



TOTAL per year:												
Department of Endocrinology, Diabetology and Isotopes Therapy		10			5							
Educational objectives (max. 6 items) C1. The acquaint with knowledge in the field of actually diagnostic and therapeutic procedures in nuclear medicine. C2. Getting to know the indications and contraindications to perform the diagnostic procedures using isotopes, the role of isotopes examinations during diagnostic procedures, the limitations of the isotopes using (radioactive iodine therapy) C3. Getting to know teaching the therapies with isotopes (especially radioiodine treatment of hyperthyroidism), indications, contraindications and the rules of radiation safety												
Education result matrix for module/course in relation to verification methods of the intended education result and the type of class												
Number of course education result	Number of major education result	Student who completes the module/course knows/is able to				Methods of verification of intended education results (forming and summarising)	Form of didactic class <i>**enter the abbreviation</i>					
K 01	F.W11. B.W6.	The student knows the basis of radiation and the methods of its detection.				Oral response, test	SE, CC					
K 02		Lists the common diagnostic and therapeutic procedures using isotopes.				Oral response, test	SE, CC					
K 03		Defines hyperthyroidism symptomatology useful to qualify patients to the radioactive iodine treatment.				Oral response, test	SS, SE, CC					
K 04		Lists diagnostic procedures (scintigraphy) and laboratory findings which are needed to plan the radioactive iodine treatment of benign thyroid disease.				Oral response, test	SS, SE, CC					
K 05		Lists the basic and important indications and contraindications to use the isotopes in medicine.				Oral response, test	SS, SE, CC					
K 06		Describes the radiation safety rules regarding to personnel and patients.				Oral response, test	SS, SE, CC					
S 01	F.U7.	Describes the thyroid scintigraphy.				Oral response, test	CC					
S 02		Plans the moment when the radioiodine therapy of benign thyroid diseases is indicated and justified				Oral response, test	CC					
S 03	B.U2.	Formulates the radiation safety rules (patient and personnel).				Oral response, test	SS, CC					
S 04		Based on medical history and additional examinations (especially scintigraphy) differentiates diagnosis and therapies.				Oral response, test	CC					
S 05		Takes unassisted medical history.				Oral response, test	CC					



** L - lecture; SE - seminar; AC – auditorium classes; MC – major classes (non-clinical); CC – clinical classes; LC – laboratory classes; SCM – specialist classes (magister studies); CSC – classes in simulated conditions; FLC – foreign language course; PCP practical classes with patient; PE – physical education (obligatory); VP – vocational practice; SS – self-study, EL – E-learning .

Please mark on scale 1-5 how the above effects place your classes in the following categories:
communication of knowledge, skills or forming attitudes:
Knowledge: 4
Skills: 3

Student's amount of work (balance of ECTS points)

Student's workload (class participation, activity, preparation, etc.)	Student Workload (h)
1. Contact hours:	15
2. Student's own work (self-study):	5,5
Total student's workload	20,5
ECTS points for module/course	0,5
Comments – none	

Content of classes (please enter topic words of specific classes divided into their didactic form and remember how it is translated to intended educational effects)

Lectures – not applicable

Seminars

1. Basis and history of nuclear medicine; radioisotopes, detection of ionizing radiation, the radiation safety (K01, K02, K06) – 100 min (sem.1)
2. The role of endocrine system scintigraphy in diagnosis and treatment based on thyroid and parathyroid examinations (K02, K04, K05) – 110 min (sem 1., sem.2)
3. Scintigraphy of musculoskeletal system; neoplastic bone diseases, metabolic diseases, inflammations (K02, K04, K05) – 100 min (sem.2, sem 3.)
4. Other nuclear examinations (scintigraphy of cardiovascular, excretory, respiratory systems, lymphoscintigraphy, sentinel node detection. PET/CT imaging (K02, K04, K05) – 50 min (sem.3)
5. Isotopes therapy (thyroid diseases, bone metastases) (K02, K03, K04, K05, K06) – 90 min (sem.3)

Practical classes

- organization of Nuclear's Medicine Division (K01, K06) – 20 min
- scintigraphy imaging (from isotopes administration to results) (K02, K05, S01, S04) – 40 min
- qualification to radioiodine therapy (patients suffering from benign thyroid disease), examination of the patient (discussion especially of thyroid scintigraphy using technetium (99-mTc) and radioiodine (131-I) (K02, K03, K04, K06, S01, S02, S03, S04, S05) – 55 min
- repetition of thyroid gland anatomy, hypo – and hyperthyroidism and crucial examinations for the best choice of therapy (including nuclear medicine examinations) (K03, K05, S04) - 55 min
- the rules of radiation safety (after isotopes therapy) (K01, K05, K06, S03, S05) – 55 min

Other – not applicable

Basic literature (list according to importance, no more than 3 items)

In English: M. Reza Habibi, Dominique Delbeke, William H. Martin, Martin P. Sandler, o V. Vitola Nuclear Medicine Imaging, A Teaching File. Lippincott Williams & Wilkins, 2012,
In Polish:
D. Piciu Endokrynologia nuklearna, Springer, Medipage, 2015
B. Birkenfeld, M. Listewnik – Medycyna nuklearna – obrazowanie molekularne, PUM, Szczecin, 2011
L. Królicki – Medycyna nuklearna, Fundacja im. L. Rydygiera, 1996

Additional literature and other materials (no more than 3 items)

In English (journals): Nuclear Medicine Review, European Journal of Nuclear Medicine and Molecular



Imaging

Didactic resources requirements (e.g. laboratory, multimedia projector, other...)

- Classes: Division of Nuclear Medicine with equipment: gamma cameras (planar and SPECT/CT), room for radiopharmaceuticals preparation, doctor's office
- Seminars: Overhead projector, multimedia equipment, seminar room

Preliminary conditions (minimum requirements to be met by the student before starting the module/course)

The knowledge of:

- symptoms and signs of hyperthyroidism and hypothyroidism
- causes of hyperthyroidism
- therapies of hyperthyroidism
- laboratory findings and diagnostic imaging in the thyroid diseases
- basis of radiation safety (especially in nuclear medicine)

Conditions to receive credit for the course (specify the form, criteria and conditions of receiving credit for classes included in the module/course, admission terms to final theoretical or practical examination, its form and requirements to be met by the student to pass it and criteria for specific grades).

Each absence must be made up, including rector's days or dean's hours.

Classes:

100% obligatory presence during 5 hours classes in one day, active presence (taking medical history, planning of diagnostic and therapeutic processes), oral response are required. In very exceptional cases it is possible to have classes with another group (contact with the person who is responsible for the subject is necessary, at least 4 working days before the new/changed term of classes). In very special cases (only in the end of semester) it will be possible to organize additional classes.

Seminars:

100% obligatory presence and oral response during classes (when the seminars will be held earlier than classes) are mandatory to get a pass. To participate in the seminars with another group will be possible in exceptional cases only after contact with the lecturer (at least 3 working days before the new/changed term of seminar).

Get a pass in nuclear medicine.

100% obligatory presence during classes and seminars. The student must/have to pass the test (15 questions = 15 points; 13 questions = single choice, 2 open questions, pass ≥ 9 points). Test will be performed during the last students activities (classes or seminars) or on the additional meeting. The precise plan of the test will be available in the first week of summer semester.

In case of absence (including rector's days or dean's hours) the contact with lecturer is required to establish the day for make up the seminar or classes (see above). It is allowed preparing the essay by the students in the subject of non-performed classes (seminars).

Grade:	Criteria for course
Very Good (5.0)	14-15
Good Plus (4.5)	13
Good (4.0)	12
Satisfactory Plus (3.5)	10-11
Satisfactory (3.0)	9



Grade:	Criteria for exam (if applicable)
Very Good (5.0)	
Good Plus (4.5)	
Good (4.0)	
Satisfactory Plus (3.5)	
Satisfactory (3.0)	

Name of unit teaching course:	Katedra i Klinika Endokrynologii, Diabetologii i Leczenia Izotopami (Department of Endocrinology, Diabetology and Isotopes Therapy)
Address	50-367 Wrocław, L. Pasteura Str 4
Phone	71 784 2545 (office)
E-mail	elzbieta.szubart@umed.wroc.pl (office)

Person responsible for course:	Diana Jędrzejuk, MD, PhD
Phone	71 784 2565
E-mail	diana.jedrzejuk@umed.wroc.pl

List of persons conducting specific classes:	degree/scientific or professional title	Discipline	Performer profession	Form of classes
Diana Jędrzejuk	Adiunkt/dr n. med. (adiunct, PhD)	Nauki medyczne (medical sciences)	Pracownik naukowo-dydaktyczny (scientific and didactic employee)	CC
Joanna Syrycka	Adiunkt/dr n. med. (adiunct, PhD)	Nauki medyczne (medical sciences)	Pracownik naukowo-dydaktyczny (scientific and didactic employee)	CC, SE
Eliza Kubicka	Adiunkt/dr n. med. (adiunct, PhD)	Nauki medyczne (medical sciences)	Pracownik naukowo-dydaktyczny (scientific and didactic employee)	SE

Date of Syllabus development

15/07/2019

Syllabus developed by

Dr. n. med. Diana Jędrzejuk

Signature of Head of teaching unit

Uniwersytet Medyczny we Wrocławiu
KATEDRA I KLINIKA ENDOKRYNOLOGII,
DIABETOLOGII I LECZENIA IZOTOPAMI
Nierownik
prof. dr/hab. n. med. Marek Bolański

Signature of Faculty Dean

Wrocław Medical University
FACULTY OF MEDICINE
VICE DEAN FOR STUDIES IN ENGLISH
Prof. Andrzej Hendrich, PhD

