

**HCC – COLEMAN COLLEGE FOR HEALTH SCIENCES**  
**NUCLEAR MEDICINE TECHNOLOGY PROGRAM**  
**NMTT 1266 - PRACTICUM 1- NUCLEAR MEDICINE TECHNOLOGY**  
CRN 57402 - Fall 2010  
Coleman College – Clinical Site / 8:00 – 4:15 Mon. & Wed.  
2 semester hours / 14 lab / 224 contact hrs / 16 weeks  
Practicum / Web-enhanced

**Instructor Information**

Instructors: Vikki Littleton vikki.davislittleton@hccs.edu	(713) 718-7398	Office Hours / Rm. 529 Monday 8:00-11:00
Rene Hyder rene.hyder@hccs.edu	(713) 718-7355	Office Hours / Room 524 Monday 1:00-4:00; Wednesday 12:30-2:30

**Course Description**

Practical general workplace training supported by an individualized learning plan developed by the employer, college, and student.

**Prerequisites**

Admission to Nuclear Medicine Technology Program

**Course Goals**

- I. REVIEW NUCLEAR MEDICINE STUDY RELATED PAPERWORK
  - A. Locate necessary information contained in the patient chart and complete the required form.
  - B. Identify artifact that appear in images or quality assurance test and complete the appropriate form.
  - C. Label the view in several imaging studies and verify that they are correct by completing the appropriate form.
  - D. Record the results of at least two studies in which you participated on the appropriate form.
  - E. Discuss isolation procedures.

**Laboratory Exercise**

Given a patient's chart, the student should be able to:

1. Locate physician's order for the procedure.
  2. Describe medications being administered to patient which may interfere with the procedure.
  3. Identify the chief complaint of the patient.
- II. PERFORMANCE OF RADIATION SAFETY PRACTICES
  - A. Perform an ambient dose survey of at least two areas in the department
  - B. Perform wipe test in at least two rooms in the department
  - C. Identify the radiation safety officer for the department
  - D. Perform a receipt of radioactive material for the department

- E. Identify the sealed sources in the department requiring leak testing
- III. SUPERVISED PERFORMANCE OF ROUTINE IMAGING STUDIES
- Given a proficiency checklist, a patient and an order for one of the following procedures, properly identify the patient, explain the procedure, and position the patient for the imaging procedure  
( see the list which follows )
- A. Liver Scan
  - B. Gallium Scan
  - C. Bone Scan ( whole body and spot views )
  - D. Thyroid scan
  - E. Brain Scan
  - F. Hepatobiliary Study
  - G. Lung Scan
    - Perfusion
    - Ventilation
  - H. Renal Studies
    - Renal image
    - Renal flow (GFR)
    - Renogram (ERPF)
  - I. Cardiac studies
    - Other imaging procedures considered to be routine at individual affiliated institution
- IV. SUPERVISED PERFORMANCE OF IN-VIVO NON-IMAGING STUDIES
- The student should be able to:
- A. Perform thyroid uptake and calculate data.
  - B. Perform other simple functional studies considered to be routine at individual affiliated institution.

### Course Student Learning Outcomes

1. Assess the student on their ability to identify and process nuclear medicine study related paperwork.
2. Assess the student on their ability to position patients for routine imaging studies.
3. Assess the student on their ability to perform in-vivo non-imaging studies.

### Learning Objectives

- 1.1 The student will locate necessary information contained in the patient chart and complete the required form.
- 1.2 The student will identify artifacts and label views on images and complete the required forms.
- 2.1 The student will be assessed on their ability to properly identify, explain the procedure, and position a patient for an imaging study.
- 3.1 The student should be able to perform a thyroid uptake and calculate data.

## SCANS or Core Curriculum Statement

### Scan Competencies

A study was conducted for the Department of Labor by the American Society for Training and Development which identified seven skills U.S. employers want most in entry level employees. These skills are; motivation to learn, basic skills, communication, teamwork, critical thinking, career development and leadership. This course includes the following:

#### Scan Competency: Information [C5]: Acquires and Evaluates Information

**Description:** Identifies need for data, obtains them from existing sources or creates them, and evaluates their relevance and accuracy. Competently performing the tasks of acquiring data and evaluating information: includes posing analytic questions to determine specific information needs; selecting possible information and evaluating its appropriateness; and determining when new information must be created.

**Objective:** Given a patient's chart, extract information pertinent to the study being performed.

**Evaluation:** The student will complete a medical history form which will be evaluated by the technologist to determine if it is complete. The technologist signature verifies validity of documentation.

#### Scan Competency: Interpersonal [C11]: Serves Client and Customers

**Description:** Works and communicates with clients and customers to satisfy their expectations. Demonstrating competence in serving clients and customers includes actively listening to customer to avoid misunderstandings and identifying needs; communicating in a positive manner especially when handling complaints or conflicts; efficiently obtaining additional resources to satisfy client needs.

**Objective:** The student will explain the procedure to the patient, answering any questions or concerns they have about the procedure.

**Evaluation:** The technologist will evaluate the student on our procedures proficiency checklist for each procedure done independently or supervised more than five times.

#### Scan Competency: Thinking Skills [F12]: Reasoning

**Description:** Discovers a rule or principle underlying the relationship between two or more objects and applies it in solving a problem; uses logic to draw conclusions from available information; extracts rules or principles from a set of objects or written text applies rules and principles to a new situation or determines which conclusions are correct when given a set of facts and a set of conclusions.

**Objectives:** The student will decide when additional views are needed for at least one procedure from looking at the initial views.

**Evaluation:** The technologist will evaluate the student on the choice of additional views on our procedural proficiency checklist.

#### Scan Competency: Personal Qualities [ F15 ]: Social

**Description:** Demonstrates understanding, friendliness, adaptability, empathy and politeness in new and on-going group settings; asserts self in familiar and unfamiliar social situations; relates well to others; responds appropriately as the situation requires; and takes an interest in what others say and do.

**Objective:** The student will carry out instructions given by staff members and work well with technologist.

**Evaluation:** The technologist will evaluate the student on their interpersonal relationships as a part of their summative evaluation of the student.

### Course Calendar

The student will be in clinic Monday and Wednesday from 8:00 am until 4:00 pm, excluding days designated as school holidays. (Times may vary slightly depending on the facility; therefore, the student should check with the clinical supervisor. )

### Instructional Methods

This is a clinical course. The student is assigned to a specific clinical affiliate. The clinical supervisor of students at that facility will arrange and evaluate the student at their clinical site. The student will receive evaluations at mid-term and a final evaluation at the end of the rotation. These evaluations will be given to the Houston Community College instructor of records and a final grade will be determined

### Student Assignments:

The clinical sites may assign projects. Reading assignments will be given by Ms. Davis-Littleton or Ms. Hyder

Reading assignment will be given a week before clinical quizzes. The quiz will be over the reading assignment.

### Records Maintained By The Student In Each Practicum

It is the responsibility of the student to maintain records of their progress in a practicum on two types of forms. The first is an Accounting Form which is filled out by the student and signed by the clinical instructor or supervising technologist. This form is used to account for every procedure performed by a student during his/her rotation in a hospital. These forms must be turned in to the clinical coordinator weekly. Accounting forms will **NOT** be accepted more than a week late and the **days without accounting forms will be considered as absences**. The second type of form is a group of forms with the broad heading of "Review Session Forms" which includes the following four:

1. reviewing scans
2. identifying artifacts
3. medical histories
4. labeling scans

These forms must also be signed by the clinical instructor or supervising technologist. A combination of ten of these forms are required this semester, at least two of each. These forms must be turned in to the clinical coordinator bi-weekly. If accounting forms are not turned in weekly, 2 points per day will be deducted from the mid-term or final exam.

Each student is expected to return their radiation dosimetry badges at the beginning of each month. If a student loses a badge, the following penalties will be imposed: First loss = 5 points off the final exam and must complete paperwork with program RSO; Second loss = 10 points off final grade, must complete paperwork and must donate 4 hours of clerical work to program office

## Student Assessment(s)

The final grade will be determined by averages described:

Clinical evaluations by Clinical Instructor	50%
[Evaluations must include proficiency checklist on all studies done independently or supervised more than five times. The student must also be evaluated on positioning for a majority of studies shown on the specific clinic list. The numbers listed are minimums. The student is expected to exceed these minimum expectations.]	
Clinical evaluations and examinations by the Clinical Coordinator	35%
Accounting Forms	5%
Quizzes	10%
Mid-Term Exam	10%
Final Exam	10%
Attendance	6%
Review Sessions Forms	9%

Each student is expected to return their radiation dosimetry badges at the beginning of each month. If a student loses a badge, the following penalties will be imposed: First loss = 5 points off the final exam and must complete paperwork with program RSO; Second loss = 10 points off final grade, must complete paperwork and must donate 4 hours of clerical work to program office

## Instructional Materials

Required: NONE

References: Nuclear Medicine Technology Student Handbook

Nuclear Medicine and PET Technology and Techniques, Mosby, 2007  
6th Edition, Christian, Waterstram-Rich

Nuclear Medicine Procedure Manual

Klingensmith, Eshima, Goddard Oxford Medical, Inc., 2009-2011

## HCC Policy Statement: ADA

Services to Students with Disabilities

Any student with a documented disability (e.g. physical, learning, psychiatric, vision, hearing, etc.) who needs to arrange reasonable accommodations must contact the Disability Services Office at the respective college at the beginning of each semester. (At any HCC campus) Faculty is authorized to provide only the accommodations requested by the Disability Support Services Office.

To visit the ADA Web site, log on to [www.hccs.edu](http://www.hccs.edu), click Future students, scroll down the page and click on the words Disability Information.

For questions, please contact Donna Price at 713.718.5165 or the Disability Counselor at your college. Coleman ADA Counselor – Dr. Raj Gupta – 713.718.7631

## HCC Policy Statement: Academic Honesty

Students are responsible for conducting themselves with honor and integrity in fulfilling course requirements. Penalties and/or disciplinary proceedings may be initiated by College System

officials against a student accused of scholastic dishonesty.

“Scholastic dishonesty” includes, but is not limited to, cheating on a test, plagiarism and collusion.

“Cheating” on a test includes:

- Copying from another student’s test paper;
- Using materials during a test that are not authorized by the person giving the test;
- Collaborating with another student during a test without authority;
- Knowingly using, buying, selling, stealing, transporting, or soliciting in whole or part the contents of an unadministered test;
- Bribing another person on obtain a test that is to be administered

“Plagiarism” means the appropriation of another’s work and the unacknowledged incorporation of that work in one’s own written work offered for credit.

“Collusion” means the unauthorized collaboration with another person in preparing written work offered for credit.

Possible punishments for academic dishonesty may include a grade of “0” or “F” on the particular assignment, failure in the course, and/or recommendation for probation or dismissal from the College System. A recommendation for suspension or expulsion will be referred to the College Dean of Students for disciplinary disposition.

**HCC Policy Statement: Student Attendance, 3-PEATERS, Withdrawal deadline**

### **HCC POLICY STATEMENTS: ATTENDANCE**

Research has shown that the single most important factor in student success is attendance! Therefore, attendance and punctuality are mandatory. HCCS policy states that students absent from this course for more than 12.5% of the total hours of instruction will be administratively dropped. This class has 244 contact hours. A student may be dropped after 30.5 hours of absence from lab and lecture combined.

If a student enters the clinic more than thirty minutes after the class has begun or leaves more than thirty minutes early, they will be counted absent on that day.

5 points will be deducted from the final exam grade for each occurrence

Poor attendance records tend to correlate with poor grades. If you miss any class, you are responsible for all material missed. It is good idea to find a friend or a buddy in class who would be willing to share class notes or discussion or be able to hand in paper if you unavoidable miss a class

Students will not be allowed to attend clinicals unless they have an acceptable physical examination, all required immunizations, a negative drug screen, acceptable background check and CPR certification.

## **HCC POLICY STATEMENTS: 3-PEATERS**

The State of Texas encourages students to complete college without having to repeat failed classes. To increase student success, students who repeat the same course more than twice, are required to pay extra tuition. The purpose of this extra tuition fee is to encourage students to pass their courses and to graduate. Effective fall 2006, HCC has been charging a higher tuition rate to students registering the third or subsequent time for a course. If you are considering course withdrawal because you are not earning passing grades, confer with your instructor/counselor as early as possible about your study habits, reading and writing homework, test taking skills, attendance, course participation, and opportunities for tutoring or other assistance that might be available

## **HCC POLICY STATEMENTS: WITHDRAWAL**

If you feel that you cannot complete this course, you will need to withdraw from the course prior to the final date of withdrawal. Before you withdraw from your course, please take time to meet with the instructor to discuss why you feel it is necessary to do so. The instructor may be able to provide you with suggestions that would enable you to complete the course. Your success is very important. Beginning in fall 2007, the Texas Legislature passed a law limiting first time entering freshmen to no more than SIX total course withdrawals throughout their educational career in obtaining a certificate and/or degree.

To help students avoid having to drop//withdraw from any class, HCC has instituted an Early Alert process by which your professor may “alert” you and HCC counselors that you might fail a class because of excessive absences and/or poor academic performance. It is your responsibility to visit with your professor or a counselor to learn about what, if any, HCC interventions might be available to assist you- online tutoring, child care, financial aid, job placement, etc. – to stay in class and improve your academic performance.

If a student feels that they cannot complete the course, he or she will need to withdraw from the course prior to the final date of withdrawal. Before withdrawing, the student should meet with the instructor to discuss the decision. After withdrawal, the student must meet with the department head to complete an exit interview ( refer to the nuclear medicine technology handbook for more information)

### **HCC Student Services Information**

**Early Alert:** HCC has instituted an Early Alert process by which your professor will “alert” you through counselors of concerns that you might fail a class because of excessive absences and/or poor academic performance.

### **Instructor requirements**

The student will be given a copy of the studies done routinely and periodically at their assigned clinical facility. They will be expected to be evaluated on positioning in the majority of the routine studies as listed on the totals sheet in their student handbook. They should accumulate at least eleven competencies ( at least six of which must be studies) and additional competencies on all studies done independently or supervised at least 4 times. If a student fails to meet this criteria, they will receive an " Incomplete" in the practicum until the competencies are completed and there will also be a ten point deduction on their grade. If they are not completed by the next semester, they will not be allowed to continue to the next practicum.

### Program/Discipline Requirements

Students will not be allowed to attend clinicals unless they have an acceptable physical examination, all required immunizations, a negative drug screen, acceptable background check and CPR certification

SEE THE NUCLEAR MEDICINE TECHNOLOGY PROGRAM HANDBOOK FOR DRESS CODE AND OTHER CLINICAL PROCEDURAL INFORMATION

### HCC Grading Scale

Final grades will be submitted in terms of A, B, C, D, F.

90 - 100	A
80 - 89	B
75 - 79	C
0 - 74	F

### Instructor Grading Criteria

The final grade will be determined by averages described:

Clinical evaluations by Clinical Instructor	50%
[Evaluations must include proficiency checklist on all studies done independently or supervised more than five times. The student must also be evaluated on positioning for a majority of studies shown on the specific clinic list. The numbers listed are minimums. The student is expected to exceed these minimum expectations.]	
Clinical evaluations and examinations by the Clinical Coordinator	35%
Accounting Forms	5%
Quizzes	10%
Mid-Term Exam	10%
Final Exam	10%
Attendance	6%
Days Missed: 0 = 6 pts; 1 = 5 pts; 2 = 4 pts; 3 = 3 pts; 4 = 4 pts; > 4 = 0 pts	
Review Sessions Forms	9%

Each student is expected to return their radiation dosimetry badges at the beginning of each month. If a student loses a badge, the following penalties will be imposed: First loss = 5 points off the final exam and must complete paperwork with program RSO; Second loss = 10 points off final grade, must complete paperwork and must donate 4 hours of clerical work to program office

This course includes quizzes over reading assignments, mid-term and final examinations

This course does include a final examination. The final examination must be taken on the day and time designated by the instructor unless there is a personal illness, accident or death in the immediate family (parent, child brother, sister, spouse or grandparent). In the event any of these occur, the student must call and speak personally with the instructor (713-718-7355) or the department head (713-718-7354) on the day of the examination. The student must provide documented evidence of the reason for missing the examination: doctor's statement in the case of personal illness, an accident report in the case of an accident or an obituary or funeral program in

the case of death in the immediate family. This documentation must be provided prior to taking a make-up final examination. The make-up final must be taken with 7 working days from the original test date or at the discretion of the instructor. In the case of severe injury or long term illness, the student will be given an "I" for incomplete until the final examination is taken. An "I" will automatically turn into an "F" if the student does not take the examination by the end of the following term (excluding Summer). If notification is not given, the student will be given a zero for the final examination and the final grade will be calculated as prescribed.

There will be no make-up on examinations