UNIWERSYTET MEDYCZNY
IM. PIASTÓW ŚLĄSKICH WE WROCŁAWIU

Appendix 5
to Resolution No. 15630
of Senate of Wroclaw Medical University
of 30 March 2016

Syllabus 2018/2019

Description of the course

Module/Course	**Nuclear medicine**	**Group of detailed education results**	
		Group code F	**Group name** Science clinical treatment; Diagnostic imaging
Faculty	Medicine		
Major	medicine		
Specialties	Not applicable		
Level of studies	Uniform magister studies **X** * 1st degree studies □ 2nd degree studies □ 3rd degree studies □ postgraduate studies □		
Form of studies	**X** full-time **X** part-time		
Year of studies	IV	**Semester**	□ Winter X Summer
Type of course	X obligatory □ limited choice □ free choice / elective		
Course	X major □ basic		
Language of instruction	□ Polish **X** English □ other		

* mark □ with an **X**

Number of hours

Form of education

Unit teaching the course	Lectures (L)	Seminars (SE)	Auditorium classes (AC)	Major Classes – not clinical (MC)	Clinical Classes (CC)	Laboratory Classes (LC)	Classes in Simulated Conditions (CSC)	Practical Classes with Patient (PCP)	Specialist Classes – magister studies (SCM)	Foreign language Course (FLC)	Physical Education obligatory (PE)	Vocational Practice (VP)	Self-Study (Student's own work)	E-learning (EL)
Winter Semester														
		0			**0**									
Summer Semester														
Department of Endocrinology, Diabetology and Isotopes Therapy		0			5									
Department of Pharmacology		10			0									

TOTAL per year:													
Department of Endocrinology, Diabetology and Isotopes Therapy		0			5								
Department of Pharmacology		10			0								

Educational objectives (max. 6 items)

C1. The acquaint with knowledge in the field of actually diagnostic and therapies isotopes procedures

C2. Get 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 (in the subject of the treatment of radioactive iodine the patients with hyperthyroidism)

C3. 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 ***enter the abbreviation*
K 01	F.W.11 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 isotopes procedures.	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 (scintigraphies) and laboratory findings which are needed to plan the radioactive iodine treatment of benign thyroid disease.	Oral response, test	SS, SE, CC
K 05		Compares various treatment of hyperthyroidism.	Oral response, test	SE, CC
K 06		Lists the basic and important indications and contraindications to use the isotopes in medicine.	Oral response, test	SE, CC
K 07		Describes the radiation safety rules regarding to personnel and patients.	Oral response, test	SS, SE, CC
S 01	F.U. 7	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		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	

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, K07) – 100 min (sem.1)
2. The role of endocrine system scintigraphy in diagnosis and treatment based on thyroid and parathyroid examinations (K02, K04, K06) – 110 min (sem 1., sem.2)
3. Scintigraphy of musculoskeletal system; neoplastic bone diseases, metabolic diseases, inflammations (K02, K04, K06) – 100 min (sem.2, sem 3.)
4. Other nuclear examinations (scintigraphy of cardiovascular, excretory, respiratory systems, lymphoscintigraphy, sentinel node detection (K02, K04, K06) – 50 min (sem.3)
5. Isotopes therapy (thyroid diseases, bone metastases, polycythemia, liver carcinoma) (K02, K03, K04, K05, K06, K07) – 90 min (sem.3)

Practical classes

- organization of Nuclear's Medicine Division (K01, K07) – 20 min
- scintigraphy imaging (isotopes, aquisition, results) (K02, K06, S01, S04) – 40 min
- qualification to radioiodine therapy (patients suffering from hyperthyroidism or nontoxic goiter), examination of the patient (discussion about the result of ultrasound, hormone's level and especially thyroid scintigraphy using technetium (99-mTc) and radioiodine (131-I) (K02, K03, K04, K05, 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 isotopic tests) (K03, K06, S04) - 55 min
- the rules of radiation safety (131-I therapy) (K01, K06, K07, S03, S05) – 55 min

Other – not appclicable

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

In English: M. Reza Habibian, 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
- 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 med 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. It is possible to have classes with another group (contact with lecturer 4 days before is necessary to check if it is possible).

Seminars:

100% obligatory presence and oral response during classes are mandatory to get a pass.

Get a pass in nuclear medicine.

The student must pass a test (single choice; 15 questions = 15 points; pass >=9 points). Test will be performed during the last students activities (classes or seminars).

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. It is allowed preparing the essay by the students in the subject of non-performed classes (seminars) and having a discussion about them (time and conditions will be selected individually).

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

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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**

Wykaz osób prowadzących poszczególne zajęcia:	*stopień/tytuł naukowy lub zawodowy*	*dziedzina naukowa*	*Wykonywany zawód*	*Forma prowadzenia zajęć*
Diana Jędrzejuk	Adiunkt/dr n. med.	Nauki medyczne	Pracownik naukowo-dydaktyczny	CK
Joanna Syrycka	Adiunkt/dr n. med.	Nauki medyczne	Pracownik naukowo-dydaktyczny	CK
Tomasz Sozański	Adiunkt/dr n. med.	Nauki medyczne	Pracownik naukowo-dydaktyczny	SE

Date of Syllabus development

15/07/2018

Syllabus developed by

Diana Jędrzejuk, MD, PhD

Signature of Head of teaching unit

Uniwersytet Medyczny we Wrocławiu
KATEDRA I KLINIKA ENDOKRYNOLOGII, DIABETOLOGII I LECZENIA IZOTOPAMI
kierownik
prof. dr hab. n. med. Marek Bolanowski

Signature of Faculty Dean

Wrocław Medical University
FACULTY OF MEDICINE
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