



UNIWERSYTET JAGIELLOŃSKI  
COLLEGIUM MEDICUM

## Program studiów

<b>Wydział:</b>	Wydział Lekarski
<b>Kierunek:</b>	Medical Program
<b>Poziom kształcenia:</b>	jednolite magisterskie
<b>Forma kształcenia:</b>	stacjonarne
<b>Rok akademicki:</b>	2019/20

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# Charakterystyka kierunku

## Informacje podstawowe

Nazwa wydziału:	Wydział Lekarski
Nazwa kierunku:	Medical Program
Poziom:	jednolite magisterskie
Profil:	ogólnoakademicki
Forma:	stacjonarne
Język studiów:	angielski

## Przyporządkowanie kierunku do dziedzin oraz dyscyplin, do których odnoszą się efekty uczenia się

Nauki medyczne

100,0%

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## Charakterystyka kierunku, koncepcja i cele kształcenia

### Charakterystyka kierunku

The Medical Program at the Faculty of Medicine of the Jagiellonian University Medical College is a dynamic, modern and significant program on the European map of medical universities, boasting excellent scientific and didactic staff consisting of 150 full professors and doctors with habilitation degrees, and over 450 doctors who, drawing on the wealth of centuries-old tradition, set new directions of thought development through the highest quality scientific research and teaching.

Every year over 400 doctors graduate from the Faculty of Medicine, and every year the Faculty of Medicine of the JU MC enjoys great interest among candidates for medical universities.

The current shape of medical studies is the result of many years of experience in professional education of medical staff in the care of human health and life.

Students have a rich, well-equipped scientific and didactic base, highly qualified scientific and didactic staff, specialist clinical base, and modern scientific and research infrastructure at their disposal.

Medical studies are uniform master's studies lasting 12 semesters. The curriculum of the first three years of studies includes teaching in the field of theoretical disciplines of medical sciences, i.e. normal anatomy, biology with embryology, histology with cytophysiology, general and organic chemistry, biochemistry, physiology, biophysics, microbiology, immunology, genetics, pathomorphology, pathophysiology, pharmacology. From the first year of their studies, they are familiarized with the rules of ethics and learn about relations and communication with patients. During the first, second and third year of studies, students are also taught the basics of clinical sciences in the form of first aid and elements of nursing, propedeutics of medicine, pediatrics and internal diseases, as well as epidemiology, history of medicine, history of philosophy, sociology of medicine, medical ethics, health psychology, computer science with biometrics, and two foreign languages. From the fourth to the sixth year of studies, basic clinical disciplines are taught, i.e. pediatrics with aediatric surgery, internal diseases, surgery, orthopedics and traumatology, gynecology and obstetrics, ophthalmology, infectious diseases, psychiatry, neurology with neurosurgery, laryngology, as well as hygiene, radiology, clinical and environmental toxicology, emergency medicine, public health, nuclear medicine, occupational medicine and diseases, immunology and microbiology. The studies also include a program of numerous optional courses in neurology, medical cytobiology, molecular epidemiology, psychoanalysis, and clinical disciplines expanding the mandatory knowledge in cardiology, anesthesiology and intensive care, palliative care, surgery, emergency medicine and methodology of medical research. In order to pass the individual

years of studies, it is necessary to complete program practices in the field of patient care, internal diseases, pediatrics, gynecology, general surgery, emergency aid and out-patient health care (family physician). Graduates of the medical faculty receive a diploma and a professional title of medical doctor (Polish: lekarz).

## **Koncepcja kształcenia**

The aim of medical studies is to teach the fundamental theories and principles of medical practice, to transfer the skills of communication and cooperation with patients, colleagues and other medical professionals, and to prepare to lead human teams. The studies should provide the graduate with the necessary knowledge and skills, as well as ethical principles ensuring professional and safe medical care.

In accordance with the current teaching standards, the graduate has theoretical and practical skills in prevention and treatment necessary to practice the profession of a medical doctor.

In terms of knowledge, the graduate knows and understands the development, structure and functions of the human body in normal and pathological conditions, can recognize the symptoms and course of diseases, knows the methods of diagnostic and therapeutic management appropriate for specific conditions, and also understands the ethical, social and legal conditions of the medical profession and the principles of health promotion, and his/her knowledge is based on scientific evidence and accepted norms, and is also familiarized with methods of conducting scientific research.

In terms of skills, graduates are able to recognize medical problems and priorities in the field of medical management, recognize life-threatening conditions requiring immediate medical intervention, plan diagnostic procedures and interpret their results, as well as implement appropriate and safe therapeutic management and predict its effects. Graduates also know how to plan their own educational activity and constantly improve their education in order to update their knowledge and inspire the learning process of others. Preparation for the medical profession also includes communicating with patients and their families in an atmosphere of trust, taking into account patients' needs, communicating with colleagues in a team, and sharing knowledge, as well as critically evaluating the results of scientific research with appropriate justification of a position.

In terms of social competences, graduates are ready to establish and maintain deep and respectful contact with patients, as well as to show understanding for differences in world-related outlooks and cultures. The main principle for a graduate is to be guided by the well-being of a patient and to respect the medical confidentiality and rights of a patient. Further competences include the ability to take action against patients on the basis of norms and ethical principles with an awareness of social determinants and limitations resulting from the disease, and the ability to see and recognize one's own limitations and to self-assess educational deficits and needs. Graduates are prepared to promote health-promoting behaviors, are taught to use objective sources of information and formulate conclusions from their own measurements or observations. In terms of team work, a student is taught to implement the principles of professional camaraderie and cooperation in a team of specialists, including representatives of other medical professions, including in a multicultural and multinational environment. Graduate is competent to formulate opinions on various aspects of professional activity and has an educated ability to take responsibility for decisions taken in the course of professional activity, including in terms of their own and other people's safety.

## **Cele kształcenia**

1. acquiring the ability to plan and implement preventive, diagnostic and therapeutic procedures on a scientific basis which respects the principles of humanity
2. acquiring the ability to critically assess research results
3. ability to conduct scientific research and to spread their results
4. preparation for cooperation with other health care providers
5. preparation for managing human teams
6. readiness to continue professional education
7. readiness to continue education in doctoral schools and to participate in medical research

## **Potrzeby społeczno-gospodarcze**

## **Wskazanie potrzeb społeczno-gospodarczych utworzenia kierunku**

The statistics of the The Polish Chamber of Physicians and Dentists show that in Poland there is a great need for reliable doctors who are capable of offering appropriate preventive, diagnostic and therapeutic methods, based on solid theoretical foundations and the results of the latest research, adapted to the needs of individuals and groups of people. The need for education in a medical field is therefore one of the most urgent needs in the current medical situation in the country.

## **Wskazanie zgodności efektów uczenia się z potrzebami społeczno-gospodarczymi**

Thanks to the implementation of the assumed learning outcomes, graduates of medical studies, in accordance with their knowledge and skills acquired during their studies, are prepared to work in: public and non-public health care institutions; education; research institutions and research and development centers; institutions dealing with counseling and dissemination of knowledge in the field of health-promoting education, which is the answer to the increase in demand for medical services caused by demographic and civilization trends.

# **Nauka, badania, infrastruktura**

## **Główne kierunki badań naukowych w jednostce**

The academic staff at the Faculty of Medicine, which conducts classes in the field of medicine, participates in the implementation of a number of scientific research and scientific and implementation works in the field of medical and health sciences. Over the last 5 years, the research teams at the Faculty of Medicine participated in the implementation of over 300 projects financed from the National Science Centre, The National Centre for Research and Development, The Ministry of Health, The Ministry of Science

and Higher Education, international funds (including other EU programs) and several hundred projects from the university's own funds. The employees of the Faculty of Medicine implement projects in the scope of searching for new pathomechanisms and possibilities of personalized diagnosis and therapy of modern-age diseases (e.g. of the cardiovascular system, malignant tumors, diabetes, obesity, neurological and mental diseases, digestive system diseases, diseases related to the aging of society), interdisciplinary issues (e.g. cardiometabolic, cardiooncological, neuroendocrine problems), reproductive health problems and developmental age medicine, and therapeutic applications of regenerative medicine (e.g. the use of stem cells in the treatment of serious diseases). All units involved in the implementation of the program in the medical field, both in pre-clinical sciences and in clinical subjects, conduct scientific research.

## **Związek badań naukowych z dydaktyką**

The majority of the employees of the Faculty of Medicine combine teaching with scientific work. The knowledge, skills and experience gained by academic teachers as a result of their research and development work are used in the educational process as a basis for modification and modernization of educational content, both in pre-clinical and clinical subjects. There are more than 100 student scientific clubs at the Faculty, at the pre-clinical and clinical units. The students who work there supplement their medical knowledge and learn the methodology of scientific work. The results of their work are presented every year at numerous international scientific conferences. Student scientific circles operating at the Department of Medical Didactics participate in research aimed at the optimization of the education process at the Faculty of Medicine. Doctoral students are involved in the implementation of most of the scientific projects of the Faculty's researchers, while students participate in a large number of projects. Doctoral students may apply for funds for research in the JUMC competition, whereas students may apply for Student Grants. Every year, several "diamond grants" financed by the Ministry of Science and Higher Education are held at the Faculty of Medicine.

## **Opis infrastruktury niezbędnej do prowadzenia kształcenia**

The teaching infrastructure used for the implementation of the medical curriculum is based on three main components: lecture halls (17 in total), seminar and training rooms (over 130 available, in particular organizational units conducting teaching classes), and the hospital (and laboratory) base of the University Hospital in Kraków, the University Children's Hospital in Kraków, as well as units cooperating with the Faculty. These units constitute both the didactic and scientific base of the Faculty, being the seats of appropriate Departments, Clinics and Departments. Lecture halls are equipped with appropriate equipment, i.e. multimedia projectors, computers. Students have access to the resources of the Medical Library (current headquarters due to renovation of rooms: Grzegórzecka 20 Street) and the resources of the Jagiellonian Library. The Faculty has modern teaching facilities in the form of a high fidelity simulation room, 6 low-fidelity rooms and rooms for OSCE and technical skill training, as well as quiet study rooms and computer labs. Equipment and infrastructure are constantly updated, supplemented and developed in accordance with the demand resulting from the implementation of the education program. In 2019, a new seat of the University Hospital in Kraków-Prokocim will be opened, with a teaching base of 51 seminar rooms and a lecture hall, as well as a system of comprehensive sound and image transmission between all operating, endoscopic, imaging diagnostics and teaching rooms. In 2020, the construction of the Centre for Innovative Medical Education (CIEM), located in the immediate vicinity of the new University Hospital headquarters, will be completed, including 10 high-fidelity simulation rooms, rooms for technical skills improvement, a laboratory for teaching of clinical skills,

low-fidelity simulation rooms and rooms for Objective Structured Clinical Examinations (OSCE).

# Program

## Podstawowe informacje

Klasyfikacja ISCED:	0912
Liczba semestrów:	12
Tytuł zawodowy nadawany absolwentom:	lekarz

### Opis realizacji programu:

The curriculum of studies at the Faculty of Medicine is based on the didactic and research facilities of the Faculty of Medicine of the Jagiellonian University Medical College in cooperation with external entities, thanks to which it is possible to train practical skills of students in various conditions and environments, which prepares them for later employment in the medical profession. The education program is primarily aimed at developing practical/clinical skills based on a reliable theoretical base and gained experience with patients. All students follow the same program.

## Liczba punktów ECTS

konieczna do ukończenia studiów	365
w ramach zajęć prowadzonych z bezpośrednim udziałem nauczycieli akademickich lub innych osób prowadzących zajęcia	230
którą student musi uzyskać w ramach zajęć z zakresu nauki języków obcych	8
którą student musi uzyskać w ramach modułów realizowanych w formie fakultatywnej	14
którą student musi uzyskać w ramach praktyk zawodowych	20
którą student musi uzyskać w ramach zajęć z dziedziny nauk humanistycznych lub nauk społecznych	8

## Liczba godzin zajęć

Łączna liczba godzin zajęć: 5991

## Praktyki zawodowe

### Wymiar, zasady i forma odbywania praktyk zawodowych

As part of the medical studies program, students are required to complete work experience in the amount of 600 teaching hours, which corresponds to 20 ECTS credits. Internships are carried out during the summer holidays (July-August) between the first and fifth year of studies, in hospitals in the country and abroad. They take place in the area of patient care, internal diseases, pediatrics, gynecology, general surgery, emergency care and out-patient health care (family physician). All apprenticeships are supervised by the internship coordinators.



## **Ukończenie studiów**

### **Wymogi związane z ukończeniem studiów (praca dyplomowa/egzamin dyplomowy/inne)**

The condition for graduation from the Medical Faculty of the Jagiellonian University Medical College is to obtain credit for all subjects and practical training required by the study plan. In accordance with the current teaching standards, the graduate has theoretical and practical skills in prevention and treatment necessary to practice the profession of a medical doctor.

# Efekty uczenia się

## Wiedza

### Ogólne

In terms of knowledge, the graduate knows and understands:

Kod	Treść	PRK
O.W1	development, structure and functions of the human body in normal and pathological conditions	P7U_W, P7S_WG
O.W2	symptoms and course of diseases	P7U_W, P7S_WG
O.W3	methods of diagnostic and therapeutic procedures appropriate for specific disease states	P7U_W, P7S_WG
O.W4	ethical, social and legal conditions for practicing the medical profession and the principles of health promotion, based on scientific evidence and accepted standards	P7U_W, P7S_WG
O.W5	methods of conducting scientific research	P7U_W, P7S_WG

### Szczegółowe

#### A. Morphological education

In terms of knowledge, the graduate knows and understands:

Kod	Treść	PRK
A.W1	anatomical, histological and embryological denominations in Polish and English	P7U_W, P7S_WG
A.W2	structure of human body in topographic (upper and lower extremities, thorax, abdomen, pelvis, back, neck, head) and functional (osteoarticular system, muscular system, circulatory system, respiratory system, digestive system, urinary system, genital system, nervous system and sensory organs, integuments) approaches	P7U_W, P7S_WG
A.W3	topographical relations between individual organs	P7U_W, P7S_WG
A.W4	basic cellular structures and their functional specializations	P7U_W, P7S_WG
A.W5	microarchitecture of tissues, extracellular matrix and organs	P7U_W, P7S_WG
A.W6	stages of development of the human embryo, the structure and function of the membranes and placenta, stages of development of individual organs and the influence of harmful factors on the development of the embryo and fetus (teratogenic)	P7U_W, P7S_WG

#### B. Scientific basics of medicine

In terms of knowledge, the graduate knows and understands:

Kod	Treść	PRK
B.W1	water and electrolyte management in biological systems	P7U_W, P7S_WG
B.W2	acid-base balance and buffer mechanism, and their importance in systemic homeostasis	P7U_W, P7S_WG
B.W3	terms: solubility, osmotic pressure, isotonia, colloidal solutions and Gibbs-Donnan equilibrium	P7U_W, P7S_WG

<b>Kod</b>	<b>Treść</b>	<b>PRK</b>
<b>B.W4</b>	basic reactions of inorganic and organic compounds in aqueous solutions	P7U_W, P7S_WG
<b>B.W5</b>	physical laws describing fluid flow and factors affecting vascular resistance to blood flow	P7U_W, P7S_WG
<b>B.W6</b>	natural and artificial sources of ionising radiation and their interaction with matter	P7U_W, P7S_WG
<b>B.W7</b>	physicochemical and molecular basis of sensory organs activity	P7U_W, P7S_WG
<b>B.W8</b>	the physical basis of non-invasive imaging methods	P7U_W, P7S_WG
<b>B.W9</b>	physical fundamentals of selected therapeutic techniques, including ultrasound and irradiation	P7U_W, P7S_WG
<b>B.W10</b>	structure of simple organic compounds included in macromolecules present in cells, extracellular matrix and body fluids	P7U_W, P7S_WG
<b>B.W11</b>	structure of lipids and polysaccharides and their functions in cellular and extracellular structures	P7U_W, P7S_WG
<b>B.W12</b>	primary, secondary, tertiary and quaternary structure of proteins, as well as post-translational and functional modifications of proteins and their importance	P7U_W, P7S_WG
<b>B.W13</b>	nucleotide functions in the cell, primary and secondary DNA and RNA structures and chromatin structure	P7U_W, P7S_WG
<b>B.W14</b>	functions of the genome, transcriptome and human proteome, and basic methods used in their examination, processes of DNA replication, repair and recombination, transcription and translation and degradation of DNA, RNA and proteins, as well as concepts for regulation of gene expression	P7U_W, P7S_WG
<b>B.W15</b>	basic catabolic and anabolic pathways, ways of regulating them, and the influence of genetic and environmental factors on them	P7U_W, P7S_WG
<b>B.W16</b>	metabolic profiles of basic organs and systems	P7U_W, P7S_WG
<b>B.W17</b>	methods of intercellular communication, as well as between the cell and the extracellular matrix, and signal pathways in the cell, and examples of disorders in these processes leading to the development of cancer and other diseases	P7U_W, P7S_WG
<b>B.W18</b>	processes: cell cycle, cell proliferation, differentiation and aging, apoptosis and necrosis and their importance for the functioning of the body	P7U_W, P7S_WG
<b>B.W19</b>	in the basic scope, the subject matter of stem cells and their application in medicine	P7U_W, P7S_WG
<b>B.W20</b>	basics of induction and transmission in the nervous system and higher nervous actions as well as physiology of striated and smooth muscles and blood functions	P7U_W, P7S_WG
<b>B.W21</b>	activity and mechanisms of regulation of all organs and systems of the human body, including the cardiovascular system, respiratory system, digestive system, urinary tract and skin layers, and the interrelations existing between them	P7U_W, P7S_WG
<b>B.W22</b>	the course and regulation of reproductive functions in women and men	P7U_W, P7S_WG
<b>B.W23</b>	the mechanism of the body's aging	P7U_W, P7S_WG
<b>B.W24</b>	basic quantitative parameters describing the capacity of particular systems and organs, including the range of norms and demographic factors influencing the value of these parameters	P7U_W, P7S_WG
<b>B.W25</b>	the relationship between factors disturbing the balance of biological processes and physiological and pathophysiological changes	P7U_W, P7S_WG
<b>B.W26</b>	basic IT and biostatistical tools used in medicine, including medical databases, spreadsheets and computer graphics basics	P7U_W, P7S_WG
<b>B.W27</b>	basic methods of statistical analysis used in population and diagnostic studies	P7U_W, P7S_WG
<b>B.W28</b>	the possibilities of modern telemedicine as a tool to support the work of a doctor	P7U_W, P7S_WG

<b>Kod</b>	<b>Treść</b>	<b>PRK</b>
<b>B.W29</b>	principles of conducting scientific, observational and experimental studies and in vitro studies for the development of medicine	P7U_W, P7S_WG
<b>B.W30</b>	basic laws describing electrical and magnetic phenomena in the body	P7U_W, P7S_WG
<b>B.W31</b>	basic laws of mechanics referring to the skeletal and muscular system	P7U_W, P7S_WG
<b>B.W32</b>	biochemical fundamentals of xenobiotic metabolic processes	P7U_W, P7S_WG
<b>B.W33</b>	pathomechanisms of regulation disorders of all organs and systems of the human body, including: circulatory, respiratory, urinary and digestive systems, nervous system (central, peripheral and autonomous)	P7U_W, P7S_WG
<b>B.W34</b>	the principles for assessing the power and credibility of the recommendations in the guidelines for action	P7U_W, P7S_WG
<b>B.W35</b>	the types of observational and interventional studies and the rules governing their conduct	P7U_W, P7S_WG
<b>B.W36</b>	on-line data presentation techniques	P7S_WK
<b>B.W37</b>	rules of using materials published on the Internet (copyright, quoting law, methods of obtaining free materials)	P7U_W, P7S_WG
<b>B.W38</b>	the means of secure Internet communication	P7S_WK
<b>B.W39</b>	computer-aided decision support for medical decisions with particular emphasis on clinical pathway techniques	P7U_W, P7S_WG
<b>B.W40</b>	basic techniques of representation of medical knowledge for intelligent computer systems in medicine	P7U_W, P7S_WG
<b>B.W41</b>	concepts related to on-line data transmission	P7S_WK
<b>B.W42</b>	elements of the hospital patient service system	P7S_WK
<b>B.W43</b>	selected online sources of medical information, with particular emphasis on genetic diseases, available on the Internet	P7S_WK
<b>B.W44</b>	principles of operation and organisation of teleconferences	P7S_WK
<b>B.W45</b>	types of IT tools supporting the process of remote lifelong learning with particular emphasis on simulators available on-line	P7S_WK
<b>B.W46</b>	the opportunities and limitations offered by new information technology simulation techniques on examples of selected European research projects	P7S_WK
<b>B.W47</b>	the types of data used in electronic medical records	P7S_WK
<b>B.W48</b>	principles for the development of databases for patient care and research	P7S_WK
<b>B.W49</b>	principles for the operation and use of electronic patient records	P7U_W, P7S_WG
<b>B.W50</b>	principles of proper nutrition of a healthy and sick person and methods of assessing the state of nutrition	P7U_W, P7S_WG

### **C. Preclinical course**

In terms of knowledge, the graduate knows and understands:

<b>Kod</b>	<b>Treść</b>	<b>PRK</b>
<b>C.W1</b>	basic concepts in the field of genetics	P7U_W, P7S_WG
<b>C.W2</b>	phenomena of gene coupling and interaction	P7U_W, P7S_WG
<b>C.W3</b>	normal human karyotype and different types of sex determination	P7U_W, P7S_WG

<b>Kod</b>	<b>Treść</b>	<b>PRK</b>
<b>C.W4</b>	chromosome structure and molecular mutagenic background	P7U_W, P7S_WG
<b>C.W5</b>	the rules for the inheritance of different numbers of traits, the inheritance of quantitative traits, the independent inheritance of traits and the inheritance of non-nuclear genetic information	P7U_W, P7S_WG
<b>C.W6</b>	genetic determinants of human blood groups and serological conflict in the Rh system	P7U_W, P7S_WG
<b>C.W7</b>	aberrations of autosomes and heterosomes that cause disease, including oncogenesis and cancer	P7U_W, P7S_WG
<b>C.W8</b>	factors influencing the primary and secondary genetic balance of the population	P7U_W, P7S_WG
<b>C.W9</b>	basics of diagnostics of gene and chromosomal mutations responsible for hereditary and acquired diseases, including neoplastic diseases	P7U_W, P7S_WG
<b>C.W10</b>	benefits and threats resulting from the presence of genetically modified organisms (GMOs) in the ecosystem	P7U_W, P7S_WG
<b>C.W11</b>	genetic mechanisms for the acquisition of drug resistance by microorganisms and cancer cells	P7U_W, P7S_WG
<b>C.W12</b>	micro-organisms, including pathogenic and present in the physiological flora	P7U_W, P7S_WG
<b>C.W13</b>	epidemiology of viral and bacterial infections and infections with fungi and parasites, taking into account their geographical distribution	P7U_W, P7S_WG
<b>C.W14</b>	the impact of abiotic and biotic (viruses, bacteria) environmental factors on the human body and human population and their pathways into the human body	P7S_WK
<b>C.W15</b>	the consequences of human body exposure to various chemical and biological agents and the principles of prevention	P7U_W, P7S_WG
<b>C.W16</b>	human-invasive forms or stages of parasitic fungi, protozoa, helminths and arthropods of selected parasitic species, taking into account their geographical distribution	P7U_W, P7S_WG
<b>C.W17</b>	the principle of the parasite-host system and the principal disease symptoms caused by the parasites	P7U_W, P7S_WG
<b>C.W18</b>	symptoms of iatrogenic infections, their pathways and pathogens causing changes in individual organs	P7U_W, P7S_WG
<b>C.W19</b>	basics of microbiological and parasitological diagnostics basics of disinfection, sterilization and aseptic management	P7U_W, P7S_WG
<b>C.W20</b>	basic principles of disinfection, sterilization and aseptic management	P7U_W, P7S_WG
<b>C.W21</b>	basic of development and mechanisms of immune system action, including specific and non-specific mechanisms of humoral and cellular immunity	P7U_W, P7S_WG
<b>C.W22</b>	major histocompatibility complex	P7U_W, P7S_WG
<b>C.W23</b>	types of hypersensitivity reactions, types of immunodeficiency and basics of immunomodulation	P7U_W, P7S_WG
<b>C.W24</b>	issues related to cancer immunology	P7U_W, P7S_WG
<b>C.W25</b>	the genetic basis for donor and recipient selection and the basics for transplantation immunology	P7U_W, P7S_WG
<b>C.W26</b>	pathomorphological nomenclature	P7U_W, P7S_WG
<b>C.W27</b>	basic mechanisms of cell and tissue damage	P7U_W, P7S_WG
<b>C.W28</b>	clinical course of specific and non-specific inflammations, as well as tissue and organ regeneration processes	P7U_W, P7S_WG

<b>Kod</b>	<b>Treść</b>	<b>PRK</b>
<b>C.W29</b>	definition and pathophysiology of shock, with particular emphasis on differentiation of the causes of shock and multi-organ failure	P7U_W, P7S_WG
<b>C.W30</b>	aetiology of haemodynamic disorders, regressive and progressive changes	P7U_W, P7S_WG
<b>C.W31</b>	issues related to detailed pathology of organs, macro- and microscopic images and clinical course of pathomorphological changes in particular organs	P7U_W, P7S_WG
<b>C.W32</b>	consequences of developing pathological changes for topographically adjacent organs	P7U_W, P7S_WG
<b>C.W33</b>	external and internal pathogens, both modifiable and non-modifiable	P7U_W, P7S_WG
<b>C.W34</b>	clinical forms of the most frequent diseases of particular systems and organs, metabolic diseases and disorders of water-electrolyte, hormonal and acid-base metabolism	P7U_W, P7S_WG
<b>C.W35</b>	individual groups of therapeutic agents	P7U_W, P7S_WG
<b>C.W36</b>	the main mechanisms of drug action, and their changes in the system depending on age	P7U_W, P7S_WG
<b>C.W37</b>	the influence of disease processes on the metabolism and elimination of medicines	P7U_W, P7S_WG
<b>C.W38</b>	basic rules of pharmacotherapy	P7U_W, P7S_WG
<b>C.W39</b>	more important side effects of medicines, including those resulting from their interaction	P7U_W, P7S_WG
<b>C.W40</b>	the problem of drug resistance, including multi-drug drug resistance	P7U_W, P7S_WG
<b>C.W41</b>	indications for genetic tests performed with the aim of individualizing pharmacotherapy	P7U_W, P7S_WG
<b>C.W42</b>	basic directions of therapy development, in particular the possibilities of cellular, gene and targeted therapy in specific diseases	P7U_W, P7S_WG
<b>C.W43</b>	basic concepts of general toxicology	P7U_W, P7S_WG
<b>C.W44</b>	groups of medicines, the abuse of which can lead to poisoning	P7U_W, P7S_WG
<b>C.W45</b>	symptoms of the most common acute poisoning, including alcohol, drugs and other psychoactive substances, heavy metals and selected groups of drugs	P7U_W, P7S_WG
<b>C.W46</b>	basic principles of diagnostic procedures in poisoning	P7U_W, P7S_WG
<b>C.W47</b>	influence of oxidative stress on cells and its importance in the pathogenesis of diseases and aging processes	P7U_W, P7S_WG
<b>C.W48</b>	the consequences of vitamin or mineral deficiencies and their excess in the body	P7U_W, P7S_WG
<b>C.W49</b>	enzymes involved in digestion, the mechanism of hydrochloric acid production in the stomach, the role of bile, the course of absorption of digestive products	P7U_W, P7S_WG
<b>C.W50</b>	the consequences of inadequate nutrition, including prolonged hunger, excessive food intake and unbalanced diet, and disorders of digestion and absorption of digestive products	P7U_W, P7S_WG
<b>C.W51</b>	the mechanism of hormone actions	P7U_W, P7S_WG
<b>C.W52</b>	morphological changes in the most important non-cancer diseases affecting the entire organism (e.g. atherosclerosis, hypertension, diabetes, cardiopulmonary insufficiency, systemic infectious and immunological diseases, the most frequent hormonal disorders, the most frequent genetic diseases), and is able to link them with already acquired knowledge of anatomy, biochemistry and pathological physiology in order to deduce clinical symptoms	P7U_W, P7S_WG

<b>Kod</b>	<b>Treść</b>	<b>PRK</b>
<b>C.W53</b>	pre-cancerous and high-risk conditions related to cancer, neoplastic transformation processes with their morphological signs, principles of cancer classification according to WHO, the most important risk factors, prognostic and predictive, and methods of histopathological and cytological testing and supporting molecular tests used in cancer diagnosis, detection and monitoring pre-cancerous conditions, and also understands the importance of proper diagnosis of histopathology cancer for proper treatment	P7U_W, P7S_WG
<b>C.W54</b>	pathogenesis and morphological changes of diseases associated with advanced age, including those particularly important in an aging society, the most frequent neurodegenerative diseases (e.g. Alzheimer's disease)	P7U_W, P7S_WG
<b>C.W55</b>	morphological changes, and understands the pathogenesis of critical pathological conditions brain such as swelling, ischemia, hemorrhages, effects of exogenous substances (e.g. alcohol, CO) and mechanical injury	P7U_W, P7S_WG
<b>C.W56</b>	morphological changes in the most common pathologies of the pediatric period, including in particular perinatal pathologies and genetic diseases and developmental disorders (defects) in children, and is able to link them with teratogenic, genetic factors and perinatal trauma	P7U_W, P7S_WG
<b>C.W57</b>	the importance of post-mortem examination as an examination verifying the diagnosis and important for improving the quality of hospital work and for the self-education of a doctor, and this knowledge is supported by direct, i.e. personal active participation in autopsy	P7U_W, P7S_WG
<b>C.W58</b>	the subject of basic (including histochemistry and immunohistochemistry) techniques used in pathomorphological diagnostics and selected molecular techniques (FISH, etc.), and understands their determinants related to the protection of material, and knows the rules of evaluation and interpretation of macro- and microscopic material to be examined	P7U_W, P7S_WG

#### **D. Behavioral and social sciences with elements of professionalism**

In terms of knowledge, the graduate knows and understands:

<b>Kod</b>	<b>Treść</b>	<b>PRK</b>
<b>D.W1</b>	the social dimension of health and disease, the impact of the social environment (family, social networks) and social inequalities and socio-cultural differences on health, and the role of social stress in health and self-destructive behaviors	P7U_W, P7S_WG
<b>D.W2</b>	social factors influencing behaviour in health and disease, particularly in chronic disease	P7U_W, P7S_WG
<b>D.W3</b>	forms of violence, models explaining domestic and institutional violence, the social determinants of the various forms of violence and the role of the doctor in recognizing it	P7U_W, P7S_WG
<b>D.W4</b>	social attitudes towards the importance of health, disease, disability and old age, the social consequences of disease and disability and social and cultural barriers, and the concept of quality of life as determined by the state of health	P7U_W, P7S_WG
<b>D.W5</b>	principles and methods of communication with the patient and his/her family, which are aimed at building empathic, trust-based relationships	P7U_W, P7S_WG
<b>D.W6</b>	the importance of verbal and non-verbal communication in the process of communicating with the patient and the notion of trust in the interaction with the patient	P7U_W, P7S_WG
<b>D.W7</b>	psychosocial consequences of hospitalization and chronic disease	P7U_W, P7S_WG
<b>D.W8</b>	functioning of health care system entities and social role of a physician	P7U_W, P7S_WG
<b>D.W9</b>	basic psychological mechanisms of human functioning in health and disease	P7U_W, P7S_WG

<b>Kod</b>	<b>Treść</b>	<b>PRK</b>
<b>D.W10</b>	the role of the patient's family in the treatment process	P7S_WK
<b>D.W11</b>	issues related to the adaptation of patients and their families to disease as a difficult situation and to related events, including dying and family mourning processes	P7S_WK
<b>D.W12</b>	the role of stress in etiopathogenesis and disease progression, and the mechanisms for coping with stress	P7U_W, P7S_WG
<b>D.W13</b>	mechanisms, objectives and treatment options for psychoactive substance dependence	P7U_W, P7S_WG
<b>D.W14</b>	the principles of health promotion, its tasks and main lines of action, with particular reference to the role of elements of a healthy lifestyle	P7S_WK
<b>D.W15</b>	principles of motivating the patient to health-promoting behaviors and informing about unsuccessful prognosis	P7U_W, P7S_WG
<b>D.W16</b>	the main concepts, theories, principles and ethical rules serving as a general framework for the proper interpretation and analysis of moral and medical issues	P7S_WK
<b>D.W17</b>	patient's rights	P7S_WK
<b>D.W18</b>	principles of teamwork	P7S_WK
<b>D.W19</b>	cultural, ethnic and national determinants of human behavior	P7U_W, P7S_WG
<b>D.W20</b>	the history of medicine, the medicine of primitive peoples and ancient civilizations and the characteristic features of medieval medicine	P7S_WK
<b>D.W21</b>	the characteristics of modern medicine and its most important discoveries	P7S_WK
<b>D.W22</b>	the process of shaping new specialties in the field of scientific discipline - medical sciences and achievements of leading representatives of Polish and world medicine	P7U_W, P7S_WK
<b>D.W23</b>	basics of evidence-based medicine	P7S_WK
<b>D.W24</b>	standards relating to patients' rights	P7S_WK

### **E. Clinical non-procedural medical disciplines**

In terms of knowledge, the graduate knows and understands:

<b>Kod</b>	<b>Treść</b>	<b>PRK</b>
<b>E.W1</b>	environmental and epidemiological determinants of the most frequent diseases	P7U_W, P7S_WG
<b>E.W2</b>	the principles of nutrition of healthy and sick children, including breastfeeding, preventive vaccination and child health monitoring	P7U_W, P7S_WG



<b>Kod</b>	<b>Treść</b>	<b>PRK</b>
<b>E.W3</b>	the causes, symptoms, principles of diagnosis and therapeutic management of the most common diseases of children: (1) rickets, tetanus, convulsions, (2) heart defects, myocarditis, endocarditis, pericarditis, cardiomyopathy, arrhythmia, heart failure, hypertension, syncope, (3) acute and chronic diseases of the upper and lower airways, congenital defects of the respiratory system, tuberculosis, cystic fibrosis, asthma, allergic rhinitis, urticaria, anaphylactic shock, angioedema, (4) anemia, hemorrhagic diatheses, conditions of bone marrow failure, pediatric neoplastic diseases, including solid tumors typical of childhood, (5) acute and chronic abdominal pain, vomiting, diarrhea, constipation, gastrointestinal bleeding, peptic ulcer disease, non-specific intestinal diseases, pancreatic diseases, cholestasis and liver diseases, and other acquired diseases and congenital defects of the digestive tract, (6) urinary tract infections, congenital anomalies of the urinary system, nephrotic syndrome, renal stones, acute and chronic renal failure, acute and chronic nephritis, systemic kidney diseases, urinary tract disorders, vesicoureteral reflux disease, (7) growing disorders, thyroid and parathyroid diseases, adrenal diseases, diabetes, obesity, disorders of puberty and gonadal functions, (8) cerebral palsy, encephalomyelitis, meningitis, epilepsy, (9) the most common infectious diseases of childhood, (10) genetic syndromes, (11) diseases of connective tissue, rheumatic fever, juvenile arthritis, systemic lupus, dermatomyositis	P7U_W, P7S_WG
<b>E.W4</b>	issues of abused child and sexual abuse, mental retardation and behavioral disorders - psychoses, addictions, eating disorders and excretion in children	P7U_W, P7S_WG
<b>E.W5</b>	basic methods of fetal diagnostics and therapy	P7U_W, P7S_WG
<b>E.W6</b>	the most common life-threatening conditions in children and the rules of conduct in these conditions	P7U_W, P7S_WG
<b>E.W7</b>	the causes, symptoms, principles of diagnosis and therapeutic management of the most common internal diseases and their complications in adults: 1) cardiovascular diseases, including ischemic heart disease, heart defects, endocarditis, myocardial infarction, pericardial infarction, heart failure (acute and chronic), diseases of arteries and venous vessels, arterial hypertension - primary and secondary, pulmonary hypertension, 2) respiratory system diseases, including respiratory tract diseases, chronic obstructive pulmonary disease, bronchial asthma, bronchial dilatation, cystic fibrosis, respiratory infections, interstitial diseases of the lungs, pleura, mediastinum, obstructive and central sleep apnea, respiratory failure (acute and chronic), respiratory tumors, 3) diseases of the digestive system, including diseases of the mouth, esophagus, stomach and duodenum, intestines, pancreas, liver, bile ducts and gallbladder, 4) diseases of the internal secretion system, including diseases of the hypothalamus and pituitary gland, thyroidism, parathyroidism, adrenal cortex and medulla, ovaries and testicles, and neuroendocrine tumors, polyglandular syndromes, various types of diabetes and metabolic syndrome - hypoglycaemia, obesity, dyslipidemia, 5) diseases of the kidneys and the urinary tract, including acute and chronic renal failure, glomerulonephrine and interstitial kidney diseases, kidney cysts, kidney stones, urinary tract infections, urinary tract neoplasms, in particular of bladder and kidney neoplasms, 6) hematopoietic diseases, including bone marrow aplasia, anemia, granulocytopenia and agranulocytosis, thrombocytopenia, acute leukemia, myeloproliferative and myelodysplastic-myeloproliferative tumours, myelodysplastic syndromes, mature B and T lymphocytes tumors, bleeding diatheses, thrombophilia, life-threatening conditions in hematology, blood disorders in other organ diseases, 7) rheumatic diseases, including systemic connective tissue diseases, systemic vasculitis, joint inflammations involving spinal cord, metabolic bone diseases, osteoporosis and osteoarthritis in particular, gout, 8) allergic diseases, including anaphylaxis and anaphylactic shock and angioedema, 9) water-electrolyte and acid-base disorders: dehydration conditions, overhydration conditions, electrolyte, acidic and alkaline disorders	P7U_W, P7S_WG
<b>E.W8</b>	course and symptoms of the aging process and the principles of the overall geriatric assessment and interdisciplinary care for an elderly patient	P7U_W, P7S_WG
<b>E.W9</b>	the causes and basic differences in the most common diseases in the elderly and the principles of management in basic geriatric syndromes	P7U_W, P7S_WG

<b>Kod</b>	<b>Treść</b>	<b>PRK</b>
<b>E.W10</b>	the basic principles of pharmacotherapy for diseases in the elderly	P7U_W, P7S_WG
<b>E.W11</b>	dangers associated with the hospitalisation of the elderly	P7U_W, P7S_WG
<b>E.W12</b>	basic principles of organizing care for the elderly and the burden on the carer of the elderly	P7U_W, P7S_WG
<b>E.W13</b>	basic neurological symptom syndromes	P7U_W, P7S_WG
<b>E.W14</b>	causes, symptoms, principles of diagnosis and therapeutic management in the most common diseases of the nervous system, including: 1) headaches: migraines, tension headaches and headache syndromes and neuralgia of the nerve V, 2) cerebral vascular diseases, in particular stroke, 3) epilepsy, 4) infections of the nervous system, in particular meningitis, borreliosis, herpetic encephalitis, neurotransmission diseases, 5) dementia, in particular: Alzheimer's disease, frontal dementia, vascular dementia and other dementia syndromes, 6) basal ganglia diseases, Parkinson's disease in particular, 7) demyelinating diseases, multiple sclerosis in particular, 8) diseases of the neuromuscular system, lateral atrophic sclerosis and sciatic neuralgia in particular, 9) craniocerebral injuries, cerebral palsy in particular	P7U_W, P7S_WG
<b>E.W15</b>	basic concepts of the pathogenesis of mental disorders	P7U_W, P7S_WG
<b>E.W16</b>	the general symptomatology of mental disorders and the rules for classifying them according to the main classification systems	P7U_W, P7S_WG
<b>E.W17</b>	symptoms, principles of diagnosis and therapeutic management in the most frequent mental disorders, including 1) schizophrenia, 2) affective disorders, 3) neurotic and adaptive disorders, 4) nutritional disorders, 5) disturbances related to the intake of psychoactive substances, 6) sleep disorders	P7U_W, P7S_WG
<b>E.W18</b>	principles of diagnostics and emergency management in psychiatry, including suicide issues	P7U_W, P7S_WG
<b>E.W19</b>	the specificity of mental disorders and their treatment in children, adolescents and in old age	P7U_W, P7S_WG
<b>E.W20</b>	symptoms of mental disorders in the course of somatic diseases, their influence on the course of the basic disease and prognosis and the principles of their treatment	P7U_W, P7S_WG
<b>E.W21</b>	the problem of human sexuality and fundamental disorders associated with it	P7U_W, P7S_WG
<b>E.W22</b>	rules on the protection of mental health, with particular reference to the rules on admission to a mental hospital	P7U_W, P7S_WK
<b>E.W23</b>	environmental and epidemiological determinants of the most frequent human neoplastic diseases	P7U_W, P7S_WG
<b>E.W24</b>	basics of early detection of neoplastic diseases and principles of screening in oncology	P7U_W, P7S_WG
<b>E.W25</b>	possibilities of modern neoplastic therapy, including multimodal therapy, perspectives of cellular and gene therapies and their adverse effects	P7U_W, P7S_WG
<b>E.W26</b>	principles of combination therapies in oncology, algorithms of diagnostic and therapeutic procedures in the most common human cancers	P7U_W, P7S_WG
<b>E.W27</b>	principles of diagnosis and therapeutic management in the most common problems of palliative medicine, including 1) symptomatic treatment of the most common somatic symptoms, 2) cachexia management and the prevention and treatment of bedsores, 3) the most common emergencies in palliative medicine	P7U_W, P7S_WG
<b>E.W28</b>	principles for palliative treatment of terminal patient	P7U_W, P7S_WG
<b>E.W29</b>	principles for the treatment of pain, including cancer and chronic pain	P7U_W, P7S_WG
<b>E.W30</b>	the concept of impairment and disability	P7U_W, P7S_WG
<b>E.W31</b>	the role of medical rehabilitation and methods used in it	P7U_W, P7S_WG

<b>Kod</b>	<b>Treść</b>	<b>PRK</b>
<b>E.W32</b>	basis rules of prevention, rules of conduct in the case of occupational exposure on dangerous and harmful factors	P7U_W, P7S_WG
<b>E.W33</b>	rules of conduct in the event of the detection of an infectious disease	P7U_W, P7S_WG
<b>E.W34</b>	causes, symptoms, principles of diagnosis, therapeutic and prophylactic management in the most common bacterial, viral, parasitic and fungal diseases, including pneumococcal infections, viral hepatitis, acquired immunodeficiency syndrome (AIDS), sepsis and hospital infections	P7U_W, P7S_WG
<b>E.W35</b>	basic features, environmental and epidemiological conditions of the most common human skin diseases	P7U_W, P7S_WG
<b>E.W36</b>	the causes, symptoms, principles of diagnosis and therapeutic management of the most common sexually transmitted diseases	P7U_W, P7S_WG
<b>E.W37</b>	the causes, symptoms, principles of diagnosis and therapeutic management of the most common hereditary diseases	P7U_W, P7S_WG
<b>E.W38</b>	causes, symptoms, principles of diagnosis and therapeutic management in the most common diseases and specific problems in the practice of a family physician	P7U_W, P7S_WG
<b>E.W39</b>	the types of biological materials to be used for laboratory diagnosis and the rules for the collection of test material	P7U_W, P7S_WG
<b>E.W40</b>	theoretical and practical basics of laboratory diagnostics	P7U_W, P7S_WG
<b>E.W41</b>	possibilities and limitations of laboratory tests in emergency situations	P7U_W, P7S_WG
<b>E.W42</b>	indications for the implementation of monitored therapy	P7U_W, P7S_WG
<b>E.W43</b>	basic pharmacoeconomic concepts	P7S_WK
<b>E.W44</b>	health effects of systematic physical activity of children and adolescents and physical activity of adults in prevention of selected diseases	P7U_W, P7S_WG
<b>E.W45</b>	the specificity of the study in sports medicine, including exercise capacity tests. Knows the rules of medical certification in children, adolescent and adult sportsmen	P7U_W, P7S_WG
<b>E.W46</b>	specific diseases related to physical activity and competitive sports, also in the sports of the disabled and in girls and women	P7U_W, P7S_WG
<b>E.W47</b>	principles of nutrition of physically active persons and athletes. Describes the difference between doping and support	P7U_W, P7S_WG
<b>E.W48</b>	epidemiological problems of infectious diseases in the world and in Poland	P7U_W, P7S_WG
<b>E.W49</b>	causes and symptoms a) HIV infection and acquired immune deficiency syndrome b) hepatotropic virus infections with HAV, HBV, HCV, HCV c) tick-borne diseases d) zoonoses e) anaerobic infections f) organ mycoses g) infectious diseases of childhood h) fever of unknown origin i) sepsis and septic shock j) infectious diseases of the central nervous system k) tetanus and botulism l) selected tropical diseases m) acute gastrointestinal infections n) influenza and SARS	P7U_W, P7S_WG
<b>E.W50</b>	Symptoms and rules for managing infectious diseases that are life-threatening	P7U_W, P7S_WG
<b>E.W51</b>	principles of immunoprophylaxis of infectious diseases	P7U_W, P7S_WG
<b>E.W52</b>	principles of diagnostics of infectious diseases and can interpret the results	P7U_W, P7S_WG
<b>E.W53</b>	basics of therapy of selected infectious diseases a) antibiotic therapy of selected bacterial infections b) use of antiretroviral drugs in HIV c) treatment of chronic hepatitis B and C d) the use of antiviral drugs in selected clinical situations	P7U_W, P7S_WG
<b>E.W54</b>	indications and rules for performing lumbar puncture and assisting in the performance of the procedure	P7U_W, P7S_WG
<b>E.W55</b>	the indications and rules for performing liver biopsy and assists in performing procedure	P7U_W, P7S_WG

<b>Kod</b>	<b>Treść</b>	<b>PRK</b>
<b>E.W56</b>	understands the symptoms, understands the etiology, treatment rules and is able to establish therapeutic contact with patients with the most common disorders: a) anxiety, somatic and other neurotic forms b) post-traumatic disorders c) personality and behavioral disorders of adults	P7U_W, P7S_WG
<b>E.W57</b>	principles of implementing psychotherapeutic dialog and types of therapeutic interventions	P7U_W, P7S_WG
<b>E.W58</b>	basic psychotherapeutic techniques and principles for combining psychotherapy and pharmacotherapy	P7U_W, P7S_WG

## **F. Clinical procedural sciences**

In terms of knowledge, the graduate knows and understands:

<b>Kod</b>	<b>Treść</b>	<b>PRK</b>
<b>F.W1</b>	the causes, symptoms, diagnostic and therapeutic management principles for the most common diseases requiring surgical intervention, taking into account the distinctness of childhood age, including in particular: 1) acute and chronic abdominal diseases, 2) thoracic diseases, 3) diseases of extremities and head, 4) fractures of bones and injuries to organs	P7U_W, P7S_WG
<b>F.W2</b>	selected issues in the field of pediatric surgery, including traumatology and otorhinolaryngology, as well as acquired defects and diseases being indications for surgical treatment in children	P7U_W, P7S_WG
<b>F.W3</b>	rules of qualification for basic surgical procedures and invasive diagnostic and therapeutic procedures, rules of their performance and the most frequent complications	P7U_W, P7S_WG
<b>F.W4</b>	principles of perioperative safety, patient preparation for surgery, general and local anesthesia and controlled sedation	P7U_W, P7S_WG
<b>F.W5</b>	postoperative treatment with analgesic therapy and postoperative monitoring	P7U_W, P7S_WG
<b>F.W6</b>	indications and rules for the use of intensive care	P7U_W, P7S_WG
<b>F.W7</b>	guidelines for cardiopulmonary resuscitation of newborns, children and adults	P7U_W, P7S_WG
<b>F.W8</b>	principles of functioning of the integrated system National Medical Rescue Service	P7U_W, P7S_WG
<b>F.W9</b>	female reproductive functions, related disorders and diagnostic and therapeutic procedures concerning in particular: 1) the menstrual cycle and its disturbances, 2) pregnancy, 3) physiological and pathological childbirth and postpartum period, 4) genital cancers and inflammations, 5) birth control, 6) menopause, 7) basic diagnostic methods and gynecological procedures	P7U_W, P7S_WG
<b>F.W10</b>	problems of modern imaging examinations, in particular: 1) radiological symptomatology of major diseases, 2) instrumental methods and imaging techniques used to perform therapeutic procedures, 3) the indications, contraindications and preparation of the patient for particular types of imaging examination and contraindications for the use of contrast agents	P7U_W, P7S_WG
<b>F.W11</b>	issues related to diseases of the visual system, in particular: 1) the causes, symptoms, principles of diagnosis and therapeutic management of the most common ophthalmic diseases, 2) ophthalmic complications of systemic diseases and their ophthalmic symptomatology, and correct methods of dealing with these cases, 3) surgical management of specific eye diseases, 4) the main groups of drugs used in ophthalmology, their adverse reactions and interactions, 5) the groups of generally used medicines with complications and ophthalmic contraindications and their mechanism	P7U_W, P7S_WG

<b>Kod</b>	<b>Treść</b>	<b>PRK</b>
<b>F.W12</b>	issues related to laryngology, phoniatrics and audiology, including 1) causes, clinical course, methods of treatment, complications and prognosis of diseases of the ear, nose, paranasal sinuses, oral cavity, pharynx and larynx, 2) facial nerve disease and selected cervical structures, 3) rules for diagnostic and therapeutic management of mechanical injuries to the ear, nose, larynx and esophagus, 4) rules for emergency management in otorhinolaryngology, in particular in laryngeal dyspnea, 5) principles of diagnostic and therapeutic management of hearing, voice and speech impairments, 6) principles of diagnostic and therapeutic management of head and neck neoplastic diseases	P7U_W, P7S_WG
<b>F.W13</b>	causes, symptoms, principles of diagnosis and therapeutic management in case of the most frequent diseases of the central nervous system in the scope: 1) cerebral edema and its consequences, with particular reference to emergencies, 2) other forms of intracranial tightness with their consequences, 3) craniocerebral injuries, 4) vascular defects of the central nervous system, 5) neoplastic tumors of the central nervous system, 6) diseases of the vertebral column and spinal cord	P7U_W, P7S_WG
<b>F.W14</b>	in the basic scope, the issues of surgical transplantation, indications for transplantation of irreversibly damaged organs and tissues and the procedures related thereto	P7U_W, P7S_WG
<b>F.W15</b>	the principles of suspicion and diagnosis of brain death	P7U_W, P7S_WG
<b>F.W16</b>	procedure in accidental and posttraumatic hypothermia	P7U_W, P7S_WG
<b>F.W17</b>	the causes, symptoms, principles of diagnosis and therapeutic management of the most common diseases requiring surgical intervention, taking into account the distinctness of childhood age and in particular: a) diseases of arterial and venous vessels b) diseases of the urinary tract c) heart and blood vessel diseases d) craniofacial diseases, acute and chronic diseases of the central nervous system	P7U_W, P7S_WG
<b>F.W18</b>	the most common complications of the procedures listed in F.W2	P7U_W, P7S_WG
<b>F.W19</b>	the most common complications associated with anesthesia, sedation and perioperative period	P7U_W, P7S_WG
<b>F.W20</b>	the rules of qualification, what they consist of, how they take place and what are the possible complications and consequences of surgical procedures: a) removal of appendix, gallbladder b) excision of the thyroid, parathyroid, adrenal glands c) excision of part and entirety of the stomach, large intestine d) abdominal hernias, using synthetic mesh e) surgical treatment of obesity	P7U_W, P7S_WG
<b>F.W21</b>	the qualifications rules, knows what they are, how they work and what are the possible consequences and complications of the following procedures: a) percutaneous and intraductive abdominal organ ultrasonography f) b) endoscopic gastrointestinal diagnostic and therapeutic procedures c) endoscopic diagnostic and respiratory therapeutic procedures (bronchoscopy, endoscopic ultrasound bronchoscopy) d) endoscopic diagnostic and therapeutic procedures for the urinary tract (cystoscopy) e) endoscopic diagnostic and therapeutic procedures for the locomotor system (arthroscopy) f) screening tests used for the early detection of gastrointestinal neoplasms	P7U_W, P7S_WG

### **G. Law and organizational aspects of medicine**

In terms of knowledge, the graduate knows and understands:

<b>Kod</b>	<b>Treść</b>	<b>PRK</b>
<b>G.W1</b>	methods of individual and population health assessment, different systems of disease classification and medical procedures	P7S_WK
<b>G.W2</b>	the identification and testing of risk factors, the advantages and disadvantages of different types of epidemiological studies and measures demonstrating the presence of cause and effect relationships	P7U_W, P7S_WG

<b>Kod</b>	<b>Treść</b>	<b>PRK</b>
<b>G.W3</b>	epidemiology of infectious and chronic diseases, ways of preventing their occurrence at various stages of the natural history of the disease and the role of epidemiological surveillance	P7U_W, P7S_WG
<b>G.W4</b>	the concept of public health, its objectives, tasks and the structure and organization of the health care system at the national and global level, as well as the impact of economic conditions on the health protection options	P7S_WK
<b>G.W5</b>	legal regulations concerning the provision of health services, patient's rights, grounds for practicing the profession of doctor and functioning of medical self-government	P7U_W, P7S_WK
<b>G.W6</b>	basic legal regulations regarding the organization and financing of health care, general health insurance and the principles of organization of units performing medical activities	P7U_W, P7S_WK
<b>G.W7</b>	legal obligations of the doctor concerning pronouncement of death	P7U_W, P7S_WK
<b>G.W8</b>	legal regulations and basic methods of medical experimentation and other medical research, including basic methods of data analysis	P7U_W, P7S_WK
<b>G.W9</b>	legal regulations concerning transplantation, artificial procreation, abortion, aesthetic procedures, palliative treatment, mental illness, etc.	P7U_W, P7S_WK
<b>G.W10</b>	principles of pharmaceutical law	P7U_W, P7S_WK
<b>G.W11</b>	legal regulations concerning medical confidentiality, keeping medical records, criminal, civil and professional liability of a doctor	P7U_W, P7S_WK
<b>G.W12</b>	the concept of violent and sudden death and the difference between the concepts of injury and damage	P7U_W, P7S_WG
<b>G.W13</b>	legal grounds and rules of doctor's conduct during examination of the body at the place of its disclosure and judicial and medical examination of the body	P7U_W, P7S_WK
<b>G.W14</b>	principles of court-medical diagnostics and opinions in cases concerning infanticide and reconstruction of circumstances of a road accident	P7U_W, P7S_WK
<b>G.W15</b>	rules of preparation of opinion of expert witness in criminal matters	P7U_W, P7S_WK
<b>G.W16</b>	principles of judicial and medical opinion on the ability to participate in procedural activities, biological effect and health impairment	P7U_W, P7S_WK
<b>G.W17</b>	the concept of medical error, the most common causes of medical errors and the principle of giving opinions in such cases	P7U_W, P7S_WK
<b>G.W18</b>	principles of material collection for toxicological and hemogenetic tests	P7U_W, P7S_WG
<b>G.W19</b>	situations in which there are conflicts between values and principles relating to the medical profession and the provision of health services, and provide a justification for the decisions taken	P7U_W, P7S_WG
<b>G.W20</b>	legal grounds and rules for conducting judicial and medical autopsy, applying in specific cases additional techniques of autopsy and post-mortem imaging examinations	P7U_W, P7S_WK
<b>G.W21</b>	legal grounds and rules of doctor's conduct during examination of the body at the place of its disclosure and judicial and medical examination of the body	P7U_W, P7S_WK
<b>G.W22</b>	rules for estimating the time of death on the basis of death signs	P7U_W, P7S_WG
<b>G.W23</b>	the importance of environmental xenobiotics, including their exogenous transformation and the role of biomarkers (exposure, effects, vulnerability) in the diagnosis of environmental and occupational diseases	P7U_W, P7S_WG

# Umiejętności

## Ogólne

In terms of skills, the graduate can:

Kod	Treść	PRK
O.U1	identify medical problems and prioritize medical management	P7U_U, P7S_UW
O.U2	identify life-threatening conditions that require immediate medical intervention	P7U_U, P7S_UW
O.U3	plan the diagnostic procedure and interpret its results	P7U_U, P7S_UW, P7S_UU
O.U4	implement appropriate and safe therapeutic treatment and predict its effects	P7U_U, P7S_UW
O.U5	plan own learning activities and constantly learn in order to update own knowledge	P7U_U, P7S_UW, P7S_UU
O.U6	inspire the learning process of others	P7U_U, P7S_UW
O.U7	communicate with the patient and his family in an atmosphere of trust, taking into account the needs of the patient	P7S_UK
O.U8	communicate and share knowledge with colleagues in a team	P7S_UK
O.U9	critically evaluate the results of scientific research and adequately justify the position	P7U_U, P7S_UW

## Szczegółowe

### A. Morphological education

In terms of skills, the graduate can:

Kod	Treść	PRK
A.U1	operate an optical microscope, including the use of immersion	P7U_U, P7S_UW
A.U2	recognize histological structures corresponding to organs, tissues, cells and cellular structures in optical or electron microscopy images, describe and interpret their structure and relations between structure and function	P7U_U, P7S_UW
A.U3	explain the anatomical basis of the physical examination	P7U_U, P7S_UW
A.U4	propose relations between anatomical structures on the basis of life-threatening diagnostic tests, in particular in the field of radiology (plain scans, contrast tests, computed tomography and nuclear magnetic resonance imaging)	P7U_U, P7S_UW
A.U5	use anatomical, histological and embryological denominations in speech and writing	P7U_U, P7S_UW

### B. Scientific basics of medicine

In terms of skills, the graduate can:

Kod	Treść	PRK
B.U1	use knowledge of the laws of physics to explain the effects of external factors such as temperature, acceleration, pressure, electromagnetic field and ionising radiation on the body and its elements	P7U_U, P7S_UW
B.U2	assess the harmfulness of the dose of ionising radiation and comply with the principles of radiological protection	P7U_U, P7S_UW

<b>Kod</b>	<b>Treść</b>	<b>PRK</b>
<b>B.U3</b>	calculate the molar and percentage concentrations of compounds and the concentrations of substances in isoosmotic, mono- and multicomponent solutions	P7U_U, P7S_UW
<b>B.U4</b>	calculate the solubility of inorganic compounds, determine the chemical background to the solubility or absence of organic compounds and its practical importance for dietetics and therapy	P7U_U, P7S_UW
<b>B.U5</b>	determine the pH of the solution and the effect of changes in pH on inorganic and organic compounds	P7U_U, P7S_UW
<b>B.U6</b>	predict the direction of biochemical processes depending on the energetic state of cells	P7U_U, P7S_UW
<b>B.U7</b>	perform simple functional tests assessing the human body as a stable regulation system (stress tests, exercise tests) and interpret numerical data on basic physiological variables	P7U_U, P7S_UW
<b>B.U8</b>	use basic laboratory techniques such as qualitative analysis, titration, colorimetry, pH-metry, chromatography, electrophoresis of proteins and nucleic acids	P7U_U, P7S_UW
<b>B.U9</b>	operate simple measuring instruments and evaluate the accuracy of measurements made	P7U_U, P7S_UW
<b>B.U10</b>	use databases, including online databases, and search for the necessary information using the available tools	P7U_U, P7S_UW
<b>B.U11</b>	select appropriate statistical tests, conduct basic statistical analyses, use appropriate methods of presenting results, interpret the results of meta-analyses and analyze the probability of survival	P7U_U, P7S_UW
<b>B.U12</b>	explain and prioritize differences between prospective and retrospective, randomized and clinical-control studies, case reports and experimental studies according to the reliability and quality of scientific evidence	P7U_U, P7S_UW
<b>B.U13</b>	plan and perform simple scientific research and interpret its results and draw conclusions	P7U_U, P7S_UW, P7S_UU
<b>B.U14</b>	indicate the relationship between factors disturbing the balance of biological processes and physiological and pathophysiological changes	P7U_U, P7S_UW
<b>B.U15</b>	identify sources of electrical signals in the body	P7U_U, P7S_UW
<b>B.U16</b>	perform a pathophysiological analysis of selected clinical cases according to the PBCA (Problem Based Case Analysis) rule	P7U_U, P7S_UW
<b>B.U17</b>	perform and interpret anthropometric measurements of nutritional status, is able to gather nutritional history and make a quantitative and qualitative assessment of intake (taking into account dietary supplements) using a nutritional computer program	P7U_U, P7S_UW
<b>B.U18</b>	assess the reliability of the clinical trial	P7U_U, P7S_UW
<b>B.U19</b>	understand the concepts describing the strength of the intervention in the study	P7U_U, P7S_UW
<b>B.U20</b>	understand the concept of meta-analysis and how to present its results	P7U_U, P7S_UW
<b>B.U21</b>	use on-line photo, audio and video libraries	P7U_U, P7S_UW
<b>B.U22</b>	use equipment for the reproduction of three-dimensional video images	P7U_U, P7S_UW
<b>B.U23</b>	use on-line databases of the human genome	P7U_U, P7S_UW
<b>B.U24</b>	use the Internet databases of genetic disorders	P7U_U, P7S_UW
<b>B.U25</b>	use a telemedicine tool for teleconsultation purposes	P7U_U, P7S_UW
<b>B.U26</b>	use various types of computer simulators and e-learning tools for educational purposes, with particular emphasis on virtual patients	P7U_U, P7S_UW



<b>Kod</b>	<b>Treść</b>	<b>PRK</b>
<b>B.U27</b>	use computer simulators to support the medical decision-making process	P7U_U, P7S_UW
<b>B.U28</b>	provide expert knowledge through simple IT techniques of knowledge representation such as a block diagram or a rule database	P7U_U, P7S_UW
<b>B.U29</b>	protect clinical data against unauthorized access	P7U_U, P7S_UW
<b>B.U30</b>	use e-learning platforms	P7U_U, P7S_UW
<b>B.U31</b>	prepare materials for on-line presentations	P7U_U, P7S_UW

### **C. Preclinical course**

In terms of skills, the graduate can:

<b>Kod</b>	<b>Treść</b>	<b>PRK</b>
<b>C.U1</b>	analyze genetic crossbreeds and pedigrees of human traits and diseases, and assess the risk of having a child with chromosome aberrations	P7U_U, P7S_UW
<b>C.U2</b>	identify indications for prenatal testing	P7U_U, P7S_UW
<b>C.U3</b>	make decisions about the need for cytogenetic and molecular tests	P7U_U, P7S_UW
<b>C.U4</b>	perform morphometric measurements, analyze morphograms and record karyotypes of diseases	P7U_U, P7S_UW
<b>C.U5</b>	estimate the risk of a given disease becoming apparent in the offspring based on family predisposition and the influence of environmental factors	P7U_U, P7S_UW
<b>C.U6</b>	assess environmental hazards and use basic methods to detect the presence of harmful (biological and chemical) factors in the biosphere	P7U_U, P7S_UW
<b>C.U7</b>	recognize the most frequent human parasites on the basis of their structure, life cycles and symptoms of illnesses	P7U_U, P7S_UW
<b>C.U8</b>	use the antigen-antibody reaction in current modifications and techniques for the diagnosis of infectious, allergic, autoimmune and neoplastic diseases and blood diseases	P7U_U, P7S_UW
<b>C.U9</b>	prepare preparations and identify pathogens under the microscope	P7U_U, P7S_UW
<b>C.U10</b>	interpret the results of microbiological tests	P7U_U, P7S_UW
<b>C.U11</b>	link images of tissue and organ damage with clinical signs of disease, history and results of laboratory tests	P7U_U, P7S_UW
<b>C.U12</b>	analyze reaction, defense and adaptation phenomena and regulatory disturbances caused by an etiological factor	P7U_U, P7S_UW
<b>C.U13</b>	perform simple pharmacokinetic calculations	P7U_U, P7S_UW
<b>C.U14</b>	select drugs at appropriate doses in order to correct pathological phenomena in the system and in individual organs	P7U_U, P7S_UW
<b>C.U15</b>	design schemes of rational chemotherapy of infections, empirical and targeted ones	P7U_U, P7S_UW
<b>C.U16</b>	prepare records of all forms of prescription medicinal substances	P7U_U, P7S_UW
<b>C.U17</b>	use pharmaceutical guides and databases on medicinal products	P7U_U, P7S_UW
<b>C.U18</b>	assess toxicological hazards in specific age groups and in conditions of hepatic and renal failure, and prevent drug poisoning	P7U_U, P7S_UW
<b>C.U19</b>	interpret the results of toxicological tests	P7U_U, P7S_UW

<b>Kod</b>	<b>Treść</b>	<b>PRK</b>
<b>C.U20</b>	describe the changes in function of the organism in homeostasis disorder, determine its integrated reaction to physical effort, high and low temperature, blood or water loss, sudden verticalization, transition from sleep to wakefulness	P7U_U, P7S_UW

#### **D. Behavioral and social sciences with elements of professionalism**

In terms of skills, the graduate can:

<b>Kod</b>	<b>Treść</b>	<b>PRK</b>
<b>D.U1</b>	take into account the subjective needs and expectations of the patient resulting from socio-cultural conditions in the process of therapeutic management	P7U_U, P7S_UW
<b>D.U2</b>	identify signs of anti-health and self-destructive behavior and respond appropriately to them	P7U_U, P7S_UW
<b>D.U3</b>	choose treatment that minimizes the social consequences for the patient	P7U_U, P7S_UW
<b>D.U4</b>	build an atmosphere of trust throughout the entire diagnostic and treatment process	P7U_U, P7S_UW
<b>D.U5</b>	talk to the adult patient, child and family using active listening and empathy techniques and talk to the patient about his or her life situation	P7U_U, P7S_UW
<b>D.U6</b>	inform the patient about the purpose, course and possible risks of the proposed diagnostic or therapeutic measures, and obtain his or her informed consent to take these measures	P7U_U, P7S_UW
<b>D.U7</b>	involve the patient in the therapeutic process	P7U_U, P7S_UW
<b>D.U8</b>	provide the patient and his or her family with information about unfavorable prognosis	P7U_U, P7S_UW
<b>D.U9</b>	provide advice on therapeutic recommendation compliance and following healthy lifestyle	P7U_U, P7S_UW
<b>D.U10</b>	identify risk factors for violence, recognize violence and respond accordingly	P7U_U, P7S_UW
<b>D.U11</b>	apply basic psychological motivational and supportive interventions	P7U_U, P7S_UW
<b>D.U12</b>	communicate with colleagues with constructive feedback and support	P7U_U, P7S_UW, P7S_UK
<b>D.U13</b>	comply with ethical standards in professional activities	P7U_U, P7S_UW
<b>D.U14</b>	recognise the ethical dimension of medical decisions and distinguish between factual and normative aspects	P7U_U, P7S_UW
<b>D.U15</b>	follow the patient's rights	P7U_U, P7S_UW
<b>D.U16</b>	show responsibility for improving your qualifications and transferring knowledge to others	P7U_U, P7S_UW
<b>D.U17</b>	critically analyse medical literature, including in English, and draw conclusions	P7U_U, P7S_UW
<b>D.U18</b>	communicate with the patient in one of the foreign languages at B2+ level of the Common European Framework of Reference for Languages	P7U_U, P7S_UW
<b>D.U19</b>	take action to improve the quality of life of patients and prevent it from deteriorating in the future	P7U_U, P7S_UW
<b>D.U20</b>	recognise and apply measures provided for by law when it is necessary to take medical action without consent or with the use of coercion	P7U_U, P7S_UW
<b>D.U21</b>	be able to work in a multiprofessional team, in a multicultural and multinational environment	P7U_U, P7S_UW
<b>D.U22</b>	demonstrate responsibility for one's own professional development, contribute to the further development of sciences, transfer own knowledge to others	P7U_U, P7S_UW

## E. Clinical non-procedural medical disciplines

In terms of skills, the graduate can:

<b>Kod</b>	<b>Treść</b>	<b>PRK</b>
<b>E.U1</b>	carry out a medical history with an adult patient	P7U_U, P7S_UW
<b>E.U2</b>	carry out a medical interview with the child and his or her family	P7U_U, P7S_UW
<b>E.U3</b>	conduct a full and targeted physical examination of an adult patient	P7U_U, P7S_UW
<b>E.U4</b>	carry out a physical examination of a child of all ages	P7U_U, P7S_UW
<b>E.U5</b>	conduct a psychiatric examination	P7U_U, P7S_UW
<b>E.U6</b>	conduct an approximate hearing and field of vision examination, and an otoscopic examination	P7U_U, P7S_UW
<b>E.U7</b>	assess the general condition, state of consciousness and awareness of the patient	P7U_U, P7S_UW
<b>E.U8</b>	assess the condition of the newborn on the Apgar scale and its maturity, and examine neonatal reflexes	P7U_U, P7S_UW
<b>E.U9</b>	compile anthropometric and blood pressure measurements with data on centile grids	P7U_U, P7S_UW
<b>E.U10</b>	assess the degree of advancement of puberty	P7U_U, P7S_UW
<b>E.U11</b>	conduct routine health checks	P7U_U, P7S_UW
<b>E.U12</b>	perform differential diagnosis of the most common diseases of adults and children	P7U_U, P7S_UW
<b>E.U13</b>	evaluate and describe the somatic and mental state of the patient	P7U_U, P7S_UW
<b>E.U14</b>	recognize immediate life-threatening conditions	P7U_U, P7S_UW
<b>E.U15</b>	recognize the condition after drinking alcohol, after using drugs and other substances	P7U_U, P7S_UW
<b>E.U16</b>	plan diagnostic, therapeutic and prophylactic procedures	P7U_U, P7S_UW, P7S_UU
<b>E.U17</b>	analyze the potential adverse reactions of individual medicines and the interactions between them	P7U_U, P7S_UW
<b>E.U18</b>	propose individualization of existing therapeutic guidelines and other methods of treatment in the face of ineffectiveness or contraindications to standard therapy	P7U_U, P7S_UW
<b>E.U19</b>	recognize the symptoms of drug dependence and propose treatment	P7U_U, P7S_UW
<b>E.U20</b>	qualify the patient for home and hospital treatment	P7U_U, P7S_UW
<b>E.U21</b>	recognize states in which the duration of life, functional state or patient preferences limit the conduct in accordance with the guidelines specified for a given disease	P7U_U, P7S_UW
<b>E.U22</b>	make a functional assessment of a patient with a disability	P7U_U, P7S_UW
<b>E.U23</b>	propose a rehabilitation program for the most common diseases	P7U_U, P7S_UW
<b>E.U24</b>	interpret the results of laboratory tests and identify the causes of abnormalities	P7U_U, P7S_UW
<b>E.U25</b>	apply nutritional treatment, including enteral and parenteral nutrition	P7U_U, P7S_UW
<b>E.U26</b>	plan the management of exposure to blood-borne infections	P7U_U, P7S_UW
<b>E.U27</b>	qualify the patient for vaccination	P7U_U, P7S_UW
<b>E.U28</b>	collect and retain test material for use in laboratory diagnostics	P7U_U, P7S_UW

<b>Kod</b>	<b>Treść</b>	<b>PRK</b>
<b>E.U29</b>	perform basic procedures and medical procedures including: 1) body temperature measurement, heart rate measurement, non-invasive blood pressure measurement, 2) monitoring of vital signs by means of a patient monitor, pulse oximetry, 3) spirometric examination, oxygen therapy, assisted ventilation and replacement ventilation, 4) introduction of the oropharyngeal tube, 5) intravenous, intramuscular and subcutaneous injections, cannulation of peripheral veins, collection of peripheral venous blood, collection of blood for culture, collection of arterialized capillary blood, collection of arterialized capillary blood, 6) taking nasal, throat and skin swabs, puncturing of the pleural cavity, 7) bladder catheterization in women and men, gastric tube, gastric lavage, gastric lavage, enema, 8) standard resting electrocardiogram with interpretation, electrical cardioversion and cardiac defibrillation, 9) simple strip tests and blood glucose measurements	P7U_U, P7S_UW
<b>E.U30</b>	assist in the performance of the following procedures and medical procedures: 1) transfusion of blood and blood-derived products, 2) drainage of the pleural cavity, 3) puncture of the pericardial sac, 4) puncture of the peritoneal cavity, 5) lumbar puncture, 6) fine-needle biopsy, 7) epidermal tests, 8) intradermal and scarification tests and interpret their results	P7U_U, P7S_UW
<b>E.U31</b>	interpret pharmaceutical characteristics of medicinal products and critically assess advertising materials for medicines	P7U_U, P7S_UW
<b>E.U32</b>	plan specialist consultations	P7U_U, P7S_UW, P7S_UU
<b>E.U33</b>	implement basic treatment for acute poisoning	P7U_U, P7S_UW
<b>E.U34</b>	monitor the condition of a patient poisoned with chemicals or drugs E.U35. assess bedsores and apply appropriate dressings	P7U_U, P7S_UW
<b>E.U35</b>	assess pressure ulcers and use appropriate dressings	P7U_U, P7S_UW
<b>E.U36</b>	proceed in case of injuries (dress or immobilize, dress and suture the wound)	P7U_U, P7S_UW
<b>E.U37</b>	recognize the agony of the patient and determine his death	P7U_U, P7S_UW
<b>E.U38</b>	maintain patient's medical records	P7U_U, P7S_UW
<b>E.U39</b>	assist in the performance of the following procedures and medical procedures: (i) bone marrow aspiration biopsy	P7U_U, P7S_UW
<b>E.U40</b>	select appropriate physical activity in the developmental period of children and adolescents and propose health training in adulthood, both in health and disease	P7U_U, P7S_UW
<b>E.U41</b>	qualify children and young people for physical education and sports, and adults for appropriate physical activity. Interprets the stress tests	P7U_U, P7S_UW
<b>E.U42</b>	recognise the state of overtraining and overloading of internal organs and motor organs associated with practicing sport. Is able to prevent and manage dehydration and physical exercise disorders in various conditional environments	P7U_U, P7S_UW
<b>E.U43</b>	offer appropriate nutritional management to people in developmental age and adults with intensive exercise Interprets measures prohibited in sport. Identifies types and support measures	P7U_U, P7S_UW
<b>E.U44</b>	define the concepts of nuclear medicine, radiopharmacy and radioimmunology	P7U_U, P7S_UW
<b>E.U45</b>	describe the physical processes that are the basis for radiopharmaceutical imaging	P7U_U, P7S_UW
<b>E.U46</b>	list radiopharmaceuticals used for scintigraphic diagnostics and PET, indicate indications for various types of diagnostic tests and the principles of interpretation of the obtained images	P7U_U, P7S_UW
<b>E.U47</b>	list the radioactive isotopes used for nuclear medicine therapies and justify their selection, as well as the basic isotope therapies, the indications for radionuclide therapy, how to assess the effectiveness of the therapy, the possible complications following the therapy	P7U_U, P7S_UW

<b>Kod</b>	<b>Treść</b>	<b>PRK</b>
<b>E.U48</b>	identify ways in which the ALARA radiological protection principle can be implemented in practice with regard to nuclear medicine	P7U_U, P7S_UW
<b>E.U49</b>	make smear tests for malaria	P7U_U, P7S_UW
<b>E.U50</b>	negotiate patient referral for psychotherapy and empathic patient support during a crisis	P7U_U, P7S_UW
<b>E.U51</b>	understand the importance and organization of support groups for chronic patients and their families, and Balint groups for medical staff	P7U_U, P7S_UW

## **F. Clinical procedural sciences**

In terms of skills, the graduate can:

<b>Kod</b>	<b>Treść</b>	<b>PRK</b>
<b>F.U1</b>	assist in a typical surgical procedure, prepare the surgical field and apply local anesthesia to the operated area	P7U_U, P7S_UW
<b>F.U2</b>	use basic surgical instruments	P7U_U, P7S_UW
<b>F.U3</b>	adhere to the principles of asepsis and antisepsis	P7U_U, P7S_UW
<b>F.U4</b>	manage a simple wound, put on and change a sterile surgical dressing	P7U_U, P7S_UW
<b>F.U5</b>	make a peripheral puncture	P7U_U, P7S_UW
<b>F.U6</b>	examine breasts, lymph nodes, thyroid gland and abdominal cavity in terms of acute abdomen and perform digital rectal examination	P7U_U, P7S_UW
<b>F.U7</b>	evaluate the result of a radiological examination in the most common types of fractures, particularly long bone fractures	P7U_U, P7S_UW
<b>F.U8</b>	perform temporary immobilization of the limb, choose the type of immobilization necessary for use in typical clinical situations and control the correctness of blood supply to the limb after the insertion of the immobilizing dressing	P7U_U, P7S_UW
<b>F.U9</b>	manage external bleeding	P7U_U, P7S_UW
<b>F.U10</b>	perform basic resuscitation procedures using an automatic external defibrillator and other emergency procedures and first aid	P7U_U, P7S_UW
<b>F.U11</b>	operate according to the algorithm of advanced resuscitation activities	P7U_U, P7S_UW
<b>F.U12</b>	monitor the patient's condition in the post-operative period based on basic vital parameters	P7U_U, P7S_UW
<b>F.U13</b>	recognize subjective and physical symptoms indicating the abnormal course of pregnancy (abnormal bleeding, contractions of the uterus)	P7U_U, P7S_UW
<b>F.U14</b>	interpret the results of physical examination of a pregnant woman (arterial pressure, functioning of the mother's and fetus' heart) and the results of laboratory tests proving the pathologies of pregnancy	P7U_U, P7S_UW
<b>F.U15</b>	interpret the cardiotocography (CTG)	P7U_U, P7S_UW
<b>F.U16</b>	recognize the beginning of labor and its incorrect duration	P7U_U, P7S_UW
<b>F.U17</b>	interpret subjective signs and symptoms during the time of confinement	P7U_U, P7S_UW
<b>F.U18</b>	establish recommendations, indications and contraindications concerning the use of contraceptive methods	P7U_U, P7S_UW
<b>F.U19</b>	perform ophthalmic screening tests	P7U_U, P7S_UW
<b>F.U20</b>	recognize ophthalmologic conditions requiring immediate specialist help and provide preliminary, qualified help in cases of physical and chemical injuries of the eye	P7U_U, P7S_UW

<b>Kod</b>	<b>Treść</b>	<b>PRK</b>
<b>F.U21</b>	evaluate the condition of the unconscious patient according to international scoring scales	P7U_U, P7S_UW
<b>F.U22</b>	recognise the symptoms of increasing intracranial pressure	P7U_U, P7S_UW
<b>F.U23</b>	assess the indications for suprapubic puncture and participate in its performance	P7U_U, P7S_UW
<b>F.U24</b>	assist in typical urological procedures (diagnostic and therapeutic endoscopy of the urinary tract, lithotripsy, prostate puncture)	P7U_U, P7S_UW
<b>F.U25</b>	perform basic laryngological examination of the ear, nose, pharynx and larynx	P7U_U, P7S_UW
<b>F.U26</b>	conduct an approximate hearing test	P7U_U, P7S_UW
<b>F.U27</b>	operate according to a current algorithm for advanced resuscitation activities: a) is able to open the airway using non-instrumented and instrumented techniques (endoscopic retrograde cholangiopancreatography) b) is able to ventilate the patient with a self-expanding bag with a face mask c) is able to operate the manual defibrillator safely	P7U_U, P7S_UW
<b>F.U28</b>	can tie a single and surgical knot	P7U_U, P7S_UW
<b>F.U29</b>	can examine the breasts, the abdomen and perform a digital rectal examination	P7U_U, P7S_UW
<b>F.U30</b>	can perform and interpret FAST ultrasound (Focused Assessment with Sonography for Trauma)	P7U_U, P7S_UW
<b>F.U31</b>	insert a drain into the pleural cavity and connect the set for an active pleural drain	P7U_U, P7S_UW
<b>F.U32</b>	insert a catheter into the bladder	P7U_U, P7S_UW
<b>F.U33</b>	to take the informed and legally effective consent: a) for high-risk diagnostic procedures (e.g. gastroscopy, colonoscopy), endoscopic retrograde cholangiopancreatography) b) for high-risk diagnostic procedures (transcutaneous biopsy under control) USG) c) surgery to remove the gallbladder	P7U_U, P7S_UW
<b>F.U34</b>	to pass on information about the death of a close friend and relative	P7U_U, P7S_UW
<b>F.U35</b>	provide family with information on the possibility of organ transplantation of the person who was diagnosed with brain death	P7U_U, P7S_UW
<b>F.U36</b>	identify and indicate methods of management of traumatic peripheral nerve damage	P7U_U, P7S_UW

### **G. Law and organizational aspects of medicine**

In terms of skills, the graduate can:

<b>Kod</b>	<b>Treść</b>	<b>PRK</b>
<b>G.U1</b>	describe the demographic structure of the population, and based on that assess the health problems of the population	P7U_U, P7S_UW
<b>G.U2</b>	collect information on the presence of risk factors for communicable and chronic diseases and plan prevention activities at different levels of prevention	P7U_U, P7S_UW, P7S_UU
<b>G.U3</b>	interpret the measures of the incidence of diseases and disabilities	P7U_U, P7S_UW
<b>G.U4</b>	assess the epidemiological situation of diseases commonly found in the Republic of Poland and in the world	P7U_U, P7S_UW
<b>G.U5</b>	explain basic rights and the legal basis for the provision of medical services to recipients of medical services	P7U_U, P7S_UW
<b>G.U6</b>	apply legal regulations regarding the issue of medical certificates for the needs of patients, their families and other entities	P7U_U, P7S_UW
<b>G.U7</b>	recognise the behaviors and symptoms indicating the possibility of violence against the child during the examination of the child	P7U_U, P7S_UW

<b>Kod</b>	<b>Treść</b>	<b>PRK</b>
<b>G.U8</b>	act in a manner that avoids medical errors	P7U_U, P7S_UW
<b>G.U9</b>	take blood for toxicological tests and protect the material for hemogenetic tests	P7U_U, P7S_UW
<b>G.U10</b>	cooperate with other professions in the field of health protection	P7U_U, P7S_UW
<b>G.U11</b>	identify the relevant legislation containing standards for the provision of health services and the medical profession	P7U_U, P7S_UW
<b>G.U12</b>	when providing emergency aid, make efforts not to destroy important forensic evidence which does not interfere with the primary objective of medical intervention (saving lives / health)	P7U_U, P7S_UW
<b>G.U13</b>	conducts community interview, is able to interpret levels of pollution in the aspect of effective standards, and is able to identify organs and systems susceptible to harmful substances, the performance of individual xenobiotics present in the environment and the working environment	P7U_U, P7S_UW

## Kompetencje społeczne

### Ogólne

Within the scope of competence, the graduate is ready to:

<b>Kod</b>	<b>Treść</b>	<b>PRK</b>
<b>O.K1</b>	to establish and maintain deep and respectful contact with patients and to show understanding for differences in world views and cultures	P7S_KK, P7S_KO, P7S_KR
<b>O.K2</b>	to be guided by the well-being of a patient	P7S_KK
<b>O.K3</b>	respect medical confidentiality and patients' rights	P7S_KK, P7S_KR
<b>O.K4</b>	take actions towards the patient on the basis of ethical norms and principles, with an awareness of the social determinants and limitations of the disease	P7S_KK
<b>O.K5</b>	perceive and recognize own limitations and self-assessing educational deficits and needs	P7S_KK, P7S_KR
<b>O.K6</b>	promote health-promoting behaviors	P7U_K, P7S_KK, P7S_KO
<b>O.K7</b>	use objective sources of information	P7S_KK
<b>O.K8</b>	formulate conclusions from own measurements or observations	P7S_KR
<b>O.K9</b>	implement the principles of professional camaraderie and cooperation in a team of specialists, including representatives of other medical professions, also in a multicultural and multinational environment	P7U_K, P7S_KK, P7S_KO
<b>O.K10</b>	formulate opinions on the various aspects of the professional activity	P7S_KK, P7S_KR
<b>O.K11</b>	assume responsibility for decisions taken in the course of their professional activities, including in terms of the safety of oneself and others	P7U_K, P7S_KR

# Plany studiów

It is necessary to choose 1 elective subject from each group – total 5 electives (one during 2nd year, two during 3rd year and two during 5th year)

## Semestr 1

Przedmiot	Grupa standardu	Liczba godzin	Punkty ECTS	Forma weryfikacji		
Physical Education	A	classes / practicals: 30	-	-	0	Os
Anatomy with Embryology	A	lecture: 16 classes / practicals: 100 seminar: 10 e-learning: 6	-	-	0	Os
Ethics in Medicine	D	seminar: 30	2,0	graded credit	0	Os
Physiology	B	lecture: 54 classes / practicals: 27 seminar: 10	-	-	0	Os
Histology with Cytophysiology	A	lecture: 20 classes / practicals: 64 e-learning: 24	11,0	examination	0	Os
History of Medicine	D	seminar: 11 e-learning: 14	2,0	examination	0	Os
First Aid	F	lecture: 4 e-learning: 6 simulations: 20	2,0	credit	0	Or
Medical Polish	D	classes / practicals: 60	-	-	0	Or
Health and Safety		Health and Safety training: 5	-	credit	0	Os

## Semestr 2

Przedmiot	Grupa standardu	Liczba godzin	Punkty ECTS	Forma weryfikacji		
Physical Education	A	classes / practicals: 30	-	credit	0	Os
Anatomy with Embryology	A	lecture: 10 classes / practicals: 40 seminar: 2 e-learning: 4	13,0	examination	0	Os
Biochemistry with Elements of Chemistry	B	lecture: 30 classes / practicals: 44 seminar: 28 e-learning: 14	10,0	credit	0	Or
Physiology	B	lecture: 52 classes / practicals: 24 seminar: 8	12,0	examination	0	Os



Przedmiot	Grupa standardu	Liczba godzin	Punkty ECTS	Forma weryfikacji		
Genetics with Molecular Biology	B	lecture: 18 classes / practicals: 3 seminar: 9	2,0	graded credit	O	Os
First Aid	F	lecture: 4 e-learning: 6 simulations: 20	2,0	credit	O	Or
Medical Polish	D	classes / practicals: 60	5,0	credit	O	Or
Patient Care/Nursing - summer clerkship		professional practice: 120	4,0	credit	O	Os

## Semestr 3

Przedmiot	Grupa standardu	Liczba godzin	Punkty ECTS	Forma weryfikacji		
Biochemistry with Elements of Chemistry	B	lecture: 34 classes / practicals: 12 seminar: 28	6,0	examination	O	Os
First Aid	F	lecture: 2 seminar: 8 simulations: 20	2,0	graded credit	O	Os
Medical Biophysics	B	classes / practicals: 36 seminar: 6 e-learning: 6	3,0	examination	O	Os
Hygiene	G	classes / practicals: 15 seminar: 5	1,0	graded credit	O	Os
Laboratory Training of Clinical Skills	D	simulations: 39	2,0	credit	O	Or
Medical Polish	D	classes / practicals: 45	-	-	O	Or
Microbiology with Parasitology and Immunology	C	lecture: 8 classes / practicals: 20 seminar: 24	-	-	O	Or
Pathology	C	lecture: 14 classes / practicals: 96	-	-	O	Os
Medical Psychology	D	seminar: 45	2,0	graded credit	O	Os
Medical Sociology	D	classes / practicals: 30	2,0	graded credit	O	Os
Telemedicine with Elements of Medical Simulation	B	classes / practicals: 30	2,0	graded credit	O	Os
Introduction to Clinical Sciences	D, B	lecture: 1 classes / practicals: 32	-	-	O	Os
HUMANITIES IN MEDICINE	D				O	Os

<b>Przedmiot</b>	<b>Grupa standardu</b>	<b>Liczba godzin</b>	<b>Punkty ECTS</b>	<b>Forma weryfikacji</b>		
Suffering and a phenomenon of care in the perspective of transcultural bioethics	D	seminar: 30	3,0	graded credit	F	Os
Aesthetic, art, medicine	D	seminar: 30	3,0	graded credit	F	Os
Philosophy and ethics of human sexuality	D	seminar: 30	3,0	graded credit	F	Os
Philosophy of medicine - an outline of the issues	D	seminar: 30	3,0	graded credit	F	Os
Philosophical aspects of the concept of mental disorder in the thoughts of V. Frankl and A. Kępiński	D	seminar: 30	3,0	graded credit	F	Os
The main problems of human philosophy	D	seminar: 30	3,0	graded credit	F	Os
Medicine of the Third Reich	D	lecture: 30	3,0	graded credit	F	Os
Neuroethics	D	seminar: 30	3,0	graded credit	F	Os
Patient as victim of violence - recognition and intervention	D	lecture: 10 seminar: 20	3,0	graded credit	F	Os
Crossing the limits of humanity - Ethics towards the scientific and technological challenges of progress in medicine	D	seminar: 30	3,0	graded credit	F	Os
Psychology of a chronic ill and elderly patient	D	seminar: 30	3,0	graded credit	F	Os
Death and dying in different cultures	D	seminar: 30	3,0	graded credit	F	Os
Introduction to the philosophy of science	D	seminar: 30	3,0	graded credit	F	Os
Ethical dilemmas in medical practice	D	seminar: 30	3,0	graded credit	F	Os
Medical history and culture	D	lecture: 30	3,0	graded credit	F	Os

## Semestr 4

<b>Przedmiot</b>	<b>Grupa standardu</b>	<b>Liczba godzin</b>	<b>Punkty ECTS</b>	<b>Forma weryfikacji</b>		
First Aid	F	lecture: 2 seminar: 8 simulations: 20	2,0	graded credit	O	Os
Laboratory Diagnostics	E	classes / practicals: 24 seminar: 12 e-learning: 4	2,0	credit	O	Or
Pharmacology	C	seminar: 30 e-learning: 20	4,0	credit	O	Or

<b>Przedmiot</b>	<b>Grupa standardu</b>	<b>Liczba godzin</b>	<b>Punkty ECTS</b>	<b>Forma weryfikacji</b>		
Hygiene	G	classes / practicals: 15 seminar: 5	1,0	graded credit	O	Os
Laboratory Training of Clinical Skills	D	simulations: 39	2,0	credit	O	Or
Medical Polish	D	classes / practicals: 45	4,0	credit	O	Or
Pathology	C	lecture: 14 classes / practicals: 88 e-learning: 9	15,0	examination	O	Os
Microbiology with Parasitology and Immunology	C	lecture: 4 classes / practicals: 10 seminar: 14	6,0	examination	O	Os
Medical Psychology	D	seminar: 45	2,0	graded credit	O	Os
Medical Sociology	D	classes / practicals: 30	2,0	graded credit	O	Os
Telemedicine with Elements of Medical Simulation	B	classes / practicals: 30	2,0	graded credit	O	Os
Introduction to Clinical Sciences	D, B	classes / practicals: 33	3,0	graded credit	O	Os
Family Medicine - summer clerkship		professional practice: 90	3,0	credit	O	Os
Emergency Medicine/Primary Care - summer clerkship		professional practice: 30	1,0	credit	O	Os
HUMANITIES IN MEDICINE	D				O	Os
Suffering and a phenomenon of care in the perspective of transcultural bioethics	D	seminar: 30	3,0	graded credit	F	Os
Aesthetic, art, medicine	D	seminar: 30	3,0	graded credit	F	Os
Philosophy and ethics of human sexuality	D	seminar: 30	3,0	graded credit	F	Os
Philosophy of medicine - an outline of the issues	D	seminar: 30	3,0	graded credit	F	Os
Philosophical aspects of the concept of mental disorder in the thoughts of V. Frankl and A. Kępiński	D	seminar: 30	3,0	graded credit	F	Os
The main problems of human philosophy	D	seminar: 30	3,0	graded credit	F	Os
Medicine of the Third Reich	D	lecture: 30	3,0	graded credit	F	Os
Neuroethics	D	seminar: 30	3,0	graded credit	F	Os
Patient as victim of violence - recognition and intervention	D	lecture: 10 seminar: 20	3,0	graded credit	F	Os

<b>Przedmiot</b>	<b>Grupa standardu</b>	<b>Liczba godzin</b>	<b>Punkty ECTS</b>	<b>Forma weryfikacji</b>		
Crossing the limits of humanity - Ethics towards the scientific and technological challenges of progress in medicine	D	seminar: 30	3,0	graded credit	F	Os
Psychology of a chronic ill and elderly patient	D	seminar: 30	3,0	graded credit	F	Os
Death and dying in different cultures	D	seminar: 30	3,0	graded credit	F	Os
Introduction to the philosophy of science	D	seminar: 30	3,0	graded credit	F	Os
Ethical dilemmas in medical practice	D	seminar: 30	3,0	graded credit	F	Os
Medical history and culture	D	lecture: 30	3,0	graded credit	F	Os

## Semestr 5

<b>Przedmiot</b>	<b>Grupa standardu</b>	<b>Liczba godzin</b>	<b>Punkty ECTS</b>	<b>Forma weryfikacji</b>		
Surgery	F, A, B, C	classes / practicals: 10 seminar: 30	-	-	O	Or
Internal Medicine	E	classes / practicals: 60 e-learning: 10	-	-	O	Or
Dermatology and Venerology	E	lecture: 10 classes / practicals: 20 seminar: 28	3,0	examination	O	Os
Laboratory Diagnostics	E	seminar: 20 e-learning: 6	2,0	examination	O	Os
Pharmacology	C	classes / practicals: 45	-	-	O	Os
Obstetrics and Gynecology	F	classes / practicals: 20 seminar: 20	3,0	credit	O	Or
Medical Polish	D	classes / practicals: 60	-	-	O	Os
Laboratory Training of Clinical Skills	F, E	e-learning: 15 simulations: 15	2,0	credit	O	Or
Pediatrics	C, E	classes / practicals: 32 seminar: 28 e-learning: 8	-	-	O	Or
Radiology and Basis of Ultrasonography	F	lecture: 16 classes / practicals: 51 seminar: 9	4,0	examination	O	Os

<b>Przedmiot</b>	<b>Grupa standardu</b>	<b>Liczba godzin</b>	<b>Punkty ECTS</b>	<b>Forma weryfikacji</b>		
PRECLINICAL SCIENCES	C				O	Os
Pathophysiology of modern treatment in cardiac insufficiency	C	seminar: 30	2,0	graded credit	F	Os
Immunity and prophylaxis in civilization diseases and in reproductive period	C	seminar: 30	2,0	graded credit	F	Os
Potable water and health	C	seminar: 30	2,0	graded credit	F	Os
Biostatistics	C	classes / practicals: 20 seminar: 10	2,0	graded credit	F	Os
Stem cells in disease therapy	C	lecture: 18 classes / practicals: 12	2,0	graded credit	F	Os
Regenerative medicine: technologies and applications	C	lecture: 18 classes / practicals: 12	2,0	graded credit	F	Os
Medicine in "OMICS"	C	classes / practicals: 20 seminar: 10	2,0	graded credit	F	Os
Practical aspects of diagnostics of genetically determined diseases	C	classes / practicals: 20 seminar: 10	2,0	graded credit	F	Os
Prevention diet and diet therapy of chosen civilization diseases	C	classes / practicals: 10 seminar: 20	2,0	graded credit	F	Os
Trends in nutrition of healthy people	C	seminar: 30	2,0	graded credit	F	Os
Patient safety during diagnostic and treatment procedures	C	lecture: 4 classes / practicals: 16 seminar: 10	2,0	graded credit	F	Os
Environmental and nutritional determinants of health	C	seminar: 30	2,0	graded credit	F	Os
Diet-sensitive genes - e-learning course	C	lecture: 30	2,0	graded credit	F	Os
Herbal medicine	C	lecture: 30	2,0	graded credit	F	Os
BEHAVIOURAL AND SOCIAL SCIENCES WITH ELEMENTS OF PROFESSIONALISM	D				O	Os
Research ethics involving human in medicine	D	seminar: 30	2,0	graded credit	F	Os
Philosophy and ethics of public health	D	seminar: 30	2,0	graded credit	F	Os
Disability and independent life. The social dimension.	D	lecture: 10 classes / practicals: 20	2,0	graded credit	F	Os
Borderline problems of human existence: suicide, assisted suicide, euthanasia	D	seminar: 30	2,0	graded credit	F	Os

<b>Przedmiot</b>	<b>Grupa standardu</b>	<b>Liczba godzin</b>	<b>Punkty ECTS</b>	<b>Forma weryfikacji</b>		
Psychology of culture and health and disease issues	D	seminar: 30	2,0	graded credit	F	Os
Circadian rhythm of the organism in sickness and in health	D	seminar: 30	2,0	graded credit	F	Os
Suicidology - diagnosis and prevention	D	seminar: 30	2,0	graded credit	F	Os
Participation of family in the treatment process - clinical, psychological, social and law aspects	D	classes / practicals: 15 seminar: 15	2,0	graded credit	F	Os
Business plan and marketing communication	D	lecture: 10 classes / practicals: 20	2,0	graded credit	F	Os
Therapeutic contact with the patient	D	seminar: 30	2,0	graded credit	F	Os
Cooperation in a medical team	D	lecture: 10 seminar: 20	2,0	graded credit	F	Os
Management and decision making	D	classes / practicals: 10 seminar: 20	2,0	graded credit	F	Os
Ethical aspects of interpersonal communication in medicine	D	seminar: 30	2,0	graded credit	F	Os

## Semestr 6

<b>Przedmiot</b>	<b>Grupa standardu</b>	<b>Liczba godzin</b>	<b>Punkty ECTS</b>	<b>Forma weryfikacji</b>		
Surgery	F, A, B, C	classes / practicals: 40 seminar: 30 e-learning: 6 simulations: 10	7,0	credit	O	Or
Internal Medicine	E	classes / practicals: 50 seminar: 10	7,0	credit	O	Or
Dermatology and Venerology	E	lecture: 10 classes / practicals: 20 seminar: 28	3,0	examination	O	Os
Epidemiology	G	seminar: 25	2,0	graded credit	O	Os
Pharmacology	C	classes / practicals: 45	9,0	examination	O	Os
Medical Polish	D	classes / practicals: 60	5,0	credit	O	Os
Pediatrics	C, E	lecture: 8 classes / practicals: 36 seminar: 24	7,0	credit	O	Or

<b>Przedmiot</b>	<b>Grupa standardu</b>	<b>Liczba godzin</b>	<b>Punkty ECTS</b>	<b>Forma weryfikacji</b>		
Psychiatria	E	seminar: 20	1,0	credit	O	Os
Radiology and Basis of Ultrasonography	F	lecture: 16 classes / practicals: 51 seminar: 9	4,0	examination	O	Os
Internal Medicine - summer clerkship		professional practice: 120	4,0	credit	O	Os
PRECLINICAL SCIENCES	C				O	Os
Pathophysiology of modern treatment in cardiac insufficiency	C	seminar: 30	2,0	graded credit	F	Os
Immunity and prophylaxis in civilization diseases and in reproductive period	C	seminar: 30	2,0	graded credit	F	Os
Potable water and health	C	seminar: 30	2,0	graded credit	F	Os
Biostatistics	C	classes / practicals: 20 seminar: 10	2,0	graded credit	F	Os
Stem cells in disease therapy	C	lecture: 18 classes / practicals: 12	2,0	graded credit	F	Os
Regenerative medicine: technologies and applications	C	lecture: 18 classes / practicals: 12	2,0	graded credit	F	Os
Medicine in "OMICS"	C	classes / practicals: 20 seminar: 10	2,0	graded credit	F	Os
Practical aspects of diagnostics of genetically determined diseases	C	classes / practicals: 20 seminar: 10	2,0	graded credit	F	Os
Prevention diet and diet therapy of chosen civilization diseases	C	classes / practicals: 10 seminar: 20	2,0	graded credit	F	Os
Trends in nutrition of healthy people	C	seminar: 30	2,0	graded credit	F	Os
Patient safety during diagnostic and treatment procedures	C	lecture: 4 classes / practicals: 16 seminar: 10	2,0	graded credit	F	Os
Environmental and nutritional determinants of health	C	seminar: 30	2,0	graded credit	F	Os
Diet-sensitive genes - e-learning course	C	lecture: 30	2,0	graded credit	F	Os
Herbal medicine	C	lecture: 30	2,0	graded credit	F	Os
BEHAVIOURAL AND SOCIAL SCIENCES WITH ELEMENTS OF PROFESSIONALISM	D				O	Os
Research ethics involving human in medicine	D	seminar: 30	2,0	graded credit	F	Os

<b>Przedmiot</b>	<b>Grupa standardu</b>	<b>Liczba godzin</b>	<b>Punkty ECTS</b>	<b>Forma weryfikacji</b>		
Philosophy and ethics of public health	D	seminar: 30	2,0	graded credit	F	Os
Disability and independent life. The social dimension.	D	lecture: 10 classes / practicals: 20	2,0	graded credit	F	Os
Borderline problems of human existence: suicide, assisted suicide, euthanasia	D	seminar: 30	2,0	graded credit	F	Os
Psychology of culture and health and disease issues	D	seminar: 30	2,0	graded credit	F	Os
Circadian rhythm of the organism in sickness and in health	D	seminar: 30	2,0	graded credit	F	Os
Suicidology - diagnosis and prevention	D	seminar: 30	2,0	graded credit	F	Os
Participation of family in the treatment process - clinical, psychological, social and law aspects	D	classes / practicals: 15 seminar: 15	2,0	graded credit	F	Os
Business plan and marketing communication	D	lecture: 10 classes / practicals: 20	2,0	graded credit	F	Os
Therapeutic contact with the patient	D	seminar: 30	2,0	graded credit	F	Os
Cooperation in a medical team	D	lecture: 10 seminar: 20	2,0	graded credit	F	Os
Management and decision making	D	classes / practicals: 10 seminar: 20	2,0	graded credit	F	Os
Ethical aspects of interpersonal communication in medicine	D	seminar: 30	2,0	graded credit	F	Os

## Semestr 7

<b>Przedmiot</b>	<b>Grupa standardu</b>	<b>Liczba godzin</b>	<b>Punkty ECTS</b>	<b>Forma weryfikacji</b>		
Anesthesiology and Intensive Care	F	classes / practicals: 13 seminar: 15 simulations: 12	3,0	credit	O	Or
Surgery	F	classes / practicals: 50 seminar: 20 e-learning: 8 simulations: 10	5,0	credit	O	Or
Internal Medicine	C, B, E	classes / practicals: 72 seminar: 24 e-learning: 9	8,0	credit	O	Or
Clinical Genetics	E	lecture: 4 classes / practicals: 16 seminar: 4	2,0	graded credit	O	Os



<b>Przedmiot</b>	<b>Grupa standardu</b>	<b>Liczba godzin</b>	<b>Punkty ECTS</b>	<b>Forma weryfikacji</b>		
Obstetrics and Gynecology	B, F	classes / practicals: 10 seminar: 10 e-learning: 20	3,0	credit	O	Or
Clinical Immunology	E	lecture: 8 classes / practicals: 6 seminar: 4	1,0	examination	O	Os
Evidence-Based Medicine	D	classes / practicals: 6 seminar: 30	2,0	examination	O	Os
Otorinolaryngology	F	lecture: 10 classes / practicals: 15 seminar: 25	3,0	examination	O	Os
Nuclear Medicine	E	lecture: 4 classes / practicals: 8	1,0	graded credit	O	Os
Occupational Medicine	E	lecture: 2 classes / practicals: 16	1,0	graded credit	O	Os
Family Medicine	E	classes / practicals: 10 seminar: 40	3,0	credit	O	Or
Neurology	E, C	lecture: 10 classes / practicals: 46 seminar: 34	7,0	examination	O	Os
Ophthalmology	F	lecture: 20 classes / practicals: 35 seminar: 5	4,0	examination	O	Os
Pediatrics	E	classes / practicals: 26 seminar: 24 e-learning: 8	4,0	credit	O	Or
Medical Law and Medical Deontology	G	lecture: 4 seminar: 21	2,0	graded credit	O	Os
Propedeutics of Dentistry	F	seminar: 15	1,0	credit	O	Os
Psychotherapy	E	classes / practicals: 14 seminar: 6	1,0	credit	O	Os
Public Health	G	seminar: 15	1,0	graded credit	O	Os
Medical Polish	D	classes / practicals: 60	4,0	examination	O	Os

## Semestr 8

<b>Przedmiot</b>	<b>Grupa standardu</b>	<b>Liczba godzin</b>	<b>Punkty ECTS</b>	<b>Forma weryfikacji</b>		
Anesthesiology and Intensive Care	F	classes / practicals: 13 seminar: 15 simulations: 12	3,0	credit	O	Or
Surgery	F	classes / practicals: 50 seminar: 20 e-learning: 8 simulations: 10	5,0	credit	O	Or

<b>Przedmiot</b>	<b>Grupa standardu</b>	<b>Liczba godzin</b>	<b>Punkty ECTS</b>	<b>Forma weryfikacji</b>		
Internal Medicine	C, B, E	classes / practicals: 72 seminar: 24 e-learning: 9	8,0	credit	O	Or
Clinical Genetics	E	lecture: 4 classes / practicals: 16 seminar: 4	2,0	graded credit	O	Os
Obstetrics and Gynecology	B, F	classes / practicals: 10 seminar: 10 e-learning: 20	3,0	credit	O	Or
Clinical Immunology	E	lecture: 8 classes / practicals: 6 seminar: 4	1,0	examination	O	Os
Evidence-Based Medicine	D	classes / practicals: 6 seminar: 30	2,0	examination	O	Os
Laboratory Training of Clinical Skills	F, E	simulations: 20	1,0	credit	O	Or
Othorinolaryngology	F	lecture: 10 classes / practicals: 15 seminar: 25	3,0	examination	O	Os
Nuclear Medicine	E	lecture: 4 classes / practicals: 8	1,0	graded credit	O	Os
Occupational Medicine	E	lecture: 2 classes / practicals: 16	1,0	graded credit	O	Os
Family Medicine	E	classes / practicals: 10 seminar: 40	3,0	credit	O	Or
Neurology	E, C	lecture: 10 classes / practicals: 46 seminar: 34	7,0	examination	O	Os
Ophthalmology	F	lecture: 20 classes / practicals: 35 seminar: 5	4,0	examination	O	Os
Pediatrics	E	classes / practicals: 26 seminar: 24 e-learning: 8	4,0	credit	O	Or
Medical Law and Medical Deontology	G	lecture: 4 seminar: 21	2,0	graded credit	O	Os
Propedeutics of Dentistry	F	seminar: 15	1,0	credit	O	Os
Psychotherapy	E	classes / practicals: 14 seminar: 6	1,0	credit	O	Os
Public Health	G	seminar: 15	1,0	graded credit	O	Os
Medical Polish	D	classes / practicals: 60	4,0	examination	O	Os
Surgery - summer clerkship		professional practice: 60	2,0	credit	O	Os
Pediatrics - summer clerkship		professional practice: 60	2,0	credit	O	Os

## Semestr 9

Przedmiot	Grupa standardu	Liczba godzin	Punkty ECTS	Forma weryfikacji		
Anesthesiology and Intensive Care	C, B, F	classes / practicals: 19 seminar: 16	2,0	examination	O	Os
Surgery	C, B, F	lecture: 6 classes / practicals: 40 seminar: 25 simulations: 10	5,0	credit	O	Or
Internal Medicine	C, E	classes / practicals: 75 seminar: 25 e-learning: 12	7,0	credit	O	Or
Clinical Pharmacology	E	seminar: 12	1,0	credit	O	Os
Infectious Diseases	C, E	lecture: 20 classes / practicals: 29 seminar: 21	4,0	examination	O	Os
Geriatrics and Palliative Medicine	B, E	classes / practicals: 33 seminar: 17	3,0	examination	O	Os
Obstetrics and Gynecology	C, F	classes / practicals: 25 seminar: 25 e-learning: 30	4,0	credit	O	Or
Laboratory Training of Clinical Skills	E, F	e-learning: 12 simulations: 22	1,0	graded credit	O	Os
Emergency Medicine	F	lecture: 4 seminar: 5 simulations: 20	2,0	credit	O	Or
Forensic Medicine	G	classes / practicals: 25 seminar: 25	3,0	examination	O	Os
Oncology and Hematology	E	lecture: 6 classes / practicals: 37 seminar: 13	3,0	graded credit	O	Os
Orthopedics and Traumatology	F	lecture: 7 classes / practicals: 25 seminar: 25	4,0	examination	O	Os
Pediatrics	C, E	lecture: 10 classes / practicals: 37 seminar: 23 e-learning: 4 simulations: 18	6,0	credit	O	Or
Psychiatry	E	classes / practicals: 50 seminar: 25	5,0	credit	O	Or

<b>Przedmiot</b>	<b>Grupa standardu</b>	<b>Liczba godzin</b>	<b>Punkty ECTS</b>	<b>Forma weryfikacji</b>		
Rehabilitation	F	lecture: 2 classes / practicals: 13 seminar: 2	1,0	graded credit	O	Os
Workshop of Clinical Psychological Skills	D	classes / practicals: 20	1,0	credit	O	Os
NON-SURGICAL SCIENCES	E				O	Os
Medical imaging in cardiology - theory and practice	E	classes / practicals: 20 seminar: 10	2,0	graded credit	F	Os
Individual methods of treatment of mental disorders in children and adolescents in biopsychosocial context (personalized psychiatry)	E	seminar: 30	2,0	graded credit	F	Os
Clinical Immunology as modern interdisciplinary science	E	classes / practicals: 16 seminar: 14	2,0	graded credit	F	Os
How to survive in emergency care - what the doctor should know	E	seminar: 30	2,0	graded credit	F	Os
Sexual and gender minorities and its problems	E	lecture: 30	2,0	graded credit	F	Os
Effects and diagnostics of sexual violence towards children	E	seminar: 30	2,0	graded credit	F	Os
Non-invasive diagnostics in cardiology	E	classes / practicals: 20 seminar: 10	2,0	graded credit	F	Os
Heart failure: prevention, diagnostics and treatment	E	classes / practicals: 20 seminar: 10	2,0	graded credit	F	Os
Advanced technologies in treatment of diabetes	E	classes / practicals: 20 seminar: 10	2,0	graded credit	F	Os
Modern methods of heart arrhythmia treatment	E	classes / practicals: 10 seminar: 20	2,0	graded credit	F	Os
From symptoms to diagnosis - topographic diagnostics in Neurology	E	seminar: 30	2,0	graded credit	F	Os
Primary immunodeficiency in adults. Anti-infective resistance. Protective vaccinations	E	classes / practicals: 20 seminar: 10	2,0	graded credit	F	Os
Practice of echocardiography	E	classes / practicals: 20 seminar: 10	2,0	graded credit	F	Os
Practical aspects of ECG in clinical cardiology in XXI century. Examples of use in clinical cases	E	classes / practicals: 20 seminar: 10	2,0	graded credit	F	Os

<b>Przedmiot</b>	<b>Grupa standardu</b>	<b>Liczba godzin</b>	<b>Punkty ECTS</b>	<b>Forma weryfikacji</b>		
The role of genetics in modern prenatal diagnosis and in reproduction failure	E	classes / practicals: 20 seminar: 10	2,0	graded credit	F	Os
Self-inflicted injury and suicidal behavior among children and adolescents	E	seminar: 30	2,0	graded credit	F	Os
Aging and old age as significant challenge in medical practice	E	classes / practicals: 20 seminar: 10	2,0	graded credit	F	Os
Systemic vasculitis	E	classes / practicals: 20 seminar: 10	2,0	graded credit	F	Os
Ultrasound in pediatrics	E	classes / practicals: 20 seminar: 10	2,0	graded credit	F	Os
Congenital heart diseases - from diagnostics to treatment	E	classes / practicals: 20 seminar: 10	2,0	graded credit	F	Os
Advanced diagnostic and therapeutic procedure in pediatric allergology and pulmonology	E	classes / practicals: 20 seminar: 10	2,0	graded credit	F	Os
Why teenagers scare their parents? (about suicides, self-inflicted injuries, using drugs and risky sexual behavior)	E	lecture: 10 classes / practicals: 20	2,0	graded credit	F	Os
Diagnostic tests in interstitial lung disease	E	classes / practicals: 20 seminar: 10	2,0	graded credit	F	Os
Biomarkers in cardiovascular diseases	E	classes / practicals: 6 seminar: 24	2,0	graded credit	F	Os
Ischemic heart disease - cardiology and cariosurgery. Selected aspects of diagnostics and treatment	E	classes / practicals: 20 seminar: 10	2,0	graded credit	F	Os
Autoimmune diseases - unusual cases, diagnostic and therapeutic difficulties, chronic proceedings	E	classes / practicals: 20 seminar: 10	2,0	graded credit	F	Os
Electrocardiology	E	classes / practicals: 20 seminar: 10	2,0	graded credit	F	Os
Basis of psychoanalysis	E	classes / practicals: 14 seminar: 16	2,0	graded credit	F	Os
Sexology	E	lecture: 30	2,0	graded credit	F	Os
Medical emergencies in allergology	E	classes / practicals: 17 seminar: 13	2,0	graded credit	F	Os
Blood clotting disorders in medical practice	E	classes / practicals: 15 seminar: 15	2,0	graded credit	F	Os

<b>Przedmiot</b>	<b>Grupa standardu</b>	<b>Liczba godzin</b>	<b>Punkty ECTS</b>	<b>Forma weryfikacji</b>		
Team management and decision-making in emergency situations	E	lecture: 10 classes / practicals: 20	2,0	graded credit	F	Os
From conservative nephrology to transplantology	E	classes / practicals: 20 seminar: 10	2,0	graded credit	F	Os
Progress in diagnostics and treatment of diarrhea and enteropathy	E	classes / practicals: 20 seminar: 10	2,0	graded credit	F	Os
Practical allergology	E	classes / practicals: 18 seminar: 12	2,0	graded credit	F	Os
Nervous system diseases in children and neurophysiology methods in diagnostics	E	classes / practicals: 20 seminar: 10	2,0	graded credit	F	Os
Selected issues of children endocrinology	E	classes / practicals: 20 seminar: 10	2,0	graded credit	F	Os
Basis of ECG in children. Arrhythmias and conduction disorders	E	classes / practicals: 20 seminar: 10	2,0	graded credit	F	Os
Using different imaging techniques in Pediatric cardiology in 3D reconstruction; normal anatomy of the heart and vessels. Vascular anomalies. In cooperation with Chair of Anatomy JU MC	E	classes / practicals: 20 seminar: 10	2,0	graded credit	F	Os
Selected issues of children oncohematology	E	classes / practicals: 20 seminar: 10	2,0	graded credit	F	Os
Kidney diseases and hypertension in children	E	classes / practicals: 20 seminar: 10	2,0	graded credit	F	Os
Sports Medicine	E	lecture: 15 classes / practicals: 5 seminar: 10	2,0	graded credit	F	Os
<b>SURGICAL CLINICAL SCIENCES</b>	<b>F</b>				<b>O</b>	<b>Os</b>
Modern diagnostics and therapy of head and neck cancers	F	classes / practicals: 20 seminar: 10	2,0	graded credit	F	Os
Head and neck oncology	F	lecture: 4 classes / practicals: 20 seminar: 6	2,0	graded credit	F	Os
Acute cardiac conditions	F	lecture: 10 seminar: 20	2,0	graded credit	F	Os
Practical aspects of surgery in children	F	lecture: 6 classes / practicals: 16 seminar: 8	2,0	graded credit	F	Os

<b>Przedmiot</b>	<b>Grupa standardu</b>	<b>Liczba godzin</b>	<b>Punkty ECTS</b>	<b>Forma weryfikacji</b>		
Life saving procedures (Cadaver Lab)	F	lecture: 10 classes / practicals: 20	2,0	graded credit	F	Os
Selected emergencies in Internal Medicine	F	classes / practicals: 15 seminar: 15	2,0	graded credit	F	Os
Specialist resuscitation procedures in adults	F	lecture: 10 classes / practicals: 20	2,0	graded credit	F	Os
Maxillo-facial traumatology	F	lecture: 6 classes / practicals: 20 seminar: 4	2,0	graded credit	F	Os
Practical aspects of interventional cardiology - modern approach to the patient	F	classes / practicals: 20 seminar: 10	2,0	graded credit	F	Os
Emergencies in cardiology	F	lecture: 15 seminar: 15	2,0	graded credit	F	Os
Injuries to children	F	lecture: 6 classes / practicals: 18 seminar: 6	2,0	graded credit	F	Os
Perioperative management	F	classes / practicals: 20 seminar: 10	2,0	graded credit	F	Os
Surgical techniques	F	classes / practicals: 20 seminar: 10	2,0	graded credit	F	Os
Diagnostics and treatment in acute abdomen	F	classes / practicals: 20 seminar: 10	2,0	graded credit	F	Os
Videoscope technique in surgical fields	F	classes / practicals: 20 seminar: 10	2,0	graded credit	F	Os
Minimal invasive technique in urology	F	classes / practicals: 20 seminar: 10	2,0	graded credit	F	Os
Oncological and vascular neurosurgery	F	lecture: 2 classes / practicals: 20 seminar: 8	2,0	graded credit	F	Os
Ultrasound in pediatric surgery, neurosurgery and urology	F	lecture: 6 classes / practicals: 16 seminar: 8	2,0	graded credit	F	Os
Treatment of cancer of the abdominal cavity in elderly people	F	lecture: 4 classes / practicals: 20 seminar: 6	2,0	graded credit	F	Os

<b>Przedmiot</b>	<b>Grupa standardu</b>	<b>Liczba godzin</b>	<b>Punkty ECTS</b>	<b>Forma weryfikacji</b>		
Diagnostic and treatment of neuroendocrine cancer	F	lecture: 4 classes / practicals: 20 seminar: 6	2,0	graded credit	F	Os
Foot and ankle joint surgery	F	classes / practicals: 20 seminar: 10	2,0	graded credit	F	Os
Specialist resuscitation procedures in emergencies of adults	F	classes / practicals: 20 seminar: 10	2,0	graded credit	F	Os
Pediatric neurosurgery	F	classes / practicals: 14 seminar: 16	2,0	graded credit	F	Os

## Semestr 10

<b>Przedmiot</b>	<b>Grupa standardu</b>	<b>Liczba godzin</b>	<b>Punkty ECTS</b>	<b>Forma weryfikacji</b>		
Anesthesiology and Intensive Care	C, B, F	classes / practicals: 19 seminar: 16	2,0	examination	O	Os
Surgery	C, B, F	lecture: 6 classes / practicals: 40 seminar: 25 simulations: 10	5,0	credit	O	Or
Internal Medicine	C, E	classes / practicals: 75 seminar: 25 e-learning: 12	7,0	credit	O	Or
Clinical Pharmacology	E	seminar: 12	1,0	credit	O	Os
Infectious Diseases	C, E	lecture: 20 classes / practicals: 29 seminar: 21	4,0	examination	O	Os
Geriatrics and Palliative Medicine	B, E	classes / practicals: 33 seminar: 17	3,0	examination	O	Os
Obstetrics and Gynecology	C, F	classes / practicals: 25 seminar: 25 e-learning: 30	4,0	credit	O	Or
Laboratory Training of Clinical Skills	E, F	e-learning: 12 simulations: 22	1,0	graded credit	O	Os
Emergency Medicine	F	lecture: 4 seminar: 5 simulations: 20	2,0	credit	O	Or



<b>Przedmiot</b>	<b>Grupa standardu</b>	<b>Liczba godzin</b>	<b>Punkty ECTS</b>	<b>Forma weryfikacji</b>		
Forensic Medicine	G	classes / practicals: 25 seminar: 25	3,0	examination	O	Os
Oncology and Hematology	E	lecture: 6 classes / practicals: 37 seminar: 13	3,0	graded credit	O	Os
Orthopedics and Traumatology	F	lecture: 7 classes / practicals: 25 seminar: 25	4,0	examination	O	Os
Pediatrics	C, E	lecture: 10 classes / practicals: 37 seminar: 23 e-learning: 4 simulations: 18	6,0	credit	O	Or
Psychiatry	E	classes / practicals: 50 seminar: 25	5,0	credit	O	Or
Rehabilitation	F	lecture: 2 classes / practicals: 13 seminar: 2	1,0	graded credit	O	Os
Workshop of Clinical Psychological Skills	D	classes / practicals: 20	1,0	credit	O	Os
Anesthesiology and Intensive Care - summer clerkship		professional practice: 60	2,0	credit	O	Os
Obstetrics and Gynecology - summer clerkship		professional practice: 60	2,0	credit	O	Os
NON-SURGICAL SCIENCES	E				O	Os
Medical imaging in cardiology - theory and practice	E	classes / practicals: 20 seminar: 10	2,0	graded credit	F	Os
Individual methods of treatment of mental disorders in children and adolescents in biopsychosocial context (personalized psychiatry)	E	seminar: 30	2,0	graded credit	F	Os
Clinical Immunology as modern interdisciplinary science	E	classes / practicals: 16 seminar: 14	2,0	graded credit	F	Os
How to survive in emergency care - what the doctor should know	E	seminar: 30	2,0	graded credit	F	Os
Sexual and gender minorities and its problems	E	lecture: 30	2,0	graded credit	F	Os
Effects and diagnostics of sexual violence towards children	E	seminar: 30	2,0	graded credit	F	Os
Non-invasive diagnostics in cardiology	E	classes / practicals: 20 seminar: 10	2,0	graded credit	F	Os

<b>Przedmiot</b>	<b>Grupa standardu</b>	<b>Liczba godzin</b>	<b>Punkty ECTS</b>	<b>Forma weryfikacji</b>		
Heart failure: prevention, diagnostics and treatment	E	classes / practicals: 20 seminar: 10	2,0	graded credit	F	Os
Advanced technologies in treatment of diabetes	E	classes / practicals: 20 seminar: 10	2,0	graded credit	F	Os
Modern methods of heart arrhythmia treatment	E	classes / practicals: 10 seminar: 20	2,0	graded credit	F	Os
From symptoms to diagnosis - topographic diagnostics in Neurology	E	seminar: 30	2,0	graded credit	F	Os
Primary immunodeficiency in adults. Anti-infective resistance. Protective vaccinations	E	classes / practicals: 20 seminar: 10	2,0	graded credit	F	Os
Practice of echocardiography	E	classes / practicals: 20 seminar: 10	2,0	graded credit	F	Os
Practical aspects of ECG in clinical cardiology in XXI century. Examples of use in clinical cases	E	classes / practicals: 20 seminar: 10	2,0	graded credit	F	Os
The role of genetics in modern prenatal diagnosis and in reproduction failure	E	classes / practicals: 20 seminar: 10	2,0	graded credit	F	Os
Self-inflicted injury and suicidal behavior among children and adolescents	E	seminar: 30	2,0	graded credit	F	Os
Aging and old age as significant challenge in medical practice	E	classes / practicals: 20 seminar: 10	2,0	graded credit	F	Os
Systemic vasculitis	E	classes / practicals: 20 seminar: 10	2,0	graded credit	F	Os
Ultrasound in pediatrics	E	classes / practicals: 20 seminar: 10	2,0	graded credit	F	Os
Congenital heart diseases - from diagnostics to treatment	E	classes / practicals: 20 seminar: 10	2,0	graded credit	F	Os
Advanced diagnostic and therapeutic procedure in pediatric allergology and pulmonology	E	classes / practicals: 20 seminar: 10	2,0	graded credit	F	Os
Why teenagers scare their parents? (about suicides, self-inflicted injuries, using drugs and risky sexual behavior)	E	lecture: 10 classes / practicals: 20	2,0	graded credit	F	Os
Diagnostic tests in interstitial lung disease	E	classes / practicals: 20 seminar: 10	2,0	graded credit	F	Os

<b>Przedmiot</b>	<b>Grupa standardu</b>	<b>Liczba godzin</b>	<b>Punkty ECTS</b>	<b>Forma weryfikacji</b>		
Biomarkers in cardiovascular diseases	E	classes / practicals: 6 seminar: 24	2,0	graded credit	F	Os
Ischemic heart disease - cardiology and cariosurgery. Selected aspects of diagnostics and treatment	E	classes / practicals: 20 seminar: 10	2,0	graded credit	F	Os
Autoimmune diseases - unusual cases, diagnostic and therapeutic difficulties, chronic proceedings	E	classes / practicals: 20 seminar: 10	2,0	graded credit	F	Os
Electrocardiology	E	classes / practicals: 20 seminar: 10	2,0	graded credit	F	Os
Basis of psychoanalysis	E	classes / practicals: 14 seminar: 16	2,0	graded credit	F	Os
Sexology	E	lecture: 30	2,0	graded credit	F	Os
Medical emergencies in allergology	E	classes / practicals: 17 seminar: 13	2,0	graded credit	F	Os
Blood clotting disorders in medical practice	E	classes / practicals: 15 seminar: 15	2,0	graded credit	F	Os
Team management and decision-making in emergency situations	E	lecture: 10 classes / practicals: 20	2,0	graded credit	F	Os
From conservative nephrology to transplantology	E	classes / practicals: 20 seminar: 10	2,0	graded credit	F	Os
Progress in diagnostics and treatment of diarrhea and enteropathy	E	classes / practicals: 20 seminar: 10	2,0	graded credit	F	Os
Practical allergology	E	classes / practicals: 18 seminar: 12	2,0	graded credit	F	Os
Nervous system diseases in children and neurophysiology methods in diagnostics	E	classes / practicals: 20 seminar: 10	2,0	graded credit	F	Os
Selected issues of children endocrinology	E	classes / practicals: 20 seminar: 10	2,0	graded credit	F	Os
Basis of ECG in children. Arrhythmias and conduction disorders	E	classes / practicals: 20 seminar: 10	2,0	graded credit	F	Os
Using different imaging techniques in Pediatric cardiology in 3D reconstruction; normal anatomy of the heart and vessels. Vascular anomalies. In cooperation with Chair of Anatomy JU MC	E	classes / practicals: 20 seminar: 10	2,0	graded credit	F	Os

<b>Przedmiot</b>	<b>Grupa standardu</b>	<b>Liczba godzin</b>	<b>Punkty ECTS</b>	<b>Forma weryfikacji</b>		
Selected issues of children oncohematology	E	classes / practicals: 20 seminar: 10	2,0	graded credit	F	Os
Kidney diseases and hypertension in children	E	classes / practicals: 20 seminar: 10	2,0	graded credit	F	Os
Sports Medicine	E	lecture: 15 classes / practicals: 5 seminar: 10	2,0	graded credit	F	Os
<b>SURGICAL CLINICAL SCIENCES</b>	<b>F</b>				<b>O</b>	<b>Os</b>
Modern diagnostics and therapy of head and neck cancers	F	classes / practicals: 20 seminar: 10	2,0	graded credit	F	Os
Head and neck oncology	F	lecture: 4 classes / practicals: 20 seminar: 6	2,0	graded credit	F	Os
Acute cardiac conditions	F	lecture: 10 seminar: 20	2,0	graded credit	F	Os
Practical aspects of surgery in children	F	lecture: 6 classes / practicals: 16 seminar: 8	2,0	graded credit	F	Os
Life saving procedures (Cadaver Lab)	F	lecture: 10 classes / practicals: 20	2,0	graded credit	F	Os
Selected emergencies in Internal Medicine	F	classes / practicals: 15 seminar: 15	2,0	graded credit	F	Os
Specialist resuscitation procedures in adults	F	lecture: 10 classes / practicals: 20	2,0	graded credit	F	Os
Maxillo-facial traumatology	F	lecture: 6 classes / practicals: 20 seminar: 4	2,0	graded credit	F	Os
Practical aspects of interventional cardiology - modern approach to the patient	F	classes / practicals: 20 seminar: 10	2,0	graded credit	F	Os
Emergencies in cardiology	F	lecture: 15 seminar: 15	2,0	graded credit	F	Os
Injuries to children	F	lecture: 6 classes / practicals: 18 seminar: 6	2,0	graded credit	F	Os
Perioperative management	F	classes / practicals: 20 seminar: 10	2,0	graded credit	F	Os

<b>Przedmiot</b>	<b>Grupa standardu</b>	<b>Liczba godzin</b>	<b>Punkty ECTS</b>	<b>Forma weryfikacji</b>		
Surgical techniques	F	classes / practicals: 20 seminar: 10	2,0	graded credit	F	Os
Diagnostics and treatment in acute abdomen	F	classes / practicals: 20 seminar: 10	2,0	graded credit	F	Os
Videoscope technique in surgical fields	F	classes / practicals: 20 seminar: 10	2,0	graded credit	F	Os
Minimal invasive technique in urology	F	classes / practicals: 20 seminar: 10	2,0	graded credit	F	Os
Oncological and vascular neurosurgery	F	lecture: 2 classes / practicals: 20 seminar: 8	2,0	graded credit	F	Os
Ultrasound in pediatric surgery, neurosurgery and urology	F	lecture: 6 classes / practicals: 16 seminar: 8	2,0	graded credit	F	Os
Treatment of cancer of the abdominal cavity in elderly people	F	lecture: 4 classes / practicals: 20 seminar: 6	2,0	graded credit	F	Os
Diagnostic and treatment of neuroendocrine cancer	F	lecture: 4 classes / practicals: 20 seminar: 6	2,0	graded credit	F	Os
Foot and ankle joint surgery	F	classes / practicals: 20 seminar: 10	2,0	graded credit	F	Os
Specialist resuscitation procedures in emergencies of adults	F	classes / practicals: 20 seminar: 10	2,0	graded credit	F	Os
Pediatric neurosurgery	F	classes / practicals: 14 seminar: 16	2,0	graded credit	F	Os

## Semestr 11

<b>Przedmiot</b>	<b>Grupa standardu</b>	<b>Liczba godzin</b>	<b>Punkty ECTS</b>	<b>Forma weryfikacji</b>		
Surgery		clinical classes: 120	8,0	examination	O	Os
Internal Medicine		clinical classes: 240	16,0	examination	O	Os
Obstetrics and Gynecology		clinical classes: 60	4,0	examination	O	Os
Pediatrics		clinical classes: 114 simulations: 6	8,0	examination	O	Os
Psychiatry		clinical classes: 60	4,0	examination	O	Os

<b>Przedmiot</b>	<b>Grupa standardu</b>	<b>Liczba godzin</b>	<b>Punkty ECTS</b>	<b>Forma weryfikacji</b>		
Emergency Medicine		clinical classes: 54 simulations: 6	4,0	examination	O	Os
Family Medicine		clinical classes: 60	4,0	examination	O	Os
Clinical Science Electives		clinical classes: 180	12,0	credit	O	Os

## Semestr 12

<b>Przedmiot</b>	<b>Grupa standardu</b>	<b>Liczba godzin</b>	<b>Punkty ECTS</b>	<b>Forma weryfikacji</b>		
Surgery		clinical classes: 120	8,0	examination	O	Os
Internal Medicine		clinical classes: 240	16,0	examination	O	Os
Obstetrics and Gynecology		clinical classes: 60	4,0	examination	O	Os
Pediatrics		clinical classes: 114 simulations: 6	8,0	examination	O	Os
Psychiatry		clinical classes: 60	4,0	examination	O	Os
Emergency Medicine		clinical classes: 54 simulations: 6	4,0	examination	O	Os
Family Medicine		clinical classes: 60	4,0	examination	O	Os
Clinical Science Electives		clinical classes: 180	12,0	credit	O	Os

*O - obligatory*

*F - elective*

*Or - obligatory for passing a year*

*Os - obligatory for passing in the course of studies*