



HOUSTON COMMUNITY COLLEGE
Coleman Center of Excellence

Course Syllabus
NMTT 2413 Nuclear Medicine
METHODOLOGY III

CRN 40194, 40195 - Fall 2017

Coleman –Rm 284/Brookhaven -X3022E– Lecture/ 9:00 – 10:50 am /Monday

Coleman/Brookhaven Lab 9:00 – 11:50am Wednesday

2 Lecture /8Lab Hours /3 Credit Hours/ 128 Contact Hours per semester

16 weeks RT/ Face-to-Face Instruction/Web

Enhanced

Instructor contact information (number email address) Vikki D. Littleton, MBA,CNMT 713-718-7398 vikki.davislittleton@hccs.edu
Pamela Alderman, MSRS, CNMT 972-860-4281 pamela.alderman@hccs.edu

Office Location and Hours Coleman College for Health Sciences- suite 526 Mon 1-3pm, Fri 12:30-3:30pm
Brookhaven Community College – X3022E Mon 1-3pm, Fri 8 -11am

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

Course Prerequisite(s): NMTT 1409, 2309 with a minimum grade of C or better

Course Goal Prepare potential candidates for the Nuclear Medicine Technology field.

Course Student Learning Outcomes (SLO): 4 to 7

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

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

Perform nuclear medicine procedures with appropriate procedures.

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 and radiopharmaceutical distribution.

1. Identify normal, abnormal anatomy, physiology on a procedure 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 Instructional Methods	<p>SCANS</p> <p>Perform patient nuclear medicine procedures with appropriate radiopharmaceuticals.</p> <p>Foundation Skills–Basic-Reading</p> <p>Identify normal and abnormal patterns of radiopharmaceutical distribution.</p> <p>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.</p> <p>Workplace Competencies – Technology –Selects Technology</p> <p>Web-enhanced (49% or less) Face to Face</p> <p>The material for this course will presented both in the classroom by 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.</p> <p>Students absent from class on the day of a quiz or major scheduled exam will not be given a make-up examination.</p>
Student Assignments	<p>Perform patient nuclear medicine procedures with appropriate radiopharmaceuticals.</p> <p>Discussions</p> <p>Papers</p> <p>Presentations</p> <p>Homework Exercises</p> <p>Reading</p> <p>Identify normal and abnormal patterns of radiopharmaceutical distribution.</p> <p>Discussions</p> <p>Papers</p> <p>Presentations</p> <p>Homework Exercises</p> <p>Reading</p> <p>Cite procedures, medications and possible adverse reactions for various procedure.</p> <p>Discussions</p> <p>Papers</p> <p>Presentations</p> <p>Homework Exercises</p> <p>Reading</p> <p>Specify equipment and technical considerations required for performing nuclear medicine procedures.</p> <p>Discussions</p> <p>Homework Exercises</p> <p>Readings</p>
Student Assessment(s)	<p>Perform patient nuclear medicine procedures with appropriate radiopharmaceuticals.</p> <p>In-class discussions</p> <p>Quizzes/Tests which may include: definitions, matching, multiple choice, true/false, short answer, brief essay</p>

Various assigned readings from textbooks

Identify normal and abnormal patterns of radiopharmaceutical distribution.

In-class discussions

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

Quizzes/Tests which may include: definitions, matching, multiple choice, true/false, short answer, brief essay

Various assigned readings from textbooks

Specify equipment and technical considerations for various procedures.

In-class discussions

Quizzes/Tests which may include: definitions, matching, multiple choice, true/false, Short answer, brief essay

Various assigned readings from textbooks

Syllabus Calendar

Week 1 –Course Introduction/Health Science Research 1 & 2– Lecture

Hematopoietic Physiology, Plasma Volume, Red Cell Survival-Lab

Week 2 – Hematopoietic Physiology, blood volume, red cell survival –Lecture

Glofil GFR & Urea/Research on Internet-Lab

Week 3 – Health Science Research/Survey Draft –Lecture

Basoc Antigen Antibody- Lab

Week 4 – Lymphatic Imaging-Lecture / Case Studies -Lab

Week 5 – Research Project continue –/Major Exam 1/GI-Assignment 1

Week 6 – GI Lecture /GI Lab Assignment

Week 7 – GI lecture/ Skeleton Lecture

Week 8 – Reseach Project Due/Presentations/ GI Pop quizzes

Week 9 - Major Exam 2/Tumor Handout & Assignment

Week 10 – Tumor Procedure/Medical Coding

Week 11 - Therapy Lecture

Week 11 – Open Lab-Thanksgiving

Week 12 - Tumor Quizzes/WBC labeling

Week 13 – CNS Power point/CNS Lab

Week 14 – Study ----

Week 14 – Major Exam – Test 3

Instructor's Requirements All class daily assignments and homework are to be completed and turned in on the due date. No late assignments or homework will be accepted.

Case Studies and Grade Insurance Assignments will not be accepted late or incomplete.

All students are expected to attend all classes in which they are enrolled. Attendance will be checked regularly by the instructor in the lecture and lab sessions. If a student has excessive absences, more than 12.5% of the total class time, and is passing they will not be withdrawn from the class.

The student must attend $\frac{3}{4}$ of the class to be considered as being present for each class. 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 the day. A student is considered tardy if they enter the class more than 5 minutes late. Three tardies will count as an additional absence.

Cellphones 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 cellphone 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. No smart watches allowed during testing. **There will not be any second chances.**

**Program/
Discipline
Requirements:
If applicable** Students absent at the time when a major exam or class quiz is given will have NO MAKE-UP EXAMINATIONS. This also includes a student who comes to class late. A student will not be allowed to take exams at a later time during the class. If a student arrives late to a Major Exam and any student has completed the exam and left the examination room, the student will not be able to take the exam; although, there are other students who arrived on time are still remaining in the examination room. 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 next MAJOR EXAM. For example: if the 1st Major Exam was missed the % value would be added to the 2nd Major Exam and it would then be worth double. The 3rd Major Exam must be taken and its value can't be added to the 1st or 2nd Major exam. If the 3rd Major Exam is not taken or missed the student will receive a "0". A student can't take the 1st and 2nd Major Exam and refuse to take the 3rd Major and have 1st and 2nd Major Exam calculated for all three exams to try and maintain a high grade point average.

However, **excused absences are allowed if the student has to appear in court, has a severe personal illness, accident, or death in the immediate family** (parent, child, brother, sister, spouse, or grandparent). The student must provide documented evidence of the reason for missing the class, i.e.: a doctor's statement in the case of severe personal illness, the student's name and date on the court's documentation, 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 the approval of the excused absence. The absence must not extend beyond the 12.5% of absences allowed in the course. If the student has missed over 12.5% and is not passing the course they will not be administratively withdrawn from the class.

The student must provide documented evidence of the reason for missing the class, i.e.:

- a doctor's statement in the case of a **severe** personal illness
- the student's name and date on the court's documentation
- an accident report in the case of an accident
- An obituary or funeral program in the case of death in the immediate family to the instructor.

Major 3 Exam must be taken on the day and time designated by the instructor unless there is a **severe** 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 or leave a message for Ms. Vikki or Ms. Pam on the day of the examination. The student must provide documented evidence of the reason for missing the examination, i.e.: a doctor's statement in the case of **severe** 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 exam. The make-up exam must be taken within seven (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 Major Exam 3 is taken, **if they have not exceeded four absences**. 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), see the student handbook. If notification is not given, the student will be given a zero for Major Exam 3 grade and the final grade will be calculated as described above.

**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
F=59 and below	0 points per semester hour

IP (IPProgress)	
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.

See "Health Science Program/Discipline Requirements" for grading scale.

Instructor Grading Criteria Final grades will be submitted in terms of A, B, C and F.
A=90 -100
B= 80 -89
C=75-79
F= Below 75

The final grade will be determined by averages described:

Major Exams (3 averaged)60%
Research Project.....10%
Case studies/Quizzes/Assignment(10% each).....30%
Attendance will be deducted from the final grade point average.

Instruction Nuclear Medicine and PET/CT, 8th ed., Waterstram-Rich, Mosby, 2017
Materials Nuclear Medicine Procedure Manual 2012-14, Klingensmith, Wick, 2012

HCC Policy Statement:

ADA
Academic Honesty
Student Attendance
3-peaters
Withdrawal Deadline

Access Student Services Policies on their Web site:

<http://central.hccs.edu/students/student-handbook/>

Access DE Policies on their Web site:

All students are responsible for reading and understanding the DE Student Handbook, which contains policies, information about conduct, and other important information. For the DE Student Handbook click on the link below or go to the DE page on the HCC website.

The **Distance Education Student Handbook** contains policies and procedures unique to the DE student. Students should have reviewed the handbook as part of the mandatory orientation. It is the student's responsibility to be familiar with the handbook's contents. The handbook contains valuable information, answers, and resources, such as DE contacts, policies and procedures (how to drop, attendance requirements, etc.), student services (ADA, financial aid, degree planning, etc.), course information, testing procedures, technical support, and academic calendars. Refer to the DE Student Handbook by visiting this link:

<http://de.hccs.edu/media/houston-community-college/distance-education/student-services/DE-Student-Handbook.pdf>

Access CE Policies on their Web site:

<http://www.hccs.edu/continuing-education/>

HCC Policy Statement: Sexual Misconduct

Houston Community College is committed to cultivating an environment free from inappropriate conduct of a sexual or gender-based nature including sex discrimination, sexual assault, sexual harassment, and sexual

violence. Sex discrimination includes all forms of sexual and gender-based misconduct and violates an individual's fundamental rights and personal dignity. The Director of EEO/Compliance is designated as the Title IX Coordinator and Section 504 Coordinator. All inquiries concerning HCC policies, compliance with applicable laws, statutes, and regulations (such as Title VI, Title IX and Section 504), and complaints may be directed to:

David Cross
Director of EEO/Compliance
Office of Institutional Equity & Diversity
3100 Main, Houston, TX 77266-7517 or Institutional.Equity@hccs.edu

ADA STATEMENT:

HCCS recognizes its responsibility not to discriminate against anyone who has a documented disability that substantially limits one or more major life activities; has a record of such impairment; or is regarded as having an impairment. Specific policies have been established to enable students with documented disabilities who are otherwise qualified, to request accommodations which would allow them equal access to the College under Section 504 of the Rehabilitation Act of 1973 and under the Americans with Disabilities Act of 1990.

A *new*, updated letter of accommodation should be submitted to instructors within the first three days of each semester. Students who submit a letter of accommodation any time after the first three days of a semester should expect to begin receiving accommodations following a 24-hour time frame for instructors to implement new changes.

Obtaining reasonable accommodations is an interactive process that begins with the student's disclosure of his/her disability directly with the ADA Counselor in Ability Services. The ADA Counselor for the Coleman College is located in room 101 of the Learning Success Center (LSC).

TITLE IX STATEMENT:

Title IX of the Education Amendments of 1972 requires that institutions have policies and procedures that protect students' rights with regard to sex/gender discrimination. Information regarding these rights are on the HCC website under Students-Anti-discrimination. Students who are pregnant and require accommodations should contact any of the ADA Counselors for assistance.

It is important that every student understands and conforms to respectful behavior while at HCC. Sexual misconduct is not condoned and will be addressed promptly. Know your rights and how to avoid these difficult situations by logging in from your HCC student email account, go to www.edurisksolutions.org Go to the button at the top right that says **Login** and click. Enter your student number.

The Title IX statement has been change to the following (changes in red) to address student pregnancy concerns:

Houston Community College is committed to cultivating an environment free from inappropriate conduct of a sexual or gender-based nature including sex discrimination, sexual assault, sexual harassment, and sexual violence. Sex discrimination includes all forms of sexual and gender-based misconduct and violates an individual's fundamental rights and personal dignity. Title IX prohibits discrimination on the basis of sex-including pregnancy and parental status-in educational programs and activities. If you require an accommodation due to pregnancy please contact an Abilities Services Counselor. The Director of EEO/Compliance is designated as the Title IX Coordinator and Section 504 Coordinator. All inquiries concerning HCC policies, compliance with applicable laws, statutes, and regulations (such as Title VI, Title IX, and Section 504), and complaints may be directed to:

A statement regarding how receive help regarding a student request for an accommodation due to a qualified disability has also been added:

HCC strives to make all learning experiences as accessible as possible. If you anticipate or experience academic barriers based on your disability (including mental health, chronic or temporary medical conditions), please meet with a campus Abilities Counselor as soon as possible in order to establish reasonable accommodations. Reasonable accommodations are established through an interactive process between you, your instructor(s) and Ability Services. It is the policy and practice of HCC to create inclusive and accessible learning environments consistent with federal and state law. For more information, please go to <http://www.hccs.edu/district/students/disability-services/>

1. **Campus Carry Statement-** At HCC the safety of our students, staff, and faculty is our first priority. As of August 1, 2017, Houston Community College is subject to the Campus Carry Law (SB11 2015). For more information, visit the HCC Campus Carry web page at <http://www.hccs.edu/district/departments/police/campus-carry/>.

2. **Essential Needs Statement-** Any student who may be facing challenges in affording or accessing sufficient food to eat every day, or who lacks a safe and stable place to live, and believes this may affect their performance in the course, is encouraged to contact the Dean of Students Services for support. Additionally, please notify your professor (me) if you are comfortable in doing so. This will enable me to provide you with guidance on resources that I am aware of relating to essential needs.

DATE	SUBJECT	INSTRUCTOR
9-11-17	Introduction to Course-Health Science Research	Ms. Vikki
9-13-17	Hematopoietic /Blood Volume lecture	Ms. Pam
9-18-17	Hematopoietic/Blood Volume Lab	Ms. Pam
9-20-17	Glofil lab	Ms. Pam
9-25-17	Research Project – group work (Survey Drafts due)	Ms. Vikki
9-27-17	Basic Antigen-Antibody Reaction Tumor/Inflammatory	Ms. Pam
10-02-17	Lymphatic Imaging/Sentinal Node	Ms. Pam
10-04-17	Case Study-Tumor/Lymphatic & Sentinal Node	Ms. Pam
10-09-17	Major Exam – Test 1	Ms. Vikki/Aldermann
10-11-17	GI Assignment	Ms. Vikki
10-16-17	Gi lecture	All Instructors
10-18-17	GI Lab Assignment	Ms. Vikki
10-23-17	GI Lecture	Ms. Vikki
10-25-17	Skeletal System –ch20	Ms. Vikki
10-30-17	Research Project Due/Presentations	Ms. Vikki
11-01-17	GI – pop quizzes	Ms. Vikki
11-06-17	Major Exam – Test 2 (patient Care, GI, Skeletal, pediatric)	Ms. Vikki /Aldermann
11-08-17	Tumor Handout & Assignment	Ms.Vikki
11-13-17	Tumor Procedure & Powerpoint (Assignment Submit Online)	Ms.Vikki
11-15-17	Medical Coding & Patient Scheduling	Ms. Pam
11-20-17	Therapy Lecture & Assignment	Mr. Vikki
11-22-17	Open Lab –Thanksgiving	
11-27-17	Tumor Quizzes – Open Book	Ms.Vikki/Aldermann
11-29-17	WBC labeling	Ms. Pam
12-04-17	CNS – powerpoint/procedure	Ms. Vikki
12-06-17	CNS- Lab Assignment/Review	Ms. Vikki
12-11-17	Study	
12-13-17	Major Exam- Test 3 (Tumor/Infect, CNS, Health Science)	Ms. Vikki/Aldermann