Vocational School of Health Services / Medical Imaging Techniques

2024 - 2025 Academic Year

NUCLEAR MEDICINE I

Syllabus

Course Description					
Name	**Code**	**Semester**	**T+A Hour**	**Credit**	**ECTS**
NUCLEAR MEDICINE I	TGT2113776	Fall Semester	2+8	6	15

Prerequisites Courses	
Recommended Elective Courses	
Language of Instruction	Turkish
Course Level	Short Cycle (Associate's Degree)
Course Type	Required
Course Coordinator	Prof.Dr. Tamer ATASEVER
Name of Lecturer(s)	Assist.Prof. Mustafa ÇAĞLAR, Prof.Dr. Tamer ATASEVER
Assistant(s)	
Aim	To learn about basic methods used in nuclear medicine
Course Content	This course contains; Introduction to Nuclear Medicine,Basic Concepts of Radiation in Nuclear Medicine,Detection of Radiation and Radiation Detectors,Basic Principles of Gamma Camera (SPECT, SPECT / CT),Basic Principles of Positron Emission Tomography (PET, PET / CT) ,The concept of radiopharmaceuticals and radiopharmaceuticals,Fundamentals of Radiation Protection in Nuclear Medicine,Imaging and Treatment of Endocrine System,Basic knowledge of Circulatory and Respiratory Systems imaging,Basic information about gastrointestinal and urinary tract imaging,Basic knowledge of Brain Perfusion Singtigraphy ,PET / CT Applications I,PET / CT Applications II,An overview of treatments in nuclear medicine.

Course Learning Outcomes	**Teaching Methods**	**Assessment Methods**
1. Explain basics of radiation	13, 16, 9	A
2. Learn about radiation protection	16, 9	A
3. Know about working principle of basic imaging devices	10, 13, 9	A
4. Know how to use devices and knows about their maintenance	16, 6, 9	A

Teaching Methods	10: Discussion Method, 13: Case Study Method, 16: Question - Answer Technique, 6: Experiential Learning, 9: Lecture Method
Assessment Methods	A: Traditional Written Exam

Lecture Schedule

Sequence	**Topics**	**Preliminary Preparation**
1	Introduction to Nuclear Medicine	presentations
2	Basic Concepts of Radiation in Nuclear Medicine	presentations
3	Detection of Radiation and Radiation Detectors	presentations
4	Basic Principles of Gamma Camera (SPECT, SPECT / CT)	presentations
5	Basic Principles of Positron Emission Tomography (PET, PET / CT)	presentations
6	The concept of radiopharmaceuticals and radiopharmaceuticals	presentations
7	Fundamentals of Radiation Protection in Nuclear Medicine	presentations
8	Imaging and Treatment of Endocrine System	presentations
9	Basic knowledge of Circulatory and Respiratory Systems imaging	presentations
10	Basic information about gastrointestinal and urinary tract imaging	presentations
11	Basic knowledge of Brain Perfusion Singtigraphy	presentations
12	PET / CT Applications I	presentations
13	PET / CT Applications II	presentations
14	An overview of treatments in nuclear medicine	presentations

Evaluation Methods	**Weight(%)**
Midterm Exam	40
General Exam	60

Resources
Instructor's lecture notesNuclear medicine physics and clinical applications: (Mustafa Demir)