



**Coleman College for Health Sciences
Nuclear Medicine Technology Program
Nuclear Medicine Methodology III
NMTT 2413**

Semester with Course Reference Number (CRN)	FALL 2012, RT CRN 27806
Instructor contact information (phone # and email address)	Vikki Davis Littleton – 713-718-7398 email: vikki.davislittleton@hccs.edu Leander Rene Hyder – 713-718-7355 email: rene.hyder@hccs.edu
Office Location and Hours	Coleman Campus: RM 526 Mon 12:00 pm – 1:00 pm, Wed 12:00 pm – 1:00 pm, Fri 9:00am – 12:30 pm
Course Location/Time	Coleman Campus: RM 553 Monday 9:00 am – 11:00 am; Wednesday 9:00 am – 12:00pm
Course Semester Credit Hours (SCH) (lecture, lab) If applicable	Credit Hours 4.00 Lecture Hours 2.00 Laboratory Hours 6.00 External Hours
Total Course Contact Hours	128.00
Continuing Education Units (CEU): if applicable	N/A
Course Length (number of weeks)	16 weeks
Type of Instruction	Lecture/Lab, Web-enhanced

Course Description: Principles and practices involved in nuclear medicine regarding gastrointestinal, central nervous system, skeletal system, tumor and inflammation processes and miscellaneous procedures. Emphasizes patient care, anatomy, physiology, pathology, radiopharmaceuticals, instrumentation, data processing and analysis, and diagnostic values.

Course Prerequisite(s) **PREREQUISITE(S):**

- BIOL 2401
- BIOL 2402
- NMTT 1409

FREQUENT REQUISITES

- College Level Writing
- Departmental approval
- Admission to the Program
- College Level Reading
- College Level Mathematics

Academic Discipline/CTE Program Learning Outcomes

1. Prepare/administer radiopharmaceuticals.
2. Perform imaging and non-imaging nuclear medicine procedures.
3. Demonstrate patient care tasks in the patient care course lab setting.
4. Correlate different nuclear medicine procedures normal anatomy and abnormal pathology on a nuclear medicine image.
5. Demonstrate radiation safety techniques to minimize radiation exposure.
6. Demonstrate quality control procedures.

Course Student Learning Outcomes (SLO): 4 to 7

1. Perform patient nuclear medicine procedures with appropriate radiopharmaceuticals.
2. Identify normal and abnormal patterns of radiopharmaceutical distribution.
3. Cite procedures, medications and possible adverse reactions for various nuclear medicine procedures.
4. Specify equipment required for performing nuclear medicine procedures.
5. Identify technical consideration for various nuclear medicine procedures.

Learning Objectives (Numbering system should be linked to SLO - e.g., 1.1, 1.2, 1.3, etc.)

Perform patient nuclear medicine procedures with appropriate radiopharmaceuticals.

1. List the main indications of performing in-vivo procedures.
2. State the preparations and procedures for performing in-vivo studies.

Identify normal and abnormal patterns of radiopharmaceutical distribution.

1. Identify normal and abnormal anatomy and physiology from a nuclear medicine scan.
2. Differentiate normal anatomy/physiology from abnormal pathology as seen on nuclear medicine images.

Cite procedures, medications and possible adverse reactions for various nuclear medicine procedures.

1. List the procedures and substances that may interfere with the performance of a nuclear medicine study.

Specify equipment required for performing nuclear medicine procedures.

1. List the equipment required to perform nuclear medicine procedures.

Identify technical consideration for various nuclear medicine procedures.
1. Discuss the different techniques utilized to attain data for clinical procedures.

**SCANS and/or
Core
Curriculum
Competencies:
If applicable**

SCANS
Perform patient nuclear medicine procedures with appropriate radiopharmaceuticals.
Foundation Skills - Basic -Reading
Identify normal and abnormal patterns of radiopharmaceutical distribution. Cite procedures, medications and possible adverse reactions for various nuclear medicine procedures.
Specify equipment required for performing nuclear medicine procedures.
Identify technical consideration for various nuclear medicine procedures.
Workplace Competencies - Technology -Selects Technology

**Instructional
Methods**

Web-enhanced (49% or less)
Face to Face

The material for this course will be presented both in the classroom lecture and the regularly scheduled laboratory session. Students are requested to read the assignment outlined in the syllabus prior to the class meeting. Examination questions will be taken from the reading assignments, the lab assignments, the procedure manual, and from the material presented during the lecture.

Students absent from class on the day of a quiz or major scheduled exam will not be given a make-up examination.

Student Assignments:

**Student
Assignments**

- **Perform patient nuclear medicine procedures with appropriate radiopharmaceuticals.**
- Discussions
- Papers
- Presentations
- Homework Exercises
- Readings
- **Identify normal and abnormal patterns of radiopharmaceutical distribution.**
- Discussions
- Papers
- Presentations
- Homework Exercises
- Readings
- **Cite procedures, medications and possible adverse reactions for various nuclear medicine procedures.**
- Discussions
- Papers
- Presentations
- Homework Exercises
- Readings
- **Specify equipment required for performing nuclear medicine**

- **procedures.**
- Discussions
- Homework Exercises
- Readings
- **Identify technical consideration for various nuclear medicine procedures.**
- Discussions
- Homework Exercises
- Readings

Student Assessment(s)

Perform patient nuclear medicine procedures with appropriate radiopharmaceuticals.

In-class discussions
 Quizzes/Tests which may include: definitions, matching, multiple choice, true/false, short answer, brief essay
 Various assigned readings from textbooks

Identify normal and abnormal patterns of radiopharmaceutical distribution.

In-class discussions
 Reading and then writing about seminal texts and theories
 Quizzes/Tests which may include: definitions, matching, multiple choice, true/false, short answer, brief essay
 Various assigned readings from textbooks

Cite procedures, medications and possible adverse reactions for various nuclear medicine procedures.

In-class discussions
 Reading and then writing about seminal texts and theories
 Quizzes/Tests which may include: definitions, matching, multiple choice, true/false, short answer, brief essay
 Various assigned readings from textbooks

Specify equipment required for performing nuclear medicine procedures.

In-class discussions
 Reading and then writing about seminal texts and theories
 Quizzes/Tests which may include: definitions, matching, multiple choice, true/false, short answer, brief essay
 Various assigned readings from textbooks

Identify technical consideration for various nuclear medicine procedures.

In-class discussions
 Reading and then writing about seminal texts and theories
 Quizzes/Tests which may include: definitions, matching, multiple choice, true/false, short answer, brief essay
 Various assigned readings from textbooks

Instructor's Requirements

Cell phones are not allowed out during lecture or lab. If there is an emergency that requires the student's special attention, the student must inform the instructor at the beginning of the class period. Only during the time of an emergency will the student be allowed to have the cell phone out. The cell phone ringer must be off at all times. Any student not following the rules will receive a "0" during that class period.

I-Pads and Laptops are allowed, but can only be used to take notes and/or to view lectures. If the student is found to be using electronic equipment in any other manner during class, their privileges will be suspended for the entire semester. THERE WILL NOT BE ANY SECOND CHANCES.

Examination questions will be taken from the reading assignments, the lab assignments as well as from the material presented during the lecture.

Program/Discipline Requirements: If applicable

Students absent at the time when a major exam or class quiz is given will have NO MAKE-UP EXAMINATION. This also includes a student who comes to class late. Student will not be allowed to take exams at a later time during the class. All exams will have time periods designated therefore all test papers must be terminated at the end of that time period. This policy is absolutely necessary in order to carry out all laboratory activities in the given time period and allow for fairness to all students present.

Any student absent from the classroom for a major scheduled exam will have the percent (%) value of that exam added to the percent value of the appropriate FINAL EXAM. For example: If the Mid-Term Exam was missed, the 30% value would be added to the Comprehensive Final Exam and it would then be worth 65%.

All class daily assignments and homework are to be completed and turned in on the due date. Late daily assignments and homework will be accepted with ten points off per day, until the graded assignments are returned. After assignments have been returned, late assignments will **not** be accepted.

Case studies and Research papers will **not** be accepted late or incomplete.

Final examinations 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 or department head 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 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 within 7 working days from the original test date or at the discretion of the instructor. In the case of a severe injury or long term illness, the student will be given an "I", 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). A student may not register for the next semester's nuclear medicine technology courses, if they have an incomplete in any of their nuclear medicine technology courses.

If notification on the day of a missed final examination to the involved instructor/department head by the student is not made, a student will receive a 0 for their final exam grade and course's final grade will be calculated as prescribed in the individual course syllabi. Also, if documented evidence as described in the preceding paragraph is not provided, a student will receive a 0 on their final examination.

HCC Grading Scale

A = 100- 90	4 points per semester hour
B = 89 - 80:	3 points per semester hour
C = 79 - 70:	2 points per semester hour
D = 69 - 60:	1 point per semester hour
59 and below = F	0 points per semester hour
IP (In Progress)	0 points per semester hour
W(Withdrawn)	0 points per semester hour
I (Incomplete)	0 points per semester hour
AUD (Audit)	0 points per semester hour

IP (In Progress) is given only in certain developmental courses. The student must re-enroll to receive credit. COM (Completed) is given in non-credit and continuing education courses. To compute grade point average (GPA), divide the total grade points by the total number of semester hours attempted. The grades "IP," "COM" and "I" do not affect GPA.

For Health Science programs, see the Program/Discipline Requirements section for specific grading requirements.

Instructor Grading Criteria

Lab Assignments	10%
Case Study Presentations	10%
Research Project	10%
Quizzes/Pop Quizzes	10%
Major Exams (3 total) each	20%
60%	

*Remember: You need a “C” or better to continue to the next semester.

Instructional Materials

Nuclear Medicine and PET/CT, Christian, Waterstram-Rich, Mosby, 2012
Nuclear Medicine Procedure Manual 2009-11, Klingensmith, Wick, 2012

HCC Policy Statement:**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, 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.

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 un-administered 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 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 **128** contact hours. A student may be dropped after **16** hours of absence from lab and lecture combined.

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

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.

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 7 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)

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.

Peer tutoring may be available. Contact the program office for further information

Access Student Services Policies on their Web site: <http://hccs.edu/student-rights>

EGLS3 -- Evaluation for Greater Learning Student Survey System

At Houston Community College, professors believe that thoughtful student feedback is necessary to improve teaching and learning. During a designated time near the end of the term, you will be asked to answer a short online survey of research-based questions related to instruction. The anonymous results of the survey will be made available to your professors and department chairs for continual improvement of instruction. Look for the survey as part of the Houston Community College Student System online near the end of the term.

Distance Education and/or Continuing Education Policies

Access DE Policies on their Web site: http://de.hccs.edu/Distance_Ed/DE_Home/faculty_resources/PDFs/DE_Syllabus.pdf

Access CE Policies on their Web site: <http://hccs.edu/CE-student-guidelines>