile, and special projects.

2.2 Resource Based Techniques

This course will incorporate clinical experience as the resource base for students. As directed by the JRCNMT, all technologists who work with the students must be certified nuclear medicine technologists. Therefore, we can guarantee that the technologists who are working with the students have passed national certification boards and must maintain continuing education credits in order to maintain their certification.

3.1 Instructional Methodology

3.2 Reference-Print Materials

The following resources will be used as reference sources and are available at the clinical sites.

1. Textbooks and references manuals used in core courses
2. Hospital and departmental policy and procedure manuals
3. Equipment manuals

3.3 Reference-Audiovisual Materials

There are no audiovisuals required for purchase by the students for this course.

3.4 Computer Requirements

The student must have a computer that has Internet connectivity with a Web browser that is compatible with the current learning management system.

Students are responsible for hardware and software issues off-campus (home or office). Questions about the course content and assignments should be directed to the instructor.

Students are required to clock-in and clock-out at their respective clinical site, as well as enter daily procedures and other rotation information. Most clinical sites will allow students to use their on-site computers. When a clinical site does not allow students to use their on-site computers, the student may use their phone. However, clock-in and clock-out **MUST** be done when the student is in the department. Other information can be entered when convenient. Remember, the IP address of the device used is tracked by Trajecsys.

3.5 Technical Assistance Notification

The UAMS Academic Affairs Educational and Student Success Center provides assistance with students' laptops and mobile devices. A Library and ESSC Systems Support Technician is available to assist with various technology issues, from connecting to the wireless network to troubleshooting possible software issues. The specialist is located on the 3rd floor of the Library (ED II 3/110) from Monday through Friday from 7:30 to 4:30 PM. Assistance is also available remotely. You can email him at CDWebb2@uams.edu or book an appointment at <https://outlook.office365.com/owa/calendar/ITSupportCalvinWebb@uams.edu/bookings/>.

4.0 General Evaluation Procedures

4.1 Student Evaluation Procedures

The Clinical Internship course is graded on a satisfactory (mark of "S") or unsatisfactory (mark of "U") basis.

Clinical competency examinations will be graded on a "S" or a "U" basis. A student must receive a satisfactory grade on all components of the clinical competency examination in order to pass that clinical competency examination. Student's must repeat all failed clinical competency examinations.

Upon completion of each rotation, student's will be evaluated by their affiliate education supervisor, using the criteria outlined in the clinical handbook, in each of the following areas:

Dependability	Integrity	Communication
Adaptability	Cooperation	Self-confidence
Initiative	Efficiency	Professionalism
Patient care	Radiation protection	

The affiliate education supervisor will score each area using the following descriptors:

- **Exceeds Expectations:** Student's performance in this area consistently exceeds expectations for his/her current stage of clinical education.

- **Meets Expectations:** Student’s performance in this area meets the expectations for his/her current stage of clinical education.
- **Needs Improvement:** Student's performance in this area meets the minimum expectations of his/her current stage of clinical education; however, improvement is needed in order to establish progress.
- **Unsatisfactory:** Student’s performance in this area fails to meet the minimum level expected for his/her current stage of clinical education.

Based on the clinical evaluation grades received, the following provisions will be imposed:

- Any student receiving a “Needs Improvement” or “Unsatisfactory” grade in any area will be counseled by the clinical coordinator and/or program director.
- Any student receiving two or more “Needs Improvement” grades in the same area during the academic year will be counseled by the clinical coordinator and/or program director and may be placed on academic probation.
- Any student receiving two or more “Unsatisfactory” ratings in one area during the same semester will receive an “Unsatisfactory” grade for that semester’s Clinical Internship course and may be recommended for dismissal or suspension from the NMIS program.
- Each descriptor will be translated into a percentile score using the following conversion table:

Descriptor		Score
Unsatisfactory	=	60%
Needs Improvement	=	70%
Meets Expectations	=	85%
Exceeds Expectations	=	100%

Based on this conversion, student’s will receive a summary score for each rotation and a cumulative semester score on the Trajecsys[®] Performance Evaluation Report.

PERFORMANCE EVALUATION

Report creation date:
 Date range:
 Evaluator:

Eval		Totals		Eval Items
1	2	3		
Dependability				
Exceeds Expectations	Meets Expectations	Meets Expectations	90	Arrives and leaves clinical site at the proper time.
Exceeds Expectations	Meets Expectations	Meets Expectations	90	Notifies supervisor ASAP when late or absent.
Meets Expectations	Needs Improvement	Needs Improvement	75	Informs supervisor of whereabouts during the day.
Exceeds Expectations	Meets Expectations	Meets Expectations	90	Takes lunch and breaks within the time limits.
96.25	81.25	81.25		
Integrity				
Exceeds Expectations	Meets Expectations	Meets Expectations	90	Reports mistakes to supervisor.
Exceeds Expectations	Meets Expectations	Meets Expectations	90	Reports mistakes to supervisor.
Exceeds Expectations	Meets Expectations	Meets Expectations	90	Explains the procedure to the patient prior to performing an exam.
100	85	85		
Rating				
3	2	3		Please rate the students performance:
99.53	84.3	84.38	89.4	

Rotation Score

Cumulative Score

Note: all other numbers shown on the Performance Evaluation report are used for statistical purposes only.

Based on the clinical scores received, the following provisions will be imposed:

- Student's must achieve a minimum cumulative score of 77% in order to receive a grade of "Satisfactory" for that semester's Clinical Internship course.
- Any student receiving a rotation score of less than 77% will be counseled by the clinical coordinator and/or program director.
- Any student receiving a cumulative score less than 77% for the semester receive an "Unsatisfactory" grade for that semester's Clinical Internship course and may be recommended for dismissal or suspension from the NMIS program.

In the clinical internship students are able to apply the knowledge and skills acquired during the academic core courses. Under the direction of the nuclear medicine technologist and/or nuclear pharmacists, students will prepare radiopharmaceuticals for patient administration and students' will

perform diagnostic imaging. Student's follow established protocols and develop organizational skills and proficiency under actual working conditions. As the student progresses through the clinical phases of his/her education, clinical skills acquired during the previous clinical rotations should be honed. Although the student still works under supervision, he/she is expected to evolve toward working on a more independent basis. The student should be encouraged to solve routine clinical problems autonomously.

A final rating will be assigned to the student's overall clinical proficiency by the affiliate education supervisor. (See Clinical Handbook, Section 7). Any student receiving two (2) or more overall performance evaluations at a level below his/her expected stage of performance during the fall and spring semesters will receive an "Unsatisfactory" grade for that semester's clinical rotation and may be recommended for dismissal or suspension from the NMIS program.

Student's will have seven calendar days from the last day of a scheduled clinical rotation to complete all online forms and evaluations for that rotation. Students who submit forms and evaluations after the prescribed date will lose one accrued hour for each calendar day past the due date.

Upon completion of the course for the semester, the NMIS clinical coordinator and/or the NMIS program director must receive all clinical forms and clinical evaluations from the student. If all forms and evaluations are not handed in by the end of the semester the students will receive a mark of "U" for unsatisfactory for the semester.

4.2 Instructor Evaluation Procedures

While comments regarding the course and instruction are welcomed by the instructor at any time, student's will be given the opportunity to complete CHP course and instructor evaluations. Your participation in this evaluation is appreciated.

4.3 Performance, Lab, Clinic, and Project Evaluation

As a student progresses throughout the clinical rotations, they will gain competence in each of the routine nuclear medicine technology procedures. Student's must test out of all routine procedures as outlined in the clinical handbook. When a student is deemed competent to perform a particular procedure, arrangements should be made with the affiliate education supervisor to take a clinical competency exam. At that time the affiliate education supervisor will observe the student performing the procedure and will grade him/her according to the evaluation form. Each step of the procedure is graded on a satisfactory/unsatisfactory basis.

At the discretion of the clinical coordinator and/or the program director and/or the affiliate education supervisor, a student may be required to take a

continuing competency exam that will be administered by the clinical coordinator or faculty member. The continuing competency exam will be given at the student's clinical site and will be graded on a satisfactory/unsatisfactory basis.

A fall semester clinical comprehensive exam will be administered online during the summer semester. If the student fails to achieve a passing grade on any section of the fall semester clinical comprehensive exam, the student must take an oral exam over that section with a NMIS faculty member.

Students are required to participate in three outside activities. At least one of the three required activities must be a continuing education (CE) meeting or article that has been approved for "Category A" CE credit by either the Society of Nuclear Medicine and Molecular Imaging (SNMMI) or the American Society of Radiologic Technologists (ASRT). These activities must be completed prior to the end of the semester as part of receiving a grade of "S" for Satisfactory in Clinical Internship I. Student's that do not complete these three outside activities prior to the end of the semester will receive an "I" for the course.

The following is a sample list of approved activities. Other activities may be submitted to the NMIS Clinical Coordinator and/or the NMIS Program Director for approval. All outside activities must be able to provide documentation and/or a certificate of participation. Students are advised to check with the NMIS Clinical Coordinator and/or the NMIS Program Director before attending any activity to determine if that activity will meet this requirement.

Sample lists of outside activities:

Activities approved as outside Continuing Education Activities:

- Educational meeting put on by the SNMMI (national or chapter meeting) (write a 1 page summary of the meeting)
- Educational meeting put on by a radiopharmacy or equipment manufacturer company (e.g. Cardinal Health or GE / Siemens) (write a 1 page summary of the meeting)
- Educational meeting put on by a state or local radiologic science group (write a 1 page summary of the meeting)
- Continuing education article available online (must submit quiz results when required or write a 1 page summary of the article)
- Continuing education article available in professional journal (must submit quiz results when required or write a 1 page summary of the article)

The following are **NOT** considered Continuing Education Activities but **may** be considered as an outside activity

- Donating blood
- Attending hospital Grand Rounds
- Helping at a homeless shelter/kitchen

- Attending Hospital in-service programs
- Participating in Race for the Cure or other fundraisers for health care
- Volunteering at Red Cross
- Volunteering at Salvation Army (e.g. bell ringer at holidays)
- Volunteering for charitable organization

All personal electronic communication devices (i.e., cellular phones, pagers, iPads, etc...) must be turned OFF (not 'silent') while in class and in the clinical setting. At a student's discretion, the NMIS office telephone number may be provided to interested parties (i.e., child care facilities, family members, etc...) as a contact number for emergencies only. In the event of an emergency, the NMIS office must be notified first and personnel from that office will locate and communicate the information to the student. Student's may use their personal electronic communication devices when they are outside of their assigned clinical location AND on a designated break AND all facility rules and regulations pertaining to the use of personal electronic communication devices are followed. If a student is found using a personal electronic communication device while in the clinical setting, the occurrence will be documented in the student file and the student will be subject to the following:

First offense: Written warning

Second offense: Deduction of two (2) accrued hours from the accrued hour bank.

Subsequent offenses: Deduction of four (4) accrued hours from the accrued hour bank.

Because attendance in the clinical rotations is crucial to the learning process, students must complete the required number of clinic hours. Students are required to make requests for time off to their affiliate education supervisor for purposes of vacation, personal days, or any scheduled absence. Such requests must be made at least 48 hours in advance of the requested day off.

Students who fail to report to their clinical site according to the rotation schedule or who fail to provide an advanced leave request will be charged with an unscheduled absence and will result in a deduction of two (2) hours from accrued time off in addition to any time missed at the clinical rotation. Any clinical time taken off within sixteen (16) working hours of the fall semester clinical comprehensive examination scheduled in the summer will be deducted from the student's accrued hours at a ratio of two accrued hours for every one hour taken off from clinic. If a student must miss clinical time within sixteen (16) hours of the fall semester clinical comprehensive examinations scheduled in the summer due to an illness, a doctor's excuse

must be submitted to the NMIS Program Director and/or the NMIS Clinical Coordinator before this examination can be scheduled. All information regarding the attendance policy can be found in the Student Handbook. Student's will be expected to display maturity and professionalism in daily contacts with faculty, hospital staff, fellow student's, patients, and visitors.

ABSENTEEISM

Students are expected to participate in all scheduled didactic clinical educational experiences. Absenteeism is defined as not being present for an assigned educational activity or not submitting Web-based assignments on time. Students should schedule all appointments during times when they are not participating in didactic or clinical education sessions if possible.

Students must notify the NMIS Program Office within 24 hours if they are unable to attend class. In addition, students must notify their Director of Clinical Education *and* Clinical Supervisor by 8:30am on the day of the absence (or sooner) if they are unable to attend clinic.

If a student is not present in clinic at the appropriate times and does not notify both the Director Clinical Education and Clinical Supervisor **PRIOR TO** the program faculty's discovery of the absence, an automatic five (5) pigs may be deducted.

Personal days off may be used in one-hour increments and, with the Director of Clinical Education and/or Clinical Coordinator approval.

Students may miss two (2) additional days of clinic per semester due to inclement weather with approval from the Clinical Coordinator and/or Director of Clinical Education. Additional days missed (more than 2) due to inclement weather will be made up without a grade penalty.

Clinical absences can affect a student's clinical grade. Excess clinical absences lower the number of cases a student observes, which adversely affects the student's clinical grade since clinical hours are included in the clinical practicum grade calculation process.

Students absent more than two (2) days in a row must submit documentation to excuse the absences. This documentation may include items such as physician certification of illness. After personal time is exhausted, physician certification or other documentation may be required to excuse any absence and prevent the student from accumulating unexcused absences, which can carry a grade penalty.

4.4 Make-up and Retake Examinations

Make-up block examinations are permitted only in the case of an emergency or illness. Documentation may be required regarding the illness or emergency before permission to take the make-up block examination is granted. If a student is to miss a block examination, it is the responsibility of the student to contact the instructor by phone **and** e-mail **prior** to the scheduled block examination time. Make-up block examinations **must be taken within five calendar days after returning** to clinic or class and will be scheduled at a time that is mutually agreed upon by the instructor and the student. It may be necessary for the student to take the make-up examination in Little Rock due to contractual obligations and assessed fees with the testing centers. Every effort should be made to take the block examination at the regularly scheduled time.

Online homework or assignments and quizzes are usually open for a set period of time and must be completed within the posted time frame. A make-up online homework or assignment or quiz is permitted only in the case of an emergency, illness or computer problems. Documentation may be required regarding the illness or emergency before permission to complete the online homework or assignment or quiz is granted. If a student is to miss an online homework or assignment or quiz is necessary, it is the responsibility of the student to contact the instructor by phone **and** e-mail **prior** to the expiration of the homework or assignment or quiz time. The make-up homework or assignment or quiz must be completed and **submitted within 48 hours** of resolving the emergency.

Other homework or assignments are usually open for a set period of time and must be completed within the posted time frame. Make-up homework or assignment are permitted only in the case of an emergency or illness. Documentation may be required regarding the illness or emergency before permission to complete the homework or assignment is granted. If a homework or assignment is to be turned in late for the above reasons, it is the responsibility of the student to contact the instructor by phone **and** e-mail **prior** to the homework or assignment due date. Make-up homework or assignment must be completed and **submitted within 48 hours** of resolving the emergency.

Quizzes or homework or assignments completed late for reasons other than emergency or illness or computer problem **will have a 10% per calendar day reduction in grade**. Quizzes or homework or assignments submitted more than ten (10) days past the due date will receive a grade of zero (0).

No retakes of block examinations, online quizzes, online or other homework, assignments, discussions, projects or interesting case are permitted. Specific course examination, quiz, homework or assignment policies and procedures are outlined in individual course syllabi.

Students may contact the NMIS program director at any time to inquire about specific examination policies and/or grading scales for each class. The NMIS program director will then discuss with the student the specifics of each class on a case-by-case basis.

5.0 General Procedures

5.1 General Remarks

Students will arrive to pre-designated clinical sites for a total of three five-week rotations during the fall semester. Students are expected to be in clinic between 7:30 am – 3:30 pm Tuesday through Friday each week unless otherwise instructed by NMIS faculty and/or the clinical supervisor.

6.0 Class Attendance/Conduct/Dress Policy

6.1 General Remarks

In order to maximize learning opportunities, attendance will be taken at all class sessions.

Students are expected to actively engage in their education by attending and/or participating in class activities (face-to-face or at a distance). Faculty are expected to monitor their students' active participation and make contact by phone and UAMS email with those who have not initiated or maintained active participation in their course(s) for a period of one week. If a satisfactory reason is not presented to the faculty, the student does not actively engage in learning activities and/or the faculty member is unable to get in contact with the student, the faculty member should report this to the Associate Dean for Academic Affairs (ADAA). The ADAA will attempt to contact the student to learn the reason for his/her lack of participation. If a satisfactory reason is not presented, the student does not actively engage in learning activities and/or the ADAA is unable to get in contact with the student in a one- week period, the ADAA will notify the Registrar and the student will be administratively dropped from the class(es). If all classes are dropped, the student is administratively withdrawn from the CHP program.

Student's will receive a clinical rotation schedule during fall Orientation to Nuclear Medicine Imaging Sciences. Clinical rotation schedules are set so that the student achieves the best possible clinical educational experience, covering all aspects of nuclear medicine. Rotation schedules cannot be changed without the approval of the NMIS Clinical Coordinator and/or the NMIS Program Director. Clinical experiences are predominately in two areas: imaging and radiopharmacy. Imaging and radiopharmacy competencies and activities and evaluation procedures are listed in their respective objectives section of the clinical handbook.

Clinical internship IV will be variable in length depending on the status of the students' clinical education. Students are expected to participate at a beginning level, progressing from observation only to completion of designated procedures with close supervision.

The starting time for the first day of each clinical site is 7:30 am. A clinical site may require the student to start at a different time. The affiliate education supervisor will notify the student of the required starting time.

No matter the starting time, students are required to have eight (8) contact hours per day. Students are allowed a 15 minute break in the morning and in the afternoon and a required 30 minute lunch break. The break and lunch times will be designated by the affiliate education supervisor. The two 15 minute breaks are counted as part of the student's contact hours. Students are not allowed to work through lunch in order to leave early for the day. The clinical day consists of 8½ hours reported on the time sheet, with 30 minutes of that being lunch. 08:00 to 16:00 is 8 hours total, but only 7 ½ contact hours. 08:00 to 16:30 is eight (8) contact hours.

Student's will be allowed to be sent home after a minimum of six (6) hours of

work and get credit “Finished Early” (8 hours) as long as the following criteria have been met:

- There are no more patients on the clinical schedule for the day or remaining patients are scheduled after the scheduled time to leave;
- Being sent home early must be initiated by the affiliate education supervisor, not by the student;
- Clinical paperwork, patient paperwork, and all appropriate documentation has been completed for the day;
- Clinical duties (area is clean and neat, etc.) are completed.

Students who ask to go home early will receive credit only for the actual time worked.

In order for a student to receive credit for working extra hours, students **must** work a minimum of one (1) clinical hour beyond the day’s regularly scheduled eight (8) clinical hours. Any hours that a student works in order to make up time for time missed, is made up on a one (1) hour worked to one (4) extra credit hour basis. Partial hour credit (15 minutes, 30 minutes) are not allowed. During the make-up hours, students are **not** allowed to:

1. Be sent home “Finished Early” and receive eight (8) hours of credit.
2. File “Time Exceptions” in the online system.

Students who wish to make-up missed clinical time on a Saturday or on another day where class(es) or clinical times are not scheduled, must have prior approval from the NMIS Clinical Coordinator and/or NMIS Program Director and the affiliate education supervisor of the clinical site the student wants to attend. Clinical time worked without prior approval will not be allowed and will not be counted as make up time.

All clinical times must be logged using the Trajecsyst clock in/out function.

6.2 Session Absence Grading Effects

If an emergency situation arises (i.e. illness) that prevents a student from participating in a scheduled clinical rotation, that student must contact the clinical site’s affiliate education supervisor by phone and the NMIS Clinical Coordinator and/or NMIS Program Director by e-mail **prior** to the regularly scheduled starting time for that clinical day. Failure to follow this procedure will result in a deduction of two hours from the student’s accrued time.

6.3 Session Tardiness Grading Effects

If student’s will be late for clinic or must leave clinic during the day, the affiliate education supervisor must be notified. Student’s will be evaluated on punctuality. (See also the rule on tardiness located in the student handbook)

6.4 Conduct/Dress Code

Students are to adhere to the dress code as outlined in the Nuclear Medicine Imaging Sciences Student Handbook. At all times during their clinical rotation students are to wear their UAMS ID badge (and any other ID badges as required by the clinical site), their personal dosimeters and a lab coat (as required by the clinical site). Student’s will be evaluated on their

professionalism, their overall conduct and appearance in the clinical rotation.

7.0 Due Dates/Deadlines

Students are to check the online system to verify that their time has been entered. If a student has not entered time into the system for a day that has been worked, when times are reviewed by the Clinical Coordinator, the time will be deducted. If the student did work that day and did not enter their time, it is the responsibility of the student to contact the affiliate education supervisor. The affiliate education supervisor must e-mail or call the NMIS Clinical Coordinator and/ or the NMIS Program Director to verify the day was actually worked. At that time, the NMIS Clinical Coordinator and/ or the NMIS Program Director will give the time back to the student. This must be done within the time frame listed below.

Affiliate education supervisors cannot be expected to remember the times student's have attended clinic. All clinical times for a clinical rotation must be approved by the affiliate education supervisor or the NMIS Clinical Coordinator within ten (10) calendar days from the end of the clinical rotation. If the clinical times are not approved within this time frame, the clinical times will not be approved. It is the responsibility of the student to verify that their clinical time has been entered.

8.0 Session Schedules

8.1 General Remarks

Students will receive a clinical rotation schedule during fall orientation to Nuclear Medicine Imaging Sciences. Clinical rotation schedules are set so that the student achieves the best possible clinical educational experience, covering all aspects of nuclear medicine. Rotation schedules cannot be changed without the approval of the NMIS Clinical Coordinator and/or the NMIS Program Director. Clinical experiences are predominately in two areas: imaging and radiopharmacy. Imaging and radiopharmacy competencies, activities and evaluation procedures are listed in their respective objectives section of the clinical handbook.

8.2 Tentative Session Schedule

The fall semester consists of three five week "blocks" of class/clinical time.

Block 1 – September 2 – October 1
Block 2 – October 6 – November 5
Block 3 – November 11 – December 10

For each block:

- During weeks 1 – 4, students will have class on Monday and attend a clinical rotation Tuesday through Friday.
- During week 5, students will have class on Monday, Tuesday is a study day and Wednesday is the block examination day.
- During week 5, Thursday and Friday after the block exam, student's will be preparing for the next block.

Occasionally a UAMS Holiday falls on a Monday. When this occurs, students will have class on Tuesday and attend a clinical rotation Wednesday through Friday

	Monday	Tuesday	Wednesday	Thursday	Friday
Week 1	Class Meeting	Clinical Day	Clinical Day	Clinical Day	Clinical Day
Week 2	Class Meeting	Clinical Day	Clinical Day	Clinical Day	Clinical Day
Week 3	Class Meeting	Clinical Day	Clinical Day	Clinical Day	Clinical Day
Week 4	Class Meeting	Clinical Day	Clinical Day	Clinical Day	Clinical Day
Week 5	Class Meeting	Block Exam Study Day	BLOCK EXAM	Study Day	Study Day

8.3 Tentative Media Schedule

None.

9.0 Instructional Staff

Thomas Cunningham, MHA CNMT, NMTCB(CT)
Summer Khairi, MBA, CNMT, NMTCB(CT)
Jessi Bratton, MHA, CNMT, R.T.(N)

Physical Location:

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10.0 CHP Policies

COPYRIGHT POLICY - The materials used in this course may include copyright protected materials provided for the personal educational use of the enrolled student's and may not be further redistributed.

INTELLECTUAL PROPERTY POLICY - Lecture, lab and other presentations are the intellectual property of the faculty and faculty must give their written permission for their lecture, lab, and other presentations to be recorded.

Recorded lectures/labs/presentations may only be posted on websites or other locations approved by the College of Health Professions and are provided for the personal educational use of student's enrolled in the course. Students are prohibited from providing or distributing any course materials in any manner – print, electronic, or any other media – or providing links to any course materials to anyone outside of their UAMS classes.

Failure to abide by this policy may result in disciplinary action including dismissal.

Failure to abide by this policy may constitute a copyright infringement which may have the following legal consequences:

Summary of Civil and Criminal Penalties for Violating Federal Copyright Laws

Copyright infringement is the act of exercising, without permission or legal authority, one or more of the exclusive rights granted to the copyright owner under section 106 of the Copyright Act (Title 17 of the United States Code). These rights include the right to reproduce or distribute a copyrighted work. In the

file-sharing context, downloading or uploading substantial parts of a copyrighted work without authority constitutes an infringement.

Penalties for copyright infringement include civil and criminal penalties. In general, anyone found liable for civil copyright infringement may be ordered to pay either actual damages or "statutory" damages affixed at not less than \$750 and not more than \$30,000 per work infringed. For "willful" infringement, a court may award up to \$150,000 per work infringed. A court can, in its discretion, also assess costs and attorneys' fees. For details, see Title 17, United States Code, Sections 504, 505.

Willful copyright infringement can also result in criminal penalties, including imprisonment of up to five years and fines of up to \$250,000 per offense.

For more information, see the web site of the U.S. Copyright Office at www.copyright.gov, and especially their FAQs at www.copyright.gov/help/faq

Title IX - The University of Arkansas for Medical Sciences (UAMS) does not discriminate on the basis of sex, gender, or sexual orientation in its education programs or activities. Title IX of the Education Amendments of 1972, and certain other federal and state laws, prohibit discrimination on the basis of sex in all education programs and activities operated by UAMS (both on and off campus). Title IX protects all people regardless of their gender or gender identity from sex discrimination, which includes sexual harassment and sexual violence. The UAMS Title IX Coordinator can be contacted at (501) 526-5641. She is available to explain and discuss: your right to file a criminal complaint (sexual assault and violence); the university's complaint process, including the investigation process; how confidentiality is handled; available resources (both on and off campus); and other related matters. **You may also contact the UAMS Police Department, 501-686-7777 (non-emergency) or 911 (emergency). If you are in the midst of an emergency, please call the police immediately by dialing 9-1-1.**

The United States Department of Education's Office of Civil Rights ("OCR") is responsible for enforcing Title IX, as well as other federal civil rights laws that prohibit discrimination in programs or activities that receive federal financial aid. Inquiries and complaints may also be directed to OCR at 1-800-421-3481 or ocr@ed.gov

DISABILITY POLICY - UAMS is committed to providing equal access to learning opportunities to students with disabilities. To ensure access to any class or program, please contact the ADA Coordinator to engage in a confidential conversation about the process of requesting accommodations in the classroom and clinical settings. Accommodations are not applied retroactively. Students are encouraged to register with the ADA Coordinator's office as soon as they begin their program or as soon as the student recognizes their need for an adjustment.

UAMS encourages students to access all resources available through the ADA Office for consistent support and access to their programs. More information can be found online at <http://student's.uams.edu/ada-disability-services/> or by the contacting the disability services office at (501) 526-5641.

11.0 SCHOLASTIC DISHONESTY

Scholastic dishonesty is defined as an act contrary to academic and/or professional ethics. Examples of scholastic dishonesty include, but are not limited to, cheating, plagiarism, collusion, submission for credit of any work or materials that are attributable in whole or part to another person or an artificial intelligence third-party service or site, taking an examination or submitting work or materials for another person, any act designed to give unfair advantage to a student, or the attempt to commit such acts. Additionally, submitting an assignment that was previously submitted in another course constitutes scholastic dishonesty, unless the resubmission was approved by the course director. The sanctions for scholastic dishonesty may include, but are not limited to, a failing grade on the test/assignment, failing grade for the course, probation, suspension, or dismissal from the college. Refer to CHP Policy 01.00.02 Scholastic Dishonesty for details regarding scholastic dishonesty.

Students are expected to submit original work for all assignments and exams. The CHP subscribes to a Web-based plagiarism detection and prevention system that has the ability to compare written work to a database of texts, journals, electronic and web sources, including web sites that provide pre-written essays or term papers. If a student is suspected of submitting work copied from another source, CHP reserves the right to use this plagiarism detection system, with or without the student's knowledge.

While Artificial Intelligence (AI) may serve as a learning resource for students, AI-generated content should not be submitted by students for assignments or exams, unless expressly permitted and approved by the course director. The CHP adheres to the UAMS Artificial Intelligence Generative Tool Use Policy, 2.1.6, located in the UAMS Academic Catalog. The policy aids in clarifying the use and misuse of artificial intelligence generative tools at UAMS.

12.0 PATIENT PRIVACY AND CONFIDENTIALITY

UAMS is committed to protecting the privacy of our patients' information. While privacy and confidentiality have always been a priority for health care providers, it has heightened importance in this era of electronic information due to the increased speed of information flow and the risks associated with protecting this information.

The standards for protecting patient health information are described in the federal law known as the Health Insurance Portability and Accountability Act (HIPAA). HIPAA limits access to medical records to authorized individuals and for specific purposes. It is not possible to summarize HIPAA here; however, you will have received HIPAA training prior to being granted access to patient information. Additional information and training on HIPAA, including UAMS HIPAA policies, are available on the HIPAA Office web page HIPAA.uams.edu. Please keep in mind that there are sanctions for inappropriate access to patient records. These include criminal penalties of up to one (1) year imprisonment and a \$50,000 fine; as well as, disciplinary action up to and including dismissal from your program.

If you have any questions pertaining to HIPAA, you may direct them to the UAMS HIPAA office at 501-603-1379.

While the provisions of this syllabus are as accurate and complete as possible, the instructor reserves the right to change any provision herein. Students will be notified of any changes and it is the responsibility of each student to know what changes, if any, have been made to the provisions of this syllabus and to successfully complete the requirements of this course.

CRITERIA FOR EVALUATION OF IMAGING PROCEDURES:

Specific Objectives for Clinical Imaging

Competency for clinical internships will be evaluated by performing the following list of tasks for the instructors.

I. CLINICAL PROCEDURES

A. IMAGING

1. Imaging for a given routine study
 - a. Locate and review requisition.
 - b. Retrieve and/or prepare patient file.
 - c. Obtain positive patient identification conduct patient interviews, and explain study. Obtain formal consent when necessary.
 - d. Establish whether the patient has undergone the necessary pre-examination procedures as appropriate.
 - e. Determine whether the patient has received any medication or had any examination that would interfere with or contraindicate the nuclear medicine study.
 - f. Take appropriate corrective action or make appropriate notation or requisition if patient has either not undergone necessary pre-examination procedures or has had any medication or examination that would interfere with the nuclear medicine study.
 - g. Prepare patient with premedication and instruct patient as to any particular preparation necessary for the imaging procedure.
 - h. State the correct dose.
 - i. Identify localization time and determine Injection time and time at which imaging should be performed
 - j. Correctly administer radiopharmaceutical according to procedure protocol:
 - (1) Assemble injection tray with all necessary materials for venipuncture, including shielded syringe of radioactive material.
 - (2) Position patient appropriately for dynamic studies.
 - (3) Correctly inject radiopharmaceutical using aseptic technique.
 - (4) Correctly dispose of used syringes and material, both radioactive and non-radioactive.
 - k. Select proper instrument, collimator, and auxiliary equipment for study.
 - l. Correctly select and adjust instrument parameters for the images as each view is performed.
 - m. At time of imaging use correct body mechanics to move patient on and off table as well as during study.
 - n. Correctly position the patient for all views normally performed with the study, including delayed time images.

- o. Objectively evaluate a study for technical mistakes and repeat any necessary views.
 - p. Correctly label and retrieve all films for presentation to the physician or chief technologist as needed. This includes notation of anatomical landmarks, as appropriate.
 - q. Correctly complete all department forms.
 - r. Conduct study in an ethical and professional manner.
2. Given a set of marked images from a routine study, describe the image and identify any regions of abnormality. Determine whether the abnormality is attributable to artifacts from radiopharmaceutical problems, imager malfunction, incorrect administration of the radiopharmaceutical, positioning of the patient himself.
 3. Demonstrate routine acquisition of data on the computer for cardiac studies and other organ flow studies as follows:
 - a. Perform start-up procedure of computer.
 - b. Select or enter appropriate program for acquisition.
 - c. Enter appropriate patient date.
 - d. Acquire study.
 - e. Verify the study has been stored on the computer.
 4. Demonstrate routine computer analysis of dynamic data received from the first pass or gated blood pool studies. To be acceptable:
 - a. Select the appropriate study for analysis.
 - b. Select appropriate images for requisite regions of interest for type of analysis to be done.
 - c. Generate output study as necessary.
 5. For cardiac stress imaging using $^{201}\text{Thallium}$ or $^{99\text{m}}\text{Technetium}$ products, correctly use and calibrate as necessary the auxiliary equipment including ECG machines and exercise/stress equipment and recognize and correctly react to signs and symptoms of patient stress.
 6. Demonstrate routine acquisition of data on an emission computed tomography (ECT) camera by:
 - a. Correct positioning of the patient for the procedure
 - b. Correct selection of acquisition parameters
 - c. Correct acquisition and storage of data for purpose of analysis
 7. Demonstrate routine analysis of ECT data by:
 - a. Correct selection of data for analysis
 - b. Correct selection of parameters for data analysis according to departmental protocol
 - c. Correct analysis and evaluation of results
 8. When preparing for a cisternography, set up the injection tray and assist in preparing and maintaining a sterile field for intrathecal injection by the physician.

9. Given a request for more than one radiopharmaceutical study, correctly sequence the injection for the studies and perform the studies according to departmental protocol.

B. RADIONUCLIDE THERAPY PROCEDURES

1. Determine therapeutic rationale from requisition and patient chart.
2. Check with nuclear medicine physicians regarding procedure and appropriate dose.
3. Calculate and assemble dose and necessary materials.
4. Determine whether patient is required to be hospitalized.
5. Inform patient, patient's family, and staff of protection precautions to be taken.
6. Administer dose to the patient.

C. PATIENT CARE/PROFESSIONALISM

1. Welcome the patient to the department, introducing yourself and addressing the patient by name.
2. Address patients, families, co-workers, and the clinical instructors by the appropriate name.
3. Refrain from ridiculing the patient's, faculty, peers, and staff.
4. Demonstrate no discriminatory attitudes, comments, or behaviors to anyone in the clinical facility, regardless of his/her age, sex, illness, ethnic color, creed, nationality, or lifestyle.
5. Avoid the display of emotional reactions such as distaste, disgust, and/or surprise.
6. Eliminate from technical conversation anything potentially alarming to the patient.
7. Take care with any words spoken within the patient's hearing range; e.g. "Send in the next bone."
8. Refrain from any discussion of patients with colleagues in patient areas and/or in any way that is not pertinent or relevant to the procedure or patient care.
9. Prevent unnecessary exposure of the patient's body.
10. Make the patient's wait as brief and pleasant as possible and ensure minimum discomfort and waiting periods consistent with the requirements for valid information from the study.
11. Provide an explanation and apology if the patient must be kept awaiting and assurance that the patient is not forgotten.
12. Make certain that the patient is comfortable, warm and not exposed to drafts.
13. Assist with nursing care while the patient is in the department.
14. Provide support for various parts of the patients' body by using pillows in order to position the patient as comfortably as possible.

15. Provide for patient comfort before, during, and after performing the nuclear medicine procedure.
16. Display understanding, cheerfulness, and interest in the patient.
17. Reassure and comfort the patient.
18. Hold in confidence any information offered by the patient, unless considered important to the physician's diagnosis.
19. Provide safe storage for patient's personal belongings during the examination.
20. Report any changes in the patient's condition to the appropriate person.
21. Relate to the patient before the examination begins as to what the examination involves, what the patient will feel, and what is required of the patient.
22. Adapt the explanation to the age, degree of illness, intelligence, and possible language consistent with the patient's ability to understand.
23. Continue the explanation and communication of what is expected of the patient throughout the examination.
24. Seek to comfort the patient who is easily upset by using the specific actions of therapeutic touch, calm approach, silent presence, and allowing the patient to talk.
25. Be sensitive to fears, doubts, and embarrassment of the patient.
26. Work in an orderly fashion.
27. Think before acting.
28. Observe the rules and regulations of the department.
29. Recognize which decisions require approval.
30. Recognize your own limits and responsibilities in the work situation.
31. Report accurately.
32. Use medical terminology appropriately.

II. QUALITY ASSURANCE/INSTRUMENTATION

A. GENERAL

When assigned to complete quality control procedures on the departmental camera, demonstrate an appreciation for the importance of quality functioning by maintaining to include:

1. Performing each QC procedures with the accepted frequency
2. Using standardized protocols for each procedure
3. Recording in the specified book the results of each procedure
4. Comparing each result with a series of previous results to determine whether significant variation occurs
5. Contacting the supervising technologist if any questionable results are obtained

B. GAMMA CAMERA

1. *Uniformity*: For a given scintillation camera, perform and analyze a field uniformity check to include:
 - a. Selection of a radionuclide source of appropriate quantity and energy
 - b. Selection of correct collimator
 - c. Correct photopeak adjustment
 - d. Obtaining uniformity images using identical standardized imaging parameters, including counts, image size, and intensity
 - e. Comparison of current field uniformity with previous images and identification of any nonuniformities.
2. *Resolution*: For a given scintillation camera, perform and analyze a spatial resolution check to include:
 - a. Use of field uniformity check source and high-resolution phantom compatible with the specified resolution of the camera
 - b. Obtaining resolution images orienting 90 or 45 degrees to each other using standardized imaging parameters according to departmental protocol
 - c. Comparison and evaluation of images with prior resolution images and determination of unacceptable changes in resolution
 - d. As appropriate contacting the chief technologist for determination if service is needed
3. *SPECT*: For given SPECT camera system, perform and analyze routine checks to include:
 - a. Use of field uniformity source to acquire a field flood for storage to use with any of commonly used radiopharmaceuticals
 - b. Obtaining a center of rotation
 - c. Perform pixel sizing
 - d. Properly storing the acquired information for use with patient studies
 - e. Comparison and evaluation of images to determine acceptability
 - f. As appropriate contacting the chief technologist for determination if service is needed
4. *Evaluation of results*: Given that scintillation camera QC results are abnormal:
 - a. Evaluate the results and determine where service is necessary or adjustments can be made to correct for the abnormality.
 - b. Identify any source of instrument contamination such as contamination of floods, hot spots, or high background counting.
 - c. Given a contaminated detector, demonstrate an appreciation for the effect of contamination of the function of the instrument and correctly decontaminate the instrument.

C. DOSE CALIBRATOR

Given a dose calibrator, perform and analyze quality control procedures to include:

1. Background checks
2. Energy level checks (constancy)
3. Activity linearity checks
4. Geometry checks

D. UPTAKE PROBE

Given an uptake probe, perform and analyze daily and monthly check as follows:

1. Daily background check
2. Daily high voltage check
3. Daily energy level check
4. Chi square check
5. Resolution check
6. Spectrum check

E. GAS-FILLED DETECTORS

Given a G-M survey meter, periodically:

1. Calibrate it according to Nuclear Regulatory Commission (NRC) specifications.
2. Perform a reference check-source test.
3. Compare results with those previously obtained.
4. Maintain records of calibration and testing for each G-M survey meter.
5. Change batteries as appropriate for continued function.

F. XENON TRAP

1. Demonstrate the monitoring system xenon trap to ensure an excess amount of xenon has not accumulated in the trap.
2. Describe how the desiccant is used in the trap and when the desiccant must be changed.
3. Using an air flow meter, monitor the airflow of a room in which xenon studies are performed.

III. DEPARTMENTAL/ADMINISTRATIVE DUTIES

- A. Retrieve patient records as needed.
- B. Describe the procedure that takes place from the time the completed study is turned in to the physician until the time it is returned to the file room.
- C. Describe the departmental procedures for patient scheduling, dose administration, room assignments, image data or report processing, patient record filing system, and retrieval of previous reports/films.
- D. Determine the need for supplies for the nuclear medicine laboratory, including radiopharmaceuticals and film.
- E. Initiate purchase orders and maintain adequate supplies to ensure that patient studies are performed as necessary.
- F. Interact with hospital and departmental staff to schedule patient studies effectively to include the determination of the correct sequence for multiple procedures, both in nuclear medicine and in radiology.
- G. Locate and demonstrate the operation of emergency equipment within the nuclear medicine department.

Student Assessment

Students are to record their daily activities online. Students should keep a paper backup copy in the case that the online system is down. The level of participation score is based on how much the student actually contributed toward the completion of a procedure using the following scale:

1. Student observed the procedure.
2. Student provided minimal assistance: such as, retrieved paperwork, retrieved patient, helped patient onto and/or off the imaging table, changed linens, etc.
3. Student provided partial assistance: such as, set up imaging parameters on equipment, positioned patient for several views, injected doses, some computer operations.
4. Student completed study with minimal assistance, including computer processing or SPECT imaging.
5. Student completed study without assistance including computer processing or SPECT imaging.

Procedure Competency Examinations – This is an assessment of a student's ability to perform selected procedures in the clinical setting. The examinations are administered and evaluated by the affiliate education supervisor. Students *may* not allowed to attempt a procedure competency until the procedure content has been covered in the appropriate classes. Exceptions will be made on a case by case basis. Students are required to perform a procedure at a Level 5 before attempting the clinical competency exam in that procedure. Students should understand that proficiency, and not just competency, is gained only through

experience.

Students take the procedure competency examinations at their own pace and should schedule them with the affiliate education supervisor. Once completed, the affiliate education supervisors will input the competency attempt into the Trajecsys Report System. Students are required to send representative images and the physician report of the patient scanned and complete the Competency Procedural Report on the Trajecsys Report System.

In order to pass a procedure competency examination, a student must receive a “Satisfactory” grade on all components of the examination. See the Clinical Internship syllabi for further information pertaining to the procedure competency examinations.

One of the four Therapeutic Procedures clinical competencies may be simulated:

- Thyroid: Ablation
- Thyroid: Hyperthyroidism (preferred)
- Palliative Bone
- Non-Hodgkin’s Lymphoma

Once completed, the affiliate education supervisors will input the competency attempt into the Trajecsys Report System. Student’s are required to submit the physician report of the patient treated and complete the Competency Procedural Report on the Trajecsys Report System.

In order to pass a procedure competency examination, a student must receive a “Satisfactory” grade on all components of the examination. See the Clinical Internship syllabi for further information pertaining to the procedure competency examinations.

Practical and Oral Clinical Competency Imaging Examinations

The following is a list of the fifteen (15) clinical competency imaging examinations that must be successfully completed in order for students to graduate from the program. The faculty will ensure that students have the opportunity to obtain the fifteen (15) required competencies. Students may choose to complete more than fifteen (15) competency examinations; however, no additional competency examinations will be administered by the program after a student graduates. Thus, it is the student's responsibility to obtain additional competencies prior to graduation if they choose to do so. Paper copies are located in this handbook for reference purposes only. Student's may use the space provided on this list to track their progress. Please see Section 8 for information about online documentation of these procedures.

Earliest Comp Date	Comp Date	Actual Date Completed	Procedure
Start of Block 2	End of Fall		Bone imaging – 3-phase scans
Start of Block 2	End of Fall		Bone imaging – spot imaging
Start of Block 2	End of Fall		Bone imaging – whole body scans
See Below	End of Spring and See Notes below		Cardiac imaging – gated acquisition (MUGA)
See Below	End of Spring and See Notes below		Myocardial Perfusion Imaging (MPI) with SPECT Gated EF & includes Cardiac MPI SPECT
Start of Block 3	End of Spring		GI - Gastric emptying
Start of Block 3	End of Spring		GI - Hepatobiliary imaging
Start of Block 4	End of Summer		WBC imaging – infection
Start of Block 2	End of Spring		Lung Ventilation(aerosol or Xenon gas/Lung Perfusion Imaging
See Below	See Notes Below		PET/CT Oncology imaging
Start of Block 2	End of Spring		Renal imaging – renogram (renal dynamic)
See Below	End of Spring		Thyroid Uptake and Thyroid Scan
Start of Block 4	End of Summer		Therapy Simulation

Important Clinical Competency Examinations Notes

1. Students in Dallas, Little Rock, Tulsa and Tyler are scheduled at a stand-alone Cardiac clinic during their clinical rotations and are required to complete the Myocardial Perfusion Imaging (MPI) with SPECT Gated EF and Cardiac MPI SPECT (complete this competency and you get credit for both) competency examination during their Cardiac clinic rotation. Based on the Cardiac clinic workload, the Cardiac – gated acquisition (MUGA) competency examination may also be completed during the Cardiac clinic rotation, If the Cardiac – gated acquisition (MUGA) competency examination is not completed during the Cardiac clinic rotation, it must be completed at a hospital clinical rotation by the end of the spring semester.
2. Students in Fayetteville and Jonesboro are not scheduled at a stand-alone Cardiac clinic during their clinical rotations and will complete the Myocardial Perfusion Imaging (MPI) with SPECT Gated EF and Cardiac MPI SPECT (complete this competency and you get credit for both) competency examinations at a hospital clinical rotation. In this case, both of the Cardiac competency examinations may be completed beginning in the third fall semester class block. In this case, the student is required to have completed both of the Cardiac imaging competency examinations by the end of the spring semester.
3. The only exception is in Little Rock where there may be more than six (6) student's, and a stand-alone Cardiac clinic rotation is scheduled during the summer semester for one or more student's. In this case, the student will complete the Myocardial Perfusion Imaging (MPI) with SPECT Gated EF and Cardiac MPI SPECT (complete this competency and you get credit for both) competency examination during their summer semester Cardiac clinic rotation. In this case, the student may complete the Cardiac – gated acquisition (MUGA) competency examination at either the stand alone Cardiac clinic rotation or at a hospital clinical rotation.
4. By the end of the fall semester and based on the student's clinical rotation schedule, a student may be able to complete one or more Bone competency examinations, both of the Lung competency examinations, the one Renal competency examination and both of the GI competency examinations.
5. By the end of the spring semester and based on the student's clinical rotation schedule, a student should be able to complete the two Lung competency examinations, the one Renal competency examination, the two GI competency examinations and the two Thyroid competency examinations. The student must check with the NMIS Clinical Coordinator and/or the NMIS Program Director if these competency requirements will not be completed by the end of the spring semester.

6. Students are required to complete all of the Radiopharmacy competency requirements during their two week Nuclear Pharmacy clinical rotation. The student will be penalized 2 PIGS per Radiopharmacy competency examination not completed during their Nuclear Pharmacy clinical rotation.

7. Students are required to complete the PET/CT Oncology imaging competency requirements during their PET clinical rotation. The student will be penalized 4 PIGS for not completing this competency during their PET clinical rotation.

Comprehensive Clinical Procedure Examinations – The summer comprehensive clinical examinations are very important and should not be taken lightly. Not only are they an assessment of your current knowledge, but they also help to prepare you for the NMIS Final Comprehensive Examination and the Nuclear Medicine Technology Certification Board (NMTCB) and American Registry of Radiologic Technologist (ARRT) Registry Examinations. All students must take the comprehensive clinical procedure examinations on the dates listed in the student handbook and Blackboard.

Each semester comprehensive clinical procedure examination is broken down into five exams. There is a penalty system for either failing the individual comprehensive clinical procedure examination. **Passing grade is 80%**. Pigs are lost as a penalty for not studying and failing the comprehensive clinical procedure examination. The penalty pig hours are outlined as follows:

If student fails all five exams	-8	pigs
If student fails four exams	-6	pigs
If student fails three exams	-4	pigs
If student fails two exams	-2	pigs
If student fails one exam	0	pigs

Students are also be penalized for not putting forth maximum effort on each of the five clinical examinations. Penalties per clinical examination are as follows:

Scores >40% but <50%	-2	Pigs
Scores >30% but <40%	-4	Pigs
Scores >20% but <30%	-6	Pigs
Scores <20%	-8	Pigs

In addition to the above reward/penalty system, the following rules apply to the clinical examinations:

- If a student scores less than 55% on any individual clinical examination, that student must complete the oral exam face-to-face. The location of this oral exam will be at the discretion of the faculty.
- There will be a limited oral exam schedule posted prior to the fall clinical examination.
- Student's may not request oral exam times prior to the release of the clinical competency examination grades. Clinical examination grades will not be released until all the clinical examinations have been graded.
- Fall clinical oral examinations must be completed prior to the date of the spring clinical examination. Any required fall clinical oral examinations not successfully completed prior to the date of the spring clinical examination will be scheduled after the date of the final comprehensive examination.

Oral Examinations – Student’s that do not achieve an 80% or better on an individual clinical procedure examination will be required to take the individual oral examinations on the failed clinical procedure(s).

The following information will be covered on the semester clinical comprehensive examinations and the individual oral examinations:

- (1) Primary indications, contraindications, radiopharmaceuticals, dose calculations, route of dose administration
- (2) Dose to scan time and patient prep, including consequences of not properly prepping the patient.
- (3) Imaging and auxiliary equipment needed to complete the procedure, appropriate settings for acquisition, and correct collimators.
- (4) Correct views, patient position during image acquisition, and other information needed to complete a study.
- (5) Interventional drugs, their intended effects and possible side effects, time of administration, dose (calculations), and how they will alter an image on a normal and abnormal patient.
- (6) Alternative procedures or ‘gold standards’ for nuclear medicine procedures.
- (7) When presented with an image, properly identify all views, landmarks, normal and abnormal distribution, and artifacts.
- (8) When presented with quantitative data, calculate patient results (i.e. ejection fractions, gastric emptying half-time) and be able to relate the calculated results to normal or expected values.
- (9) When presented with SPECT images, properly identify all slices and orientation (i.e. anterior, posterior, right, left)

Individual oral examinations will be administered by the instructional faculty at UAMS. An oral examination calendar will be provided in Blackboard. Student’s must contact the faculty via e-mail to schedule an oral examination.

<p>Student’s that score 80% or better on the Fall Clinical Procedure Comp Examination are not required to take the following oral examinations*:</p>	<p>Student’s that score 80% or better on the Spring Clinical Procedure Comp Examination are not required to take the following oral examinations*:</p>
<p>Skeletal imaging Lung imaging Renal imaging Gastrointestinal imaging</p>	<p>Brain imaging Cardiac – MUGA/1st Pass Cardiac - perfusion Infection/Oncology imaging and Blood PET imaging Thyroid studies</p>

*Review the following list for each comprehensive examinations specific content

The following oral examinations must be completed prior to graduation by either passing the respective clinical procedure comprehensive examination OR by passing an actual oral examination:

	Oral Examination Title	Content
1	_____ Brain imaging	Brain SPECT, brain death imaging, cisternograms
2	_____ Cardiac – MUGA/ 1 st Pass	MUGA, First pass
3	_____ Cardiac - perfusion	MPI SPECT/Gated SPECT The oral examination will cover all myocardial perfusion radiopharmaceuticals and stress techniques (treadmill and pharmacologic)
4	_____ GI studies	GI bleed, Meckel's diverticulum, LeVein Shunt, hepatic pump, gastric emptying/reflux
5	_____ Health Physics/ Instrumentation*	Radiation safety procedures Radiation monitoring equipment Camera quality control NRC requirements Questions on instrumentation and radiation safety may also be included in all other oral examinations where appropriate.
6	_____ Hepatobiliary/ Liver/spleen imaging/Hemangioma	Hepatobiliary imaging (routine, interventional & GBEF) Liver/spleen imaging (planar/SPECT) Hemangioma
7	_____ Infection & Oncology imaging	^{99m} Tc-HM-PAO leukocyte imaging ¹¹¹ In leukocyte imaging ⁶⁷ Ga imaging Scintimammography Lymphoscintigraphy Octreoscan Students must complete the leukocyte imaging procedure competency examination; however, the oral examination will cover ^{99m} Tc-HM-PAO WBC, ¹¹¹ In WBC, and ⁶⁷ Ga scans
8	_____ Lung imaging	Perfusion lung imaging Ventilation lung imaging (gas & aerosol) Quantitative lung imaging
9	_____ PET imaging	PET imaging (Oncology, Cardiac and Neurology) and PET Instrumentation
10	_____ Radiopharmacy*	See study guide in Section 5.2 of this handbook. Therapy procedures

11	_____	Renal imaging	Renograms, Renal scans, VCU (cystograms) Whole body bone scans
12	_____	Skeletal imaging	Bone spots 3-phase and 4-phase bone scans SPECT scans
13	_____	Thyroid studies	Thyroid imaging, Thyroid uptakes, Parathyroid

All students are required to take and pass the Radiopharmacy and the Health Physics/Instrumentation oral examinations prior to the date of the Fall Clinical Procedure Comprehensive Examination.

An oral examination calendar will be posted in the Radiopharmacy and Health Physics/Instrumentation classes. Student's must contact the faculty via e-mail to schedule these oral examinations.

Continuing Competency Examination - At the discretion of the clinical coordinator and the affiliate education supervisor, a student may be required to take a continuing competency examination that will be administered by the clinical coordinator. The continuing competency examination will be given at the student's clinical site, and will be graded on a satisfactory/unsatisfactory basis.

On the day of the examination, one procedure on the clinic schedule will be randomly selected for the student to perform. Student's will be expected to complete the procedure and answer clinically oriented questions at the highest level (1-5) to which they have previously performed the same examination.

Additional ARRT Requirements for the Certification Examination*

These are required ONLY if the student wishes to sit for the ARRT Board Certification Examination.

1 - Introduction - Candidates for certification and registration are required to meet the Professional Education Requirements specified in the ARRT Rules and Regulations. ARRT's Nuclear Medicine Technology Didactic and Clinical Competency Requirements are one component of the Professional Education Requirements. The requirements are periodically updated based upon a practice analysis which is a systematic process to delineate the job responsibilities typically required of staff nuclear medicine technologists. The result of this process is a task inventory which is used to develop the clinical competency requirements (see section 4 below) and the content specifications which serve as the foundation for the didactic competency requirements (see section 3 below) and the examination.

2 - Documentation of Compliance - To document that the Didactic and Clinical Competency Requirements have been satisfied by a candidate, the program director (and authorized faculty member if required) must sign the **ENDORSEMENT SECTION** of the Application for Certification and Registration included in the Certification and Registration Handbook.

3 - Didactic Competency Requirements - The purpose of the didactic competency requirements is to verify that individuals had the opportunity to develop fundamental knowledge, integrate theory into practice and hone affective and critical thinking skills required to demonstrate professional competency. Candidates must successfully complete coursework addressing the topics listed in the ARRT Content Specifications for the Nuclear Medicine Technology Examination. These topics would typically be covered in a nationally-recognized curriculum such as the SNMMI Curriculum Guide for Educational Programs in Nuclear Medicine Technology. Educational programs accredited by a mechanism acceptable to ARRT generally offer education and experience beyond the minimum requirements specified here.

4 - Clinical Requirements - The purpose of the clinical competency requirements is to verify that individuals certified and registered by the ARRT have demonstrated competency performing the clinical activities fundamental to a particular discipline. Competent performance of these fundamental activities, in conjunction with mastery of the cognitive knowledge and skills covered by the nuclear medicine technology examination, provides the basis for the acquisition of the full range of procedures typically required in a variety of settings. Demonstration of clinical competence means that the candidate has performed the procedure independently, consistently, and effectively during the course of his or her formal education.

The specific procedures for the clinical competency requirements can be found at

<https://www.arrt.org/docs/default-source/discipline-documents/nuclear-medicine-technology/nmt-competency-requirements.pdf?sfvrsn=12>

***Effective Summer 2017 - This information is copied from the ARRT website - www.arrt.org . Students should check for periodic updates to this information.**

ARRT Nuclear Medicine Technology Clinical Competency Requirements

The clinical competency requirements include the patient care activities, quality control procedures, and diagnostic and therapeutic procedures identified below. Demonstration of competence should include variations in patient characteristics (e.g., age, gender, medical condition).

As part of the education program, candidates must demonstrate competence in the clinical activities identified below.

1. General Patient Care

Requirement: Candidates must demonstrate competence in all four patient care activities listed below. The activities should be performed on patients; however, simulation is acceptable (see endnote) if state or institutional regulations prohibit candidates from performing the procedures on patients.

Patient Care Activity

CPR

Vital Signs (BP, pulse, respiration, temperature)

Venipuncture

ECG (lead placement; recognition of common dysrhythmias)

2. Quality Control Procedures

Requirement: Candidates must demonstrate competence in all five quality control activities listed below.

Quality Control Procedure

Gamma Camera or SPECT (uniformity, resolution, center of rotation)

Dose Calibrator (constancy, linearity)

Well Counter/Uptake Probe (energy calibration)

Survey Meter (daily check)

PET or PET/CT (reference scan)

3. Diagnostic and Therapeutic Procedures

Requirement: Candidates must demonstrate competence in 25 different nuclear medicine procedures. Candidates should demonstrate the following skills when performing the procedures: evaluation of requisition; patient instructions, preparation, and care; selection, handling, and administration of radiopharmaceutical; equipment configuration and patient positioning; radiation safety; and image processing and evaluation.

All procedures must be performed on patients, with the exception of therapeutic procedures which may be simulated.

The 25 procedures to be performed are selected from the categories (cardiovascular, endocrine, etc.) listed in the table below. Candidates must select 16 of the 25 procedures from the categories as specified in the table. The remaining 9 procedures may be chosen from any category. The table indicates the procedures in each category, and specifies the minimum number of procedures that must be performed in each category.

**Nuclear Medicine Technology
ARRT Clinical Competency Requirements**

Category*	# Procedures in Category	# That Must Be Performed
Cardiovascular	4	2
Central Nervous System	4	0
Endocrine/Exocrine	4	2
Infection	2	0
Gastrointestinal	7	3
Genitourinary	2	1
Lymphatics	3	0
PET or PET/CT	7	1
Respiratory	3	2
Skeletal	3	2
SPECT or SPECT/CT	8	2
Tumor	3	0
Therapeutic Procedures	5	1
Subtotal	5	16
		+ 9 electives from any category
Total	55	25

Example: Assume a candidate demonstrates competence in 3 cardiovascular procedures (myocardial perfusion, gated blood pool, and PET or PET/CT). This means that the candidate has fulfilled the cardiovascular requirement of 2 procedures, and has also completed 1 elective.

ARRT Nuclear Medicine Procedure
(# of required procedures in parentheses)

Abscess and Infection (0 – procedures are elective)

Other (Ga-67 citrate, F-18 FDG)

WBC Imaging

Skeletal (2)

Planar/Static

Three-Phase

Total/Whole Body

Cardiovascular (2)

Gated Blood Pool

Myocardial Perfusion –Rest

Myocardial Perfusion-Stress

Amyloid Imaging

Endocrine/Exocrine (2)

Thyroid Uptake

Thyroid Scan

Thyroid Metastatic Survey

Parathyroid

Gastrointestinal (3)

Hepatobiliary

Gastroesophageal Reflux

Gastric Emptying

GI Bleeding

Meckel's Diverticulum

Liver/Spleen

Hemangioma

Genitourinary (1)

Renal Function

Renal Cortical

Respiratory (2)

Perfusion

Ventilation (Gas or Aerosol)

Quantitative

Tumor (2)

Adrenal

Neuroendocrine

Other (e.g., Ga-67 citrate)

SPECT or SPECT/CT (2)

Bone

Brain

Liver

Lung

Parathyroid

Tumor (Neuroendocrine)
Tumor (Other)
Renal

Therapeutic Procedures (1) (all may be simulated)

Thyroid: Ablation
Thyroid: Hyperthyroidism
Palliative Bone
Other (e.g. Endocrine)
Selective Internal Radiation Therapy (SIRT)

Central Nervous System (0 – procedures are elective)

Brain: Dynamic (Brain Death)
Cisternography: Routine
Cisternography: CSF leak
Shunt Patency

Lymphatics (0-procedures are elective)

Lymphoscintigraphy: Breast
Lymphoscintigraphy: Skin Lesion
Lymphangiography

PET or PET/CT (1)

Bone
Brain (F-18 FDG)
Brain (Other)
Cardiac (Myocardial Perfusion Imaging)
Cardiac (Other)
Tumor (F-18 FDG)
Tumor (Other)

Demonstration of competence should include variations in patient characteristics such as age, gender, and medical condition

The ARRT requirements specify that certain clinical procedures may be simulated as designated in the specific requirements below. Simulations must meet the following criteria: • The candidate must competently demonstrate skills as similar as circumstances permit to the cognitive, psychomotor, and affective skills required for performing the procedures on patients; • The program director must be confident that the skills required to competently perform the simulated task will generalize or transfer to the clinical setting, and, if applicable, the candidate must evaluate related images. Examples of acceptable simulation include: demonstrating CPR on a mannequin; performing venipuncture by demonstrating aseptic technique on another person, but then inserting the needle into an artificial forearm or grapefruit.

Demonstration of clinical competence requires that the program director or the program director's designee has observed the candidate performing the procedure independently, consistently, and effectively during the course of the candidate's formal educational program.

CRITERIA FOR EVALUATION OF RADIOPHARMACY PROCEDURES

Specific Objectives for Radiopharmacy

Competency for clinical internships will be evaluated by performing the following list of tasks for the instructors.

I. RADIOPHARMACY

A. RADIONUCLIDE GENERATOR SYSTEMS

1. Given a $^{99}\text{Mo}/^{99\text{m}}\text{Tc}$ generator, demonstrate the correct procedure for elution to include:
 - a. Assembly of shield, vials, and all materials necessary for aseptic elution of the generator.
 - b. Performance of complete procedure behind a lead shield using gloves.
 - c. Attachment of vials to correct input and output needles.
 - d. Use of shield on vial that will contain elute.
 - e. Assay of elute in the dose calibrator and recording of elute activity in appropriate radiopharmaceutical accountability log.
 - f. Mental check to determine if volume and activity eluted are appropriate to volume and activity expected for that day.
 - g. Labeling the vial shield with the appropriate information to include activity, volume, concentration, date, and time of assay, and radiopharmaceutical.
2. Given a $^{99}\text{Mo}/^{99\text{m}}\text{Tc}$ generator eluate, correctly perform a moly breakthrough test to include:
 - a. Determination of $^{99\text{m}}\text{Tc}$ activity per volume using the appropriate dose calibrator setting.
 - b. Determination of ^{99}Mo activity per volume using the appropriate dose calibrator setting.
 - c. Calculation of ^{99}Mo activity per mCi of $^{99\text{m}}\text{Tc}$.
 - d. Determination as to whether this concentration is acceptable for use.
 - e. In the event that this concentration is unacceptable for use, determine why this occurred and take appropriate measures.
 - f. Record results in log book.

B. RADIOPHARMACEUTICAL PREPARATION

1. For each of the technetium based radiopharmaceuticals correctly compound the radiopharmaceutical using a kit and $^{99\text{m}}\text{Tc}$ pertechnetate to include:
 - a. Determination of the amount and volume of radioactivity to be added to the kit with special attention to any limitation for level of activity or volume.

- b. Recording radioactivity dose and volume used in the log under daily elution of ^{99m}Tc pertechnetate
 - c. Preparing the radiopharmaceutical with strict adherence to manufacturer's directions on heating, sequence of addition, and mixing.
 - d. Check total activity in radiopharmaceutical vial with dose calibrator.
 - e. Calculating and recording the concentration of radioactivity of the compound, time, and date of preparation, total activity, and volume.
 - f. Labeling the vial with time and date of preparation, lot number, radiopharmaceutical form, concentration, and total volume.
2. For each radiopharmaceutical prepared, check for proper pH, color, clarity, and particle size as appropriate. Record result on radiopharmaceutical assay form.
 3. Given radiopharmaceutical QC data, determine whether the material can be used or if the preparation must be repeated.
 4. Given an imaging procedure which demonstrates a radiopharmaceutical biological distribution different than expected, evaluate all data available to determine the probable cause for such distribution.
 5. Perform chromatography for the determination of radiochemical purity to include:
 - a. Assembly of all materials for procedure.
 - b. Expediency in performing all tasks due to great instability of some radiopharmaceuticals.
 - c. Adherence to specified department protocol throughout procedure.
 - d. Appropriate separation of finished chromatogram to allow for accurate determination of various forms of ^{99m}Tc .
 - e. Appropriate use of counting instrumentation in the determination of percent free, percent hydrolyzed, and percent bound.
 - f. Recording of data for each radiopharmaceutical on the appropriate radiopharmaceutical assay form.

C. DOSE CALCULATION

1. Given a request to calculate the exact dose for a specific ^{99m}Tc labeled radiopharmaceutical for a certain study, a calculator, and decay chart for ^{99m}Tc :
 - a. Verify patient name and the study requested from the requisition.
 - b. Identify from the label on the radiopharmaceutical vial the following information: concentration, total activity, total volume, assay time, and date of assay.
 - c. Determine actual elapsed time between assay calibration and required dose calculation time.
 - d. Calculate activity remaining, using the appropriate decay factor for the time elapsed.
 - e. Calculate the activity needed for the procedure.

- f. Determine the volume of the radiopharmaceutical required for the patient dose.
 - g. Log appropriate data into radiopharmaceutical dispensing record for the radiopharmaceutical assay.
2. Given a patient requisition for a study using a radiopharmaceutical other than ^{99m}Tc plus a calculator and necessary decay charts:
 - a. Verify patient name, study requested, and dose range required of the radiopharmaceutical.
 - b. From the label on the radiopharmaceutical container identify and cross check with the radiopharmaceutical accountability log the following: concentration at assay time/date. Specific activity, lot number, assay time, assay date, total activity, and total volume.
 - c. Determine the actual elapsed time between assay calibration and required dose calculation time.
 - d. Calculate the activity remaining using the appropriate decay factor (pre or post) for time elapsed and the appropriate equation.
 - e. Calculate the activity needed for the procedure.
 - f. Determine the volume of the radiopharmaceutical required for the patient dose.
3. Demonstrate concern for accuracy by consistently double checking:
 - a. Radiopharmaceutical dose calculation.
 - b. Radiopharmaceutical dose withdrawal.
 - c. Labels on all radiopharmaceutical vials.
4. Demonstrate the correct methods for dispensing a liquid radiopharmaceutical to include:
 - a. Use of aseptic technique throughout the procedure.
 - b. Use gloves to minimize self-contamination.
 - c. Drawing up the radiopharmaceutical behind a lead shield to within 0.5 calibrated units on the syringe of the volume identified in the initial calculation.
5. Demonstrate the correct methods for calculating doses, dispensing and administering capsules of radioactivity to include:
 - a. Verifying patient name, study requested, and dose range to be given.
 - b. From the label on the container, identifying the following: activity per capsule at assay time/date, specific activity, lot number, assay time, assay date, total number of capsules, and total activity.
 - c. Determining the actual time elapsed between assay calibrations and required dose calculation time.
 - d. Calculating the activity remaining in each capsule using the appropriate decay factor (pre or post) for the time elapsed and the appropriate equation.
 - e. Calculating the activity needed for the procedure.
 - f. Determining the number of capsules required to for the patient dose.

II. RADIATION SAFETY

A. DEPARTMENTAL

1. Describe the departmental and NRC regulations for daily area survey routines and regulation for storage, waste disposal, and general supplies access regulations.
2. In the clinical setting demonstrate an appreciation for radiation safety procedures by consistently
 - a. Logging in all radiopharmaceutical doses
 - b. Correctly disposing all materials used in dose administration
 - c. Making sure all radiopharmaceuticals and syringes are properly labeled, stored, administered and disposed of.
3. Consistently wear whole body and ring badges.
4. Keep exposure as low as is reasonably achievable by using appropriate protection parameters on a continuous basis by using time/distance/shielding to include:
 - a. Keeping radioactive syringes in lead pigs
 - b. Using syringe shields with doses
5. Maintain appropriate records of patient doses, QC procedures, radioactive waste disposal, patient records required by the hospital, JCAHO, or the state health department.

B. INVENTORY MANAGEMENT

1. Receive and process radioactivity shipments, include the generator, in the laboratory as follows:
 - a. Logging in the receipt of radioactive shipments.
 - b. Visually determining damaged packaging and taking appropriate precautions.
 - c. Contacting the Radiation Safety Officer (RSO) in the event of receipt of contaminated material.
 - d. Performing wipe test, as appropriate, on exterior packaging of radioactive material containers.
 - e. Defacing the radiation signs on all discarded packaging.
 - f. Storage of the radioactivity in the appropriate area according to the storage needs and activity level of the material.
 - g. Notification of manufacturer in the event of receipt of damaged goods.
2. Consistently use the correct waste disposal methods for syringes, vials, needles, contaminated articles, and radioactive waste as defined by the radioactive materials license and departmental design and protocol.
3. Monitor the stored radioactive materials including generators on a routine basis to determine if the level of activity is acceptable for discarding. This will include routine hospital waste disposal of nonradioactive waste disposal through a particular contracted agency.

C. PERSONNEL MONITORING DEVICES

1. Regularly review the monthly and cumulative personnel exposure records with regard to maximum possible dose limits.
2. Recognize and take appropriate measures to reduce exposure.

D. SURVEYS

1. Perform area survey of the hot lab and nuclear medicine department to include:
 - a. Calibration and check of survey instruments.
 - b. Use of departmental protocol to determine areas for survey.
 - c. Use of the correct survey instrument for each type and level of radiation.
 - d. Interpretation of results and notification of personnel as appropriate.
 - e. Wipe tests and decontamination procedures as appropriate.
2. Perform periodic leak tests on sealed sources as appropriate.
3. Record all data from various surveys, wipe tests, and leak tests in the appropriate record book and when applicable, notify the RSO of abnormal results.

E. DECONTAMINATION PROCEDURES

Given a contaminated surface or area in the department, demonstrate correct decontamination procedures to include:

1. Reduction of access to area and confining spill as indicated.
2. Use of protective clothing as appropriate.
3. Removal and/or decontamination of non-disposable articles.
4. Storage of contaminated articles as appropriate.
5. Decontamination or reduction of activity to acceptable levels on immovable materials or equipment including porous or nonporous areas, repeating as necessary.
6. Record cleanup and final survey results after decontamination.

F. LICENSING REQUIREMENTS

1. Identify the location and parameters of the department's radioactive materials license.
2. Demonstrate an appreciation of the license and federal requirements and parameters by consistently performing all the following tasks:
 - a. Disposing of radioactive waste in the appropriate manner.
 - b. Maintaining records of radioactive materials use and disposal (accountability)
 - c. Administering of radiopharmaceutical.
 - d. Maintaining levels of radiation to within the limits identified by the radiation signs in all areas.
 - e. Decontaminating and/or reorganizing storage areas as appropriate.

Radiopharmacy Rotation Checklist

During their radiopharmacy rotation, NMIS students should at a minimum work on the following items.

- 1. Generators** – students should participate in a Mo/Tc generator elution process including appropriate record completion.
- 2. Mo⁹⁹ Breakthrough Test** – students should participate in a Mo⁹⁹ breakthrough test including calculations and record completion.
- 3. Radiopharmaceutical Kit Preparation** – students should participate in radiopharmaceutical kit preparation including calculations and record completion for various radiopharmaceuticals.
- 4. Radiopharmaceutical Kit Radiochromatography** – students should participate in radiochromatography for various radiopharmaceuticals including radiopharmaceuticals that require particle sizing. Students should verify quality control results through manual calculation.
- 5. Dose Preparation/Calculation** – students should participate in dose preparation/calculation (for both Tc^{99m} and other radionuclides) by completing necessary calculations, preparing patient doses, and completing appropriate records.
- 6. Decontamination** – students should participate in decontamination procedures as needed.
- 7. Inventory Management** – students should participate in package receipt and preparation/shipping of outgoing packages. Students should also participate in waste disposal.
- 8. Surveys** – students should participate in area surveys, calibration and/or daily checks of survey instruments, wipe tests, sealed source leak tests, and record keeping accompanying these tests.
- 9. Bioassay** – students should discuss bioassay requirements and limits with faculty and complete a bioassay procedure.

Practical and Oral Radiopharmaceutical Exams

Students are to record their daily activities online in the Trajecsys Reporting System. Radiopharmacy procedures are documented online.

1. PRACTICAL EXAMS: (Completed at the radiopharmacy during the rotation)

Students will take a practical exam on the radiopharmacy procedures as follows:

- elute generator / perform moly check
- perform kit preparation
- perform kit quality control to include particle sizing where appropriate
- perform dose calibration and preparation
- perform package receiving.

White cell labeling with ^{99m}Tc -HM-PAO or ^{111}In will be discussed in detail but, due to policies in many commercial labs as well as clinical departments, student's may not be permitted to label white cells. White cell labeling should be observed when possible.

Practical exams can be done at any time during the rotation.

Please see Section on Evaluations for information about online documentation of these procedures.

2. Radiopharmacy Oral Exam: (Completed during the summer by conference call and Blackboard Collaborate with Radiopharmacy Faculty)

Students are required to take and pass a comprehensive radiopharmacy oral exam. The oral exam will be completed during the summer semester, before the date of the Fall Clinical Procedures Competency examination. The scheduling calendar will be posted in the Radiopharmacy class.

CRITERIA FOR EVALUATION OF PET PROCEDURES:

Specific Objectives for PET

Competency for clinical internships will be evaluated by performing the following list of tasks for the instructors.

IV. CLINICAL PROCEDURES

1. IMAGING

1. Imaging for PET for a specific diagnosis
 - a. Locate and review requisition.
 - b. Retrieve and/or prepare patient file.
 - c. Obtain positive patient identification, conduct patient interviews, explain study, and explain radiation precautions that will be involved.
 - d. Establish whether the patient has undergone the necessary pre-examination procedures as appropriate and has been properly diagnosed.
 - e. Determine whether the patient has had proper pre-examination procedures to perform and analyze blood sugar check.
 - f. Take appropriate corrective action or make appropriate notation on requisition if patient has not undergone necessary pre-examination procedures
 - g. Instruct patient as to any particular preparation necessary for the imaging procedure.
 - h. State the correct dose.
 - i. Identify localization time and determine injection time and time at which imaging should be performed due to radioactive decay.
 - j. Correctly administer radiopharmaceutical according to procedure protocol:
 - (1) Assemble injection tray with all necessary materials for venipuncture, including shielded syringe of radioactive material.
 - (2) Correctly inject radiopharmaceutical using aseptic technique.
 - (3) Correctly dispose of used syringes and material, both radioactive and non-radioactive.
 - k. Perform and analyze PET camera quality control.
 - l. Determine if parameters and photopeak have been set correctly for imaging
 - m. At time of imaging use correct body mechanics to move patient on and off table as well as during study.
 - n. Correctly position the patient for each transmission scan.
 - o. Evaluate a study for technical mistakes and repeat any necessary views.

- p. Correctly label and assemble or prepare all films for presentation to the physician or chief technologist. Notate anatomical landmarks as appropriate.
 - q. Correctly complete all department forms.
 - r. Conduct study in an ethical and professional manner.
2. Given a set of marked images from different PET scans for each diagnosis, describe the image and identify normal distribution of the radiopharmaceutical and identify any regions of abnormality. Identify poor quality films and the possible causes.
 3. Demonstrate routine acquisition of data on the computer for PET scans.
 - a. Perform start-up procedure of computer.
 - b. Select or enter appropriate program for acquisition.
 - c. Enter appropriate patient date.
 - d. Acquire study.
 - e. Verify the study has been stored on the computer.
 4. Demonstrate routine computer analysis of PET scan data for processing. To be acceptable:
 - a. Select the appropriate study for analysis.
 - b. Select appropriate images for requisite regions of interest for type of analysis to be done.
 - c. Generate output study as necessary.

2. PATIENT CARE/PROFESSIONALISM

1. Demonstrate proper patient interaction and professionalism as expressed in the general Nuclear Medicine Clinical Objectives, Section 4.1 of the clinical handbook.
2. Explain exam thoroughly and all precautions that will be taken.

V. QUALITY ASSURANCE/INSTRUMENTATION

A. Quality Control

When assigned to complete quality control procedures on the PET scanner, demonstrate an appreciation for the importance of quality functioning by maintaining to include:

1. Performing necessary QC procedures with the accepted frequency
2. Using standardized protocols
3. Recording in the specified book the results of the quality control
4. Comparing each result with a series of previous results to determine whether significant variation occurs
5. Contacting the supervising technologist if any questionable results are obtained

VI. DEPARTMENTAL/ADMINISTRATIVE DUTIES

1. Retrieve patient records from the files and re-file the records upon completion of the study.
2. Describe the procedure that takes place from the time the completed study is turned in to the physician until the time it is returned to the file room.
3. Describe the departmental procedures for patient scheduling, dose administration, room assignments, image data or report processing, patient record filing system, and retrieval of previous reports/films.
4. Determine the need for supplies for the nuclear medicine laboratory, including radiopharmaceuticals.
5. Initiate purchase orders and maintain adequate supplies to ensure that patient studies are performed as necessary.
6. Locate and demonstrate the operation of emergency equipment within the nuclear medicine department.

VII. RADIOPHARMACY

1. Radioisotope Production
 1. Describe basic cyclotron operation and process for production of radiopharmaceuticals.
 2. Describe the method of localization of PET radiopharmaceuticals in normal and abnormal body tissue.
2. Radiation Safety
 1. Demonstrate precautions for handling PET radiopharmaceuticals.
 2. Describe the specific precautions for the technologist.
 3. Describe the specific precautions for the patient.

**Nuclear Medicine Technology
Student Evaluation Form:**

Performance Evaluation: General

Student's will be evaluated upon completion of a rotation at each clinical site. Please evaluate the student's performance as "S" for satisfactory or "U" for unsatisfactory. A grade of "S" indicates that the student is meeting expectations while a grade of "U" indicates that the student demonstrates unacceptable professional behavior. Marks of "S+" or "S-" may be given if so desired. The instructor should note WHY a mark of "S-" or "U" was given.

DEPENDABILITY

- _____ a. Arrives and leaves clinical site at the proper time.
- _____ b. Notifies supervisor ASAP when late or absent.
- _____ c. Informs supervisor of whereabouts during the day.
- _____ d. Takes lunch and breaks within the time limits.

INTEGRITY

- _____ a. Reports mistakes to supervisor.
- _____ b. Accepts responsibility for mistakes.
- _____ c. Accepts criticism and makes an effort to improve.
- _____ d. Maintains confidentiality of patient reports.

COMMUNICATION

- _____ a. Appropriately follows oral and written directions.
- _____ b. Asks appropriate questions.
- _____ c. Responds appropriately to questions.
- _____ d. Expresses ideas and concepts to patients and staff members.
- _____ e. Maintains composure in all situations.
- _____ f. Refrains from negative conversations
- _____ g. Refrains from personal conversation that excludes the patient.

ADAPTABILITY

- _____ a. Changes existing protocols to meet patient's needs.
- _____ b. Is able to think through new procedures.
- _____ c. Incorporates new procedures and methods.
- _____ d. Prioritizes patient scheduling.
- _____ e. Performs multiple tasks when necessary.
- _____ f. Responds effectively to interruptions.

COOPERATION

- _____ a. Is courteous to staff, physicians, and fellow student's.
- _____ b. Willingly performs assigned tasks.
- _____ c. Follows the flow of work in the department.
- _____ d. Performs work in a non-disruptive manner.
- _____ e. Follows rules and regulations of the department and school.
- _____ f. Helps transport patients as needed.
- _____ g. Cleans laboratory and patient areas as needed.
- _____ h. Follows a constructive process of conflict resolution.

SELF CONFIDENCE

- _____ a. Does not unnecessarily repeat tasks.
- _____ b. Does not require an inappropriate amount of supervision.
- _____ c. Is not overly confident.
- _____ d. Recognizes when test results or situations in department should be brought to the attention of the supervisor.

INITIATIVE

- _____ a. Comes prepared for clinical activities.
- _____ b. Seldom complains.
- _____ c. Demonstrate eagerness to learn and work.
- _____ d. Begins activities on his own initiative.
- _____ e. Assist others when own work load is complete.
- _____ f. Makes constructive use of downtime in assigned area.

EFFICIENCY

- _____ a. Completes assignments in the designated time frame.
- _____ b. Works systematically.
- _____ c. Follows through on assigned tasks.
- _____ d. Concentrates on tasks at hand.
- _____ e. Retains information regarding procedures from one day to the next.

PROFESSIONALISM

- _____ a. Is appropriately attired.
- _____ b. Speech and actions are appropriate for the clinical setting.
- _____ c. Treats patients with respect and courtesy.
- _____ d. Attends to the comfort and modesty of the patient.
- _____ e. In emergency situations considers patient priority over breaks, lunch, etc.

PATIENT CARE

- a. Attends to safety of patient throughout the procedure, e.g. does not leave patients unattended, guard rails raised, etc.
- b. Cares appropriately for IV's.
- c. Cares appropriately for Foley catheters.
- d. Cares appropriately for oxygen equipment.
- e. Cares appropriately for Heart monitors.
- f. Assesses proper patient identification prior to performing a procedure.
- g. Explains the procedure to the patient prior to performing an exam.

RADIATION PROTECTION

- _____ a. Wears whole body badge.
 - _____ b. Wears ring badge.
 - _____ c. Keeps radioactive syringes in lead pigs.
 - _____ d. Consistently uses syringes shields.
 - _____ e. Consistently uses gloves when injecting.
 - _____ f. Logs in all radiopharmaceutical doses.
 - _____ g. Ensures all radioactive syringes are properly labeled.
 - _____ h. Correctly disposes of all materials used in dose administration.
-

Overall Evaluation of the Student's Clinical Skills

During the clinical internship student's are able to apply the knowledge and skills acquired during the academic core courses. Under the direction of the nuclear medicine technologist and/or nuclear pharmacists, students will prepare radiopharmaceuticals for patient administration and students will perform diagnostic imaging. Student's follow established protocols and develop organizational skills and proficiency under actual working conditions.

As the student progresses through the clinical phases of their education, clinical skills acquired during the previous clinical rotations should be honed. Although the student still works under supervision, he/she is expected to evolve toward working on a more independent basis. The student should be encouraged to solve routine clinical problems autonomously.

Using the information provided above, assess the student's overall clinical proficiency during the clinical rotation at your facility. You should evaluate the student's performance using the following list of attributes:

- ✓ **QUALITY OF WORK** - *accurate, thorough and neat. Meets highest standards of accuracy and thoroughness.*
- ✓ **COMPREHENSION OF EXAMINATIONS** - *understanding of information, responsibilities, procedures, materials, equipment, and techniques required to do the job.*
- ✓ **ORGANIZATION** - *the ability to use time constructively and productively.*
- ✓ **QUANTITY OF WORK** - *the volume of work accomplished.*
- ✓ **COMMUNICATION** - *the ability to interact with patients, family, and other professionals*
- ✓ **ATTENDANCE/PUNCTUALITY** - *the overall attendance/promptness record.*
- ✓ **PERSONAL APPEARANCE** - *grooming, cleanliness and appropriateness of dress.*
- ✓ **PROFESSIONAL ETHICS** - *integrity, loyalty and impressions the student makes on professional judgment*
- ✓ **INTERPERSONAL RELATIONSHIPS** - *the ability to communicate, interact and deal effectively with supervisors, peers, patients and other employees.*
- ✓ **INITIATIVE** - *the energy and motivation displayed in starting and completing tasks.*

On the scale below, circle the number that represents the student's current level of performance as demonstrated at your facility.

Beginning				Intermediate			Advanced		
0	1	2	3	4	5	6	7	8	9

- 0 Student is not able to perform in the clinical setting.
- 1 – 3 The student can perform with maximum assistance
- 4 – 6 The student can perform with minimum assistance
- 7 – 9 Mastery (no supervision/assistance needed)

The student should progress through the “Beginning” phase during fall semester, the “Intermediate” phase during spring semester, and the “Advanced” phase during the summer semester.

There are three or four clinical rotations scheduled during each of the semesters. **Any student receiving two (2) or more overall performance evaluations at a level below his expected stage of performance during the fall and spring semesters will receive an “Unsatisfactory” grade for that semester’s clinical rotations.** For example, during the spring semester, students should be functioning at a level Four (4) or above. **Any student receiving one (1) or more overall performance evaluations at a level below their expected stage of performance during the summer semester will receive an “Unsatisfactory” grade for that semester’s clinical rotations.**

Remark _____

Affiliate education supervisor's
 Signature: _____

Student's Signature: _____

Date _____ Clinical Rotation _

UAMS – CHP - NMIS
 Clinical Coordinator's
 Signature: _____

Performance Evaluation: Trajecsys

The following is a screenshot of the Performance Evaluation that the affiliate education supervisors will complete on each student. Affiliate education supervisors should complete this form online at the end of each rotation. This form can be accessed only by affiliate education supervisors and is located in the Evals Beta menu item. This evaluation will become available three days before the end of the student's scheduled rotation.

	St. John's Regional Health Center	7/31/2006	Supervisor comments
Adaptability			
Changes existing protocols to meet patient's needs.	<input type="radio"/> U <input type="radio"/> S <input type="radio"/> N/A		<input type="text"/>
Is able to think through new procedures.	<input type="radio"/> U <input type="radio"/> S <input type="radio"/> N/A		<input type="text"/>
Incorporates new procedures and methods.	<input type="radio"/> U <input type="radio"/> S <input type="radio"/> N/A		<input type="text"/>
Prioritizes patient scheduling.	<input type="radio"/> U <input type="radio"/> S <input type="radio"/> N/A		<input type="text"/>
Performs multiple tasks when necessary.	<input type="radio"/> U <input type="radio"/> S <input type="radio"/> N/A		<input type="text"/>
Responds effectively to interruptions.	<input type="radio"/> U <input type="radio"/> S <input type="radio"/> N/A		<input type="text"/>
Integrity			
Reports mistakes to supervisor.	<input type="radio"/> U <input type="radio"/> S <input type="radio"/> N/A		<input type="text"/>
Accepts responsibility for mistakes.	<input type="radio"/> U <input type="radio"/> S <input type="radio"/> N/A		<input type="text"/>
Accepts criticism and makes an effort to improve.	<input type="radio"/> U <input type="radio"/> S <input type="radio"/> N/A		<input type="text"/>
Maintains confidentiality of patient records	<input type="radio"/> U <input type="radio"/> S <input type="radio"/> N/A		<input type="text"/>
Communication			
Appropriately follows oral and written directions.	<input type="radio"/> U <input type="radio"/> S <input type="radio"/> N/A		<input type="text"/>
Asks appropriate questions.	<input type="radio"/> U <input type="radio"/> S <input type="radio"/> N/A		<input type="text"/>
Responds appropriately to questions.	<input type="radio"/> U <input type="radio"/> S <input type="radio"/> N/A		<input type="text"/>
Expresses ideas and concepts to patients and staff members.	<input type="radio"/> U <input type="radio"/> S <input type="radio"/> N/A		<input type="text"/>
Maintains composure in all situations.	<input type="radio"/> U <input type="radio"/> S <input type="radio"/> N/A		<input type="text"/>
Refrains from negative conversations.	<input type="radio"/> U <input type="radio"/> S <input type="radio"/> N/A		<input type="text"/>

This form is identical to the form on the previous three pages. Affiliate education supervisors should select the appropriate rotation date from the drop down box located just under the clinical site name. Sections are broken out into 11 different categories and questions about the student's performance are under each category. Student's may receive a "U", "S" or "N/A" for each question. Any rating below an "S" will require a comment. Comments may be added to any item regardless of the score assigned.

**Nuclear Medicine Imaging Sciences
Student Evaluation Form: Competency Exam
Imaging Internship**

BONE IMAGING

Please evaluate the student's performance as "S" for satisfactory or "U" for unsatisfactory. A grade of "S" indicates that the student is meeting expectations while a grade of "U" indicates the student demonstrates unacceptable clinical behavior.

The student may test out of whole body imaging, spot imaging, and triple phase imaging separately, but must test out of all three sections prior to taking the oral exam. The student must have completed these procedures on his/her own prior to taking the practical exam.

TRIPLE PHASE BONE IMAGING

	<i>SCORE</i>	<i>N/A</i>
1. The requisition was retrieved and properly reviewed.	_____	<input type="checkbox"/>
2. Patient was positively identified.	_____	<input type="checkbox"/>
3. Orders were found in the chart.	_____	<input type="checkbox"/>
4. Study was explained to the patient.	_____	<input type="checkbox"/>
5. The correct dose was stated.	_____	<input type="checkbox"/>
6. Radiopharmaceutical was correctly drawn up using aseptic technique.	_____	<input type="checkbox"/>
7. Radiopharmaceutical was measured in the dose calibrator.	_____	<input type="checkbox"/>
8. Correct imaging equipment was selected.	_____	<input type="checkbox"/>
9. Correct collimator was selected.	_____	<input type="checkbox"/>
10. Correct imaging parameters for dynamic imaging were selected.	_____	<input type="checkbox"/>
11. Patient was properly positioned for dynamic imaging.	_____	<input type="checkbox"/>
12. Radiopharmaceutical was correctly administered according to protocol.	_____	<input type="checkbox"/>
13. Image acquisition onto film for dynamic phase was correctly performed.	_____	<input type="checkbox"/>
14. Image acquisition for immediate images was correctly performed.	_____	<input type="checkbox"/>
	<i>Score</i>	<i>N/A</i>

- | | | |
|---|-------|--------------------------|
| 15. Films were correctly developed and labeled. | _____ | <input type="checkbox"/> |
| 16. Used syringes and other materials were correctly disposed. | _____ | <input type="checkbox"/> |
| 17. Correct return time for third phase was correctly stated. | _____ | <input type="checkbox"/> |
| 18. Upon return of the patient, prep was established as being correctly done. | _____ | <input type="checkbox"/> |
| 19. Correct imaging equipment was selected. | _____ | <input type="checkbox"/> |
| 20. Correct collimator was selected. | _____ | <input type="checkbox"/> |
| 21. Correct imaging parameters were selected. | _____ | <input type="checkbox"/> |
| 22. Patient was correctly positioned for spot and/or whole body views. | _____ | <input type="checkbox"/> |
| 23. Image acquisition onto film was correctly performed. | _____ | <input type="checkbox"/> |
| 24. Films were correctly developed and labeled. | _____ | <input type="checkbox"/> |
| 25. Films were correctly assembled for reading. | _____ | <input type="checkbox"/> |
| 26. Departmental forms were completed in a correct manner. | _____ | <input type="checkbox"/> |
| 27. The procedure was completed in a timely manner. | _____ | <input type="checkbox"/> |
| 28. The student understands the rationale behind each step of the procedure. | _____ | <input type="checkbox"/> |

Remarks: _____

 Affiliate education supervisors

Signature: _____

Student's Signature: _____

Date: _____ Clinical Rotation: _____

UAMS-CHP-NMIS
 Clinical Coordinator
 Signature: _____

**Nuclear Medicine Imaging Sciences
Student Evaluation Form: Competency Exam
Imaging Internship**

BONE IMAGING

Please evaluate the student's performance as "S" for satisfactory or "U" for unsatisfactory. A grade of "S" indicates that the student is meeting expectations while a grade of "U" indicates the student demonstrates unacceptable clinical behavior.

The student may test out of whole body imaging, spot imaging, and triple phase imaging separately, but must test out of all three sections prior to taking the oral exam. The student must have completed these procedures on his/her own prior to taking the practical exam.

SPOT BONE IMAGING

	<i>SCORE</i>	<i>N/A</i>
1. The purpose of the spot was explained to the patient.	_____	<input type="checkbox"/>
2. Correct imaging equipment was selected	_____	<input type="checkbox"/>
3. Correct collimator was selected.	_____	<input type="checkbox"/>
4. Correct imaging parameters were selected.	_____	<input type="checkbox"/>
5. Patient was correctly positioned for spot view.	_____	<input type="checkbox"/>
6. Image acquisition onto film was correctly.	_____	<input type="checkbox"/>
7. Films were correctly developed and labeled.	_____	<input type="checkbox"/>
8. Films were correctly assembled for reading.	_____	<input type="checkbox"/>
9. The procedure was completed in a timely manner.	_____	<input type="checkbox"/>
10. The student understands the rationale behind each step of the procedure.	_____	<input type="checkbox"/>

Remarks: _____

Affiliate education supervisors

Signature: _____

Student's Signature: _____

Date: _____ Clinical Rotation: _____

UAMS-CHP-NMIS

Clinical Coordinator

Signature: _____

**Nuclear Medicine Imaging Sciences
Student Evaluation Form: Competency Exam
Imaging Internship**

BONE IMAGING

Please evaluate the student's performance as "S" for satisfactory or "U" for unsatisfactory. A grade of "S" indicates that the student is meeting expectations while a grade of "U" indicates the student demonstrates unacceptable clinical behavior.

The student may test out of whole body imaging, spot imaging, and triple phase imaging separately, but must test out of all three sections prior to taking the oral exam. The student must have completed these procedures on his/her own prior to taking the practical exam.

WHOLE BODY BONE IMAGING

	SCORE	N/A
1. The requisition was retrieved and properly reviewed.	_____	<input type="checkbox"/>
2. Patient was positively identified.	_____	<input type="checkbox"/>
3. Orders were found in the chart.	_____	<input type="checkbox"/>
4. Study was explained to the patient.	_____	<input type="checkbox"/>
5. The correct dose was stated.	_____	<input type="checkbox"/>
6. Radiopharmaceutical was correctly drawn up using aseptic technique.	_____	<input type="checkbox"/>
7. Radiopharmaceutical was measured in the dose calibrator.	_____	<input type="checkbox"/>
8. Radiopharmaceutical was correctly administered according to protocol.	_____	<input type="checkbox"/>
9. Used syringes and other materials were correctly disposed.	_____	<input type="checkbox"/>
10. Correct return time for imaging was correctly stated.	_____	<input type="checkbox"/>
11. Patient prep was established as being correctly done.	_____	<input type="checkbox"/>
12. Correct imaging equipment was selected.	_____	<input type="checkbox"/>
13. Correct collimator was selected.	_____	<input type="checkbox"/>
14. Correct imaging parameters were selected.	_____	<input type="checkbox"/>
15. Patient was correctly positioned for anterior and posterior whole body views.	_____	<input type="checkbox"/>
16. Image acquisition onto film was correctly performed.	_____	<input type="checkbox"/>

- 17. Films were correctly developed and labeled. _____
- 18. Films were correctly assembled for reading. _____
- 19. Departmental forms were completed in a correct manner. _____
- 20. The procedure was completed in a timely manner. _____
- 21. The student understands the rationale behind each step of the procedure. _____

Remarks: _____

Affiliate education supervisors

Signature: _____

Student's Signature: _____

Date: _____

Clinical
Rotation: _____

UAMS-CHP-NMIS
Clinical Coordinator
Signature: _____

**Nuclear Medicine Imaging Sciences
Student Evaluation Form: Competency Exam
Imaging Internship**

BRAIN SPECT IMAGING

Please evaluate the student's performance as "S" for satisfactory or "U" unsatisfactory. A grade of "S" indicates that a student is meeting expectations while a grade of "U" indicates the student demonstrates unacceptable clinical behavior. The student must have completed these procedures on his/her own prior to taking the practical exam.

	<i>SCORE</i>	<i>N/A</i>
1. The requisition was retrieved and properly reviewed	_____	<input type="checkbox"/>
2. Patient was positively identified	_____	<input type="checkbox"/>
3. Orders were found in chart	_____	<input type="checkbox"/>
4. The purpose of the ECT images was explained to the patient	_____	<input type="checkbox"/>
5. Correct imaging equipment was selected	_____	<input type="checkbox"/>
6. Correct collimator was selected	_____	<input type="checkbox"/>
7. Correct ECT acquisition parameters were selected	_____	<input type="checkbox"/>
8. Patient was correctly positioned	_____	<input type="checkbox"/>
9. The correct dose was stated	_____	<input type="checkbox"/>
10. Radiopharmaceutical was correctly drawn up using aseptic technique	_____	<input type="checkbox"/>
11. Radiopharmaceutical was measured in the dose calibrator	_____	<input type="checkbox"/>
12. Radiopharmaceutical was correctly administered according to protocol	_____	<input type="checkbox"/>
13. Used syringes and other materials were correctly disposed	_____	<input type="checkbox"/>
14. Acquisition and storage of data for purposes of analysis was correctly performed	_____	<input type="checkbox"/>
15. Correct analysis of ECT data by was correctly performed by:		
a) Correct selection of data for analysis	_____	<input type="checkbox"/>
b) Correct selection of parameters for data analysis according to departmental protocol	_____	<input type="checkbox"/>
c) Correct analysis and evaluation of results	_____	<input type="checkbox"/>
16. Image acquisition onto film was correctly performed.	_____	<input type="checkbox"/>
17. Films were correctly developed and labeled	_____	<input type="checkbox"/>

	<i>SCORE</i>	<i>N/A</i>
18. Films were correctly assembled for reading		<input type="checkbox"/>
19. The procedure was completed in a timely manner		<input type="checkbox"/>
20. The student understands the rationale behind each step of the procedure		<input type="checkbox"/>

Remarks: _____

 Affiliate education supervisors

Signature: _____

Student's Signature: _____

Date: _____

UAMS-CHP-NMIS
 Clinical Coordinator
 Signature: _____

Clinical
 Rotation: _____

**Nuclear Medicine Imaging Sciences
Student Evaluation Form: Competency Exam
Imaging Internship**

HEPATOBILIARY IMAGING

Please evaluate the student's performance as "S" for satisfactory or "U" for unsatisfactory. A grade of "S" indicates that the student is meeting expectations while a grade of "U" indicated the student demonstrates unacceptable clinical behavior. The student must have completed these procedures on his/her own prior to taking the practical exam.

	<i>SCORE</i>	<i>N/A</i>
1. The requisition was retrieved and properly reviewed	_____	<input type="checkbox"/>
2. Patient was positively identified	_____	<input type="checkbox"/>
3. Orders were found in the chart	_____	<input type="checkbox"/>
4. Patient prep was correctly established	_____	<input type="checkbox"/>
5. Study was explained to the patient	_____	<input type="checkbox"/>
6. Correct imaging equipment was selected	_____	<input type="checkbox"/>
7. Correct collimator was selected	_____	<input type="checkbox"/>
8. Correct imaging parameters were selected	_____	<input type="checkbox"/>
9. The correct dose was stated	_____	<input type="checkbox"/>
10. Radiopharmaceutical was correctly drawn up using aseptic technique	_____	<input type="checkbox"/>
11. Radiopharmaceutical was measured in the dose calibrator	_____	<input type="checkbox"/>
12. Radiopharmaceutical was correctly administered according to protocol	_____	<input type="checkbox"/>
13. Used syringes and other materials were correctly disposed	_____	<input type="checkbox"/>
14. Patient was correctly positioned for routine views		
a) Anterior	_____	<input type="checkbox"/>
b) Right lateral	_____	<input type="checkbox"/>
c) Other _____	_____	<input type="checkbox"/>
15. Images were taken in the correct sequence	_____	<input type="checkbox"/>
16. Any delayed images were taken at the appropriate time		<input type="checkbox"/>

- | | | |
|---|-------|--------------------------|
| 17. Interventional drugs were administered at the appropriate time | _____ | <input type="checkbox"/> |
| 18. Image acquisition onto film for all the above views was correctly performed | _____ | <input type="checkbox"/> |
| 19. Films were correctly developed and labeled | _____ | <input type="checkbox"/> |
| 20. Films were correctly assembled for reading | _____ | <input type="checkbox"/> |
| 21. Departmental forms were completed in a correct manner | _____ | <input type="checkbox"/> |
| 22. The procedure was completed in a timely manner | _____ | <input type="checkbox"/> |
| 23. The student understands the rationale behind each step of the procedure | _____ | <input type="checkbox"/> |

Remarks: _____

 Affiliate education supervisors
 Signature: _____

Student's Signature: _____

Date: _____ Clinical
 Rotation: _____

UAMS-CHP-NMIS
 Clinical Coordinator
 Signature: _____

**Nuclear Medicine Imaging Sciences
Student Evaluation Form: Competency Exam
Imaging Internship**

^{99m}Tc-HM-PAO™ / INDIUM-111 WBC IMAGING

Please evaluate the student's performance as "S" for satisfactory or "U" for unsatisfactory. A grade of "S" indicates that the student is meeting expectations while a grade of "U" indicated the student demonstrates unacceptable clinical behavior. The student must have completed these procedures on his/her own prior to taking the practical exam.

	SCORE	N/A
1. The requisition was retrieved and properly reviewed	_____	<input type="checkbox"/>
2. Patient was positively identified	_____	<input type="checkbox"/>
3. Orders were found in the chart	_____	<input type="checkbox"/>
4. Study was explained to the patient	_____	<input type="checkbox"/>
5. Radiopharmaceutical was correctly prepared	_____	<input type="checkbox"/>
6. Radiopharmaceutical was measured in the dose calibrator	_____	<input type="checkbox"/>
7. Radiopharmaceutical was correctly administered according to protocol	_____	<input type="checkbox"/>
8. Used syringes and other materials were correctly disposed	_____	<input type="checkbox"/>
9. Return time for imaging was correctly stated.	_____	<input type="checkbox"/>
10. Patient prep was established as being correctly done.	_____	<input type="checkbox"/>
11. Correct imaging equipment was selected	_____	<input type="checkbox"/>
12. Correct collimator was selected	_____	<input type="checkbox"/>
13. Correct imaging parameters were selected	_____	<input type="checkbox"/>
14. Patient was correctly positioned for:		
a) Anterior and posterior views	_____	<input type="checkbox"/>
b) Whole body views	_____	<input type="checkbox"/>
c) Spot shots of areas of interest	_____	<input type="checkbox"/>
15. Image acquisition onto film was correctly performed.	_____	<input type="checkbox"/>
16. Films were correctly developed and labeled	_____	<input type="checkbox"/>

- | | | |
|---|-------|--------------------------|
| 17. Films were correctly assembled for reading | _____ | <input type="checkbox"/> |
| 18. Departmental forms were completed in a correct manner | _____ | <input type="checkbox"/> |
| 19. The procedure was completed in a timely manner | _____ | <input type="checkbox"/> |
| 20. The student understands the rationale behind each step of the procedure | _____ | <input type="checkbox"/> |
| | _____ | |

Remarks: _____

 Affiliate education supervisors

Signature: _____

Student's Signature: _____

Date: _____

Clinical
 Rotation: _____

UAMS-CHP-NMIS
 Clinical Coordinator
 Signature: _____

**Nuclear Medicine Imaging Sciences
Student Evaluation Form: Competency Exam
Imaging Internship**

VENTILATION/PERFUSION LUNG IMAGING; Aerosol or Gas

Please evaluate the student's performance as "S" for satisfactory or "U" for unsatisfactory. A grade of "S" indicates that the student is meeting expectations while a grade of "U" indicates the student demonstrates unacceptable clinical behavior. The student must have completed these procedures on his/her own prior to taking the practical exam.

	<i>SCORE</i>	<i>N/A</i>
1. The requisition was retrieved and properly reviewed.	_____	<input type="checkbox"/>
2. Patient was positively identified.	_____	<input type="checkbox"/>
3. Orders were found in the chart.	_____	<input type="checkbox"/>
4. Study was explained to the patient.	_____	<input type="checkbox"/>
5. Correct imaging equipment was selected.	_____	<input type="checkbox"/>
6. Correct collimator was selected.	_____	<input type="checkbox"/>
7. Correct imaging parameters for the ventilation portion were selected.	_____	<input type="checkbox"/>
8. <input type="checkbox"/> Xenon trap and breathing apparatus <input type="checkbox"/> Aerosol breathing apparatus was correctly set up for the ventilation study.	_____	<input type="checkbox"/>
9. The correct dose and radiopharmaceutical for the ventilation portion was stated.	_____	<input type="checkbox"/>
10. Radiopharmaceutical was correctly prepared.	_____	<input type="checkbox"/>
11. Radiopharmaceutical was measured in the dose calibrator.	_____	<input type="checkbox"/>
12. Patient was correctly positioned for the ventilation portion of the study.	_____	<input type="checkbox"/>
13. Radiopharmaceutical was correctly administered according to protocol.	_____	<input type="checkbox"/>
14. Three phases of gas ventilation study were correctly acquired:		
a) Breathhold	_____	<input type="checkbox"/>
b) Equilibrium or rebreathing	_____	<input type="checkbox"/>
c) Washout	_____	<input type="checkbox"/>
15. Image acquisition onto film for was correctly performed.	_____	<input type="checkbox"/>

	<i>SCORE</i>	<i>N/A</i>
16. Used materials were correctly disposed.	_____	<input type="checkbox"/>
17. Correct imaging parameters for the perfusion portion were selected.	_____	<input type="checkbox"/>
18. The correct dose and radiopharmaceutical for the perfusion was stated.	_____	<input type="checkbox"/>
19. Radiopharmaceutical was correctly drawn up using aseptic technique.	_____	<input type="checkbox"/>
20. Radiopharmaceutical was measured in the dose calibrator.	_____	<input type="checkbox"/>
21. Patient was correctly positioned for the dose administration	_____	<input type="checkbox"/>
22. Radiopharmaceutical was correctly administered according to protocol.	_____	<input type="checkbox"/>
23. Patient was correctly positioned for all routine views:	_____	<input type="checkbox"/>
24. Image acquisition onto film for all the above views was correctly performed.	_____	<input type="checkbox"/>
25. Films were correctly developed and labeled.	_____	<input type="checkbox"/>
26. Films were correctly assembled for reading.	_____	<input type="checkbox"/>
27. Appropriate chest films were assembled with the V/Q study.	_____	<input type="checkbox"/>
28. Departmental forms were completed in a correct manner.	_____	<input type="checkbox"/>
29. The procedure was completed in a timely manner.	_____	<input type="checkbox"/>
30. The student understands the rationale behind each step of the procedure.	_____	<input type="checkbox"/>

Remarks: _____

Affiliate education supervisors

Signature: _____

Student's Signature: _____

Date: _____

Clinical
Rotation: _____

UAMS-CHP-NMIS
Clinical Coordinator
Signature: _____

**Nuclear Medicine Imaging Sciences
Student Evaluation Form: Competency Exam
Imaging Internship**

MYOCARDIAL PERFUSION IMAGING SPECT and GATED EF

Please evaluate the student's performance as "S" for satisfactory or "U" unsatisfactory. A grade of "S" indicates that a student is meeting expectations while a grade of "U" indicates the student demonstrates unacceptable clinical behavior. The student must have completed these procedures on his/her own prior to taking the practical exam.

	<i>SCORE</i>	<i>N/A</i>
1. The requisition was retrieved and properly reviewed	_____	
2. Patient was positively identified	_____	
3. Orders were found in chart	_____	
4. Study was explained to the patient	_____	
5. Correct patient prep, e.g. NPO. milk, water, established	_____	
6. Informed consent form completed	_____	
7. Patient correctly attached to EKG machine and blood pressure cuff	_____	
8. Exercise/stress equipment was properly set up	_____	
9. Correct imaging equipment was selected	_____	
10. Correct collimator was selected	_____	
11. Correct parameters were set to collect information on the computer	_____	
12. Radiopharmaceutical(s) being used:		
<input type="checkbox"/> ²⁰¹ Tl		
<input type="checkbox"/> ^{99m} Tc-Myoview™		
<input type="checkbox"/> ^{99m} Tc-Cardiolite™		
<input type="checkbox"/> ^{99m} Tc/ ²⁰¹ Tl dual isotope		
13. The correct dose and radiopharmaceutical was stated	_____	
14. Radiopharmaceutical was correctly prepared	_____	
15. Patient was stressed correctly, either by exercise or with interventional drugs	_____	
16. Radiopharmaceutical was correctly administered according to protocol	_____	

- | | | |
|---|-------|--------------------------|
| 17. Used syringes and other materials were correctly disposed | _____ | <input type="checkbox"/> |
| 18. Patient was correctly positioned for stress phase using SPECT | _____ | <input type="checkbox"/> |
| 19. Patient was correctly positioned for rest phase | _____ | <input type="checkbox"/> |
| 20. Correct ECT acquisition parameters were selected | _____ | <input type="checkbox"/> |
| 21. Acquisition onto film was correctly performed | _____ | <input type="checkbox"/> |
| 22. Acquisition onto the computer was correctly performed | _____ | <input type="checkbox"/> |
| 23a. Computer analysis was correctly performed to include: | _____ | <input type="checkbox"/> |
| a) Selection of appropriate images for requisite regions of interest | _____ | <input type="checkbox"/> |
| b) Positioning of ROI's | _____ | <input type="checkbox"/> |
| c) Generating appropriate information | _____ | <input type="checkbox"/> |
| AND/OR | | |
| 23b. Correct analysis of ECT data by was performed by: | | |
| a) Correct selection data for analysis | _____ | <input type="checkbox"/> |
| b) Correct selection of parameters for data analysis according to departmental protocol | _____ | <input type="checkbox"/> |
| c) Correct analysis and evaluation of results | _____ | <input type="checkbox"/> |
| 24. Films were correctly developed and labeled | _____ | <input type="checkbox"/> |
| 25. Films were correctly assembled for reading | _____ | <input type="checkbox"/> |
| 26. The procedure was completed in a timely manner | _____ | <input type="checkbox"/> |
| 27. The student understands the rationale behind each step of the procedure | _____ | <input type="checkbox"/> |

Remarks: _____

Affiliate education supervisors

Signature: _____

Student's Signature: _____

Date: _____ Clinical Rotation: _____

UAMS-CHP-NMIS
Clinical Coordinator
Signature: _____

**Nuclear Medicine Imaging Sciences
Student Evaluation Form: Competency Exam
Imaging Internship**

CARDIAC GATED IMAGING (MUGA); Rest or Rest/Stress

Please evaluate the student's performance as "S" for satisfactory or "U" unsatisfactory. A grade of "S" indicates that a student is meeting expectations while a grade of "U" indicates the student demonstrates unacceptable clinical behavior. The student must have completed these procedures on his/her own prior to taking the practical exam.

	<i>SCORE</i>	<i>N/A</i>
1. The requisition was retrieved and properly reviewed	_____	<input type="checkbox"/>
2. Patient was positively identified	_____	<input type="checkbox"/>
3. Orders were found in the chart	_____	<input type="checkbox"/>
4. Study was explained to the patient	_____	<input type="checkbox"/>
5. The correct dose and radiopharmaceutical was stated.	_____	<input type="checkbox"/>
6. Radiopharmaceutical was correctly prepared	_____	<input type="checkbox"/>
7. Method used to label RBC's:		
<input type="checkbox"/> <i>in vivo</i> tagging		
<input type="checkbox"/> <i>in vitro</i> tagging		
<input type="checkbox"/> modified <i>in vitro</i> tagging		
8. Correct imaging equipment was selected		<input type="checkbox"/>
9. Correct collimator was selected	_____	<input type="checkbox"/>
10. Correct imaging parameters were selected	_____	<input type="checkbox"/>
11. Correct parameters were set to collect information on the computer	_____	<input type="checkbox"/>
12. Radiopharmaceutical was correctly administered according to protocol		<input type="checkbox"/>
13. Materials were correctly disposed	_____	<input type="checkbox"/>
14. Patients was correctly attached to EKG leads	_____	<input type="checkbox"/>
15. Patient was correctly positioned	_____	<input type="checkbox"/>
16. Acquisition onto the computer was correctly performed	_____	<input type="checkbox"/>

17. Computer analysis was correctly performed to include:
- a) Selection of appropriate images for requisite regions of interest
 - b) Positioning of ROI's _____
 - c) Generating ejection fraction and other appropriate information _____
 - d) Generating CINE's _____
18. Films were correctly developed and labeled _____
19. Films were correctly assembled for reading _____
20. Departmental forms were completed in a correct manner _____
21. The procedure was completed in a timely manner _____
22. The student understand the rationale behind each step of the procedure _____

Remarks: _____

Affiliate education supervisors

Signature: _____

Student's Signature: _____

Date: _____ Clinical
Rotation: _____

UAMS-CHP-NMIS
Clinical Coordinator
Signature: _____

**Nuclear Medicine Imaging Sciences
Student Evaluation Form: Competency Exam
Imaging Internship**

PET IMAGING - Oncology

Please evaluate the student's performance as "S" for satisfactory or "U" for unsatisfactory. A grade of "S" indicates that the student is meeting expectations while a grade of "U" indicates the student demonstrates unacceptable clinical behavior. The student must have completed these procedures on his/her own prior to taking the practical exam.

	SCORE	N/A
1. Quality control was performed correctly and met acceptable standards.	_____	<input type="checkbox"/>
2. The requisition was retrieved and properly reviewed.	_____	<input type="checkbox"/>
3. Patient was properly evaluated for prep, history, and pre-exams, including blood sugar levels.	_____	<input type="checkbox"/>
4. Orders were found in the chart.	_____	<input type="checkbox"/>
5. Study and radiation precautions were correctly explained to the patient.	_____	<input type="checkbox"/>
6. The correct dose was stated.	_____	<input type="checkbox"/>
7. Radiopharmaceutical was handled with correct radiation safety precautions while drawing and administering dose.	_____	<input type="checkbox"/>
8. Used syringes and other materials were correctly disposed.	_____	<input type="checkbox"/>
9. Correct return time for imaging was correctly stated.	_____	<input type="checkbox"/>
10. Correct imaging parameters were selected (including photopeaks if necessary).	_____	<input type="checkbox"/>
11. Patient was correctly positioned for the proper diagnosis.	_____	<input type="checkbox"/>
12. Acquisition was performed properly for the correct diagnosis.	_____	<input type="checkbox"/>

	SCORE	N/A
13. Images were checked for quality.	_____	<input type="checkbox"/>
14. Acquisition data was processed adequately.	_____	<input type="checkbox"/>
15. Films were correctly developed and labeled.	_____	<input type="checkbox"/>
16. Films were assembled correctly for reading.	_____	<input type="checkbox"/>
17. The procedure was completed in a timely manner.	_____	<input type="checkbox"/>
18. The student understands the rationale behind each step of the procedure.	_____	<input type="checkbox"/>

Remarks: _____

Affiliate education supervisors

Signature: _____

Student's Signature: _____

Date: _____

Clinical
Rotation: _____

UAMS-CHP-NMIS
Clinical Coordinator
Signature: _____

**Nuclear Medicine Imaging Sciences
Student Evaluation Form: Competency Exam
Imaging Internship**

PET IMAGING – NaF Bone

Please evaluate the student’s performance as “S” for satisfactory or “U” for unsatisfactory. A grade of “S” indicates that the student is meeting expectations while a grade of “U” indicates the student demonstrates unacceptable clinical behavior. The student must have completed these procedures on his/her own prior to taking the practical exam.

	SCORE	N/A
19. Quality control was performed correctly and met acceptable standards.	_____	<input type="checkbox"/>
20. The requisition was retrieved and properly reviewed.	_____	<input type="checkbox"/>
21. Patient was properly evaluated for prep, history, and pre-exams, including blood sugar levels.	_____	<input type="checkbox"/>
22. Orders were found in the chart.	_____	<input type="checkbox"/>
23. Study and radiation precautions were correctly explained to the patient.	_____	<input type="checkbox"/>
24. The correct dose was stated.	_____	<input type="checkbox"/>
25. Radiopharmaceutical was handled with correct radiation safety precautions while drawing and administering dose.	_____	<input type="checkbox"/>
26. Used syringes and other materials were correctly disposed.	_____	<input type="checkbox"/>
27. Correct return time for imaging was correctly stated.	_____	<input type="checkbox"/>
28. Correct imaging parameters were selected (including photopeaks if necessary).	_____	<input type="checkbox"/>
29. Patient was correctly positioned for the proper diagnosis.	_____	<input type="checkbox"/>
30. Acquisition was performed properly for the correct diagnosis.	_____	<input type="checkbox"/>

	SCORE	N/A
31. Images were checked for quality.	_____	<input type="checkbox"/>
32. Acquisition data was processed adequately.	_____	<input type="checkbox"/>
33. Films were correctly developed and labeled.	_____	<input type="checkbox"/>
34. Films were assembled correctly for reading.	_____	<input type="checkbox"/>
35. The procedure was completed in a timely manner.	_____	<input type="checkbox"/>
36. The student understands the rationale behind each step of the procedure.	_____	<input type="checkbox"/>

Remarks: _____

Affiliate education supervisors

Signature: _____

Student's Signature: _____

Date: _____

Clinical
Rotation: _____

UAMS-CHP-NMIS
Clinical Coordinator
Signature: _____

**Nuclear Medicine Imaging Sciences
Student Evaluation Form: Competency Exam
Imaging Internship**

RENOGRAM / ERPF, GFR, Lasix, ACEI

Please evaluate the student's performance as "S" for satisfactory or "U" unsatisfactory. A grade of "S" indicates that a student is meeting expectations while a grade of "U" indicates the student demonstrates unacceptable clinical behavior. The student must have completed these procedures on his/her own prior to taking the practical exam.

	<i>SCORE</i>	<i>N/A</i>
1. The requisition was retrieved and properly reviewed.	_____	<input type="checkbox"/>
2. Patient was positively identified.	_____	<input type="checkbox"/>
3. Orders were found in the chart.	_____	<input type="checkbox"/>
4. Study was explained to the patient.	_____	<input type="checkbox"/>
5. Patient prep, i.e. hydration, Lugol's, captopril, was established as being correctly done.	_____	<input type="checkbox"/>
6. The correct dose was stated.	_____	<input type="checkbox"/>
7. Radiopharmaceutical was correctly drawn up using aseptic technique.	_____	<input type="checkbox"/>
8. Radiopharmaceutical was measured in the dose calibrator.	_____	<input type="checkbox"/>
9. Correct imaging equipment was selected.	_____	<input type="checkbox"/>
10. Correct imaging collimator was selected.	_____	<input type="checkbox"/>
11. Correct imaging parameters were selected.	_____	<input type="checkbox"/>
12. Correct parameters were set to collect information on the computer.	_____	<input type="checkbox"/>
13. Correct precount of dose for GFR or ERPF.	_____	<input type="checkbox"/>
14. Patient was correctly positioned.	_____	<input type="checkbox"/>
15. Radiopharmaceutical was correctly administered according to protocol.	_____	<input type="checkbox"/>
16. Used syringes and other materials were correctly disposed.	_____	<input type="checkbox"/>
17. Image acquisition onto film was correctly performed.	_____	<input type="checkbox"/>
18. Acquisition onto the computer was correctly	_____	<input type="checkbox"/>

- performed. _____
- 19. Patient received lasix at the appropriate time. _____
- 20. Films were correctly developed and labeled. _____
- 21. Computer analysis was correctly performed to include:
 - a) Selection of appropriate images for requisite regions of interest _____
 - b) Positioning of ROI's _____
 - c) Generating histogram and other appropriate information _____
- 22. Films were correctly assembled for reading. _____
- 23. Departmental forms were completed in a correct manner _____
- 24. The procedure was completed in a timely manner. _____
- 25. The student understands the rationale behind each step of the procedure. _____

Remarks: _____

 Affiliate education supervisors

Signature: _____

Student's Signature: _____

Date: _____

Clinical
 Rotation: _____

UAMS-CHP-NMIS
 Clinical Coordinator
 Signature: _____

**Nuclear Medicine Imaging Sciences
Student Evaluation Form: Competency Exam
Imaging Internship**

THYROID SCAN

Please evaluate the student's performance as "S" for satisfactory or "U" for unsatisfactory. A grade of "S" indicates that the student is meeting expectations while a grade of "U" indicated the student demonstrates unacceptable clinical behavior.

The student may test out of thyroid uptakes and thyroid scans separately but must test out of both sections prior to taking the oral exam. The student must have completed these procedures on his own prior to taking the practical exam.

	<i>SCORE</i>	<i>N/A</i>
1. The requisition was retrieved and properly reviewed.	_____	<input type="checkbox"/>
2. Patient was positively identified.	_____	<input type="checkbox"/>
3. Orders were found in the chart.	_____	<input type="checkbox"/>
4. Patient interviewed by NM physician where appropriate.	_____	<input type="checkbox"/>
5. It was established that there were no contraindications for performing the procedure.	_____	<input type="checkbox"/>
6. Study was explained to the patient.	_____	<input type="checkbox"/>
7. The correct dose and radiopharmaceutical was stated.	_____	<input type="checkbox"/>
8. Radiopharmaceutical was correctly prepared.	_____	<input type="checkbox"/>
9. Radiopharmaceutical was measured in the dose calibrator.	_____	<input type="checkbox"/>
10. Radiopharmaceutical was correctly administered to protocol.	_____	<input type="checkbox"/>
11. Patient was told to return for imaging at the appropriate time.	_____	<input type="checkbox"/>
12. Correct imaging equipment was selected.	_____	<input type="checkbox"/>
13. Correct collimator was selected.	_____	<input type="checkbox"/>
14. Correct imaging parameters were selected.	_____	<input type="checkbox"/>

15. Patient was correctly positioned for all images:

- a) Anterior with markers _____
- b) Anterior _____
- c) RAO _____
- d) LAO _____
- e) Markers on nodules _____

16. Image acquisition onto film was correctly performed. _____

17. Films were correctly developed and labeled. _____

18. Films were correctly assembled for reading. _____

19. Departmental forms were completed in a correct manner. _____

20. The procedure was a completed in a timely manner. _____

21. The student understands the rationale behind each step of the procedure. _____

Remarks: _____

Affiliate education supervisors

Signature: _____

Student's Signature: _____

Date: _____

Clinical
Rotation: _____

UAMS-CHP-NMIS
Clinical Coordinator
Signature: _____

**Nuclear Medicine Imaging Sciences
Student Evaluation Form: Competency Exam
Imaging Internship**

THYROID UPTAKE

Please evaluate the student's performance as "S" for satisfactory or "U" for unsatisfactory. A grade of "S" indicates that the student is meeting expectations while a grade of "U" indicated the student demonstrates unacceptable clinical behavior.

The student may test out of thyroid uptakes and thyroid scans separately but must test out of both sections prior to taking the oral exam. The student must have completed these procedures on his own prior to taking the practical exam.

	<i>SCORE</i>	<i>N/A</i>
1. The requisition was retrieved and properly reviewed.	_____	<input type="checkbox"/>
2. Patient was positively identified.	_____	<input type="checkbox"/>
3. Orders were found in the chart.	_____	<input type="checkbox"/>
4. Patient interviewed by NM physician where appropriate.	_____	<input type="checkbox"/>
5. It was established that there were no contraindications for performing the procedure.	_____	<input type="checkbox"/>
6. Study was explained to the patient.	_____	<input type="checkbox"/>
7. The correct dose and radiopharmaceutical was stated.	_____	<input type="checkbox"/>
8. Radiopharmaceutical was correctly prepared.	_____	<input type="checkbox"/>
9. Radiopharmaceutical was measured in the dose calibrator.	_____	<input type="checkbox"/>
10. Radiopharmaceutical was counted in the neck phantom.	_____	<input type="checkbox"/>
11. Radiopharmaceutical was correctly administered according to protocol.	_____	<input type="checkbox"/>
12. Patient was told to return for the uptake at the appropriate time.	_____	<input type="checkbox"/>
13. Correct equipment was selected for the uptake.	_____	<input type="checkbox"/>
14. Correct counting parameters were selected.	_____	<input type="checkbox"/>
15. Patient was correctly positioned for uptake		
a) Anterior neck	_____	<input type="checkbox"/>

- b) Background thigh _____
- 16. Acquisition of counts was correctly performed. _____
- 17. Uptake was correctly calculated. _____
- 18. All materials were correctly assembled for reading. _____
- 19. Departmental forms were completed in a correct manner. _____
- 20. The procedure was completed in a timely manner. _____
- 21. The student understands the rationale behind each step of the procedure. _____

Remarks: _____

 Affiliate education supervisors

Signature: _____

Student's Signature: _____

Date: _____

Clinical
 Rotation: _____

UAMS-CHP-NMIS
 Clinical Coordinator
 Signature: _____

**Nuclear Medicine Imaging Sciences
Student Evaluation Form: Competency Exam
Imaging Internship**

Voiding Cystogram, Direct Method

Please evaluate the student's performance as "S" for satisfactory or "U" unsatisfactory. A grade of "S" indicates that a student is meeting expectations while a grade of "U" indicates the student demonstrates unacceptable clinical behavior. The student must have completed these procedures on his/her own prior to taking the practical exam.

	<i>SCORE</i>	<i>N/A</i>
1. The requisition was retrieved and properly reviewed.	_____	<input type="checkbox"/>
2. Patient was positively identified.	_____	<input type="checkbox"/>
3. Orders were found in the chart.	_____	<input type="checkbox"/>
4. Study was explained to the patient.	_____	<input type="checkbox"/>
5. The correct patient dose was calculated/stated.	_____	<input type="checkbox"/>
6. Radiopharmaceutical was measured in the dose calibrator.	_____	<input type="checkbox"/>
7. The radiopharmaceutical was correctly prepared.	_____	<input type="checkbox"/>
8. Correct imaging equipment was selected.	_____	<input type="checkbox"/>
9. Correct imaging collimator was selected.	_____	<input type="checkbox"/>
10. Correct imaging parameters were selected.	_____	<input type="checkbox"/>
11. Correct parameters were set to collect information on the computer.	_____	<input type="checkbox"/>
12. Patient was correctly positioned.	_____	<input type="checkbox"/>
13. Radiopharmaceutical was correctly administered according to protocol.	_____	<input type="checkbox"/>
14. Used syringes and other materials were correctly disposed.	_____	<input type="checkbox"/>
15. Image acquisition onto film was correctly performed.	_____	<input type="checkbox"/>
16. Acquisition onto the computer was correctly performed.	_____	<input type="checkbox"/>
17. Films were correctly developed and labeled.	_____	<input type="checkbox"/>
18. Computer analysis was correctly performed to include:		
a) Selection of appropriate images for requisite regions of interest	_____	<input type="checkbox"/>

b) Positioning of ROI's

—
—

SCORE N/A

- 19. Films were correctly assembled for reading.
- 20. Departmental forms were completed in a correct manner
- 21. The procedure was completed in a timely manner.
- 22. The student understands the rationale behind each step of the procedure.

Remarks: _____

Affiliate education supervisors

Signature: _____

Student's Signature: _____

Date: _____

Clinical
Rotation: _____

UAMS-CHP-NMIS
Clinical Coordinator
Signature: _____

**Nuclear Medicine Imaging Sciences
Student Evaluation Form: Competency Exam
Imaging Internship**

Thyroid Therapy: Ablation

Please evaluate the student's performance as "S" for satisfactory or "U" for unsatisfactory. A grade of "S" indicates that the student is meeting expectations while a grade of "U" indicated the student demonstrates unacceptable clinical behavior. This competency exam may be simulated.

	<i>SCORE</i>	<i>N/A</i>
1. The requisition was retrieved and properly reviewed.	_____	<input type="checkbox"/>
2. The patient room was correctly prepared for in-house stay.	_____	<input type="checkbox"/>
3. Patient was positively identified.	_____	<input type="checkbox"/>
4. TSH level checked for verification.	_____	<input type="checkbox"/>
5. Patient prep verified.	_____	<input type="checkbox"/>
6. Patient had conference with treating physician.	_____	<input type="checkbox"/>
7. Written directive was signed by authorized user.	_____	<input type="checkbox"/>
8. Dose was correctly measured and verified with written directive.	_____	<input type="checkbox"/>
9. Dose was shielded correctly before administration.	_____	<input type="checkbox"/>
10. Patient was given post-dosing instructions.	_____	<input type="checkbox"/>
11. Dose was administered to patient correctly.	_____	<input type="checkbox"/>
12. Dose was disposed of properly.	_____	<input type="checkbox"/>
13. Patient was measured over time period for exposure rate.	_____	<input type="checkbox"/>
14. Room cleanup was done correctly after patient was dismissed from in-house stay.	_____	<input type="checkbox"/>

Remarks: _____

Affiliate education supervisors

Signature: _____

Student's Signature: _____

Date: _____

Clinical
Rotation: _____

UAMS-CHP-NMIS
Clinical Coordinator
Signature: _____

**Nuclear Medicine Imaging Sciences
Student Evaluation Form: Competency Exam
Imaging Internship**

BONE SPECT IMAGING

Please evaluate the student's performance as "S" for satisfactory or "U" for unsatisfactory. A grade of "S" indicates that the student is meeting expectations while a grade of "U" indicates the student demonstrates unacceptable clinical behavior.

The practical for bone SPECT is optional if planning to take the ARRT exam. The oral exam for bone SPECT will be mandatory for all student's. The student must have completed these procedures on his/her own prior to taking the practical exam.

	SCORE	N/A
1. The requisition was retrieved and properly reviewed.	_____	<input type="checkbox"/>
2. Patient was positively identified.	_____	<input type="checkbox"/>
3. Orders were found in the chart.	_____	<input type="checkbox"/>
4. Study was explained to the patient.	_____	<input type="checkbox"/>
5. The correct dose was stated.	_____	<input type="checkbox"/>
6. Radiopharmaceutical was correctly drawn up using aseptic technique.	_____	<input type="checkbox"/>
7. Radiopharmaceutical was measured in the dose calibrator.	_____	<input type="checkbox"/>
8. Radiopharmaceutical was correctly administered according to protocol.	_____	<input type="checkbox"/>
9. Used syringes and other materials were correctly disposed.	_____	<input type="checkbox"/>
10. Correct return time for imaging was correctly stated.	_____	<input type="checkbox"/>
11. Patient prep was established as being correctly done.	_____	<input type="checkbox"/>
12. Correct imaging equipment was selected.	_____	<input type="checkbox"/>

- | | | |
|---|-------|--------------------------|
| 13. Correct collimator was selected. | _____ | <input type="checkbox"/> |
| 14. Correct imaging parameters were selected. | _____ | <input type="checkbox"/> |
| 15. Patient was correctly positioned for anterior and posterior whole body views. | _____ | <input type="checkbox"/> |
| 16. Image acquisition onto film was correctly performed. | _____ | <input type="checkbox"/> |
| 17. Films were correctly developed and labeled. | _____ | <input type="checkbox"/> |
| 18. Films were correctly assembled for reading. | _____ | <input type="checkbox"/> |
| 19. Departmental forms were completed in a correct manner. | _____ | <input type="checkbox"/> |
| 20. The procedure was completed in a timely manner. | _____ | <input type="checkbox"/> |
| 21. The student understands the rationale behind each step of the procedure. | _____ | <input type="checkbox"/> |

Remarks: _____

Affiliate education supervisors

Signature: _____

Student's Signature: _____

Date: _____

Clinical
Rotation: _____

UAMS-CHP-NMIS
Clinical Coordinator
Signature: _____

**Nuclear Medicine Imaging Sciences
Student Evaluation Form: Competency Exam
Imaging Internship**

PALLIATIVE BONE THERAPY

Please evaluate the student's performance as "S" for satisfactory or "U" for unsatisfactory. A grade of "S" indicates that the student is meeting expectations while a grade of "U" indicated the student demonstrates unacceptable clinical behavior. This competency may be simulated.

	<i>SCORE</i>	<i>N/A</i>
1. The requisition was retrieved and properly reviewed.	_____	<input type="checkbox"/>
2. Patient was positively identified.	_____	<input type="checkbox"/>
3. Positive bone metastasis was verified.	_____	<input type="checkbox"/>
4. Patient had conference with treating physician.	_____	<input type="checkbox"/>
5. Written directive was signed by authorized user.	_____	<input type="checkbox"/>
6. IV was started with saline bag running.	_____	<input type="checkbox"/>
7. Dose was correctly measured and verified with written directive.	_____	<input type="checkbox"/>
8. Dose was shielded correctly before administration.	_____	<input type="checkbox"/>
9. Patient was given post-dosing instructions.	_____	<input type="checkbox"/>
10. Dose was administered to patient correctly.	_____	<input type="checkbox"/>
11. Dose was disposed of properly.	_____	<input type="checkbox"/>

Remarks: _____

Affiliate education supervisors
Signature: _____

Student's Signature: _____

Date: _____ Clinical
Rotation: _____

UAMS-CHP-NMIS
Clinical Coordinator
Signature: _____

**Nuclear Medicine Imaging Sciences
Student Evaluation Form: Competency Exam
Imaging Internship**

CISTERNOGRAM: ROUTINE, SHUNT PATENCY, or LEAKS

May be demonstrated on patients or phantoms or as simulations (non-patients)

Please evaluate the student's performance as "S" for satisfactory or "U" for unsatisfactory. A grade of "S" indicates that the student is meeting expectations while a grade of "U" indicates the student demonstrates unacceptable clinical behavior. The student must have completed these procedures on his/her own prior to taking the practical exam.

	<i>SCORE</i>	<i>N/A</i>
1. The requisition was retrieved and properly reviewed.	_____	<input type="checkbox"/>
2. Patient was positively identified.	_____	<input type="checkbox"/>
3. Orders were found in the chart.	_____	<input type="checkbox"/>
4. Study was explained to the patient.	_____	<input type="checkbox"/>
5. The correct dose was stated.	_____	<input type="checkbox"/>
6. Radiopharmaceutical was correctly drawn up using aseptic technique.	_____	<input type="checkbox"/>
7. Radiopharmaceutical was measured in the dose calibrator.	_____	<input type="checkbox"/>
8. Correct consent was obtained from the patient.	_____	<input type="checkbox"/>
9. Injection tray assembled correctly for NM physician.	_____	<input type="checkbox"/>
10. Patient positioned correctly for injection.	_____	<input type="checkbox"/>
11. Dosing materials were disposed of properly.	_____	<input type="checkbox"/>
12. Patient was given correct instruction after injection.	_____	<input type="checkbox"/>
13. Correct imaging equipment was selected.	_____	<input type="checkbox"/>
14. Correct collimator was selected.	_____	<input type="checkbox"/>
15. Correct parameters for immediate images were selected.	_____	<input type="checkbox"/>
16. Patient was properly positioned for immediate images.	_____	<input type="checkbox"/>
17. Upon return the patient prep was established as being correctly done.	_____	<input type="checkbox"/>

	SCORE	N/A
18. Patient was properly positioned for delay imaging.	_____	<input type="checkbox"/>
19. Correct parameters for delay images were selected.	_____	<input type="checkbox"/>
20. Image acquisition onto film for immediate and delay images was correctly performed.	_____	<input type="checkbox"/>
21. Films were assessed to see if further delay images were needed.	_____	<input type="checkbox"/>
22. Films were correctly developed and labeled.	_____	<input type="checkbox"/>
23. Films were correctly assembled for reading.	_____	<input type="checkbox"/>
24. Departmental forms were completed in a correct manner.		<input type="checkbox"/>
25. The procedure was completed in a timely manner.	_____	<input type="checkbox"/>
26. The student understands the rationale behind each step of the procedure.	_____	<input type="checkbox"/>

Remarks: _____

 Affiliate education supervisors
 Signature: _____

Student's Signature: _____

Date: _____ Clinical
 UAMS-CHP-NMIS Rotation: _____
 Clinical Coordinator
 Signature: _____

**Nuclear Medicine Imaging Sciences
Student Evaluation Form: Competency Exam
Imaging Internship**

Please evaluate the student's performance as "S" for satisfactory or "U" unsatisfactory. A grade of "S" indicates that a student is meeting expectations while a grade of "U" indicates the student demonstrates unacceptable clinical behavior. The student must have completed these procedures on his/her own prior to taking the practical exam.

CARDIAC FIRST PASS; Rest or Rest/Stress

	<i>SCORE</i>	<i>N/A</i>
1. The requisition was retrieved and properly reviewed.	_____	<input type="checkbox"/>
2. Patient was positively identified.	_____	<input type="checkbox"/>
3. Orders were found in the chart.	_____	<input type="checkbox"/>
4. Study was explained to the patient.	_____	<input type="checkbox"/>
5. The correct dose was stated.	_____	<input type="checkbox"/>
6. Radiopharmaceutical was correctly drawn up using aseptic technique.	_____	<input type="checkbox"/>
7. Radiopharmaceutical was measured in the dose calibrator.	_____	<input type="checkbox"/>
8. Correct imaging equipment was selected.	_____	<input type="checkbox"/>
9. Correct imaging collimator was selected.	_____	<input type="checkbox"/>
10. Correct imaging parameters were selected.	_____	<input type="checkbox"/>
11. Correct parameters were set to collect information on the computer.	_____	<input type="checkbox"/>
12. Patient was correctly positioned.	_____	<input type="checkbox"/>
13. Correct injection materials were assembled.	_____	<input type="checkbox"/>
14. Radiopharmaceutical was correctly administered according to protocol.	_____	<input type="checkbox"/>
15. Used syringes and other materials were correctly disposed.	_____	<input type="checkbox"/>
16. Image acquisition onto film was correctly performed.	_____	<input type="checkbox"/>
17. Acquisition onto the computer was correctly performed.	_____	<input type="checkbox"/>
18. Films were correctly developed and labeled.	_____	<input type="checkbox"/>

	<i>SCORE</i>	<i>N/A</i>
19. Computer analysis was correctly performed to include:		
a) Selection of appropriate images for requisite regions of interest.		<input type="checkbox"/>
b) Positioning of ROI's.	_____	<input type="checkbox"/>
c) Generating histogram and other appropriate information.	_____	<input type="checkbox"/>
20. Films were correctly assembled for reading.	_____	<input type="checkbox"/>
21. Departmental forms were completed in a correct manner.		<input type="checkbox"/>
21. The procedure was completed in a timely manner.	_____	<input type="checkbox"/>
22. The student understands the rationale behind each step of the procedure.	_____	<input type="checkbox"/>

Remarks: _____

 Affiliate education supervisors

Signature: _____

Student's Signature: _____

Date: _____

Clinical
 Rotation: _____

UAMS-CHP-NMIS
 Clinical Coordinator
 Signature: _____

**Nuclear Medicine Imaging Sciences
Student Evaluation Form: Competency Exam
Imaging Internship**

GASTRIC EMPTYING

Please evaluate the student's performance as "S" for satisfactory or "U" unsatisfactory. A grade of "S" indicates that a student is meeting expectations while a grade of "U" indicates the student demonstrates unacceptable clinical behavior. The student must have completed these procedures on his/her own prior to taking the practical exam.

	<i>SCORE</i>	<i>N/A</i>
1. The requisition was retrieved and properly reviewed	_____	<input type="checkbox"/>
2. Patient was positively identified	_____	<input type="checkbox"/>
3. Orders were found in the chart	_____	<input type="checkbox"/>
4. Study was explained to the patient	_____	<input type="checkbox"/>
5. Patient prep, i.e. NPO, was correctly established	_____	<input type="checkbox"/>
6. The correct dose and radiopharmaceutical was stated.	_____	<input type="checkbox"/>
7. Radiopharmaceutical was correctly prepared	_____	<input type="checkbox"/>
8. Correct imaging equipment was selected	_____	<input type="checkbox"/>
9. Correct collimator was selected	_____	<input type="checkbox"/>
10. Correct imaging parameters were selected	_____	<input type="checkbox"/>
11. Correct parameters were set to collect information on the computer	_____	<input type="checkbox"/>
12. Radiopharmaceutical was correctly administered according to protocol	_____	<input type="checkbox"/>
13. Materials were correctly disposed	_____	<input type="checkbox"/>
14. Patient was correctly positioned	_____	<input type="checkbox"/>
15. Image acquisition onto film was correctly performed	_____	<input type="checkbox"/>
16. Acquisition onto the computer was correctly performed	_____	<input type="checkbox"/>
17. Patient was correctly positioned for reflux where appropriate	_____	<input type="checkbox"/>
18. Films were correctly developed and labeled	_____	<input type="checkbox"/>
19. Computer analysis was correctly performed to include:		
a) Selection of appropriate images for requisite regions of interest	_____	<input type="checkbox"/>
b) Positioning of ROI's	_____	<input type="checkbox"/>
c) Generating histogram and other appropriate information	_____	<input type="checkbox"/>

	<i>SCORE</i>	<i>N/A</i>
20. Films were correctly assembled for reading	_____	<input type="checkbox"/>
21. Departmental forms were completed in a correct manner	_____	<input type="checkbox"/>
22. The procedure was completed in a timely manner	_____	<input type="checkbox"/>
23. The student understands the rationale behind each step of the procedure	_____	<input type="checkbox"/>

Remarks: _____

Affiliate education supervisors

Signature: _____

Student's Signature: _____

Date: _____

Clinical
Rotation: _____

UAMS-CHP-NMIS
Clinical Coordinator
Signature: _____

**Nuclear Medicine Imaging Sciences
Student Evaluation Form: Competency Exam
Imaging Internship**

GASTRIC REFLUX

Please evaluate the student's performance as "S" for satisfactory or "U" unsatisfactory. A grade of "S" indicates that a student is meeting expectations while a grade of "U" indicates the student demonstrates unacceptable clinical behavior. The student must have completed these procedures on his/her own prior to taking the practical exam.

	<i>SCORE</i>	<i>N/A</i>
20. The requisition was retrieved and properly reviewed	_____	<input type="checkbox"/>
21. Patient was positively identified	_____	<input type="checkbox"/>
22. Orders were found in the chart	_____	<input type="checkbox"/>
23. Study was explained to the patient	_____	<input type="checkbox"/>
24. Patient prep, i.e. NPO, was correctly established	_____	<input type="checkbox"/>
25. The correct dose and radiopharmaceutical was stated.	_____	<input type="checkbox"/>
26. Radiopharmaceutical was correctly prepared	_____	<input type="checkbox"/>
27. Correct imaging equipment was selected	_____	<input type="checkbox"/>
28. Correct collimator was selected	_____	<input type="checkbox"/>
29. Correct imaging parameters were selected	_____	<input type="checkbox"/>
30. Correct parameters were set to collect information on the computer	_____	<input type="checkbox"/>
31. Radiopharmaceutical was correctly administered according to protocol	_____	<input type="checkbox"/>
32. Materials were correctly disposed	_____	<input type="checkbox"/>
33. Patient was correctly positioned	_____	<input type="checkbox"/>
34. Image acquisition onto film was correctly performed	_____	<input type="checkbox"/>
35. Acquisition onto the computer was correctly performed	_____	<input type="checkbox"/>
36. Patient was correctly positioned for reflux where appropriate	_____	<input type="checkbox"/>
37. Films were correctly developed and labeled	_____	<input type="checkbox"/>
38. Computer analysis was correctly performed to include:		
a) Selection of appropriate images for requisite regions of interest	_____	<input type="checkbox"/>
b) Positioning of ROI's	_____	<input type="checkbox"/>
c) Generating histogram and other appropriate information	_____	<input type="checkbox"/>

	<i>SCORE</i>	<i>N/A</i>
24. Films were correctly assembled for reading	_____	<input type="checkbox"/>
25. Departmental forms were completed in a correct manner	_____	<input type="checkbox"/>
26. The procedure was completed in a timely manner	_____	<input type="checkbox"/>
27. The student understands the rationale behind each step of the procedure	_____	<input type="checkbox"/>

Remarks: _____

Affiliate education supervisors

Signature: _____

Student's Signature: _____

Date: _____

Clinical
Rotation: _____

UAMS-CHP-NMIS
Clinical Coordinator
Signature: _____

**Nuclear Medicine Imaging Sciences
Student Evaluation Form: Competency Exam
Imaging Internship**

GASTROINTESTINAL BLEED; RBC or SC

Please evaluate the student's performance as "S" for satisfactory or "U" unsatisfactory. A grade of "S" indicates that a student is meeting expectations while a grade of "U" indicates the student demonstrates unacceptable clinical behavior. The student must have completed these procedures on his/her own prior to taking the practical exam.

	<i>SCORE</i>	<i>N/A</i>
1. The requisition was retrieved and properly reviewed.	_____	<input type="checkbox"/>
2. Patient was positively identified.	_____	<input type="checkbox"/>
3. Orders were found in the chart.	_____	<input type="checkbox"/>
4. Study was explained to the patient.	_____	<input type="checkbox"/>
5. The correct dose and radiopharmaceutical was stated.	_____	<input type="checkbox"/>
6. Radiopharmaceutical was correctly prepared.	_____	<input type="checkbox"/>
7. Method used to label RBC's:		
<input type="checkbox"/> <i>in vivo</i> tagging		
<input type="checkbox"/> <i>in vitro</i> tagging		
<input type="checkbox"/> modified <i>in vitro</i> tagging		
8. Correct imaging equipment was selected.	_____	<input type="checkbox"/>
9. Correct collimator was selected.	_____	<input type="checkbox"/>
10. Correct imaging parameters were selected.	_____	<input type="checkbox"/>
11. Correct parameters were set to collect information on the computer.	_____	<input type="checkbox"/>
12. Patient was positioned correctly for imaging.	_____	<input type="checkbox"/>
13. Radiopharmaceutical was administered correctly.	_____	<input type="checkbox"/>
14. Dosing materials were correctly disposed.	_____	<input type="checkbox"/>
15. Patient was imaged for proper amount of time or until bleed was visualized.	_____	<input type="checkbox"/>

	SCORE	N/A
16. Films were correctly developed and labeled.	_____	<input type="checkbox"/>
17. Films were correctly assembled for reading.	_____	<input type="checkbox"/>
18. Departmental forms were completed in a correct manner.		<input type="checkbox"/>
19. The procedure was completed in a timely manner.	_____	<input type="checkbox"/>
20. The student understands the rationale behind each step of the procedure.	_____	<input type="checkbox"/>

Remarks: _____

Affiliate education supervisors

Signature: _____

Student's Signature: _____

Date: _____

Clinical
Rotation: _____

UAMS-CHP-NMIS
Clinical Coordinator
Signature: _____

**Nuclear Medicine Imaging Sciences
Student Evaluation Form: Competency Exam
Imaging Internship**

LIVER IMAGING: RBC HEMANGIOMA

May be demonstrated on patients or phantoms or as simulations (non-patients)

Please evaluate the student's performance as "S" for satisfactory or "U" unsatisfactory. A grade of "S" indicates that a student is meeting expectations while a grade of "U" indicates the student demonstrates unacceptable clinical behavior. The student must have completed these procedures on his/her own prior to taking the practical exam.

	<i>SCORE</i>	<i>N/A</i>
1. The requisition was retrieved and properly reviewed.	_____	<input type="checkbox"/>
2. Patient was positively identified.	_____	<input type="checkbox"/>
3. Orders were found in the chart.	_____	<input type="checkbox"/>
4. Study was explained to the patient.	_____	<input type="checkbox"/>
5. The correct dose and radiopharmaceutical was stated.	_____	<input type="checkbox"/>
6. Radiopharmaceutical was correctly prepared.	_____	<input type="checkbox"/>
7. Method used to label RBC's:	_____	<input type="checkbox"/>
<input type="checkbox"/> <i>in vivo</i> tagging	_____	<input type="checkbox"/>
<input type="checkbox"/> <i>in vitro</i> tagging	_____	<input type="checkbox"/>
<input type="checkbox"/> modified <i>in vitro</i> tagging	_____	<input type="checkbox"/>
8. Radiopharmaceutical was correctly drawn up using aseptic technique.	_____	<input type="checkbox"/>
9. Radiopharmaceutical was measured in the dose calibrator.	_____	<input type="checkbox"/>
10. Correct imaging equipment was selected.	_____	<input type="checkbox"/>
11. Correct collimator was selected.	_____	<input type="checkbox"/>
12. Correct imaging parameters for dynamic imaging were selected.	_____	<input type="checkbox"/>
13. Patient was properly positioned for dynamic imaging.	_____	<input type="checkbox"/>
14. Radiopharmaceutical was correctly administered according to protocol.	_____	<input type="checkbox"/>
15. Image acquisition onto film for dynamic phase was correctly performed.	_____	<input type="checkbox"/>
16. Image acquisition for immediate images was correctly performed.	_____	<input type="checkbox"/>

	SCORE	N/A
17. Films were correctly developed and labeled.	_____	<input type="checkbox"/>
18. Used syringes and other materials were correctly disposed.	_____	<input type="checkbox"/>
19. Correct return time for delay was stated.	_____	<input type="checkbox"/>
20. Correct imaging equipment was selected.	_____	<input type="checkbox"/>
21. Correct collimator was selected.	_____	<input type="checkbox"/>
22. Correct imaging parameters were selected for spot and/or SPECT.	_____	<input type="checkbox"/>
23. Patient was correctly positioned for spot and/or SPECT.	_____	<input type="checkbox"/>
24. Image acquisition onto film was correctly performed.	_____	<input type="checkbox"/>
25. Correct analysis of SPECT data was performed:		<input type="checkbox"/>
a) Correct selection of data for analysis	_____	<input type="checkbox"/>
b) Correct selection of parameters for data analysis according to department protocol	_____	<input type="checkbox"/>
c) Correct analysis and evaluation of results	_____	<input type="checkbox"/>
26. Films were correctly developed and labeled.	_____	<input type="checkbox"/>
27. Films were correctly assembled for reading.	_____	<input type="checkbox"/>
28. Departmental forms were completed in a correct manner.	_____	<input type="checkbox"/>
29. The procedure was completed in a timely manner.	_____	<input type="checkbox"/>
30. The student understands the rationale behind each step of the procedure.	_____	<input type="checkbox"/>

Remarks: _____

Affiliate education supervisors

Signature: _____

Student's Signature: _____

Date: _____ Clinical
Rotation: _____

UAMS-CHP-NMIS
Clinical Coordinator
Signature: _____

**Nuclear Medicine Imaging Sciences
Student Evaluation Form: Competency Exam
Imaging Internship**

THYROID THERAPY: HYPERTHYROIDISM

Please evaluate the student's performance as "S" for satisfactory or "U" for unsatisfactory. A grade of "S" indicates that the student is meeting expectations while a grade of "U" indicated the student demonstrates unacceptable clinical behavior. This competency examination may be simulated.

	<i>SCORE</i>	<i>N/A</i>
1. The requisition was retrieved and properly reviewed.	_____	<input type="checkbox"/>
2. The patient room was correctly prepared for in-house stay.	_____	<input type="checkbox"/>
3. Patient was positively identified.	_____	<input type="checkbox"/>
4. TSH level checked for verification.	_____	<input type="checkbox"/>
5. Patient prep verified.	_____	<input type="checkbox"/>
6. Patient had conference with treating physician.	_____	<input type="checkbox"/>
7. Written directive was signed by authorized user.	_____	<input type="checkbox"/>
8. Dose was correctly measured and verified with written directive.	_____	<input type="checkbox"/>
9. Dose was shielded correctly before administration.	_____	<input type="checkbox"/>
10. Patient was given post-dosing instructions.	_____	<input type="checkbox"/>
11. Dose was administered to patient correctly.	_____	<input type="checkbox"/>
12. Dose was disposed of properly.	_____	<input type="checkbox"/>

Remarks: _____

Affiliate education supervisors

Signature: _____

Student's Signature: _____

Date: _____

Clinical
Rotation: _____

UAMS-CHP-NMIS

Clinical Coordinator

Signature: _____

**Nuclear Medicine Imaging Sciences
Student Evaluation Form: Competency Exam
Imaging Internship**

LIVER-SPLEEN PLANAR IMAGING

May be demonstrated on patients or phantoms or as simulations (non-patient)

Please evaluate the student's performance as "S" for satisfactory or "U" for unsatisfactory. A grade of "S" indicated that the student is meeting expectations while a grade of "U" indicates that the student demonstrates unacceptable clinical behavior. The student must have completed these procedures on his/her own prior to taking the practical exam.

	<i>SCORE</i>	<i>N/A</i>
1. The requisition was retrieved and properly reviewed.	_____	<input type="checkbox"/>
2. The patient was positively identified.	_____	<input type="checkbox"/>
3. Orders were found in the chart.	_____	<input type="checkbox"/>
4. Patients had no previous barium studies that would interfere with the procedure.	_____	<input type="checkbox"/>
5. Study was explained to the patient.	_____	<input type="checkbox"/>
6. Correct imaging equipment was selected.	_____	<input type="checkbox"/>
7. Correct collimator was selected.	_____	<input type="checkbox"/>
8. Correct imaging parameters were selected.	_____	<input type="checkbox"/>
9. The correct dose was stated.	_____	<input type="checkbox"/>
10. The radiopharmaceutical was correctly drawn using aseptic technique.	_____	<input type="checkbox"/>
11. Radiopharmaceutical was measured in the dose calibrator.	_____	<input type="checkbox"/>
12. Patient was correctly positioned for the dynamic portion of the study.	_____	<input type="checkbox"/>
13. Radiopharmaceutical was correctly administered according to protocol.	_____	<input type="checkbox"/>
14. Used syringes and other materials were correctly disposed.	_____	<input type="checkbox"/>

	SCORE	N/A
15. Image acquisition onto film for liver flow was correctly performed.		<input type="checkbox"/>
16. Image acquisition onto film for immediate images was correctly performed.		<input type="checkbox"/>
17. Patient was correctly positioned for all routine views:		
a) Anterior	_____	<input type="checkbox"/>
b) Anterior with markers	_____	<input type="checkbox"/>
c) Right lateral	_____	<input type="checkbox"/>
d) Left lateral	_____	<input type="checkbox"/>
e) Posterior	_____	<input type="checkbox"/>
f) Other	_____	<input type="checkbox"/>
18. Image acquisition onto film for all the above views was correctly performed.	_____	<input type="checkbox"/>
19. Films were correctly developed and labeled.	_____	<input type="checkbox"/>
20. Films were correctly assembled for reading.	_____	<input type="checkbox"/>
21. Departmental forms were completed in a correct manner.		<input type="checkbox"/>
22. The procedure was completed in a timely manner.	_____	<input type="checkbox"/>
23. The student understands the rationale behind each step of the procedure.	_____	<input type="checkbox"/>

Remarks: _____

 Affiliate education supervisors
 Signature: _____

Student's Signature: _____

Date: _____ Clinical
 Rotation: _____

UAMS-CHP-NMIS
 Clinical Coordinator
 Signature: _____

**Nuclear Medicine Imaging Sciences
Student Evaluation Form: Competency Exam
Imaging Internship**

LIVER-SPLEEN SPECT IMAGING

May be demonstrated on patients or phantoms or as simulations (non-patients)

Please evaluate the student's performance as "S" for satisfactory or "U" for unsatisfactory. A grade of "S" indicated that the student is meeting expectations while a grade of "U" indicates that the student demonstrates unacceptable clinical behavior. The student must have completed these procedures on his/her own prior to taking the practical exam.

	<i>SCORE</i>	<i>N/A</i>
1. The requisition was retrieved and properly reviewed.	_____	<input type="checkbox"/>
2. The patient was positively identified.	_____	<input type="checkbox"/>
3. Orders were found in the chart.	_____	<input type="checkbox"/>
4. Patients had no previous barium studies that would interfere with the procedure.	_____	<input type="checkbox"/>
5. Study was explained to the patient.	_____	<input type="checkbox"/>
6. Correct imaging equipment was selected.	_____	<input type="checkbox"/>
7. Correct collimator was selected.	_____	<input type="checkbox"/>
8. Correct imaging parameters were selected.	_____	<input type="checkbox"/>
9. The correct dose was stated.	_____	<input type="checkbox"/>
10. The radiopharmaceutical was correctly drawn using aseptic technique.	_____	<input type="checkbox"/>
11. Radiopharmaceutical was measured in the dose calibrator.	_____	<input type="checkbox"/>
12. Patient was correctly positioned for the ECT portion of the study.	_____	<input type="checkbox"/>
13. Radiopharmaceutical was correctly administered according to protocol.	_____	<input type="checkbox"/>
14. Used syringes and other materials were correctly disposed.	_____	<input type="checkbox"/>

	<i>SCORE</i>	<i>N/A</i>
15. Image acquisition onto film for ECT was correctly performed.	_____	<input type="checkbox"/>
16. Correct analysis of ECT data was performed by:		<input type="checkbox"/>
a) Correct selection of data for analysis.	_____	<input type="checkbox"/>
b) Correct selection of parameters for data analysis according to department protocol.	_____	<input type="checkbox"/>
c) Correct analysis and evaluation of results.	_____	<input type="checkbox"/>
17. Films were correctly developed and labeled.	_____	<input type="checkbox"/>
18. Films were correctly assembled for reading.	_____	<input type="checkbox"/>
19. Departmental forms were completed in a correct manner.	_____	<input type="checkbox"/>
20. The procedure was completed in a timely manner.	_____	<input type="checkbox"/>
21. The student understands the rationale behind each step of the procedure.	_____	<input type="checkbox"/>

Remarks: _____

Affiliate education supervisors

Signature: _____

Student's Signature: _____

Date: _____

UAMS-CHP-NMIS
Clinical Coordinator
Signature: _____

Clinical
Rotation: _____

**Nuclear Medicine Imaging Sciences
Student Evaluation Form: Competency Exam
Imaging Internship**

LYMPHOSCINTIGRAPHY

Please evaluate the student's performance as "S" for satisfactory or "U" for unsatisfactory. A grade of "S" indicates that the student is meeting expectations while a grade of "U" indicates the student demonstrates unacceptable clinical behavior. The student must have completed these procedures on his/her own prior to taking the practical exam.

	SCORE	N/A
1. The requisition was retrieved and properly reviewed.	_____	<input type="checkbox"/>
2. Patient was positively identified.	_____	<input type="checkbox"/>
3. Orders were found in the chart.	_____	<input type="checkbox"/>
4. Study was explained to the patient.	_____	<input type="checkbox"/>
5. The correct dose was stated.	_____	<input type="checkbox"/>
6. Radiopharmaceutical was correctly drawn up using aseptic technique.	_____	<input type="checkbox"/>
7. Radiopharmaceutical was measured in the dose calibrator.	_____	<input type="checkbox"/>
8. Dosing tray was assembled correctly for NM physician to inject.	_____	<input type="checkbox"/>
9. Assess for proper patient prep if surgery is to follow procedure.	_____	<input type="checkbox"/>
10. The location of biopsies were correctly noted.	_____	<input type="checkbox"/>
11. Patient was positioned correctly for injection and dynamic imaging.	_____	<input type="checkbox"/>
12. Proper imaging equipment was selected.	_____	<input type="checkbox"/>
13. Correct collimator was selected.	_____	<input type="checkbox"/>
14. Correct dynamic imaging parameters were selected.	_____	<input type="checkbox"/>
15. Correct static imaging parameters were selected.	_____	<input type="checkbox"/>
16. Dosing materials were disposed of properly.	_____	<input type="checkbox"/>
17. Image acquisition onto film was correctly performed.	_____	<input type="checkbox"/>

	SCORE	N/A
18. Films were correctly developed and labeled.	_____	<input type="checkbox"/>
22. Films were correctly assembled for reading.	_____	<input type="checkbox"/>
23. Departmental forms were completed in a correct manner.	_____	<input type="checkbox"/>
24. The procedure was completed in a timely manner.	_____	<input type="checkbox"/>
25. The student understands the rationale behind each step of the procedure.	_____	<input type="checkbox"/>

Remarks: _____

 Affiliate education supervisors

Signature: _____

Student's Signature: _____

Date: _____

Clinical
 Rotation: _____

UAMS-CHP-NMIS
 Clinical Coordinator
 Signature: _____

**Nuclear Medicine Imaging Sciences
Student Evaluation Form: Competency Exam
Imaging Internship**

MECKEL'S SCAN

Please evaluate the student's performance as "S" for satisfactory or "U" unsatisfactory. A grade of "S" indicates that a student is meeting expectations while a grade of "U" indicates the student demonstrates unacceptable clinical behavior. The student must have completed these procedures on his/her own prior to taking the practical exam.

	<i>SCORE</i>	<i>N/A</i>
1. The requisition was retrieved and properly reviewed.	_____	<input type="checkbox"/>
2. Patient was positively identified.	_____	<input type="checkbox"/>
3. Orders were found in the chart.	_____	<input type="checkbox"/>
4. Study was explained to the patient.	_____	<input type="checkbox"/>
5. Patient prep, i.e. NPO, was correctly established.	_____	<input type="checkbox"/>
6. The correct dose and radiopharmaceutical was stated.	_____	<input type="checkbox"/>
7. Radiopharmaceutical was handled using correct technique.	_____	<input type="checkbox"/>
8. Radiopharmaceutical was measured in dose calibrator.	_____	<input type="checkbox"/>
9. Correct imaging equipment was selected.	_____	<input type="checkbox"/>
10. Correct collimator was selected.	_____	<input type="checkbox"/>
11. Correct imaging parameters were selected.	_____	<input type="checkbox"/>
12. Correct parameters were set to collect information on the computer.	_____	<input type="checkbox"/>
13. Radiopharmaceutical was correctly administered according to protocol.	_____	<input type="checkbox"/>
14. Materials were correctly disposed.	_____	<input type="checkbox"/>
15. Patient was correctly positioned.	_____	<input type="checkbox"/>
16. Image acquisition onto film was correctly performed.	_____	<input type="checkbox"/>
17. Acquisition onto the computer was correctly performed.	_____	<input type="checkbox"/>
18. Films were correctly developed and labeled.	_____	<input type="checkbox"/>
19. Films were correctly assembled for reading.	_____	<input type="checkbox"/>

	<u>SCORE</u>	<i>N/A</i>
20. Departmental forms were completed in a correct manner.	_____	<input type="checkbox"/>
21. The procedure was completed in a timely manner.	_____	<input type="checkbox"/>
22. The student understands the rationale behind each step of the procedure.	_____	<input type="checkbox"/>

Remarks: _____

 Affiliate education supervisors

Signature: _____

Student's Signature: _____

Date: _____

Clinical
 Rotation: _____

UAMS-CHP-NMIS
 Clinical Coordinator
 Signature: _____

**Nuclear Medicine Imaging Sciences
Student Evaluation Form: Competency Exam
Imaging Internship**

MONOCLONAL IMAGING

Please evaluate the student's performance as "S" for satisfactory or "U" for unsatisfactory. A grade of "S" indicates that the student is meeting expectations while a grade of "U" indicated the student demonstrates unacceptable clinical behavior. The student must have completed these procedures on his/her own prior to taking the practical exam.

	SCORE	N/A
1. The requisition was retrieved and properly reviewed	_____	<input type="checkbox"/>
2. Patient was positively identified.	_____	<input type="checkbox"/>
3. Orders were found in the chart.	_____	<input type="checkbox"/>
4. Study was explained to the patient.	_____	<input type="checkbox"/>
5. Radiopharmaceutical was correctly prepared.	_____	<input type="checkbox"/>
6. Radiopharmaceutical was measured in the dose calibrator.	_____	<input type="checkbox"/>
7. Radiopharmaceutical was correctly administered according to protocol.	_____	<input type="checkbox"/>
8. Used syringes and other materials were correctly disposed.	_____	<input type="checkbox"/>
9. Return time for imaging was correctly stated.	_____	<input type="checkbox"/>
10. Patient prep was established as being correctly done.	_____	<input type="checkbox"/>
11. Correct imaging equipment was selected.	_____	<input type="checkbox"/>
12. Correct collimator was selected.	_____	<input type="checkbox"/>
13. Correct imaging parameters were selected for:		<input type="checkbox"/>
a) Whole body views		
b) Static views		
c) ECT images	_____	
14. Patient was correctly positioned for:	_____	<input type="checkbox"/>
a) Whole body views	_____	<input type="checkbox"/>
b) Static views	_____	<input type="checkbox"/>
c) ECT images	_____	<input type="checkbox"/>
15. Image acquisition onto film was correctly performed.	_____	<input type="checkbox"/>
16. Films were correctly developed and labeled.	_____	<input type="checkbox"/>
17. Films were correctly assembled for reading.	_____	<input type="checkbox"/>

	SCORE	N/A
18. Departmental forms were completed in a correct manner.	_____	<input type="checkbox"/>
19. Patient was given correct return time if more delays were necessary.	_____	<input type="checkbox"/>
20. The procedure was completed in a timely manner.	_____	<input type="checkbox"/>
21. The student understands the rationale behind each step of the procedure.	_____	<input type="checkbox"/>

Remarks: _____

 Affiliate education supervisors
 Signature: _____

Student's Signature: _____

Date: _____
 UAMS-CHP-NMIS
 Clinical Coordinator
 Signature: _____

Clinical
 Rotation: _____

**Nuclear Medicine Imaging Sciences
Student Evaluation Form: Competency Exam
Imaging Internship**

GALLIUM ONCOLOGY

Please evaluate the student's performance as "S" for satisfactory or "U" for unsatisfactory. A grade of "S" indicates that the student is meeting expectations while a grade of "U" indicates the student demonstrates unacceptable clinical behavior. The student must have completed these procedures on his/her own prior to taking the practical exam.

	SCORE	N/A
1. The requisition was retrieved and properly reviewed.	_____	<input type="checkbox"/>
2. Patient was positively identified.	_____	<input type="checkbox"/>
3. Orders were found in the chart.	_____	<input type="checkbox"/>
4. Study was explained to the patient.	_____	<input type="checkbox"/>
5. The correct dose was stated.	_____	<input type="checkbox"/>
6. Radiopharmaceutical was correctly drawn up using aseptic technique.	_____	<input type="checkbox"/>
7. Radiopharmaceutical was measured in the dose calibrator.	_____	<input type="checkbox"/>
8. Radiopharmaceutical was correctly administered according to protocol.	_____	<input type="checkbox"/>
9. Used syringes and other materials were correctly disposed.	_____	<input type="checkbox"/>
10. Correct return time for imaging was correctly stated.	_____	<input type="checkbox"/>
11. Patient prep was established as being correctly done.	_____	<input type="checkbox"/>
12. Correct imaging equipment was selected.	_____	<input type="checkbox"/>
13. Correct collimator was selected.	_____	<input type="checkbox"/>
14. Correct imaging parameters were selected for:		
a) Whole body views (anterior and posterior)	_____	<input type="checkbox"/>
b) Spot views	_____	<input type="checkbox"/>
c) ECT images	_____	<input type="checkbox"/>

	SCORE	N/A
15. Patient was correctly positioned for:		
a) Whole body views (anterior and posterior)	_____	<input type="checkbox"/>
b) Spot views	_____	<input type="checkbox"/>
c) ECT images	_____	<input type="checkbox"/>
16. Image acquisition onto film was correctly performed for all views.	_____	<input type="checkbox"/>
17. Films were correctly developed and labeled.	_____	<input type="checkbox"/>
18. Films were correctly assembled for reading.	_____	<input type="checkbox"/>
19. Films were assessed for need for further images.	_____	<input type="checkbox"/>
20. Departmental forms were completed in a correct manner.	_____	<input type="checkbox"/>
21. The procedure was completed in a timely manner.	_____	<input type="checkbox"/>
22. The student understands the rationale behind each step of the procedure.	_____	<input type="checkbox"/>

Remarks: _____

Affiliate education supervisors

Signature: _____

Student's Signature: _____

Date: _____

Clinical
Rotation: _____

UAMS-CHP-NMIS
Clinical Coordinator
Signature: _____

**Nuclear Medicine Imaging Sciences
Student Evaluation Form: Competency Exam
Imaging Internship**

GALLIUM INFECTION

Please evaluate the student's performance as "S" for satisfactory or "U" for unsatisfactory. A grade of "S" indicates that the student is meeting expectations while a grade of "U" indicates the student demonstrates unacceptable clinical behavior. The student must have completed these procedures on his/her own prior to taking the practical exam.

	SCORE	N/A
17. The requisition was retrieved and properly reviewed.	_____	<input type="checkbox"/>
18. Patient was positively identified.	_____	<input type="checkbox"/>
19. Orders were found in the chart.	_____	<input type="checkbox"/>
20. Study was explained to the patient.	_____	<input type="checkbox"/>
21. The correct dose was stated.	_____	<input type="checkbox"/>
22. Radiopharmaceutical was correctly drawn up using aseptic technique.	_____	<input type="checkbox"/>
23. Radiopharmaceutical was measured in the dose calibrator.	_____	<input type="checkbox"/>
24. Radiopharmaceutical was correctly administered according to protocol.	_____	<input type="checkbox"/>
25. Used syringes and other materials were correctly disposed.	_____	<input type="checkbox"/>
26. Correct return time for imaging was correctly stated.	_____	<input type="checkbox"/>
27. Patient prep was established as being correctly done.	_____	<input type="checkbox"/>
28. Correct imaging equipment was selected.	_____	<input type="checkbox"/>
29. Correct collimator was selected.	_____	<input type="checkbox"/>
30. Correct imaging parameters were selected for:		
a) Whole body views (anterior and posterior)	_____	<input type="checkbox"/>
b) Spot views	_____	<input type="checkbox"/>
c) ECT images	_____	<input type="checkbox"/>

	SCORE	N/A
31. Patient was correctly positioned for:		
a) Whole body views (anterior and posterior)	_____	<input type="checkbox"/>
b) Spot views	_____	<input type="checkbox"/>
c) ECT images	_____	<input type="checkbox"/>
32. Image acquisition onto film was correctly performed for all views.	_____	<input type="checkbox"/>
23. Films were correctly developed and labeled.	_____	<input type="checkbox"/>
24. Films were correctly assembled for reading.	_____	<input type="checkbox"/>
25. Films were assessed for need for further images.	_____	<input type="checkbox"/>
26. Departmental forms were completed in a correct manner.	_____	<input type="checkbox"/>
27. The procedure was completed in a timely manner.	_____	<input type="checkbox"/>
28. The student understands the rationale behind each step of the procedure.	_____	<input type="checkbox"/>

Remarks: _____

Affiliate education supervisors

Signature: _____

Student's Signature: _____

Date: _____

Clinical
Rotation: _____

UAMS-CHP-NMIS
Clinical Coordinator
Signature: _____

**Nuclear Medicine Imaging Sciences
Student Evaluation Form: Competency Exam
Imaging Internship**

PARATHYROID IMAGING

Please evaluate the student's performance as "S" for satisfactory or "U" for unsatisfactory. A grade of "S" indicates that the student is meeting expectations while a grade of "U" indicates the student demonstrates unacceptable clinical behavior. The student must have completed these procedures on his/her own prior to taking the practical exam.

	SCORE	N/A
1. The requisition was retrieved and properly reviewed.	_____	<input type="checkbox"/>
2. Patient was positively identified.	_____	<input type="checkbox"/>
3. Orders were found in the chart.	_____	<input type="checkbox"/>
4. Study was explained to the patient.	_____	<input type="checkbox"/>
5. The correct dose was stated.	_____	<input type="checkbox"/>
6. Radiopharmaceutical was correctly drawn up using aseptic technique.	_____	<input type="checkbox"/>
7. Radiopharmaceutical was measured in the dose calibrator.	_____	<input type="checkbox"/>
8. Radiopharmaceutical was correctly administered according to protocol.	_____	<input type="checkbox"/>
9. Used syringes and other materials were correctly disposed.	_____	<input type="checkbox"/>
10. Correct return time for imaging was correctly stated.	_____	<input type="checkbox"/>
11. Patient prep was established as being correctly done.	_____	<input type="checkbox"/>
12. Correct imaging equipment was selected.	_____	<input type="checkbox"/>
13. Correct collimator was selected.	_____	<input type="checkbox"/>
14. Correct imaging parameters were selected.	_____	<input type="checkbox"/>
15. Patient was correctly positioned for images	_____	<input type="checkbox"/>
16. Image acquisition onto film was correctly performed.	_____	<input type="checkbox"/>
17. Films were correctly developed and labeled.	_____	<input type="checkbox"/>
18. Films were correctly assembled for reading.	_____	<input type="checkbox"/>
19. Departmental forms were completed in a correct manner.	_____	<input type="checkbox"/>

20. The procedure was completed in a timely manner.

21. The student understands the rationale behind each step of the procedure.

Remarks: _____

Affiliate education supervisors

Signature: _____

Student's Signature: _____

Date: _____

Clinical
Rotation: _____

UAMS-CHP-NMIS
Clinical Coordinator
Signature:

**Nuclear Medicine Imaging Sciences
Student Evaluation Form: Competency Exam
Imaging Internship**

QUANTITATIVE LUNG IMAGING

Please evaluate the student's performance as "S" for satisfactory or "U" for unsatisfactory. A grade of "S" indicates that the student is meeting expectations while a grade of "U" indicates the student demonstrates unacceptable clinical behavior. The student must have completed these procedures on his/her own prior to taking the practical exam.

	<i>SCORE</i>	<i>N/A</i>
1. The requisition was retrieved and properly reviewed.	_____	<input type="checkbox"/>
2. Patient was positively identified.	_____	<input type="checkbox"/>
3. Orders were found in the chart.	_____	<input type="checkbox"/>
4. Study was explained to the patient.	_____	<input type="checkbox"/>
5. Correct imaging equipment was selected.	_____	<input type="checkbox"/>
6. Correct collimator was selected.	_____	<input type="checkbox"/>
7. Correct imaging parameters for the perfusion portion were selected.	_____	<input type="checkbox"/>
8. The correct dose and radiopharmaceutical for the perfusion was stated.	_____	<input type="checkbox"/>
9. Radiopharmaceutical was correctly drawn up using aseptic technique.	_____	<input type="checkbox"/>
10. Radiopharmaceutical was measured in the dose calibrator.	_____	<input type="checkbox"/>
11. Patient was correctly positioned for the dose administration	_____	<input type="checkbox"/>
12. Radiopharmaceutical was correctly administered according to protocol.	_____	<input type="checkbox"/>
13. Correct dose to scan time was stated.	_____	<input type="checkbox"/>
14. Patient was correctly positioned for all routine views:	_____	<input type="checkbox"/>

	<i>SCORE</i>	<i>N/A</i>
15. Computer analysis for quantitative data was correctly performed:		
16. Selection of appropriate data for requisite regions of interest	_____	<input type="checkbox"/>
a) Correct positioning of ROI's	_____	<input type="checkbox"/>
c) Generate correct percentage for each quadrant	_____	<input type="checkbox"/>
e) Image acquisition onto film for all the above views was correctly performed.	_____	<input type="checkbox"/>
17. Films were correctly developed and labeled.	_____	<input type="checkbox"/>
18. Films were correctly assembled for reading.	_____	<input type="checkbox"/>
19. Appropriate chest films were assembled with the study.	_____	<input type="checkbox"/>
20. Departmental forms were completed in a correct manner.	_____	<input type="checkbox"/>
21. The procedure was completed in a timely manner.	_____	<input type="checkbox"/>
22. The student understands the rationale behind each step of the procedure.	_____	<input type="checkbox"/>

Remarks: _____

Affiliate education supervisors

Signature: _____

Student's Signature: _____

Date: _____

Clinical
Rotation: _____

UAMS-CHP-NMIS
Clinical Coordinator
Signature: _____

**Nuclear Medicine Imaging Sciences
Student Evaluation Form: Competency Exam
Imaging Internship**

SCINTIMAMMOGRAPHY

Please evaluate the student's performance as "S" for satisfactory or "U" for unsatisfactory. A grade of "S" indicates that the student is meeting expectations while a grade of "U" indicated the student demonstrates unacceptable clinical behavior. The student must have completed these procedures on his/her own prior to taking the practical exam.

	<i>SCORE</i>	<i>N/A</i>
1. The requisition was retrieved and properly reviewed.	_____	<input type="checkbox"/>
2. Patient was positively identified.	_____	<input type="checkbox"/>
3. Orders were found in the chart	_____	<input type="checkbox"/>
4. Patient prep was correctly established.	_____	<input type="checkbox"/>
5. Study was explained to the patient.	_____	<input type="checkbox"/>
6. Correct imaging equipment was selected.	_____	<input type="checkbox"/>
7. Correct collimator was selected.	_____	<input type="checkbox"/>
8. Correct imaging parameters were selected.	_____	<input type="checkbox"/>
9. The correct dose was stated.	_____	<input type="checkbox"/>
10. Radiopharmaceutical was correctly drawn up using aseptic technique.	_____	<input type="checkbox"/>
11. Radiopharmaceutical was measured in the dose calibrator.	_____	<input type="checkbox"/>
12. Radiopharmaceutical was correctly administered according to protocol.	_____	<input type="checkbox"/>
13. Correct dose to scan time was stated.	_____	<input type="checkbox"/>
14. Used syringes and other materials were correctly disposed.	_____	<input type="checkbox"/>
15. Patient was correctly positioned for each view:		
a) Lateral	_____	<input type="checkbox"/>
b) Anterior	_____	<input type="checkbox"/>
c) Anterior for deep lesions	_____	<input type="checkbox"/>

	<i>Score</i>	<i>N/A</i>
16. Image acquisition onto film for all the above views was correctly performed		<input type="checkbox"/>
17. Films were correctly developed and labeled	_____	<input type="checkbox"/>
18. Films were correctly assembled for reading	_____	<input type="checkbox"/>
19. Departmental forms were completed in a correct manner		<input type="checkbox"/>
20. The procedure was completed in a timely manner	_____	<input type="checkbox"/>
21. The student understands the rationale behind each step of the procedure	_____	<input type="checkbox"/>

Remarks: _____

 Affiliate education supervisors

Signature: _____

Student's Signature: _____

Date: _____ Clinical Rotation: _____

UAMS-CHP-NMIS
 Clinical Coordinator
 Signature: _____

Imaging Competency Evaluations: Trajecsys

The following is a screenshot of a competency evaluation. **Only affiliate education supervisors have access to these forms.** As a student feels competent in the procedure, they should perform a procedure for the affiliate education supervisor. If the affiliate education supervisor feels that the student understands not only the procedure, but also the rationale behind the exam, then the affiliate education supervisor may fill out the competency form on the student. By filling out this form, the affiliate education supervisor is confirming that the student is competent to perform this exam without any supervision, and would feel comfortable telling other affiliate education supervisors that the student could perform this procedure at other clinical sites with minimal supervision.

The affiliate education supervisor should select “Competency Eval” from the main menu. Choose the student, major skill and procedure.

Select student first.

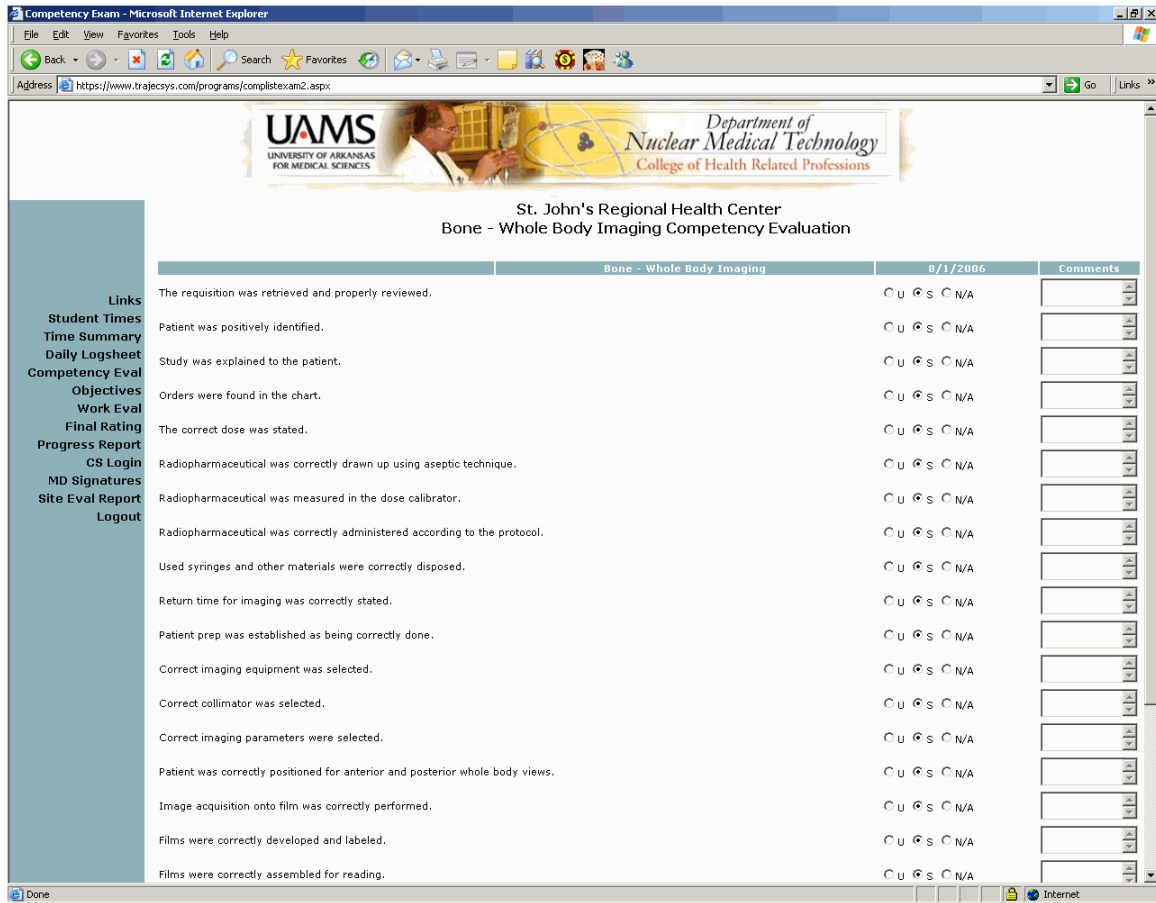
Please select Student, Major Study, and Procedure.

*Student:

*Major Study:

*Procedure:

Once the criteria above has been selected, the affiliate education supervisor will get the competency form: (Screenshot example of a Bone – Whole Body Imaging)



Each competency form has specific questions related to that procedure. Students are graded on a “U”, “S”, “N/A” scale. Any “U” on the competency form requires a comment in the comment box. At the end of each competency form, there are “Approved” and “Not Approved” selection buttons.

Approved Not Approved

Any “U” constitutes an unsatisfactory performance and the affiliate education supervisor should choose “Not Approved”. If there are no “U’s” reported on the competency form, then the “Approved” button should be selected.

**Nuclear Medicine Imaging Sciences
Student Evaluation Form: Competency Exam
Imaging Internship**

RADIOPHARMACY DOSE CALCULATION COMPETENCY

Please evaluate the student's performance as "S" for satisfactory or "U" for unsatisfactory. A grade of "S" indicates that the student is meeting expectations while a grade of "U" indicated the student demonstrates unacceptable clinical behavior. The student must have completed these procedures on his/her own prior to taking the practical exam.

	SCORE	N/A
1. Patient name and study were verified from the requisition.		<input type="checkbox"/>
2. The correct radiopharmaceutical was selected.	_____	<input type="checkbox"/>
3. The elapsed time between assay calibration and dose calculation was correctly determined.	_____	<input type="checkbox"/>
4. The remaining activity in the vial was correctly determined.	_____	<input type="checkbox"/>
5. The activity required for the dose was correctly determined.	_____	<input type="checkbox"/>
6. The volume was correctly determined.	_____	<input type="checkbox"/>
7. The dose was correctly drawn up using sterile technique and appropriate shielding.	_____	<input type="checkbox"/>
8. The appropriate data was entered into the log book.		<input type="checkbox"/>

Remarks: _____

Affiliate education supervisors
Signature: _____

Student's Signature: _____

Date: _____ Clinical Rotation: _____

UAMS-CHP-NMIS
Clinical Coordinator
Signature: _____

**Nuclear Medicine Imaging Sciences
Student Evaluation Form: Competency Exam
Imaging Internship**

**RADIOPHARMACY GENERATOR ELUTION AND ASSAY
AND Mo-99 ASSAY COMPETENCY**

Please evaluate the student's performance as "S" for satisfactory or "U" for unsatisfactory. A grade of "S" indicates that the student is meeting expectations while a grade of "U" indicated the student demonstrates unacceptable clinical behavior. The student must have completed these procedures on his/her own prior to taking the practical exam.

ELUTING ⁹⁹Mo/^{99m}Tc GENERATOR

	SCORE	N/A
1. Accessories were correctly assembled to elute the generator to include:		
a) Vial shield	_____	<input type="checkbox"/>
b) Vials	_____	<input type="checkbox"/>
c) Materials for aseptic technique	_____	<input type="checkbox"/>
2. The procedure was correctly performed		
a) using lead shield	_____	<input type="checkbox"/>
b) using gloves	_____	<input type="checkbox"/>
3. The vials were attached to the correct input and output needles.	_____	<input type="checkbox"/>
4. The eluate was assayed in the dose calibrator	_____	<input type="checkbox"/>
5. The assay results were correctly entered in the log books with the following information: activity, volume, concentration, date, time of assay, and radiopharmaceutical.	_____	<input type="checkbox"/>

MOLYBDENUM-99 ASSAY

	SCORE	N/A
1. Pertechnetate concentration was properly assayed using appropriate dose calibrator settings.	_____	<input type="checkbox"/>
2. The ⁹⁹ Mo concentration was properly assayed using the appropriate dose calibrator settings.	_____	<input type="checkbox"/>
3. The ⁹⁹ Mo activity per mCi of ^{99m} Tc was		
a) properly calculated	_____	<input type="checkbox"/>
b) determined acceptable	_____	<input type="checkbox"/>
4. Results were correctly recorded in the appropriate log book.	_____	<input type="checkbox"/>

Remarks: _____

Affiliate education supervisors

Signature: _____

Student's Signature: _____

Date: _____

Clinical
Rotation: _____

UAMS-CHP-NMIS
Clinical Coordinator
Signature: _____

**Nuclear Medicine Imaging Sciences
Student Evaluation Form: Competency Exam
Imaging Internship**

RADIOPHARMACY KIT PREPARATION COMPETENCY

Please evaluate the student's performance as "S" for satisfactory or "U" for unsatisfactory. A grade of "S" indicates that the student is meeting expectations while a grade of "U" indicated the student demonstrates unacceptable clinical behavior. The student must have completed these procedures on his/her own prior to taking the practical exam.

	SCORE	N/A
1. The activity and volume of radioactivity to be added to the kit was properly determined.	_____	<input type="checkbox"/>
2. The radioactive dose and volume was recorded in the daily log book for pertechnetate.	_____	<input type="checkbox"/>
3. The kit was prepared according to the manufacturer's directions.	_____	<input type="checkbox"/>
4. The total activity of the kit was confirmed in the dose calibrator.	_____	<input type="checkbox"/>
5. The concentration was properly calculated and recorded in the log book.	_____	<input type="checkbox"/>
6. All necessary entries were made in the appropriate log book.	_____	<input type="checkbox"/>

Remarks: _____

Affiliate education supervisors
Signature: _____

Student's Signature: _____

Date: _____ Clinical Rotation: _____

UAMS-CHP-NMIS
Clinical Coordinator
Signature: _____

**Nuclear Medicine Imaging Sciences
Student Evaluation Form: Competency Exam
Imaging Internship**

RADIOPHARMACEUTICAL KIT QUALITY CONTROL COMPETENCY

Please evaluate the student's performance as "S" for satisfactory or "U" for unsatisfactory. A grade of "S" indicates that the student is meeting expectations while a grade of "U" indicated the student demonstrates unacceptable clinical behavior. The student must have completed these procedures on his/her own prior to taking the practical exam.

	SCORE	N/A
1. For the radiopharmaceutical prepared, the particle sizing was checked as appropriate and correctly determined to be usable.		<input type="checkbox"/>
2. Chromatography was properly performed as follows:		
a) All materials were correctly assembled.		<input type="checkbox"/>
b) Expediency was used when the radiopharmaceutical is unstable.	_____	<input type="checkbox"/>
c) Protocol was strictly adhered to.		<input type="checkbox"/>
d) Finished chromatogram was properly separated to accurately determine the various forms of ^{99m} Tc.	_____	<input type="checkbox"/>
e) Counting equipment for analyzation was properly used.	_____	<input type="checkbox"/>
f) Determination of percent hydrolyzed was correctly calculated.	_____	<input type="checkbox"/>
g) Determination of percent bound was correctly calculated.	_____	<input type="checkbox"/>
h) Data was properly recorded in the appropriate log book.	_____	<input type="checkbox"/>

Remarks: _____

Affiliate education supervisors

Signature: _____

Student's Signature: _____

Date: _____

Clinical
Rotation: _____

UAMS-CHP-NMIS
Clinical Coordinator
Signature: _____

**Nuclear Medicine Imaging Sciences
Student Evaluation Form: Competency Exam
Imaging Internship**

RADIOPHARMACY PACKAGE RECEIVING COMPETENCY

Please evaluate the student's performance as "S" for satisfactory or "U" for unsatisfactory. A grade of "S" indicates that the student is meeting expectations while a grade of "U" indicated the student demonstrates unacceptable clinical behavior. The student must have completed these procedures on his/her own prior to taking the practical exam.

	SCORE	N/A
When receiving and processing radioactive shipments, the following procedures were observed:		
1. Package was visually inspected for damage.	_____	<input type="checkbox"/>
2. Wipe tests were performed on the exterior packaging.	_____	<input type="checkbox"/>
3. Survey meter readings were made at the surface and one meter away.	_____	<input type="checkbox"/>
4. Radioactive signs were defaced.	_____	<input type="checkbox"/>
5. The radioactive material was properly stored.	_____	<input type="checkbox"/>

Remarks: _____

Affiliate education supervisors
Signature: _____

Student's Signature: _____

Date: _____ Clinical Rotation: _____

UAMS-CHP-NMIS
Clinical Coordinator
Signature: _____

**Nuclear Medicine Imaging Sciences
Student Evaluation Form: Competency Exam
Imaging Internship**

RADIOPHARMACY PACKAGING AND SHIPPING COMPETENCY

Please evaluate the student's performance as "S" for satisfactory or "U" for unsatisfactory. A grade of "S" indicates that the student is meeting expectations while a grade of "U" indicated the student demonstrates unacceptable clinical behavior. The student must have completed these procedures on his/her own prior to taking the practical exam.

	SCORE	N/A
When shipping radioactive materials, the following procedures were observed:		
1. PIGS used for shipment were properly wiped and sealed.		<input type="checkbox"/>
2. PIGS were placed in the proper shipping container.		<input type="checkbox"/>
3. Wipes were performed and survey meter readings were made at the surface and one meter away.	_____	<input type="checkbox"/>
4. Radioactive labels contained the correct information.	_____	<input type="checkbox"/>
5. Radioactive labels were properly placed on the package.	_____	<input type="checkbox"/>

Remarks: _____

Affiliate education supervisors

Signature: _____

Student's Signature: _____

Date: _____ Clinical
Rotation: _____

UAMS-CHP-NMIS
Clinical Coordinator
Signature: _____

Radiopharmacy Competency Evaluations: Trajecsys

The following is a screenshot of a radiopharmacy competency evaluation. **Only affiliate education supervisors have access to these forms.** As a student feels competent in the procedure, they should perform a procedure for the affiliate education supervisor. If the affiliate education supervisor feels that the student understands not only the procedure, but also the rationale behind the exam, then the affiliate education supervisor may fill out the competency form on the student. By filling out this form, the affiliate education supervisor is confirming that the student is competent to perform this exam without any supervision, and would feel comfortable telling other affiliate education supervisors that the student could perform this procedure at other clinical sites with minimal supervision.

The affiliate education supervisor should select “Competency Eval” from the main menu. Choose the student, major skill and procedure.

Select student first.

Please select Student, Major Study, and Procedure.

*Student:

*Major Study:

*Procedure:

Once the criteria above has been selected, the affiliate education supervisor will get the competency form: (Screenshot example of a Dose Calculation)

UAMS
UNIVERSITY OF ARKANSAS
FOR MEDICAL SCIENCES

Department of
Nuclear Medical Technology
College of Health Related Professions

St. John's Regional Health Center
Dose Calculation Competency Evaluation

	Dose Calculation	8/7/2006	Comments
Patient name and study were verified from the requisition.	<input type="radio"/> U <input checked="" type="radio"/> S <input type="radio"/> N/A		<input type="text"/>
The correct radiopharmaceutical was selected.	<input type="radio"/> U <input checked="" type="radio"/> S <input type="radio"/> N/A		<input type="text"/>
The elapsed time between assay calibration and dose calculation was correctly determined.	<input type="radio"/> U <input checked="" type="radio"/> S <input type="radio"/> N/A		<input type="text"/>
The remaining activity in the vial was correctly determined.	<input type="radio"/> U <input checked="" type="radio"/> S <input type="radio"/> N/A		<input type="text"/>
The activity required for the dose was correctly determined.	<input type="radio"/> U <input checked="" type="radio"/> S <input type="radio"/> N/A		<input type="text"/>
The volume was correctly determined.	<input type="radio"/> U <input checked="" type="radio"/> S <input type="radio"/> N/A		<input type="text"/>
The dose was correctly drawn up using sterile technique and appropriate shielding.	<input type="radio"/> U <input checked="" type="radio"/> S <input type="radio"/> N/A		<input type="text"/>
The appropriate data was entered into the log book.	<input type="radio"/> U <input checked="" type="radio"/> S <input type="radio"/> N/A		<input type="text"/>

Previous competency attempts for Dose Calculation:
 12/15/05 Cardinal Health Nuclear Pharmacy Services by REINERT, JEFF, Supervisor Approved:Yes
 12/09/05 Freeman Hospital by LACEY, KIP, Supervisor Approved:Yes

Approved Not Approved

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Each competency form has specific questions related to that procedure. Student's are graded on a "U", "S" "N/A" scale. Any "U" on the competency form requires a comment in the comment box. At the end of each competency form, there are "Approved" and "Not Approved" selection buttons.

Approved Not Approved

Any "U" constitutes an unsatisfactory performance and the affiliate education supervisor should choose "Not Approved". If there are no "U's" reported on the competency form, then the "Approved" button should be selected.

**Nuclear Medicine Imaging Sciences
Quality Control Log Sheet
Procedures**

Date ←	_____	_____	_____	_____	_____	_____
Initials¹ ←	_____	_____	_____	_____	_____	_____

Procedure

Camera - Field flood	_____	_____	_____	_____	_____	_____
Camera - Resolution	_____	_____	_____	_____	_____	_____
Dose calibrator - Accuracy	_____	_____	_____	_____	_____	_____
Dose calibrator - Constancy	_____	_____	_____	_____	_____	_____
Dose calibrator - Geometry	_____	_____	_____	_____	_____	_____
Dose calibrator - Linearity	_____	_____	_____	_____	_____	_____
Room survey	_____	_____	_____	_____	_____	_____
SPECT - Uniformity	_____	_____	_____	_____	_____	_____
SPECT - COR	_____	_____	_____	_____	_____	_____
Room Wipe Test	_____	_____	_____	_____	_____	_____
Receiving/Returning	_____	_____	_____	_____	_____	_____

Enter the number of QC procedures accomplished on each day at the clinical site. Student's are required to perform a minimum number of quality control procedures each clinical rotation and each semester. The numbers are as follows:

Procedure Type	Camera Field Flood	Camera Resolution	Dose Calibrator Constancy	Room Surveys	SPECT COR	Room Wipe Test	Returning / Receiving Packages
Minimum Required	15/ semester 5/clinic rotation	3/semester 1/clinic rotation	15/semester 5/clinic rotation	15/ semester 5/clinic rotation	3/semester 1/clinic rotation	3/semester 1/clinic rotation	15/ semester 5/clinic rotation

¹ The supervising technologist must initial each date.

Nuclear Medicine Imaging Sciences Radiopharmacy Log Sheet

Date ←	_____	_____	_____	_____	_____	_____
Initials ³ ←	_____	_____	_____	_____	_____	_____
Procedure						
^{99m} Tc-HM-PAO™/ Indium-111 WBC labeling ⁴	_____	_____	_____	_____	_____	_____
Assay - Moly	_____	_____	_____	_____	_____	_____
Bioassay	_____	_____	_____	_____	_____	_____
Decontamination	_____	_____	_____	_____	_____	_____
Dose calculation/prep	_____	_____	_____	_____	_____	_____
Generator elution	_____	_____	_____	_____	_____	_____
Kit prep	_____	_____	_____	_____	_____	_____
Kit QC	_____	_____	_____	_____	_____	_____
Multichannel QC	_____	_____	_____	_____	_____	_____
Package receiving	_____	_____	_____	_____	_____	_____
Particle check	_____	_____	_____	_____	_____	_____
Room survey - meter	_____	_____	_____	_____	_____	_____
Sealed source wipe test	_____	_____	_____	_____	_____	_____
Wipe test	_____	_____	_____	_____	_____	_____

NOTE: Enter the number of procedures accomplished for each day at the clinical site.

³ The supervising pharmacist/technologist must initial each date.

⁴ Due to regulations, student's may only be able to observe this procedure.

Daily Imaging/Quality Control/Radiopharmacy Log Sheet: Trajecsys

The following is a screenshot of the Daily Log Sheet that the student's and Affiliate education supervisors should complete this form online every day. The menu item for this item is "Daily Log Sheet". This procedure should be as follows:

1. Student should fill this form out on a daily basis. Once submitted, the affiliate education supervisor must approve before procedures will show up on the student skill summary. Start by choosing "Daily Logsheets" on the menu to the left of the page. Make sure to choose the correct date and facility that the procedure was performed at.

The screenshot displays the Trajecsys web application interface. At the top, the UAMS logo and 'Nuclear Medicine Imaging Sciences College of Health Related Professions' are visible. On the left, a vertical navigation menu includes items like 'Home', 'Documents', 'Clock in/out', 'Time Exception', 'Daily Logsheets' (circled in red), 'Reports', 'Comp Evals', 'Comments (0)', 'Send Email', 'Evaluations', 'Log Out', 'Change Password', and 'User Guide'. The main content area shows a 'Daily Logsheets' form with a 'Date' field set to '04/02/2014' and a 'Site' dropdown menu. The dropdown menu is open, showing options: 'Cardinal Health NPS - Springfield', 'Cox South Hospital', 'Martin Center', 'Mercy Clinic - Smith Glynn Callaway', and 'Mercy Hospital - Springfield'. A red circle highlights the 'Add Logsheets' button. The Trajecsys Report System logo is located in the bottom right corner.

Click on the "Add Logsheets" button

You will get the following screenshots. Complete them in order to log your procedures on a daily basis.

Major Study [X]

Simulation

- Imaging
- Radiopharmacy
- Quality Control/Instrumentation
- Radiation Safety
- Simulation
- Testing

Choose what type of procedure you are wanting to log. E.g. Bone scan would be under imaging, Kit quality control would be under Radiopharmacy.

Skill [X]

Quick search

- 99mTc-HM-PAO/Indium-111 WBC Imaging
- Bone - SPECT
- Bone - Spot Imaging
- Bone - Triple Phase Imaging
- Bone - Whole Body Imaging
- Bone Marrow Imaging
- Brain - Dynamic
- Brain - SPECT
- Brain Planar
- Cardiac - First Pass
- Cardiac - Gated Imaging (MUGA)
- Cardiac - Perfusion Imaging
- Cardiac - Perfusion Imaging Gated SPECT
- Cardiac - Viability
- Cardiac Shunt
- Cisternogram
- Cisternogram - CSF Leak

Choose the procedure that you are actually logging. This list comes from the "Imaging" major study and is only a partial list.

Amount ✕

1	2	3	4	5
6	7	8	9	10
11	12	13	14	15
16	17	18	19	20
30	40			

[back](#)

You may log more than one of the same number of procedures at the same time. Choose the number of procedures that you did. (e.g. 3 bone scans)

*Date: *Site:

Retain values on logsheet submissions ([clear](#))

Amount:

Add Logsheet

Major Study	Skill	Participation Level	Amount	Simulation
Imaging	Bone - Spot Imaging	Performed Alone	3	✕

[Last 20 records](#)

Once completed, you should be returned to the main screen where you should see the procedures you just entered similar to that above.

2. The affiliate education supervisor should review all the procedures listed on the daily log sheet. If there are errors, the affiliate education supervisor is to review any information on the procedure. If all procedures look OK, then nothing needs to be done by the affiliate education supervisor. If any problems are noticed, an e-mail should be sent to the clinical coordinator noting these errors. Procedures will show up on the student's skill summary immediately.

**Freeman Hospital
Student Daily Logsheets**

Please approve student logsheets daily. If everything looks OK, you can approve all submitted clock records at once. If they don't look OK, you can edit them or disapprove them. If a student forgot to file a matching time record, you'll find those at the bottom. You can either add one yourself, or notify the student with an automated email request for him to file another time record.

If you disagree with a reported procedure or participation level, click the **Edit** icon to modify the procedure, time, participation level, or to add a comment.

Student	Log Date	Skill	Level	Amount	Edit	User ID
	08/01/06	Cardiac - Perfusion Imaging Gated SPECT	No assistance needed 2	2		187
	08/01/06	Bone - Triple Phase Imaging	No assistance needed 1	1		187
	08/01/06	Lung - Ventilation/Perfusion Imaging	No assistance needed 1	1		187
	08/01/06	Cardiac - Perfusion Imaging	No assistance needed 2	2		187
	08/02/06	Bone - Triple Phase Imaging	No assistance needed 1	1		187
	08/02/06	Cardiac - Perfusion Imaging Gated SPECT	No assistance needed 1	1		187
	08/02/06	Cardiac - Perfusion Imaging	No assistance needed 1	1		187
	08/02/06	Bone - Whole Body Imaging	No assistance needed 1	1		187

Student name will appear here

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Skill Summary: Trajecsyst

The skill summary report contains not only the imaging skills, but also the quality control instrumentation and radiopharmacy skills. This report is the same for both the student and the affiliate education supervisor. However, the affiliate education supervisor can only see student's reports that have rotated through their clinical site.

Skill	Number/ Level of Participation					Total *	Optional	Comps	Average **
	1	2	3	4	5				
99mTc-HM-PAO/Indium-111 WBC Imaging		4				4 2.00 /2.48			
Bone - SPECT			6			6 3.00 /2.97	Yes		
Bone - Spot Imaging		1	6	1	10	18 4.11 /3.55		10/27/06	2/2
Bone - Triple Phase Imaging		2	10	1	1	14 3.07 /3.15			
Bone - Whole Body Imaging		4	10	15	16	45 3.96 /3.54		10/27/06	2/2
Brain - Cisternogram						0 0.00 /2.52	Yes		
Brain - Dynamic						0 0.00 /1.65	Yes		
Brain - SPECT						0 0.00 /2.23	Yes		
Cardiac - First Pass						0 0.00 /2.98	Yes		
Cardiac - Gated Imaging (MUGA)		1	1			2 1.50 /3.01			
Cardiac - Perfusion Imaging		2	6			8 1.75 /3.58			
Cardiac - Perfusion Imaging Gated SPECT		3	5	1		9 1.78 /3.39	Yes		
Gallium - Oncology						0 0.00 /2.48	Yes		
Gastric Emptying		1				1 2.00 /2.91			
GI Bleeding						0 0.00 /2.18	Yes		
Heptobiliary Imaging			11	15	9	35 3.94 /3.29		10/25/06	2/2
I-131 Whole Body						0 0.00 /2.58	Yes		
Liver - Hemangioma						0 0.00 /2.63	Yes		
Liver/Spleen - Planar						0 0.00 /2.74	Yes		
Liver/Spleen - SPECT						0 0.00 /2.47	Yes		
Lung - Quantitative						0 0.00 /2.63	Yes		
Lung - Ventilation/Perfusion Imaging		2	3			5 2.60 /2.96			
Lymphoscintigraphy						0 0.00 /1.89	Yes		
Meckel's Diverticulum						0 0.00 /2.35	Yes		
Monoclonal Antibody						0 0.00 /1.80	Yes		
Parathyroid		1				1 2.00 /2.54	Yes		
PET - Imaging						0 0.00 /3.04			
Renal - Renogram		1	2			3 2.67 /2.45			
Renal - Voiding Cystogram				2		2 3.00 /2.42	Yes		
Scintimammography						0 0.00 /1.23	Yes		
Shunt Tube Patency						0 0.00 /1.71	Yes		
Therapy - Palliative Bone						0 0.00 /1.50	Yes		
Therapy - Thyroid Ablation						0 0.00 /1.63	Yes		

On this report, the procedures are listed and the number of procedures at each level of participation. Under the "Total*" column, the 1st number represents the total number of procedures for all participation levels. The bold number represents the student's average participation level for that procedure. The red number represents the class average for that procedure. The student and affiliate education supervisor can then compare their performance to the class average.

Reading with the Physician: Trajecsys:

Students are expected to sit and read with the physicians. Students should keep a log of the times and procedures that they have sat and read films with the physicians. This log should be given to the affiliate education supervisor to enter in the system.

The affiliate education supervisor will then enter the data into the system on the menu item “MD Signatures”:

The screenshot shows a web browser window titled "Competency Exam - Microsoft Internet Explorer". The address bar displays "https://www.trajecsys.com/programs/dsign.aspx". The page header features the UAMS logo (University of Arkansas for Medical Sciences) and the Department of Nuclear Medical Technology, College of Health Related Professions. The main content area is titled "St. John's Regional Health Center Physician Signatures" and includes the instruction: "As the student presents physician signatures to you, please note here the number. Entering the number indicates that you have seen and approve the submitted signatures." Below this instruction are three dropdown menus: "*Student:", "Student Rotation:", and "*Add signatures:". A "Submit" button is located below the dropdowns. On the left side of the page, there is a vertical menu with the following items: Links, Student Times, Time Summary, Daily Logsheet, Competency Eval, Objectives, Work Eval, Final Rating, Progress Report, CS Login, MD Signatures, Site Eval Report, and Logout. At the bottom of the page, there is a copyright notice for Trajecsys Corporation, dated 2005.

Student Daily Attendance Record: Trajecsys

Students - Clock-ins and Clock-outs are to be done on a daily basis at your clinical site. Trajecsys Corporation tracks the IP address to verify that the student is clocking in/out at the clinical site. Students should gain access to the Internet and use this system to verify attendance at the clinical site. Once the student logs into the Trajecsys system, they should click on the "Clock in/out" menu item. The system will know if the student is currently clocked in/out and will default to the other. Students will then choose their clinical site from the drop down menu and then submit the form.

The screenshot shows a Microsoft Internet Explorer browser window displaying the Trajecsys Clock In/Out system. The address bar shows the URL: <https://www.trajecsys.com/programs/timedlock.aspx>. The page header features the UAMS logo (University of Arkansas for Medical Sciences) and the Department of Nuclear Medical Technology, College of Health Related Professions. A central message states: "You may now use the clock system. We have gone back to the system that was used in the fall for docking in/out. This means that you will NOT have to specify the 'clock in' or 'clock out!' when you are filing a time exception. Please make sure that you pay close attention to the time exception form. Please also go back and file time exceptions for the time that you were not able to put into the system when it was down." Below this message, it indicates "Current rotation began 07/11/2006" and displays "Clock IN" in large red text, with "Time: 1351" in red below it. A dropdown menu for "Site:" is set to "Freeman Hospital". A "Clock IN" button is positioned below the dropdown. A left-hand navigation menu lists: Links, Clock in/out, Time Exception, Daily Logsheets, Objectives, Site Evaluation, Reports, and Logout. The footer includes the Trajecsys Corporation logo and "Copyright © 2005". The Windows taskbar at the bottom shows several open applications, including "Inbox - Microsoft...", "_NMT - Main - DS...", "Clock in / out - ...", "One_Document - ...", "Copy of Competen...", "Clinical Attendanc...", "Jasc Paint Shop Pro", and the system clock showing "1:52 PM".

There may be situations where the student may not be able to log into the computer at the time that they are to clock in or possibly clock out. In the event that Trajecsyst cannot be accessed, students are able to enter their times manually. This is done by the menu item "Time Exception". Students should realize that this method should only be used if the Clock in/out is not available for them at the time needed. Trajecsyst tracks the amount of time that is entered via this method and is reported to the clinical coordinator and program director.

Student's must clock in and out of their clinical site using the computers located in that clinical site. Student's clocking in or out by any other means (home computer, cell phone, etc) will be counseled and two (2) hours will be deducted from their accrued hour bank for the first occurrence. Subsequent occurrences will result in a loss of all clinical hours for each day in question.

Students who cannot access a computer at the clinical site must notify the clinical coordinator of the situation.

The screenshot shows a web browser window titled "Time Exception - Microsoft Internet Explorer". The address bar displays "https://www.trajecsyst.com/programs/dlodExcep.aspx". The page header features the UAMS logo (University of Arkansas for Medical Sciences) and the Department of Nuclear Medical Technology logo (College of Health Related Professions). The main content area is titled "Time exception" and contains the following text: "You may now use the clock system. We have gone back to the system that was used in the fall for docking in/out. This means that you will NOT have to specify the 'clock in' or 'clock out' when you are filing a time exception. Please make sure that you pay close attention to the time exception form. Please also go back and file time exceptions for the time that you were not able to put into the system when it was down." Below this text is a form with the following fields: "Current rotation began 07/11/2006", "*Site:" (dropdown menu showing "Freeman Hospital"), "*Date:" (text input showing "08/03/2006"), "*Time(hhmm):" (text input with a note "Use 24-hour time format"), and "*Reason:" (checkboxes for "Finished early", "No Computer", "No Internet", and "Forgot"). Below the checkboxes is a text area labeled "Or explanation:". A "Submit" button is located at the bottom of the form. The footer of the page includes the Trajecsyst Corporation logo and "Copyright © 2005". The browser's status bar at the bottom shows "Done" and "Internet".

All fields on this form are required. Default check boxes are provided for the convenience of the student. If the reason for filling out this form is not a default checkbox, there is a comment box that needs to be filled out.

Students who are released from clinic as “done for the day” should fill out this form and put the time that they were supposed to leave their clinical rotation for the day.

Affiliate education supervisors:

Once the student has put their times into the Trajecsyst system, times should be approved on a daily basis. To approve the times, access the menu item “Student Times”:

UAMS
UNIVERSITY OF ARKANSAS
FOR MEDICAL SCIENCES

Department of
Nuclear Medical Technology
College of Health Related Professions

Cox South Hospital
Student Times – Unapproved Records

Please approve clock records on a daily basis. If a student forgets to file a clockin/out record, you'll find the ones without a match at the bottom.

Links
Student Times
Time Summary
Daily Logsheet
Competency Eval
Objectives
Work Eval
Final Rating
Progress Report
CS Login
MD Signatures
Site Eval Report
Logout

Please approve all records by clicking the "Approved" button, or edit individual records if needed.

Type	Student	Date	Time	Lunch	Time Change Request	Edit	IPName	UID
clock in		07/31/2006	0800				66.119.4.107	172
clock out		07/31/2006	1630		Finished early		66.119.4.107	172
clock in	Student name will appear here	08/01/2006	0800		No Internet		66.119.4.107	172
clock out		08/01/2006	1630		Finished early		66.119.4.107	172
clock in		08/02/2006	0635		No Internet		66.119.4.107	185
clock out		08/02/2006	1601	30			66.119.4.107	185

Approved

The records below cannot yet be approved because there is no matching record. Click the button below to generate email notifications, or select the "Add" button to create one or more student records.

Type	Student	Date	Time	Time Change Request	Edit	IPName	UID
	Student name will appear here	08/02/2006	0800	No Computer	add new record	66.119.4.107	172
		08/03/2006	0640	Forgot	add new record	66.119.4.107	185

Add new record Generate email notifications

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Matching records will appear in the top section. Affiliate education supervisors should review the times for accuracy. If the times are correct, the supervisor can click the “Approved” button. If the times are not correct, the time can be edited by clicking on the edit icon next to the incorrect time.

The bottom section is for times that do not have a matching record. There are two options for the affiliate education supervisor for these records. By clicking on the “Generate email notifications” button, the system will send an automated e-mail to the student telling them that there is a missing record, giving them the time and the date, asking the student to file a time exception to correct the mismatched record. The affiliate education supervisor may also correct this time themselves, but clicking the “add new record” button next to the mismatched time. This will bring up a form to enter the new time. Once submitted, there will be a matched record and the two matched records will be moved to the top section for approval.

INSTRUCTIONS FOR USING THE LEAVE OF ABSENCE FORM

Students must make requests for time off for purposes of vacation, personal days, and military leave, as well as for jury leave and medical leave where scheduling is possible.

Such requests should be made using the online request form located in the **Blackboard NMIS – Student Center**. The student should fill out this form including the number hours of leave requested and the dates involved. Click on the submit button to send the form to the clinical coordinator. The number of hours accrued will be verified and checked against the number of hours requested. If approval is granted, the form will be e-mailed to student and the affiliate education supervisor.

**Example:
Student Request for Leave of Absence from Clinic**

Student Name: _____

Clinical Rotation Site: _____

I hereby request _____ hours of leave from my current clinical rotation site starting _____ and ending _____ both dates inclusive.

I do do not have enough time accrued to compensate this leave request.

If you do not have enough time accrued, please state the reason(s) for this request for leave. (i.e. family emergency, job interview, etc.)

Student signature: _____ Date: _____

(NOTE: Time off from clinic must be scheduled at least 48 hours in advance in order to not constitute an occurrence. See: *Student Handbook*)

Fill in the information above and submit to the clinical coordinator for approval.
Please do not write below this line.

Clinical Coordinator/Program Chairman:

The above named student:

- Has accrued enough hours to compensate for the time off requested and has been approved to take the specified time away from clinic.
- Does not have enough time accrued for this leave request and has been denied approval for the requested time off from clinic.
- Does not have enough time accrued for this leave request, however, he/she has been approved to take the specified time off from clinic.

Signature: _____ Date: _____

Site Evaluation: Trajecsys

At the end of each rotation, student's need to fill out the site evaluation for that clinical site. Students should access the menu item: "Evaluations". Student's will then choose the clinical site and the beginning date of the rotation.

Site:

Rotation Date:

Once the "Next" button has been pressed, the following form will appear:

UAMS
UNIVERSITY OF ARKANSAS
FOR MEDICAL SCIENCES

Department of
Nuclear Medical Technology
College of Health Related Professions

Freeman Hospital
Clinical Rotation Evaluation

Date: 8/7/2006

DIRECTIONS:

A. Evaluate this rotation.

1. Does the technical staff adequately explain the procedures to you? 1 - Poor 2 - Below Average 3 - Average 4 - Good 5 - Excellent
2. Do you feel that learning was stimulated in this rotation? 1 - Poor 2 - Below Average 3 - Average 4 - Good 5 - Excellent
3. Do you think the technical staff enjoys teaching? 1 - Poor 2 - Below Average 3 - Average 4 - Good 5 - Excellent
4. Do you think the technical staff is up to date with current developments in the field? 1 - Poor 2 - Below Average 3 - Average 4 - Good 5 - Excellent
5. Does the technical staff encourage different points of view? 1 - Poor 2 - Below Average 3 - Average 4 - Good 5 - Excellent
6. Does the technical staff encourage mutual respect? 1 - Poor 2 - Below Average 3 - Average 4 - Good 5 - Excellent
7. Does the staff listen attentively to your questions? 1 - Poor 2 - Below Average 3 - Average 4 - Good 5 - Excellent
8. Does the staff answer questions carefully and precisely? 1 - Poor 2 - Below Average 3 - Average 4 - Good 5 - Excellent
9. Does the technical staff correct mistakes without belittling? 1 - Poor 2 - Below Average 3 - Average 4 - Good 5 - Excellent
10. Does the staff give positive reinforcement? 1 - Poor 2 - Below Average 3 - Average 4 - Good 5 - Excellent
11. Does the staff question you constructively? 1 - Poor 2 - Below Average 3 - Average 4 - Good 5 - Excellent
12. Does the staff help you learn the procedures in an organized manner? 1 - Poor 2 - Below Average 3 - Average 4 - Good 5 - Excellent
13. Is the staff open-minded and non-judgemental? 1 - Poor 2 - Below Average 3 - Average 4 - Good 5 - Excellent
14. Does the staff help you prepare for the difficult procedure or patient? 1 - Poor 2 - Below Average 3 - Average 4 - Good 5 - Excellent
15. Does the staff tell you your strengths and weaknesses? 1 - Poor 2 - Below Average 3 - Average 4 - Good 5 - Excellent
16. Does the staff give you suggestions for improvement? 1 - Poor 2 - Below Average 3 - Average 4 - Good 5 - Excellent
17. Are you graded fairly? 1 - Poor 2 - Below Average 3 - Average 4 - Good 5 - Excellent
18. Overall I would rate this rotation as? 1 - Poor 2 - Below Average 3 - Average 4 - Good 5 - Excellent
19. Is the technical staff willing to spend extra time to help you with any problems you might have? 1 - Poor 2 - Below Average 3 - Average 4 - Good 5 - Excellent

What did you think was a particularly **useful** aspect of this rotation?

Done

The default value for all Likert scale questions is 4-Good. If the student feels that the question needs a higher value or lower value, the appropriate radio button should be selected. At the bottom of the form, there are two questions that the student will need to complete manually. Once the form is complete, please submit the evaluation by selecting the submit button at the bottom of the form.

Disclaimer:

While the provisions of this handbook are as accurate and complete as possible, the instructor reserves the right to change any provision herein. Students will be notified of any changes and it is the responsibility of each student to know what changes, if any, have been made to the provisions of this handbook and to successfully complete the requirements of this course.

The materials used in this course may include copyright protected materials provided for the personal educational use of the enrolled student's and may not be further distributed.

		Task ⇨	Clock in/out	Complete Procedure log sheet	Complete QC log sheet	MD Reading Signatures (10/rotation)	Site Evaluation		
		When ⇨	Daily	Daily	Daily	End	End		
Rotation #	Location	Rotation Start Date						Rotation End Date	
1									
2									
3									
4									
5									
6									
7									
8									
9									

- 1) Fill in your clinical rotation location.
- 2) Fill in your rotation start and end date
- 3) Clock in / clock out or file time exceptions DAILY
- 4) Complete your Procedure log sheet and QC log sheet DAILY.
- 5) Put the date in that you gave your MD readings sheet to your affiliate education supervisor to put into the Trajecsys reporting system.
- 6) Fill in the date that you completed your site evaluation. Remember, the affiliate education supervisor must also complete the performance evaluation.