



# Program studiów

<b>Wydział:</b>	Wydział Lekarski
<b>Kierunek:</b>	Medical and Dental Program
<b>Poziom kształcenia:</b>	jednolite magisterskie
<b>Forma kształcenia:</b>	stacjonarne
<b>Rok akademicki:</b>	2020/21

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# Charakterystyka kierunku

## Informacje podstawowe

Nazwa wydziału:	Wydział Lekarski
Nazwa kierunku:	Medical and Dental 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%

## Charakterystyka kierunku, koncepcja i cele kształcenia

### Charakterystyka kierunku

The Medical and Dental Program at the Faculty of Medicine of the Jagiellonian University Medical College is a significant program on the European map of medical universities, as well as dynamic, modern, 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, including about 80 dentists. In particular, the Medical and Dental Program at the Faculty of Medicine of the Jagiellonian University Medical College each year enjoys great interest among candidates for medical universities.

The current shape of medical and dental studies is the result of many years of experience in professional education of dental 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 and dental studies are uniform master's studies lasting 10 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, pathology, 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 taught general surgery with oncology, the basics of clinical sciences in the form of first aid and elements of nursing, propedeutics of medicine, and internal diseases, as well as epidemiology, history of medicine, history of philosophy, sociology of medicine, medical ethics, psychology, computer science with biometrics, and a foreign language. Pre-clinical classes are held as part of dentistry. This is aimed at preparing the student to work with the patient. These subjects are taught, e.g. as a part of optional classes. Basic clinical disciplines, i.e. paediatrics, infectious diseases, conservative dentistry with endodontics, dental surgery, dental prosthetics, periodontal diseases, oral mucosa, pediatric dentistry, orthodontics, maxillofacial surgery, are taught from the 4th to the 5th year of studies. In the course of studies there is also a program of numerous optional courses, e.g. in medical cytobiology and clinical disciplines, which broaden the

current scope of knowledge in the field of general courses. In order to complete individual years of study, it is necessary to complete program internships. Graduates of the medical and dental faculty receive a diploma and a professional title of doctor of dental surgery (Polish: lekarz dentysta).

## **Koncepcja kształcenia**

The aim of medical and dental studies is to teach the fundamental theories and principles of medical and dental practice, to transfer the skills of communication and cooperation with patients, colleagues and other medical team members, 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 dental 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 doctor of dental surgery.

In terms of knowledge, the graduate knows and understands issues in the field of medicine and natural sciences – in the basic scope, issues in the field of dentistry – at an advanced level, issues of health education, principles of conducting scientific research and spreading their results, organization of a dental practice, and management principles in health protection.

In terms of skills, the graduate is able to carry out diagnostics of the most common diseases, assess and describe the somatic and mental condition of a patient, and is able to provide professional dental care in terms of prevention, treatment, health promotion and health education. In addition, he or she is able to plan treatment concerning dental problems, conduct clinical proceedings based on knowledge, and respect the principles of humanitarianism, as well as plan his or her own educational activity and understands the need for continuous training. The graduate is able to inspire the learning process of other people, communicate with the patient and his or her family in an atmosphere of trust, taking into account the needs of the patient, communicate with colleagues within a team and share knowledge, critically evaluate the results of scientific research, and properly justify own 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, keep the patient's well-being in mind, respect medical confidentiality and the rights of the patient. In addition, a graduate of the medical and dental program is ready to take action towards the patient based on the ethical standards and principles, with the awareness of social determinants and limitations resulting from the disease, as well as noticing and recognizing their own limitations, self-assessment of deficits and educational needs. Graduates are ready to promote pro-health behaviors, use objective sources of information, formulate conclusions from their own measurements or observations, implement the principles of professional camaraderie and cooperation in a team of specialists, including representatives of other medical teams. In a multicultural and multinational environment, he or she is able to form an opinion on various aspects of professional activity, taking responsibility for decisions taken in the course of professional activity, including the safety of oneself and others.

## **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 indicate that in Poland there is a great need for educating reliable dentists 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 and dental program 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 and dental 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 medical and dental program, 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 interdisciplinary 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 curriculum in the medical and dental program, both in the field of pre-clinical sciences and clinical subjects, conduct scientific research in all fields of dentistry. In particular, the projects focus on the prevention of diseases occurring in the oral cavity, improvement of diagnostic methods, treatment techniques and monitoring of treatment results, but also the issues of significant connection between oral cavity health and organism health are widely considered, which is connected with extensive cooperation between companies and universities in Poland and abroad.

## **Związek badań naukowych z dydaktyką**

The majority of the employees of the medical and dental program at 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. 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 main didactic base for dental students is the University Dental Clinic, which is located in the building at Montelupich Street in Krakow, where the Institute of Dentistry is located. Two wings with preclinical training rooms, two amphitheater lecture halls for 100 seats each, were added to the 19th century building. The facility was designed to be extended to 34 800 m<sup>3</sup> of cubic capacity and 4 638 m<sup>2</sup> of usable area, and equipped with all the basic installations, compressed air, central vacuum, computer network. The main tasks of the University Dental Clinic include providing health care services in the field of dentistry in connection with the implementation of teaching and research tasks of the Jagiellonian University. This fact puts the Clinic in the position of a healthcare provider, with dental services provided at the highest level of knowledge and skills of medical staff. Experienced specialist doctors and experienced practitioners are employed. Lecture halls are equipped with appropriate equipment, i.e. multimedia projectors, computers. Students have access to the resources of the Medical Library and the resources of the Jagiellonian Library. Equipment and infrastructure are constantly updated, supplemented and developed in accordance with the demand resulting from the implementation of the education program. Apart from lecture halls, the Institute of Dentistry is equipped with 3 phantom rooms, each with 22 workstations, adjacent

labs, 4 seminar rooms and a library. In the pre-clinical classes, students use phantom rooms to adapt to the work with the future patient, using models of the maxilla and mandible and teeth faithfully reflecting the conditions of the oral cavity. Clinical classes take place in fully equipped clinical rooms of the Institute of Dentistry, where there are also prosthetic and orthodontic laboratories and x-ray laboratory, allowing for diagnostics and treatment of patients.

# Program

## Podstawowe informacje

Klasyfikacja ISCED:	0911
Liczba semestrów:	10
Tytuł zawodowy nadawany absolwentom:	lekarz dentysta

### Opis realizacji programu:

The curriculum of studies at the medical and dental program 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 dental 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	319
w ramach zajęć prowadzonych z bezpośrednim udziałem nauczycieli akademickich lub innych osób prowadzących zajęcia	188
którą student musi uzyskać w ramach zajęć z zakresu nauki języków obcych	9
którą student musi uzyskać w ramach modułów realizowanych w formie fakultatywnej	8
którą student musi uzyskać w ramach praktyk zawodowych	16
którą student musi uzyskać w ramach zajęć z dziedziny nauk humanistycznych lub nauk społecznych	6

## Liczba godzin zajęć

Łączna liczba godzin zajęć: 5204

## Praktyki zawodowe

### Wymiar, zasady i forma odbywania praktyk zawodowych

As part of the medical and dental studies program, students are required to complete work experience in the amount of 480 teaching hours, which corresponds to 16 ECTS credits. Internships are carried out during the summer holidays (July-August) between the first and fourth year of studies, in hospitals, in outpatient clinics, the University Dental Clinic, dental offices, in the country and abroad. The internships take place within the scope of: health care organization; medical practice on general surgery, internal diseases or maxillofacial surgery; the assisting a dentist, and practice in the dental office. 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 and Dental Program at the Faculty of Medicine 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 doctor of dental surgery.

# Efekty uczenia się

## Wiedza

### Ogólne

Absolwent zna i rozumie:

Kod	Treść	PRK
O.W1	zagadnienia z zakresu medycyny i nauk przyrodniczych – w podstawowym zakresie	P7U_W
O.W2	zagadnienia z zakresu stomatologii – w stopniu zaawansowanym	P7U_W, P7S_WG
O.W3	problematykę edukacji prozdrowotnej	P7U_W
O.W4	zasady prowadzenia badań naukowych i upowszechniania ich wyników	P7U_W
O.W5	organizację praktyki lekarza dentysty i zasady zarządzania w ochronie zdrowia	P7U_W

### Szczegółowe

#### A. Nauki morfologiczne

Absolwent zna i rozumie:

Kod	Treść	PRK
A.W1	struktury organizmu ludzkiego: komórki, tkanki, narządy i układy, ze szczególnym uwzględnieniem układu stomatognatycznego	P7U_W
A.W2	rozwój narządów i całego organizmu, ze szczególnym uwzględnieniem narządu żucia	P7U_W
A.W3	budowę ciała ludzkiego w podejściu topograficznym i czynnościowym	P7U_W
A.W4	rolę układu nerwowego w funkcjonowaniu poszczególnych narządów	P7U_W
A.W5	znaczenie czynnościowe poszczególnych narządów i tworzonego przez nie układów	P7U_W
A.W6	anatomiczne uzasadnienie badania przedmiotowego	P7U_W

#### B. Naukowe podstawy medycyny

Absolwent zna i rozumie:

Kod	Treść	PRK
B.W1	znaczenie pierwiastków głównych i śladowych w procesach zachodzących w organizmie, z uwzględnieniem podaży, wchłaniania i transportu	P7U_W
B.W2	znaczenie elektrolitów, układów buforowych i reakcji chemicznych w układach biologicznych	P7U_W
B.W3	biochemiczne podstawy integralności organizmu ludzkiego	P7U_W
B.W4	budowę i funkcje ważnych związków chemicznych występujących w organizmie ludzkim, w szczególności właściwości, funkcje, metabolizm i energetykę reakcji białek, kwasów nukleinowych, węglowodanów, lipidów, enzymów i hormonów	P7U_W
B.W5	zasady gospodarki wapniowej i fosforanowej	P7U_W
B.W6	rolę i znaczenie płynów ustrojowych, z uwzględnieniem śliny	P7U_W

Kod	Treść	PRK
<b>B.W7</b>	zasady statyki i biomechaniki w odniesieniu do organizmu ludzkiego	P7U_W
<b>B.W8</b>	mechanikę narządu żucia	P7U_W
<b>B.W9</b>	metody obrazowania tkanek i narządów oraz zasady działania urządzeń diagnostycznych służących do tego celu	P7U_W, P7S_WG
<b>B.W10</b>	zasady działania urządzeń ultradźwiękowych	P7U_W
<b>B.W11</b>	zasady fotometrii i światłowodów oraz wykorzystania źródeł światła w stomatologii	P7U_W, P7S_WG
<b>B.W12</b>	zasady działania laserów w stomatologii	P7U_W, P7S_WG
<b>B.W13</b>	zasady działania sprzętu stomatologicznego	P7U_W, P7S_WG
<b>B.W14</b>	podstawowe pojęcia z zakresu biologii i ekologii	P7U_W
<b>B.W15</b>	współzależności między organizmami w ekosystemie	P7U_W
<b>B.W16</b>	interakcje w układzie pasożyt – żywiciel	P7U_W
<b>B.W17</b>	wybrane zagadnienia z zakresu genetyki i biologii molekularnej	P7U_W
<b>B.W18</b>	kliniczne zastosowanie zasad genetyki	P7U_W
<b>B.W19</b>	funkcje życiowe człowieka	P7U_W
<b>B.W20</b>	neurohormonalną regulację procesów fizjologicznych	P7U_W
<b>B.W21</b>	zasady równowagi kwasowo-zasadowej oraz transportu tlenu i dwutlenku węgla w organizmie	P7U_W
<b>B.W22</b>	zasady metabolizmu i żywienia	P7U_W
<b>B.W23</b>	wartość liczbowa podstawowych zmiennych fizjologicznych i zmiany wartości liczbowych	P7U_W

### C. Nauki przedkliniczne

Absolwent zna i rozumie:

Kod	Treść	PRK
<b>C.W1</b>	rodzaje i gatunki oraz budowę wirusów, bakterii, grzybów i pasożytów, ich cechy biologiczne i mechanizmy chorobotwórczości	P7U_W
<b>C.W2</b>	fizjologiczną florę bakteryjną człowieka	P7U_W
<b>C.W3</b>	podstawy epidemiologii zarażeń wirusowych i bakteryjnych, zakażeń grzybiczych i pasożytniczych oraz dróg ich szerzenia się w organizmie człowieka	P7U_W
<b>C.W4</b>	gatunki bakterii, wirusów i grzybów będących najczęstszymi czynnikami etiologicznymi zakażeń i infekcji	P7U_W, P7S_WG
<b>C.W5</b>	podstawy dezynfekcji, sterylizacji i postępowania aseptycznego	P7U_W, P7S_WG
<b>C.W6</b>	czynniki chorobotwórcze zewnętrzne i wewnętrzne	P7U_W
<b>C.W7</b>	budowę układu odpornościowego i jego rolę	P7U_W, P7S_WG
<b>C.W8</b>	humoralne i komórkowe mechanizmy odporności wrodzonej i nabytej oraz mechanizmy reakcji nadwrażliwości i procesów autoimmunologicznych	P7U_W
<b>C.W9</b>	zjawisko powstawania lekooporności	P7U_W
<b>C.W10</b>	podstawy immunodiagnostyki i immunomodulacji	P7U_W
<b>C.W11</b>	patomechanizm chorób alergicznych, wybranych chorób uwarunkowanych nadwrażliwością, autoimmunizacyjnych i niedoborów odporności	P7U_W

Kod	Treść	PRK
<b>C.W12</b>	pojęcia homeostazy, adaptacji, oporności, odporności, skłonności, podatności, mechanizmów kompensacyjnych, sprzężeń zwrotnych i mechanizmu „błędnego koła”	P7U_W
<b>C.W13</b>	pojęcie zdrowia i choroby, mechanizmów powstawania oraz rozwoju procesu chorobowego na poziomie molekularnym, komórkowym, tkankowym oraz ogólnoustrojowym, objawów klinicznych choroby, rokowań i powikłań choroby	P7U_W
<b>C.W14</b>	mechanizmy odczynu zapalnego i gojenia się ran	P7U_W
<b>C.W15</b>	podstawowe zaburzenia regulacji wydzielania hormonów, gospodarki wodnej i elektrolitowej, równowagi kwasowo-zasadowej, pracy nerek i płuc oraz mechanizmy powstawania i skutki zaburzeń w układzie sercowo-naczyniowym, w tym wstrząs	P7U_W, P7S_WG
<b>C.W16</b>	metody diagnostyczne wykorzystywane w patomorfologii oraz rolę badań laboratoryjnych w profilaktyce i rozpoznawaniu zaburzeń narządowych i układowych	P7U_W
<b>C.W17</b>	znamiona śmierci i zmiany pośmiertne oraz zasady techniki i diagnostyki sekcyjnej zwłok	P7U_W
<b>C.W18</b>	mechanizmy działania leków oraz farmakokinetykę i biotransformację poszczególnych grup leków	P7U_W, P7S_WG
<b>C.W19</b>	wskazania oraz przeciwwskazania do stosowania leków, ich dawkowanie, działania niepożądane i toksyczne oraz interakcje między lekami	P7U_W, P7S_WG
<b>C.W20</b>	zasady terapii zakażeń wirusowych, bakteryjnych, grzybiczych i pasożytniczych	P7U_W
<b>C.W21</b>	zasady zapobiegania bólowi i lękowi oraz zwalczania ich, a także farmakologię leków stosowanych w stanach zagrożenia życia	P7U_W, P7S_WG
<b>C.W22</b>	zasady zapisywania wybranych postaci leków gotowych i recepturowych na receptę	P7U_W
<b>C.W23</b>	wyposażenie gabinetu stomatologicznego i instrumentarium stosowane w zabiegach stomatologicznych	P7U_W, P7S_WG
<b>C.W24</b>	definicję oraz klasyfikację podstawowych i pomocniczych materiałów stomatologicznych	P7U_W, P7S_WG
<b>C.W25</b>	skład, budowę, sposób wiązania, właściwości, przeznaczenie i sposób użycia materiałów stomatologicznych	P7U_W, P7S_WG
<b>C.W26</b>	właściwości powierzchniowe twardych tkanek zęba oraz biomateriałów stomatologicznych	P7U_W, P7S_WG
<b>C.W27</b>	zjawisko adhezji i mechanizmów wytwarzania adhezyjnego połączenia oraz procedury adhezyjnego przygotowania powierzchni szkliva, zębiny oraz biomateriałów stomatologicznych	P7U_W, P7S_WG
<b>C.W28</b>	podstawowe procedury kliniczne rekonstrukcji tkanek twardych zębów i leczenia endodontycznego oraz metody i techniczno-laboratoryjne procedury wykonywania uzupełnień protetycznych	P7U_W, P7S_WG
<b>C.W29</b>	mechanizmy degradacji (korozji) biomateriałów stomatologicznych w jamie ustnej i ich wpływ na biologiczne właściwości materiałów	P7U_W, P7S_WG
<b>C.W30</b>	mechanizmy prowadzące do patologii narządowych i ustrojowych, w tym chorób infekcyjnych, inwazyjnych, autoimmunologicznych, z niedoboru odporności, metabolicznych i genetycznych	
<b>C.W31</b>	wpływ na organizm pacjenta czynników fizycznych, chemicznych i biologicznych oraz awitaminoz i stresu	P7U_W, P7S_WG
<b>C.W32</b>	podstawowe procedury kliniczne profilaktyki periodontologicznej	P7U_W, P7S_WG
<b>C.W33</b>	podstawowe procedury kliniczne profilaktyki ortodontycznej	P7U_W

## D. Nauki behawioralne

Absolwent zna i rozumie:

Kod	Treść	PRK
D.W1	aktualne poglądy na temat społecznego wymiaru zdrowia i choroby, wpływu środowiska społecznego (rodziny, sieci relacji społecznych) i nierówności społecznych oraz społeczno-kulturowych różnic na stan zdrowia, a także rolę stresu społecznego w zachowaniach zdrowotnych i autodestrukcyjnych;	P7U_W, P7S_WK
D.W2	formy przemocy, modele wyjaśniające przemoc w rodzinie i przemoc w wybranych instytucjach, społeczne uwarunkowania różnych form przemocy oraz rolę lekarza i lekarza dentysty w jej rozpoznawaniu	P7U_W, P7S_WK
D.W3	postawy społeczne wobec znaczenia zdrowia, choroby, niepełnosprawności i starości, konsekwencje społeczne choroby i niepełnosprawności oraz bariery społeczno-kulturowe, a także koncepcję jakości życia uwarunkowaną stanem zdrowia	P7S_WG, P7S_WK
D.W4	znaczenie komunikacji werbalnej i niewerbalnej w procesie komunikowania się z pacjentem i pojęcie zaufania w interakcji z pacjentem	P7U_W
D.W5	funkcjonowanie podmiotów systemu ochrony zdrowia oraz społeczną rolę lekarza i lekarza dentysty	P7U_W, P7S_WK
D.W6	podstawowe psychologiczne mechanizmy funkcjonowania człowieka w zdrowiu i w chorobie	P7U_W
D.W7	prawidłowości rozwoju psychicznego człowieka i rolę rodziny pacjenta w procesie leczenia	P7U_W
D.W8	problematykę adaptacji pacjenta i jego rodziny do choroby jako sytuacji trudnej oraz do związanych z nią wydarzeń, w tym umierania i procesu żałoby rodziny	P7U_W
D.W9	mechanizmy radzenia sobie ze stresem i jego rolę w etiopatogenezie i przebiegu chorób	P7U_W
D.W10	mechanizmy uzależnień od substancji psychoaktywnych oraz cele i sposoby leczenia	P7U_W
D.W11	zasady motywowania pacjenta do prozdrowotnych zachowań i informowania o niepomyślnym rokowaniu	P7U_W
D.W12	zasady altruizmu i odpowiedzialności klinicznej	P7U_W
D.W13	zasady funkcjonowania zespołu terapeutycznego	P7U_W
D.W14	imperatyw i wzorzec zachowania lekarza i lekarza dentysty ustalony przez samorząd zawodowy lekarzy i lekarzy dentystów	P7U_W
D.W15	prawa pacjenta	P7S_WG, P7S_WK
D.W16	historię medycyny, ze szczególnym uwzględnieniem historii stomatologii	P7U_W, P7S_WK
D.W17	proces kształtowania się nowych specjalności w zakresie dyscypliny naukowej – nauki medyczne i osiągnięcia czołowych przedstawicieli medycyny polskiej i światowej	P7U_W

## E. Nauki kliniczne ogólnolekarskie (niezabiegowe)

Absolwent zna i rozumie:

Kod	Treść	PRK
E.W1	związek między nieprawidłowościami morfologicznymi a funkcją zmienionych narządów i układów oraz objawami klinicznymi a możliwościami diagnostyki i leczenia	P7U_W, P7S_WG

Kod	Treść	PRK
<b>E.W2</b>	podstawowe metody badania lekarskiego oraz rolę badań dodatkowych w rozpoznawaniu, monitorowaniu, rokowaniu i profilaktyce zaburzeń narządowych i układowych, ze szczególnym uwzględnieniem ich oddziaływania na tkanki jamy ustnej	P7U_W, P7S_WG
<b>E.W3</b>	etiopatogenezę i symptomatologię chorób układu oddechowego, krążenia, krwiotwórczego, moczowo-płciowego, immunologicznego, pokarmowego, ruchu oraz gruczołów dokrewnych, ze szczególnym uwzględnieniem jednostek chorobowych, których objawy występują w jamie ustnej	P7U_W, P7S_WG
<b>E.W4</b>	zasady postępowania z poszkodowanymi w urazach wielonarządowych	P7U_W
<b>E.W5</b>	zasady organizacji akcji ratunkowej w katastrofach i awariach, fazy akcji ratunkowej i zakres udzielania pomocy poszkodowanym	P7U_W
<b>E.W6</b>	neurologiczne skutki przewlekłego zażywania leków	P7U_W
<b>E.W7</b>	objawy ostrych chorób jamy brzusznej, zatrucia, zakażenia i posocznicy	P7U_W
<b>E.W8</b>	objawy wirusowego zapalenia wątroby, zakażenia wirusem HIV i zespołu nabytego upośledzenia odporności (AIDS) w chorobach zakaźnych i pasożytniczych	P7U_W
<b>E.W9</b>	zasady uodparniania przeciw chorobom zakaźnym u dzieci i dorosłych	P7U_W
<b>E.W10</b>	uwarunkowania hormonalne organizmu kobiety w poszczególnych okresach życia	P7U_W
<b>E.W11</b>	wpływ odżywiania w ciąży i uzależnień kobiety w ciąży na rozwój płodu	P7U_W
<b>E.W12</b>	zasady opieki stomatologicznej nad kobietą w ciąży	P7U_W
<b>E.W13</b>	zasady diagnostyki chorób oczu, w tym urazów oka	P7U_W
<b>E.W14</b>	rolę zakażeń odogniskowych w chorobach narządu wzroku	P7U_W
<b>E.W15</b>	metody diagnostyki cytologicznej oraz cytodiagnostyczne kryteria rozpoznawania i różnicowania chorób nowotworowych i nienowotworowych	P7U_W
<b>E.W16</b>	immunologiczne aspekty transplantacji i krwiolecznictwa	P7U_W
<b>E.W17</b>	przyczyny i mechanizmy zatrzymania krążenia i oddychania oraz zasady prowadzenia reanimacji i postępowania po reanimacji	P7U_W, P7S_WG
<b>E.W18</b>	stany zagrożenia życia	P7U_W, P7S_WG
<b>E.W19</b>	metody stosowane w rehabilitacji medycznej, jej cele i metodykę planowania	P7U_W
<b>E.W20</b>	przypadki, w których pacjenta należy skierować do szpitala	P7U_W

## F. Nauki kliniczne kierunkowe (zabiegowe)

Absolwent zna i rozumie:

Kod	Treść	PRK
<b>F.W1</b>	normy zgryzowe na różnych etapach rozwoju osobniczego i odchylenia od norm	P7U_W, P7S_WG
<b>F.W2</b>	zasady postępowania profilaktyczno-leczniczego w chorobach narządu żucia w różnym okresie rozwoju	P7U_W
<b>F.W3</b>	florę wirusową, bakteryjną i grzybiczą jamy ustnej i jej znaczenie	P7U_W, P7S_WG
<b>F.W4</b>	objawy, przebieg i sposoby postępowania w określonych jednostkach chorobowych jamy ustnej, głowy i szyi, z uwzględnieniem grup wiekowych	P7U_W, P7S_WG
<b>F.W5</b>	zasady postępowania w przypadku chorób miazgi i zmineralizowanych tkanek zębów oraz urazów zębów i kości twarzy	P7U_W, P7S_WG
<b>F.W6</b>	zasady postępowania w przypadku chorób tkanek okołowierzchołkowych	P7U_W, P7S_WG

Kod	Treść	PRK
<b>F.W7</b>	morfologię jam zębowych i zasady leczenia endodontycznego oraz instrumentarium stosowane w tym leczeniu	P7U_W, P7S_WG
<b>F.W8</b>	zasady postępowania w przypadku torbieli, stanów przednowotworowych oraz nowotworów głowy i szyi	P7U_W, P7S_WG
<b>F.W9</b>	diagnostykę i sposoby leczenia przyzębia oraz chorób błony śluzowej jamy ustnej	P7U_W, P7S_WG
<b>F.W10</b>	wskazania i przeciwwskazania do leczenia z wykorzystaniem wszczepów stomatologicznych	P7U_W, P7S_WG
<b>F.W11</b>	wskazania i przeciwwskazania do wykonania zabiegów w zakresie stomatologii estetycznej	P7U_W, P7S_WG
<b>F.W12</b>	przyczyny powikłań chorób układu stomatognatycznego i zasady postępowania w przypadku takich powikłań	P7U_W, P7S_WG
<b>F.W13</b>	podstawy antybiotykoterapii i oporności przeciwanitybiotykowej	P7U_W, P7S_WG
<b>F.W14</b>	metody rehabilitacji narządu żucia	P7U_W, P7S_WG
<b>F.W15</b>	metody terapeutyczne ograniczania i znoszenia bólu oraz ograniczania lęku i stresu	P7U_W, P7S_WG
<b>F.W16</b>	zasady znieczulenia w zabiegach stomatologicznych i podstawowe środki farmakologiczne	P7U_W
<b>F.W17</b>	zasady budowy i działania aparatów ortodontycznych ruchomych i stałych	P7U_W
<b>F.W18</b>	zasady diagnostyki radiologicznej	P7U_W
<b>F.W19</b>	patomechanizm oddziaływania chorób jamy ustnej na ogólny stan zdrowia	P7U_W
<b>F.W20</b>	patomechanizm oddziaływania chorób ogólnych lub stosowanych terapii na jamę ustną	P7U_W, P7S_WG
<b>F.W21</b>	profilaktykę chorób jamy ustnej	P7U_W, P7S_WG
<b>F.W22</b>	zasady postępowania w przypadku chorób tkanek narządu żucia, urazów zębów i kości szczęk	P7U_W, P7S_WG
<b>F.W23</b>	specyfikę opieki stomatologicznej nad pacjentem obciążonym chorobą ogólną i zasady współpracy z lekarzem prowadzącym chorobę podstawową	P7U_W, P7S_WG

#### G. Prawno-organizacyjne podstawy medycyny

Absolwent zna i rozumie:

Kod	Treść	PRK
<b>G.W1</b>	pojęcie zdrowia publicznego oraz cele, zadania i strukturę systemu opieki zdrowotnej	P7U_W, P7S_WK
<b>G.W2</b>	konceptje i modele promocji zdrowia	P7U_W, P7S_WK
<b>G.W3</b>	podstawowe pojęcia z zakresu profilaktyki, promocji zdrowia oraz higieny środowiskowej	P7U_W
<b>G.W4</b>	podstawowe pojęcia związane ze zdrowiem, stylem życia i stanem zdrowia populacji	P7U_W, P7S_WK
<b>G.W5</b>	metody określania potrzeb zdrowotnych społeczeństwa	P7U_W, P7S_WK
<b>G.W6</b>	sytuację zdrowotną w Rzeczypospolitej Polskiej i na świecie	P7U_W, P7S_WK
<b>G.W7</b>	strategię polityki zdrowotnej i społecznej Rzeczypospolitej Polskiej oraz Unii Europejskiej	P7U_W, P7S_WK
<b>G.W8</b>	aspekty organizacyjne i prawne funkcjonowania polskiego systemu opieki zdrowotnej	P7U_W, P7S_WK
<b>G.W9</b>	zasady zarządzania podmiotami leczniczymi	P7U_W, P7S_WK

Kod	Treść	PRK
G.W10	zasady funkcjonowania, zarządzania i informatyzacji podmiotów leczniczych i innych instytucji zdrowia publicznego	P7U_W, P7S_WK
G.W11	zasady funkcjonowania podstawowej opieki zdrowotnej	P7U_W, P7S_WK
G.W12	zasady negocjacji i zawierania umów o udzielanie świadczeń zdrowotnych w sektorze publicznym i niepublicznym	P7U_W, P7S_WK
G.W13	etiologię chorób zawodowych określonych w przepisach prawa, w tym związanych z wykonywaniem zawodu lekarza dentysty	P7S_WG, P7S_WK
G.W14	wskaźniki stanu zdrowia ludności i zasady ich oceny	P7U_W
G.W15	zasady zapobiegania chorobom i poprawy stanu zdrowia	P7U_W
G.W16	zasady epidemiologicznego opracowania ogniska choroby zakaźnej	P7U_W
G.W17	zasady planowania i ewaluacji działań profilaktycznych	P7U_W
G.W18	zasady ergonomicznej organizacji pracy w gabinecie stomatologicznym i przeprowadzania zabiegów stomatologicznych	P7U_W
G.W19	zasady bezpieczeństwa i higieny pracy w stomatologii	P7U_W
G.W20	zasady postępowania w sytuacji zagrożenia epidemiologicznego	P7U_W
G.W21	źródła stresu i możliwości ich eliminacji	P7U_W
G.W22	zasady odpowiedzialności zawodowej lekarza dentysty (moralnej, etycznej, prawnej, materialnej i służbowej), a także obowiązki lekarza dentysty wobec pacjenta	P7U_W, P7S_WK
G.W23	problematykę błędu lekarskiego: diagnostycznego, technicznego, terapeutycznego i organizacyjnego	P7U_W
G.W24	zasady odpowiedzialności za naruszenie zasad wykonywania zawodu lekarza dentysty	P7U_W
G.W25	podstawy prawne komunikowania się w medycynie	P7U_W, P7S_WK
G.W26	prawa pacjenta	P7S_WG, P7S_WK
G.W27	zasady etyki i deontologii lekarskiej, etyczne dylematy współczesnej medycyny wynikające z dynamicznego rozwoju nauki i technologii biomedycznych, a także zasady etycznego postępowania lekarza dentysty	P7U_W
G.W28	podstawy prawne funkcjonowania zawodów medycznych oraz samorządu zawodowego lekarzy i lekarzy dentystów w Rzeczypospolitej Polskiej	P7U_W
G.W29	przepisy prawa dotyczące prowadzenia działalności w zakresie opieki zdrowotnej	P7S_WG, P7S_WK
G.W30	podstawowe obowiązki pracownika i pracodawcy	P7U_W
G.W31	zasady udzielania świadczeń w razie choroby, macierzyństwa, wypadków przy pracy i chorób zawodowych	P7U_W
G.W32	zasady orzekania o czasowej niezdolności do pracy, niezdolności do pracy dla celów rentowych, a także o niepełnosprawności	P7U_W
G.W33	zasady postępowania ze zwłokami	P7U_W
G.W34	zasady prowadzenia, przechowywania i udostępniania dokumentacji medycznej oraz ochrony danych osobowych	P7U_W
G.W35	zagadnienia dotyczące serologii i genetyki sądowo-lekarskiej	P7U_W
G.W36	podstawy toksykologii sądowo-lekarskiej	P7U_W



Kod	Treść	PRK
G.W37	zasady sporządzania opinii w charakterze biegłego w sprawach karnych	P7S_WG, P7S_WK
G.W38	sądowe aspekty etologii człowieka	P7U_W

## Umiejętności

### Ogólne

Absolwent potrafi:

Kod	Treść	PRK
O.U1	przeprowadzić diagnostykę najczęstszych chorób, ocenić i opisać stan somatyczny i psychiczny pacjenta	P7U_U
O.U2	prować profesjonalną opiekę dentystyczną w zakresie profilaktyki, leczenia, promocji zdrowia i edukacji prozdrowotnej	P7U_U
O.U3	zaplanować leczenie w zakresie problemów stomatologicznych	P7U_U
O.U4	prować postępowanie kliniczne oparte na wiedzy i respektujące zasady humanitaryzmu	P7U_U
O.U5	planować własną aktywność edukacyjną i stale dokształcać się w celu aktualizacji wiedzy	P7U_U
O.U6	inspirować proces uczenia się innych osób	P7S_UU
O.U7	komunikować się z pacjentem i jego rodziną w atmosferze zaufania, z uwzględnieniem potrzeb pacjenta	P7U_U
O.U8	komunikować się ze współpracownikami w zespole i dzielić się wiedzą	P7S_UO
O.U9	krytycznie oceniać wyniki badań naukowych i odpowiednio uzasadniać stanowisko	P7U_U

### Szczegółowe

#### A. Nauki morfologiczne

Absolwent potrafi:

Kod	Treść	PRK
A.U1	interpretować relacje anatomiczne zilustrowane podstawowymi metodami badań diagnostycznych z zakresu radiologii (zdjęcia przeglądowe i z użyciem środków kontrastowych)	P7U_U
A.U2	obsługiwać mikroskop, w tym w zakresie korzystania z immersji, oraz rozpoznawać pod mikroskopem strukturę histologiczną narządów i tkanek, a także dokonywać opisu i interpretacji budowy mikroskopowej komórek, tkanek i narządów oraz ich funkcji	P7U_U

#### B. Naukowe podstawy medycyny

Absolwent potrafi:

Kod	Treść	PRK
<b>B.U1</b>	odnosić zjawiska chemiczne do procesów zachodzących w jamie ustnej	P7S_UW
<b>B.U2</b>	interpretować zjawiska fizyczne zachodzące w narządzie żucia	P7S_UW
<b>B.U3</b>	wykorzystywać procesy fizyczne właściwe dla pracy lekarza dentysty	P7S_UW
<b>B.U4</b>	wykorzystywać pojęcia biologiczne i ekologiczne w kontekście człowiek – środowisko życia	P7S_UW
<b>B.U5</b>	stosować wiedzę z zakresu genetyki i biologii molekularnej w pracy klinicznej	P7S_UW

### C. Nauki przedkliniczne

Absolwent potrafi:

Kod	Treść	PRK
<b>C.U1</b>	pobierać odpowiednio dobrany rodzaj materiału biologicznego do badania mikrobiologicznego w zależności od umiejscowienia i przebiegu zakażenia	P7S_UW
<b>C.U2</b>	interpretować wyniki badań mikrobiologicznych, serologicznych i antybiogramu	P7S_UW
<b>C.U3</b>	dobierać i wykonywać właściwe testy wskazujące na liczebność bakterii w płynach ustrojowych	P7S_UW
<b>C.U4</b>	przewidywać i wyjaśniać złożone patomechanizmy zaburzeń prowadzących do powstawania chorób	P7S_UW
<b>C.U5</b>	analizować przebieg kliniczny chorób w procesach patologicznych	P7S_UW
<b>C.U6</b>	określać zmiany patologiczne komórek, tkanek i narządów w zakresie zaburzeń w krążeniu, zmian wstecznych, zmian postępowych oraz zapaleń	P7S_UW
<b>C.U7</b>	określać zmiany patologiczne wywołane zakażeniem wirusem HIV i obserwowane u pacjentów z zespołem nabytego upośledzenia odporności (AIDS)	P7S_UW
<b>C.U8</b>	dobierać leki w odpowiednich dawkach i ordynować leki według wskazań	P7S_UW
<b>C.U9</b>	przeprowadzać leczenie endodontyczne oraz rekonstruować brakujące zmineralizowane tkanki w zębie fantomowym	P7S_UW
<b>C.U10</b>	stosować techniki adhezyjne	P7S_UW
<b>C.U11</b>	dokonywać wyboru biomateriałów odtwórczych, protetycznych oraz łączących, w oparciu o własności materiałów i warunki kliniczne	P7S_UW
<b>C.U12</b>	odwzorowywać anatomiczne warunki zgryzowe i dokonywać analizy okluzji	P7S_UW
<b>C.U13</b>	projektować uzupełnienia protetyczne zgodnie z zasadami ich wykonania laboratoryjnego	P7S_UW
<b>C.U14</b>	określać zmiany patologiczne komórek, tkanek i narządów według podstawowych mechanizmów	
<b>C.U15</b>	planować podstawowe etapy opieki profilaktycznej u pacjentów z obszaru potrzeb periodontologicznych	P7S_UW
<b>C.U16</b>	planować podstawowe etapy opieki profilaktycznej u pacjentów z obszaru potrzeb ortodontycznych	P7S_UW

### D. Nauki behawioralne

Absolwent potrafi:

Kod	Treść	PRK
D.U1	uwzględniać w procesie postępowania terapeutycznego subiektywne potrzeby i oczekiwania pacjenta wynikające z uwarunkowań społeczno-kulturowych	P7S_UW
D.U2	dostrzegać i reagować na oznaki zachowań antyzdrowotnych i autodestrukcyjnych	P7S_UW
D.U3	wybierać takie leczenie, które minimalizuje konsekwencje społeczne dla pacjenta	P7S_UW
D.U4	budować atmosferę zaufania podczas całego procesu diagnostycznego i leczenia	P7S_UW
D.U5	podejmować działania zmierzające do poprawy jakości życia pacjenta i zapobiegania pogorszeniu się jej w przyszłości	P7S_UW
D.U6	przeprowadzać rozmowę z pacjentem dorosłym, dzieckiem i rodziną z zastosowaniem techniki aktywnego słuchania i wyrażania empatii	P7S_UW
D.U7	identyfikować czynniki ryzyka wystąpienia przemocy, rozpoznawać przemoc i odpowiednio reagować	P7S_UW
D.U8	stosować w podstawowym zakresie psychologiczne interwencje motywujące i wspierające	P7S_UW
D.U9	rozpoznawać przesłanki podjęcia działań lekarskich bez zgody pacjenta lub z zastosowaniem przymusu wobec pacjenta i stosować środki przewidziane przepisami prawa powszechnie obowiązującego	P7S_UW
D.U10	pracować w zespole wielospecjalistycznym, w środowisku wielokulturowym i wielonarodowościowym	P7U_U, P7S_UO
D.U11	przestrzegać wzorców etycznych w działaniach zawodowych	P7U_U
D.U12	przestrzegać praw pacjenta	P7U_U
D.U13	wykorzystywać i przetwarzać informacje stosując narzędzia informatyczne i korzystając z nowoczesnych źródeł wiedzy medycznej	P7U_U
D.U14	planować pracę zespołu stomatologicznego oraz wyposażenie gabinetu stomatologicznego, zgodnie z zasadami ergonomii i bezpieczeństwa pracy	P7U_U, P7S_UO
D.U15	porozumiewać się z pacjentem w jednym z języków obcych na poziomie B2+ Europejskiego Systemu Opisu Kształcenia Językowego	
D.U16	krytycznie analizować piśmiennictwo medyczne, w tym w języku angielskim, i wyciągać wnioski	

#### E. Nauki kliniczne ogólnolekarskie (niezabiegowe)

Absolwent potrafi:

Kod	Treść	PRK
E.U1	przeprowadzać diagnostykę różnicową najczęstszych chorób osób dorosłych	P7U_U, P7S_UW
E.U2	oceniać i opisywać stan somatyczny i psychiczny pacjenta	P7U_U
E.U3	planować postępowanie diagnostyczne i terapeutyczne w przypadku najczęstszych chorób osób dorosłych	P7U_U, P7S_UW
E.U4	interpretować wyniki badań laboratoryjnych	P7U_U
E.U5	identyfikować prawidłowe i patologiczne struktury i narządy w dodatkowych badaniach obrazowych (RTG, USG, tomografia komputerowa - CT)	P7U_U, P7S_UW
E.U6	planować postępowanie w przypadku ekspozycji na zakażenie przenoszone drogą krwi	P7U_U
E.U7	dokonywać kwalifikacji pacjenta do szczepień	P7U_U, P7S_UW
E.U8	rozpoznawać ryzyko zagrożenia życia	P7U_U

Kod	Treść	PRK
E.U9	opisywać i rozpoznawać objawy wstrząsu i ostrej niewydolności krążenia	P7U_U, P7S_UW
E.U10	rozpoznawać objawy urazów mózgu i chorób naczyniowych mózgu, zespołów otępiennych i zaburzeń świadomości	P7U_U, P7S_UW
E.U11	diagnozować bóle głowy i twarzy oraz choroby neurologiczne dorosłych i dzieci stwarzające problemy w praktyce stomatologicznej	P7U_U
E.U12	rozpoznawać choroby jamy nosowo-gardłowej, ich etiologię i patomechanizm	P7U_U, P7S_UW
E.U13	wstępnie diagnozować zmiany nowotworowe w obrębie nosa, gardła i krtani	P7U_U, P7S_UW
E.U14	diagnozować i leczyć choroby skóry: infekcyjne, alergiczne i przenoszone drogą płciową	P7U_U
E.U15	rozpoznawać nowotwory skóry i stany przednowotworowe	P7U_U
E.U16	rozpoznawać dermatozy i kolagenozy przebiegające z objawami w obrębie błony śluzowej jamy ustnej	P7U_U, P7S_UW
E.U17	rozpoznawać choroby związane z nałogiem palenia tytoniu, alkoholizmem i innymi uzależnieniami	P7U_U
E.U18	diagnozować choroby przebiegające z powiększeniem węzłów chłonnych szyi i okolicy podżuchwowej oraz choroby zakaźne, ze szczególnym uwzględnieniem zmian w obrębie jamy ustnej	P7U_U, P7S_UW
E.U19	omawiać i diagnozować wybrane jednostki chorobowe układu optycznego i ochronnego oka	P7U_U, P7S_UW
E.U20	wykonywać podstawowe procedury i zabiegi medyczne: pomiar temperatury, pomiar tętna, nieinwazyjny pomiar ciśnienia tętniczego, leczenie tlenem, wentylację wspomaganą i zastępczą, wprowadzenie rurki ustno-gardłowej, przygotowanie pola operacyjnego, higieniczne i chirurgiczne odkażanie rąk, wstrzyknięcie dożylnie, domięśniowe i podskórne, pobieranie obwodowej krwi żyłnej, pobieranie wymazów z nosa, gardła i skóry, proste testy paskowe, pomiar stężenia glukozy we krwi	P7U_U

## F. Nauki kliniczne kierunkowe (zabiegowe)

Absolwent potrafi:

Kod	Treść	PRK
F.U1	przeprowadzać wywiad lekarski z pacjentem lub jego rodziną	P7U_U
F.U2	przeprowadzać stomatologiczne badanie fizykalne pacjenta	P7U_U
F.U3	wyjaśniać pacjentowi istotę jego dolegliwości, ustalać sposób leczenia potwierdzony świadomą zgodą pacjenta oraz rokowanie	P7U_U, P7S_UW
F.U4	przekazać pacjentowi lub jego rodzinie informacje o niekorzystnym rokowaniu	P7U_U
F.U5	pobierać i zabezpieczać materiał do badań diagnostycznych, w tym cytologicznych	P7U_U, P7S_UW
F.U6	interpretować wyniki badań dodatkowych i konsultacji	P7U_U
F.U7	ustalać wskazania i przeciwwskazania do wykonania określonego zabiegu stomatologicznego	P7U_U, P7S_UW
F.U8	przewodzą leczenie ostrych i przewlekłych, zębopochodnych i niezębopochodnych procesów zapalnych tkanek miękkich jamy ustnej, przyzębia oraz kości szczęk	P7U_U
F.U9	postępować w przypadku wystąpienia powikłań ogólnych i miejscowych podczas zabiegów stomatologicznych i po zabiegach stomatologicznych	P7U_U, P7S_UW
F.U10	przepisywać leki, z uwzględnieniem ich interakcji i działań ubocznych	P7U_U, P7S_UW

Kod	Treść	PRK
<b>F.U11</b>	prowadzić bieżącą dokumentację pacjenta, wypisywać skierowania na badania lub leczenie specjalistyczne stomatologiczne i ogólnomedyczne	P7U_U
<b>F.U12</b>	formułować problemy badawcze w zakresie stomatologii	P7U_U, P7S_UW
<b>F.U13</b>	przedstawiać wybrane problemy medyczne w formie ustnej lub pisemnej, w sposób adekwatny do poziomu odbiorców	P7U_U
<b>F.U14</b>	ocenić ryzyko próchnicy z zastosowaniem testów bakteriologicznych i badań śliny	P7U_U, P7S_UW
<b>F.U15</b>	ustalać leczenie w chorobach tkanek układu stomatognatycznego	P7U_U
<b>F.U16</b>	stosować odpowiednie leki w czasie i po zabiegu stomatologicznym w celu zniesienia bólu i lęku	P7U_U
<b>F.U17</b>	diagnozować i leczyć w podstawowym zakresie choroby przyzębia	P7U_U, P7S_UW
<b>F.U18</b>	diagnozować, różnicować i klasyfikować wady zgryzu	P7U_U, P7S_UW
<b>F.U19</b>	udzielać pomocy w przypadku uszkodzenia aparatu ortodontycznego	P7U_U
<b>F.U20</b>	wykonywać proste aparaty ortodontyczne	P7U_U, P7S_UW
<b>F.U21</b>	przeprowadzać leczenie zapobiegające wadom zgryzu w okresie uzębienia mlecznego i wczesnej wymiany uzębienia	P7U_U
<b>F.U22</b>	przeprowadzić rehabilitację protetyczną w prostych przypadkach w zakresie postępowania klinicznego i laboratoryjnego	P7U_U, P7S_UW
<b>F.U23</b>	opisywać zdjęcia zębowe i pantomograficzne	P7U_U

#### **G. Prawno-organizacyjne podstawy medycyny**

Absolwent potrafi:

Kod	Treść	PRK
<b>G.U1</b>	analizować dane o stanie zdrowia populacji, dane epidemiologiczne i określać na ich podstawie stan zdrowia populacji	P7U_U, P7S_UW
<b>G.U2</b>	opisywać wybrane zjawiska zdrowotne w skali populacyjnej oraz prognozować ich wpływ na funkcjonowanie opieki zdrowotnej	P7U_U
<b>G.U3</b>	oceniać skalę problemów zdrowotnych oraz wskazywać priorytety zdrowotne i określać ich znaczenie w polityce zdrowotnej	P7U_U
<b>G.U4</b>	analizować uwarunkowania sytuacji epidemiologicznej w aspekcie procesów społecznych i demograficznych	P7U_U, P7S_UW
<b>G.U5</b>	tworzyć proste programy badawcze z zakresu profilaktyki i leczenia	P7U_U
<b>G.U6</b>	identyfikować czynniki wpływające na politykę zdrowotną państwa	P7U_U
<b>G.U7</b>	planować działania z zakresu profilaktyki i promocji zdrowia oraz wdrażać działania promocyjne dotyczące zdrowia populacji	P7U_U, P7S_UW
<b>G.U8</b>	analizować różne systemy finansowania świadczeń zdrowotnych w Rzeczypospolitej Polskiej i innych państwach	P7U_U, P7S_UW
<b>G.U9</b>	przygotowywać oferty konkursowe związane z udzielaniem świadczeń zdrowotnych	P7U_U, P7S_UW
<b>G.U10</b>	zorganizować i prowadzić gabinet stomatologiczny	P7U_U, P7S_UW
<b>G.U11</b>	pracować w zespole i kierować zespołem w gabinecie stomatologicznym	P7S_UO
<b>G.U12</b>	rozpoznawać czynniki szkodliwe i uciążliwe w miejscu pracy, zamieszkania lub nauki	P7U_U

Kod	Treść	PRK
G.U13	oceniać poziom zagrożeń dla zdrowia wynikających ze stanu powietrza, wody, gleby i jakości żywności	P7U_U, P7S_UW
G.U14	potwierdzać lub wykluczać związek czynników środowiskowych z etiologią choroby, w tym choroby zawodowej	P7U_U
G.U15	dostarczać pacjentowi potrzebnych informacji w zakresie promocji zdrowia jamy ustnej	P7U_U
G.U16	przekazywać pacjentowi informacje na temat czynników ryzyka i sposobów zapobiegania najczęstszym chorobom społecznym w Rzeczypospolitej Polskiej	P7U_U
G.U17	interpretować podstawowe wskaźniki epidemiologiczne, definiować i oceniać rzetelność i trafność testów stosowanych w badaniach przesiewowych	P7U_U
G.U18	projektować badania epidemiologiczne	P7U_U, P7S_UW
G.U19	przeprowadzać dochodzenie epidemiologiczne	P7U_U
G.U20	pracować z zachowaniem zasad ergonomicznej organizacji pracy	P7U_U
G.U21	stosować przepisy sanitarno-epidemiologiczne oraz dotyczące bezpieczeństwa i higieny pracy	P7U_U
G.U22	działać w warunkach niepewności i stresu	P7U_U
G.U23	wskazywać podobieństwa i różnice między normami etycznymi i prawnymi	P7U_U, P7S_UW
G.U24	stosować przepisy prawa dotyczące wykonywania zawodu lekarza dentysty	P7U_U
G.U25	wyjaśniać i stosować normy zawarte w Kodeksie Etyki Lekarskiej oraz międzynarodowe normy etyki lekarskiej	P7U_U
G.U26	przewodzić dokumentację medyczną	P7U_U
G.U27	wystawiać orzeczenia lekarskie	P7U_U
G.U28	oceniać zmiany pośmiertne	P7U_U, P7S_UW
G.U29	dokonywać identyfikacji zwłok na podstawie badania stomatologicznego	P7U_U
G.U30	oceniać skutki urazów twarzy i czaszki oraz dokonywać ich kwalifikacji w postępowaniu karnym i cywilnym	P7U_U

## Kompetencje społeczne

### Ogólne

Absolwent jest gotów do:

Kod	Treść	PRK
O.K1	nawiązania i utrzymania głębokiego oraz pełnego szacunku kontaktu z pacjentem, a także okazywania zrozumienia dla różnic światopoglądowych i kulturowych	P7U_K, P7S_KR
O.K2	kierowania się dobrem pacjenta	P7S_KO, P7S_KR
O.K3	przestrzegania tajemnicy lekarskiej i praw pacjenta	P7S_KO, P7S_KR
O.K4	podejmowania działań wobec pacjenta w oparciu o normy i zasady etyczne, ze świadomością społecznych uwarunkowań i ograniczeń wynikających z choroby	P7U_K, P7S_KR

<b>Kod</b>	<b>Treść</b>	<b>PRK</b>
<b>O.K5</b>	dostrzegania i rozpoznawania własnych ograniczeń oraz dokonywania samooceny deficytów i potrzeb edukacyjnych	P7S_KO, P7S_KR
<b>O.K6</b>	propagowania zachowań prozdrowotnych	P7S_KO, P7S_KR
<b>O.K7</b>	korzystania z obiektywnych źródeł informacji	P7S_KO, P7S_KR
<b>O.K8</b>	formułowania wniosków z własnych pomiarów lub obserwacji	P7S_KK
<b>O.K9</b>	wdrażania zasad koleżeństwa zawodowego i współpracy w zespole specjalistów, w tym z przedstawicielami innych zawodów medycznych, także w środowisku wielokulturowym i wielonarodowościowym	P7S_KO, P7S_KR
<b>O.K10</b>	formułowania opinii dotyczących różnych aspektów działalności zawodowej	P7S_KK
<b>O.K11</b>	przyjęcia odpowiedzialności związanej z decyzjami podejmowanymi w ramach działalności zawodowej, w tym w kategoriach bezpieczeństwa własnego i innych osób	P7S_KO, P7S_KR

# Plany studiów

## Semestr 3

Przedmiot	Grupa standardu	Liczba godzin	Punkty ECTS	Forma weryfikacji		
Biochemistry with Elements of Chemistry	B	ćwiczenia: 18 seminarium: 23 e-learning: 24	-	-	O	Os
Human physiology	B	e-learning: 54 ćwiczenia: 26	-	-	O	Os
Propaedeutics of Integrated Dentistry	F	e-learning: 8 seminarium: 14 symulacje: 56	-	-	O	Or
Medical Polish	D	lektorat: 30	-	-	O	Or
Medical Psychology	D	ćwiczenia: 45	3,0	zaliczenie na ocenę	O	Os
Sociology of medicine in dentistry	D	ćwiczenia: 20	1,0	zaliczenie na ocenę	O	Os
Dental Materials and Equipment	C	e-learning: 10 seminarium: 20	3,0	egzamin	O	Os
Dental occlusion and function of the jaw	C	e-learning: 6 ćwiczenia: 24 seminarium: 8	3,0	egzamin	O	Os

It is necessary to choose 1 elective subject from each group – total 4 electives (one during each year). A student must obtain 8 ECTS during studies.

## Semestr 4

Przedmiot	Grupa standardu	Liczba godzin	Punkty ECTS	Forma weryfikacji		
Biochemistry with Elements of Chemistry	B	ćwiczenia: 18 seminarium: 23 e-learning: 24	9,0	egzamin	O	Os
Human physiology	B	ćwiczenia: 26 e-learning: 54	12,0	egzamin	O	Os
Medical Polish	D	lektorat: 30	3,0	zaliczenie	O	Or
Propaedeutics of Integrated Dentistry	C, F	seminarium: 14 e-learning: 8 symulacje: 60	13,0	zaliczenie	O	Or
Immunology	E, B	ćwiczenia: 15 seminarium: 6 e-learning: 4	2,0	zaliczenie na ocenę	O	Os
General radiology	E	ćwiczenia: 7 e-learning: 8	1,0	zaliczenie na ocenę	O	Os
Epidemiology and environmental medicine	G	ćwiczenia: 30	2,0	zaliczenie na ocenę	O	Os



Przedmiot	Grupa standardu	Liczba godzin	Punkty ECTS	Forma weryfikacji		
Medical Biophysics	B	ćwiczenia: 36 seminarium: 6 e-learning: 6	3,0	egzamin	O	Os
Practice in the field of assisting a dentist - summer internship	I	praktyka zawodowa: 120	4,0	zaliczenie	O	Os
SCIENTIFIC FOUNDATION OF MEDICINE	B				O	Os
Basics of medical imaging	B	e-learning: 30	2,0	zaliczenie na ocenę	F	Os
Molecular Biology in Medicine	B	ćwiczenia: 20 e-learning: 10	2,0	zaliczenie na ocenę	F	Os

## Semestr 5

Przedmiot	Grupa standardu	Liczba godzin	Punkty ECTS	Forma weryfikacji		
Pathology	C	ćwiczenia: 57 e-learning: 16	-	-	O	Os
Pharmacology with elements of clinical pharmacology	C	seminarium: 6 ćwiczenia: 28 e-learning: 18	-	-	O	Os
Internal diseases with physiotherapy and rehabilitation	E	e-learning: 15 ćwiczenia kliniczne: 61	-	-	O	Os
Conservative dentistry with endodontics	F	ćwiczenia kliniczne: 56 seminarium: 10	-	-	O	Or
Medical Polish	D	lektorat: 30	-	-	O	Or
Anesthesiology and resuscitation	E	e-learning: 10 symulacje: 20	2,0	zaliczenie na ocenę	O	Os
General surgery with oncology	E	e-learning: 12 ćwiczenia kliniczne: 44	3,0	egzamin	O	Os
Microbiology and oral cavity microbiology with mycology	F, C	ćwiczenia: 36 seminarium: 9	3,0	egzamin	O	Os
Propaedeutics of Integrated Dentistry	C, F	e-learning: 10 seminarium: 5 symulacje: 50	6,0	egzamin	O	Os
Physiology of pregnancy	E	e-learning: 5 ćwiczenia kliniczne: 10	1,0	zaliczenie na ocenę	O	Os
Bioethics	D	seminarium: 10	1,0	zaliczenie na ocenę	O	Os
Computer science and medical statistics	C	ćwiczenia: 25	1,0	zaliczenie na ocenę	O	Os

Przedmiot	Grupa standardu	Liczba godzin	Punkty ECTS	Forma weryfikacji		
Medical rescue	E	e-learning: 7 seminarium: 2 symulacje: 6	1,0	zaliczenie na ocenę	O	Os

## Semestr 6

Przedmiot	Grupa standardu	Liczba godzin	Punkty ECTS	Forma weryfikacji		
Pathology	C	ćwiczenia: 58 e-learning: 14	9,0	egzamin	O	Os
Pharmacology with elements of clinical pharmacology	F, C	seminarium: 6 ćwiczenia: 26 e-learning: 18	6,0	egzamin	O	Os
Internal diseases with physiotherapy and rehabilitation	E	ćwiczenia kliniczne: 60 e-learning: 14	7,0	egzamin	O	Os
Conservative dentistry with endodontics	F	ćwiczenia kliniczne: 54 seminarium: 10	9,0	zaliczenie	O	Or
Medical Polish	D	lektorat: 30	3,0	egzamin	O	Os
Dental radiology	F	seminarium: 18 ćwiczenia kliniczne: 22 e-learning: 10	3,0	egzamin	O	Os
Oral biochemistry	C, F	ćwiczenia: 12 seminarium: 6 e-learning: 12	2,0	zaliczenie na ocenę	O	Os
Propaedeutics of oral surgery	F	symulacje: 40 e-learning: 10	3,0	zaliczenie na ocenę	O	Os
Medical law	G	e-learning: 10	1,0	zaliczenie na ocenę	O	Os
Public Health	G	seminarium: 12	1,0	zaliczenie na ocenę	O	Os
Dental practice in a dental office - summer internship	I	praktyka zawodowa: 120	4,0	zaliczenie	O	Os
PRECLINICAL SCIENCES	C				O	Os
Methodology of scientific research in medicine	C	seminarium: 30	2,0	zaliczenie na ocenę	F	Os
Borderline problems of human existence: suicide, assisted suicide, euthanasia	C	seminarium: 30	2,0	zaliczenie na ocenę	F	Os

## Semestr 7

Przedmiot	Grupa standardu	Liczba godzin	Punkty ECTS	Forma weryfikacji
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Przedmiot	Grupa standardu	Liczba godzin	Punkty ECTS	Forma weryfikacji		
Periodontal and oral mucosa diseases	F	seminarium: 11 ćwiczenia kliniczne: 62	-	-	O	Os
Conservative dentistry with endodontics	F	seminarium: 8 ćwiczenia kliniczne: 62 e-learning: 3	-	-	O	Os
Oral surgery	F	ćwiczenia: 52 seminarium: 5 e-learning: 3	-	-	O	Os
Prosthodontics	F	seminarium: 12 ćwiczenia kliniczne: 70 e-learning: 5	-	-	O	Os
Pediatrics	E	seminarium: 6 ćwiczenia kliniczne: 30 e-learning: 10	3,0	egzamin	O	Os
Basics of psychiatry	E	ćwiczenia: 10 seminarium: 5	1,0	zaliczenie na ocenę	O	Os
Dermatology with venereology and allergology in dentistry	E	ćwiczenia kliniczne: 26 e-learning: 14	2,0	egzamin	O	Os
Orthodontics	F	e-learning: 6 seminarium: 12 ćwiczenia kliniczne: 60	5,0	zaliczenie	O	Os
Pediatric dentistry	F	seminarium: 12 ćwiczenia kliniczne: 104	4,0	zaliczenie	O	Os
Sensory organ diseases with elements of neurology	E	seminarium: 20 ćwiczenia kliniczne: 20	-	-	O	Os

## Semestr 8

Przedmiot	Grupa standardu	Liczba godzin	Punkty ECTS	Forma weryfikacji		
Periodontal and oral mucosa diseases	F	seminarium: 10 ćwiczenia kliniczne: 62	8,0	zaliczenie	O	Os
Conservative dentistry with endodontics	F	seminarium: 7 ćwiczenia kliniczne: 62 e-learning: 3	8,0	zaliczenie	O	Os
Oral surgery	F	ćwiczenia: 52 seminarium: 5 e-learning: 3	6,0	zaliczenie	O	Os
Prosthodontics	F	seminarium: 12 ćwiczenia kliniczne: 70 e-learning: 5	7,0	zaliczenie	O	Os
Infectious Diseases	E	seminarium: 10 ćwiczenia kliniczne: 10 e-learning: 10	2,0	egzamin	O	Os

Przedmiot	Grupa standardu	Liczba godzin	Punkty ECTS	Forma weryfikacji		
Sensory organ diseases with elements of neurology	E	ćwiczenia kliniczne: 30 e-learning: 10	3,0	egzamin	O	Os
Maxillofacial surgery	F	ćwiczenia kliniczne: 55 e-learning: 12	3,0	zaliczenie	O	Os
Clinical and Experimental Dentistry	F	seminarium: 30	3,0	zaliczenie na ocenę	O	Os
Disaster and Emergency Medicine	E	seminarium: 10 symulacje: 10 e-learning: 10	2,0	zaliczenie na ocenę	O	Os
Forensic Medicine	E	e-learning: 15	1,0	zaliczenie na ocenę	O	Os
Dental practice in a dental office - summer internship	I	praktyka zawodowa: 120	4,0	zaliczenie	O	Os
SURGICAL CLINICAL SCIENCES	F				O	Os
Endodontic treatment using a surgical microscope	F	seminarium: 6 ćwiczenia kliniczne: 18 e-learning: 6	2,0	zaliczenie na ocenę	F	Os
Type and incidence of lesions on oral mucosa in elderly patients	F	ćwiczenia kliniczne: 30	2,0	zaliczenie na ocenę	F	Os
Machine systems in endodontic treatment	F	seminarium: 30	2,0	zaliczenie na ocenę	F	Os

## Semestr 9

Przedmiot	Grupa standardu	Liczba godzin	Punkty ECTS	Forma weryfikacji		
Conservative dentistry with endodontics	H	seminarium: 10 e-learning: 3 ćwiczenia kliniczne: 73	-	-	O	Os
Oral surgery	H	seminarium: 8 ćwiczenia kliniczne: 58 e-learning: 5	-	-	O	Os
Prosthodontics	H	seminarium: 7 ćwiczenia kliniczne: 73 e-learning: 5	-	-	O	Os
Periodontal and oral mucosa diseases	H	seminarium: 13 ćwiczenia kliniczne: 48	-	-	O	Os
Maxillofacial surgery	H	ćwiczenia kliniczne: 55	-	-	O	Os
Integrated stomatology of adulthood	H	ćwiczenia kliniczne: 70	4,0	zaliczenie na ocenę	O	Os

## Semestr 10

Przedmiot	Grupa standardu	Liczba godzin	Punkty ECTS	Forma weryfikacji		
Conservative dentistry with endodontics	H	seminarium: 10 e-learning: 3 ćwiczenia kliniczne: 72	11,0	egzamin	O	Os
Pediatric dentistry	H	ćwiczenia kliniczne: 90 seminarium: 18	7,0	egzamin	O	Os
Oral surgery	H	e-learning: 5 seminarium: 7 ćwiczenia kliniczne: 57	8,0	egzamin	O	Os
Prosthodontics	H	e-learning: 5 seminarium: 7 ćwiczenia kliniczne: 72	11,0	egzamin	O	Os
Periodontal and oral mucosa diseases	H	seminarium: 12 ćwiczenia kliniczne: 47	7,0	egzamin	O	Os
Orthodontics	H	e-learning: 10 seminarium: 18 ćwiczenia kliniczne: 95	8,0	egzamin	O	Os
Integrated dentistry of developmental age	H	ćwiczenia kliniczne: 40	3,0	zaliczenie na ocenę	O	Os
Maxillofacial surgery	H	ćwiczenia kliniczne: 5	4,0	egzamin	O	Os
Gerostomatology	H	ćwiczenia kliniczne: 45	3,0	zaliczenie na ocenę	O	Os

*O - obowiązkowy*

*F - fakultatywny*

*Or - obowiązkowy do zaliczenia roku*

*Os - obowiązkowy do zaliczenia w toku studiów*

## Biochemistry with Elements of Chemistry

### Educational subject description sheet

#### Basic information

<b>Department</b> Faculty of Medicine  <b>Field of study</b> Medical and Dental Program  <b>Study level</b> long-cycle master's degree program  <b>Study form</b> full-time  <b>Education profile</b> general academic  <b>Disciplines</b> Medical science  <b>ISCED classification</b> 0912 Medicine	<b>Didactic cycle</b> 2020/21  <b>Realization year</b> 2021/22  <b>Lecture languages</b> English  <b>Block</b> obligatory for passing in the course of studies  <b>Mandatory</b> obligatory  <b>Examination</b> examination  <b>Standard group</b> B. Scientific basis for medicine
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<b>Period</b> Semester 3	<b>Examination</b> -  <b>Activities and hours</b> seminar: 23, classes: 18, e-learning: 24	<b>Number of ECTS points</b> 0.0
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<b>Period</b> Semester 4	<b>Examination</b> examination  <b>Activities and hours</b> e-learning: 24, seminar: 23, classes: 18	<b>Number of ECTS points</b> 9.0
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#### Goals

C1	Introduction to biochemical processes providing a basis to understanding physiology and pathology.
C2	Introduction to basic biochemical laboratory techniques and analysis of quantitative data.
C3	Developing skills for searching for information in the field of biochemical basis of physiological and pathological processes and for the presentation of the topic.

## Subject's learning outcomes

Code	Outcomes in terms of	Effects	Examination methods
<b>Knowledge - Student knows and understands:</b>			
W1	issues in the field of medicine and natural sciences – in the basic scope	O.W1	classroom observation, assignment report, multiple choice test
W2	the rules of conducting scientific research and spreading their results	O.W4	classroom observation, assignment report
W3	the importance of electrolytes, buffer systems and chemical reactions in biological systems	B.W2	classroom observation, assignment report, multiple choice test
W4	biochemical foundations of human body integrity	B.W3	multiple choice test
W5	structure and functions of important chemical compounds present in the human body, in particular properties, functions, metabolism and energy of reactions of proteins, nucleic acids, carbohydrates, lipids, enzymes and hormones	B.W4	multiple choice test
W6	selected issues in the field of genetics and molecular biology	B.W17	classroom observation, multiple choice test
W7	principles of acid-base balance and transport of oxygen and carbon dioxide in the body	B.W21	classroom observation, multiple choice test
W8	principles of metabolism and nutrition	B.W22	classroom observation, assignment report, multiple choice test
W9	health education issues	O.W3	classroom observation, assignment report, multiple choice test
W10	the importance of the main and trace elements in the processes occurring in the body, including supply, absorption and transport	B.W1	classroom observation, multiple choice test
W11	principles of calcium and phosphate management	B.W5	classroom observation
W12	the role and importance of body fluids, including saliva	B.W6	classroom observation
<b>Skills - Student can:</b>			
U1	plan own learning activities and constantly learn in order to update own knowledge	O.U5	classroom observation, assignment report
U2	critically evaluate the results of scientific research and adequately justify the position	O.U9	classroom observation, assignment report
U3	apply knowledge of genetics and molecular biology in clinical work	B.U5	classroom observation, assignment report, multiple choice test
U4	relate chemical phenomena to oral cavity processes	B.U1	classroom observation
<b>Social competences - Student is ready to:</b>			
K1	use objective sources of information	O.K7	classroom observation

## Calculation of ECTS points

### Semester 3

Activity form	Activity hours*
seminar	23
classes	18
e-learning	24
preparation for classes	20
preparation for test	20
<b>Student workload</b>	<b>Hours</b> 105
<b>Workload involving teacher</b>	<b>Hours</b> 65
<b>Practical workload</b>	<b>Hours</b> 18

\* hour means 45 minutes

### Semester 4

Activity form	Activity hours*
e-learning	24
seminar	23
classes	18
preparation for classes	20
preparation for test	20
preparation for examination	30
participation in examination	11
preparation of multimedia presentation	4
<b>Student workload</b>	<b>Hours</b> 150
<b>Workload involving teacher</b>	<b>Hours</b> 65
<b>Practical workload</b>	<b>Hours</b> 18



\* hour means 45 minutes

## Study content

No.	Course content	Subject's learning outcomes	Activities
1.	Water as a solvent. Weak interactions in water solutions – hydrogen bond, hydrophobic and van der Waals interactions – examples of biological importance. Water as a reactant – hydrolysis reactions. Polar and nonpolar molecules. Electrostatic interactions of water. The fitness of the aqueous environment for living organisms. Semipermeable membranes – osmotic and oncotic pressure. Colloidal solutions. Osmotic pressure and Donnan Membrane Equilibria. Typical organic reactions. Nucleophiles and electrophiles. Isomers. Naming and characteristic reactions of simple organic alcohols, thiols, aldehydes and carboxylic acids. Aromatic compounds – definition and properties.	W1, W4, U2, U4	classes, seminar, e-learning
2.	Chemical equilibria –basics. Water dissociation. pH concept. Brönsted-Lowry concept of acids and bases. Acid-base conjugated pair. Strong and weak acids and bases. Dissociation constants of weak acids ( $K_a$ ) and bases ( $K_b$ ). Buffer solutions. Biological buffer systems. Regulation of bicarbonate concentration – role of kidneys. Simple acid – base disorders. Regulation of water volume and sodium cation concentration- basis.	W11, W12, W3, W7, U2	classes, seminar, e-learning
3.	Basics of thermodynamics. Spontaneity of chemical reactions. Enthalpy change $\Delta H$ . The 1st law of thermodynamics. Entropy change $\Delta S$ . The 2nd law of thermodynamics. The free energy change and the equilibrium constant. Coupled reactions. ATP. High-energy phosphates. Oxidation, reduction – definitions. Standard and biological standard reduction half-cell potentials. Half-cell potentials under nonstandard conditions - Nernst equation.	W1, W3, U2	classes, seminar, e-learning
4.	Basis of chemical kinetics. Factors affecting reaction rates (c, T, pH). Activation energy. Reaction mechanism. Catalysis – examples of inorganic catalysts. Biocatalysts	W1, W10	e-learning
5.	Carbohydrates - classification, nomenclature, stereo-isomerism, reducing property. Creating O-and N-glycosides, esterification, the formation of amino sugars. Di-, oligo-and polysaccharides. Heteroglycans. Lipids - classification, properties. Amino acids - classification. Peptides - the structure of the peptide bond.	W1, W10, W5	classes, seminar, e-learning
6.	Proteins - structure, physico-chemical properties. Globular proteins. Myoglobin and hemoglobin - the structure and function. Fibril protein (collagen, keratin). Plasma proteins. Enzymes. The specificity and catalytic efficiency. The kinetics of enzymatic reaction. Class of enzymes. Coenzymes (vitamins role). Control activity (allosteric enzymes). Examples of the mechanism of action of enzymes. The importance of enzymes in diagnosis. Enzyme inhibitors.	W1, W10, W5, W7	classes, seminar, e-learning

7.	Nucleic acid structure and physico-chemical properties of DNA and RNA. Replication. Mutations and DNA repair mechanisms. Transcription and post-transcriptional modifications. Translation. Post-translational modifications and protein sorting. The degradation of proteins in the cell. Basic methods of molecular biology (PCR, gene-expression analysis of RT-PCR, DNA electrophoresis, hybridization).	W1, W10, W2, W6, W7, U3	seminar, e-learning
8.	Fundamentals of bioenergetics. Role of ATP. Anabolism and catabolism. Respiratory chain, oxidative phosphorylation. Krebs cycle. Reactive oxygen species - formation in the body, effects, means of disposal. Digestion and absorption of carbohydrates. Glycolysis. Phosphorylation of substrates. Pentose-phosphate pathway. Glycogen metabolism. Gluconeogenesis. Metabolism of fructose and galactose. Coordination of carbohydrate metabolism system. Glucose homeostasis.	W1, W10, W4, W5	classes, seminar, e-learning
9.	Digestion, absorption and transport of lipids. Lipase. Plasma lipoprotein (types, metabolism, the role). Oxidation of fatty acids. Synthesis and the role of ketone bodies. The synthesis of saturated fatty acids and unsaturated. Synthesis of lipids. Intracellular degradation of complex lipids. The synthesis of cholesterol and derivatives (bile acids, hormones). Eicosanoid metabolism.	W1, W10, W5, W8, K1	seminar, e-learning
10.	Digestion of proteins. Absorption and further life of amino acids in a cell. Removal of protein nitrogen. Synthesis of urea. Ammonia toxicity. Glucogenic and ketogenic amino acids. Degradation of selected amino acids and the synthesis of amino acids. The role of one-carbon fragments and transmethylation metabolism of amino acids and their derivatives. Metabolism of phenylalanine and tyrosine. The metabolism of nitrogenous compounds derived from amino acids: haem, creatinine, adrenaline, serotonin.	W1, W8, K1	seminar, e-learning
11.	Biosynthesis and degradation of purine and pyrimidine nucleotides.	W1, W10, W8, W9	e-learning
12.	Biochemistry of detoxification processes. The role of cytochrome P450, coupling reactions.	W1, W8, U2, K1	seminar, e-learning
13.	Basic concepts of signal transduction. Membrane and nuclear receptors. Signaling cascades. Integration and coordination of metabolism. Energy metabolism of different tissues - after meals, between meals, during starvation. Hormonal regulation of metabolism at the cellular level and the body.	W1, W4, W8, U1, K1	seminar, e-learning
14.	Fundamentals of cell cycle regulation. The transformation of cancer cells: morphological characteristics and metabolism of cancer cells. Oncogenes, tumor suppressor genes. Signal transduction disorders. Invasion and metastasis of cancer. Apoptosis.	W1, W4, W6, K1	e-learning

### Course advanced

#### Semester 3

**Teaching methods:**

laboratories (labs), seminar, lecture with multimedia presentation, practical classes

Activities	Examination methods	Credit conditions
seminar	multiple choice test	2 partial tests (40 questions)
classes	multiple choice test	short quizzes, presentations
e-learning	classroom observation, assignment report	short quizzes, written reports

**Semester 4****Teaching methods:**

laboratories (labs), seminar, lecture, lecture with multimedia presentation, practical classes

Activities	Examination methods	Credit conditions
e-learning	multiple choice test	two partial tests (40 questions); final test (80 questions)
seminar	multiple choice test	short quizzes, presentations
classes	classroom observation, assignment report	short quizzes, written reports

## Human physiology

### Educational subject description sheet

#### Basic information

<b>Department</b> Faculty of Medicine  <b>Field of study</b> Medical and Dental Program  <b>Study level</b> long-cycle master's degree program  <b>Study form</b> full-time  <b>Education profile</b> general academic  <b>Disciplines</b> Medical science  <b>ISCED classification</b> 0912 Medicine  <b>Subject related to scientific research</b> Yes	<b>Didactic cycle</b> 2020/21  <b>Realization year</b> 2021/22  <b>Lecture languages</b> English  <b>Block</b> obligatory for passing in the course of studies  <b>Mandatory</b> obligatory  <b>Examination</b> examination  <b>Standard group</b> B. Scientific basis for medicine
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<b>Period</b> Semester 3	<b>Examination</b> -  <b>Activities and hours</b> e-learning: 54, classes: 26	<b>Number of ECTS points</b> 0.0
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<b>Period</b> Semester 4	<b>Examination</b> examination  <b>Activities and hours</b> e-learning: 54, classes: 26	<b>Number of ECTS points</b> 12.0
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## Goals

C1	<p>The major goal of the Physiology course is to provide the clear and up-to-date knowledge on the functions and regulations of the human body for medical students. In particular, our major interest is dedicated to present the medical physiology to medical students in concise, uncomplicated and understandable fashion with focus to the following topics: - Basic principles of body fluids and water-electrolyte balance of the human body - Concepts of: solubility, osmotic pressure, isotonic conditions, colloidal solutions and Gibbs-Donnan balance - Transcellular and intracellular cell communications and the cell signaling - Physiology of skeletal and smooth muscle and the functions of circulating blood - Background necessary to understand the impulse conduction and stimulation in peripheral and central nervous system, higher functions and basic functions of centers in the brain and other centers of central nervous system in order to understand the homeostatic control of body organs and brain special senses - Relevant physical laws explaining the blood flow and gaseous molecules flow along with factors affecting endothelial resistance in circulatory blood vessels and the term of air resistance in airways of respiratory tract - Functions and regulatory mechanisms of all organs and systems of human body including muscular system, cardiovascular and respiratory systems, gastrointestinal tract, endocrine and urinary systems, skin surface system physiology, their interactions and dependence - Metabolic profile of major organs and systems - Acid-base balance, the mechanism of buffer functions and their significance for the future medical practice - Digestive tract enzymes, the mechanism of gastric acid formation and secretion, pancreatic functions, bile synthesis, release and circulation, the course and mechanism of digestion and absorption process of food products and gastrointestinal disorders - The process of food intake and the consequences of bad nutrition leading to nutritional disorders such as cachexia, obesity and unbalanced diet - Hormones and their regulation, release and mechanism of action and hormonal disturbances and disorders - The course and regulation of reproductive functions in female and male - Basic principles and quantitative parameters describing efficiency of particular human organs and systems.</p>
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## Subject's learning outcomes

Code	Outcomes in terms of	Effects	Examination methods
<b>Knowledge - Student knows and understands:</b>			
W1	human vital signs	B.W19	multiple choice test
W2	principles of calcium and phosphate management	B.W5	multiple choice test
W3	the role and importance of body fluids, including saliva	B.W6	multiple choice test
W4	basic concepts in the field of biology and ecology	B.W14	multiple choice test
W5	interrelationships between organisms in the ecosystem	B.W15	multiple choice test
W6	interactions in the parasite-host system	B.W16	multiple choice test
W7	clinical application of genetics	B.W18	multiple choice test
W8	neurohormonal regulation of physiological processes	B.W20	multiple choice test
W9	principles of acid-base balance and transport of oxygen and carbon dioxide in the body	B.W21	multiple choice test
W10	numerical value of basic physiological variables and changes in numerical values	B.W23	multiple choice test
W11	principles of statics and biomechanics in relation to the human body	B.W7	multiple choice test
<b>Skills - Student can:</b>			
U1	carry out diagnostics of the most common diseases, assess and describe the patient's somatic and mental state	O.U1	multiple choice test

U2	provide professional dental care in the field of prevention, treatment, health promotion and health education	O.U2	multiple choice test
U3	conduct clinical proceedings based on knowledge and respecting the principles of humanitarianism	O.U4	multiple choice test
U4	relate chemical phenomena to oral cavity processes	B.U1	multiple choice test
U5	use biological and ecological concepts in the context of human - living environment	B.U4	multiple choice test
<b>Social competences - Student is ready to:</b>			
K1	use objective sources of information	O.K7	multiple choice test
K2	formulate conclusions from own measurements or observations	O.K8	multiple choice test

## Calculation of ECTS points

### Semester 3

Activity form	Activity hours*
e-learning	54
classes	26
<b>Student workload</b>	<b>Hours</b> 80
<b>Workload involving teacher</b>	<b>Hours</b> 80
<b>Practical workload</b>	<b>Hours</b> 26

\* hour means 45 minutes

### Semester 4

Activity form	Activity hours*
e-learning	54
classes	26
preparation for classes	40
preparation for colloquium	50
preparation of a paper	40
preparation for examination	50
consultations with lecturer	17

participation in examination	3
<b>Student workload</b>	<b>Hours</b> 280
<b>Workload involving teacher</b>	<b>Hours</b> 80
<b>Practical workload</b>	<b>Hours</b> 26

\* hour means 45 minutes

## Study content

No.	Course content	Subject's learning outcomes	Activities
1.	Basic information concerning homeostasis. The genesis of resting membrane potential and action potential of excitable cells, and the conduction of action potential along the cell membrane. Structure, functions and consequences of blocking the Na <sup>+</sup> /K <sup>+</sup> pump. Biogenesis of action potential of excitable cells. Ion channels of cell membranes. Conduction of membrane potential along the membrane. Types of synapses, synaptic transmission. Physiology of neuromuscular junction. Electrical and mechanical linkage. Types of skeletal muscles' contractions. The relationship between contraction strength and the original length. Types of smooth muscles' contractions. Types of smooth muscles and mechanisms that activate the contraction of smooth muscles. Rodzaje skurczów mięśni gładkich.	W1, W11, W3, W4, W5, U1, U2, U4, U5, K1, K2	classes, e-learning
2.	Mechanisms of ion action potential of the heart muscle and pacemaker cell. The cardiac conduction system and hierarchy of centres creating stimuli in the heart. ECG data. Mutual dependencies between electrical and mechanical activity in the heart. The term of cardiac contractility, assessment methods, modifying conditions. Cardiac cycle. The influence of the autonomic nervous system on the heart. Endogenous regulatory mechanisms of cardiac output. Cardiac metabolism. The structure of the small and large cardiovascular system. The function of central arteries, arterioles and capillaries. Instantaneous and mean arterial pressure. Baroreflex. Filtration and resorption phenomena in peripheral circulation capillaries. Blood flow autoregulation. Endothelial and non-endothelial factors affecting the width of the vascular bed. Factors modifying return of the venous blood to the heart. Physiology of the coronary circulation.	W1, W10, W5, U1, U2, K1, K2	classes, e-learning

3.	Bronchial tree, its functions, factors that regulate bronchial muscle tonus. Susceptibility of lungs to elastic and non-elastic resistance to breathing. Static and dynamic breathing tests. Gas exchange in the lungs and transport of respiratory gases. General characteristics of the pulmonary circulation. V/Q ratios. Respiration control. Chemically sensitive zone in breath regulation. Regulation of breathing in exercise.	W1, W10, W9, U1, U2, K1, K2	classes, e-learning
4.	Structure of the excretory system and renal flow characteristics. Glomerular filtration. The R-A-A system and its physiological role. Resorption of water, Na and high-threshold substances. Tubular secretion. Compaction of urine. Resorption and regeneration of the bases and the basics of the acid-base balance of the body.	W1, W3, W5, U1, U2, U3, K1, K2	classes, e-learning
5.	Basics of water balance in the body. Regulation of food intake. Mechanisms regulating the activity of the gastrointestinal tract. Myoelectric activity of the gastrointestinal tract. Swallowing, esophageal motility and regulation of motor activity of lower esophageal sphincter (LES). Basics of motor activity in the stomach. Regulation of gastric emptying. Bowel motor activity and its regulation. The composition of the saliva, secretory activity of the salivary glands and its regulation. Structure of the gastric mucosa. Secretory activity of the stomach and its regulation. Phases of gastric secretion. The composition of the saliva, secretory activity of the salivary glands and its regulation. Structure of the gastric mucosa. Secretory activity of the stomach and its regulation. Phases of gastric secretion. Exocrine and endocrine activity of the pancreas. Enzymatic and non-enzymatic composition of pancreatic juice. Pancreatic secretion activity and its regulation. Phases of pancreatic secretion. Exocrine and endocrine activity of the pancreas. Enzymatic and non-enzymatic composition of pancreatic juice. Pancreatic secretion activity and its regulation. Phases of pancreatic secretion. Composition of bile and regulation of its secretion. Circulation of bile salts. Digestion and absorption of sugars, fats and proteins in the gastrointestinal tract.	W1, W3, W6, W8, U1, U2, U3, K1, K2	classes, e-learning
6.	Sensory and motor axis of central nervous system (CNS). Functional levels of the central nervous system. Functions of the spinal cord. Mechanisms of muscle tension regulation. Structure and functions of the pyramidal system. Structure and function of the extrapyramidal system. Structure and function of the reticular system. Structure and functions of the cerebellum. Types of receptors and mechanisms of coding sensory information. Afferent sensory ways. Neuronal organization of the sensory cortex and symptoms of its damage. Perception and gnosis of the sensory stimulus. Anatomical structure and functional division of the hypothalamus. Functions of the hypothalamus and the effects of its damage. Neuronal basis of speech. Associative areas of the cerebral cortex. Functions of individual areas of cerebral cortex - a summary	W1, W8, U1, U2, U3, K1, K2	classes, e-learning



7.	Structure of the endocrine system. Division of hormones and mechanisms of their action. Regulation of hormone release. Hypothalamic hormones. Pituitary hormones. Hormonal adrenal activity. Hormonal reactions under stress. Thyroid secretory activity. Pancreatic endocrine activity. Basics of calcium-phosphate balance. The scope of action of sex hormones. Ovulatory cycle.	W1, W2, W7, U1, U2, U3, K1, K2	classes, e-learning
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## Course advanced

### Semester 3

#### Teaching methods:

brainstorm, classes / practicals, computer classes, laboratories (labs), classes in simulated conditions, demonstration, discussion, e-learning, educational film, case study method, group work, assignments solving, seminar, simulation, simulation in interprofessional groups, lecture, lecture with multimedia presentation, practical classes

Activities	Examination methods	Credit conditions
e-learning	multiple choice test	During 3rd term there are 2 colloquiums in a written form, each after completion of a given section. Each colloquium consists of 10 questions. The student can get from 0 p. to 2 p. for each question (point scale: 0 p., 0.5 p., 1 p., 1.5 p., 2 p.). Each colloquium lasts 50 min. Colloquiums are to be passed on a single date.
classes	multiple choice test	Multiple choice midterm exams, multiple choice test as final exam. No absences are allowed.

### Semester 4

#### Teaching methods:

classes / practicals, computer classes, laboratories (labs), classes in simulated conditions, demonstration, discussion, e-learning, educational film, problem solving method, group work, computer room, assignments solving, seminar, simulation, lecture, lecture with multimedia presentation, practical classes

Activities	Examination methods	Credit conditions
e-learning	multiple choice test	During 3rd term there are 2 colloquiums in a written form, each after completion of a given section. Each colloquium consists of 10 questions. The student can get from 0 p. to 2 p. for each question (point scale: 0 p., 0.5 p., 1 p., 1.5 p., 2 p.). Each colloquium lasts 50 min. Colloquiums are to be passed on a single date.
classes	multiple choice test	Multiple choice midterm exams, multiple choice test as final exam. No absences are allowed.

## Entry requirements

## Propaedeutics of Integrated Dentistry

### Educational subject description sheet

#### Basic information

<b>Department</b> Faculty of Medicine  <b>Field of study</b> Medical and Dental Program  <b>Study level</b> long-cycle master's degree program  <b>Study form</b> full-time  <b>Education profile</b> general academic  <b>Disciplines</b> Medical science  <b>ISCED classification</b> 0911 Dental studies  <b>Subject related to scientific research</b> Yes	<b>Didactic cycle</b> 2020/21  <b>Realization year</b> 2021/22, 2022/23  <b>Lecture languages</b> English  <b>Block</b> obligatory for passing in the course of studies  <b>Mandatory</b> obligatory  <b>Examination</b> examination  <b>Standard groups</b> C. Preclinical course, F. Clinical curriculum-oriented (invasive) sciences
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<b>Period</b> Semester 3	<b>Examination</b> -  <b>Activities and hours</b> e-learning: 8, seminar: 14, simulations: 56	<b>Number of ECTS points</b> 0.0
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<b>Period</b> Semester 4	<b>Examination</b> credit  <b>Activities and hours</b> e-learning: 8, seminar: 14, simulations: 60	<b>Number of ECTS points</b> 13.0
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<b>Period</b> Semester 5	<b>Examination</b> examination  <b>Activities and hours</b> e-learning: 10, seminar: 5, simulations: 50	<b>Number of ECTS points</b> 6.0
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## Goals

C1	To know and teach rules of ergonomy in dentistry.
C2	To know and teach basic rules of examination of the patient.
C3	Introduction to local anesthesia techniques
C4	To know and teach practical skills in the diagnosis and treatment of dental hard tissue diseases: carious and no carious origin
C5	To know and teach practical skills in the diagnosis and treatment of pulp diseases and periapical tissue diseases.
C6	To know and teach practical skills in the basic prosthetic procedures.
C7	To know and teach practical skills in basic periodontal diseases.
C8	To know basic diagnostic tests in dentistry. Radiology in dentistry.
C9	To teach how to work in the team in the field of basic dental procedures
C10	To know basic problems in orthodontics.

## Subject's learning outcomes

Code	Outcomes in terms of	Effects	Examination methods
<b>Knowledge - Student knows and understands:</b>			
W1	viral, bacterial and fungal flora of the oral cavity and its importance	F.W3	written examination, theoretical colloquiums, oral answer, test
W2	rules of conduct in the case of pulp and mineralized dental tissues, as well as trauma to the teeth and bones of the face	F.W5	written examination, theoretical colloquiums, oral answer, test
W3	morphology of dental chambers and principles of endodontic treatment and instruments used in this treatment	F.W7	written examination, theoretical colloquiums, oral answer, test
W4	indications and contraindications for performing procedures in the field of cosmetic dentistry	F.W11	written examination, theoretical colloquiums, oral answer, test
W5	prevention of oral diseases	F.W21	written examination, theoretical colloquiums, oral answer, test
W6	basic clinical procedures for dental hard tissue reconstruction and endodontic treatment, as well as methods and technical and laboratory procedures for prosthetic restorations	C.W28	written examination, theoretical colloquiums, oral answer, test
W7	basic clinical procedures for periodontal prevention	C.W32	written examination, theoretical colloquiums, oral answer, test
W8	basic clinical procedures for orthodontic prevention	C.W33	written examination, theoretical colloquiums, oral answer, test
W9	definition and classification of basic and auxiliary dental materials	C.W24	written examination, theoretical colloquiums, oral answer, test

W10	surface properties of hard tooth tissues and dental biomaterials	C.W26	written examination, theoretical colloquiums, oral answer, test
W11	dental office equipment and instruments used in dental procedures	C.W23	written examination, theoretical colloquiums, oral answer, test
W12	issues in the field of medicine and natural sciences – in the basic scope	O.W1	test
W13	health education issues	O.W3	test
W14	the rules of conducting scientific research and spreading their results	O.W4	test
W15	issues in dentistry – at an advanced level	O.W2	test
W16	organization of dentist practice and management principles in healthcare	O.W5	test
<b>Skills – Student can:</b>			
U1	provide professional dental care in the field of prevention, treatment, health promotion and health education	O.U2	booklet of practical skills, classroom observation, assignment report
U2	plan treatment for dental problems	O.U3	booklet of practical skills, classroom observation, assignment report
U3	conduct clinical proceedings based on knowledge and respecting the principles of humanitarianism	O.U4	booklet of practical skills, classroom observation, assignment report
U4	plan own learning activities and constantly learn in order to update own knowledge	O.U5	booklet of practical skills, classroom observation, assignment report
U5	inspire the learning process of others	O.U6	booklet of practical skills, classroom observation, assignment report
U6	communicate with the patient and his family in an atmosphere of trust, taking into account the needs of the patient	O.U7	booklet of practical skills, classroom observation, assignment report
U7	communicate and share knowledge with colleagues in a team	O.U8	booklet of practical skills, classroom observation, assignment report
U8	carry out a medical interview with the patient and his or her family	F.U1	booklet of practical skills, classroom observation, assignment report
U9	carry out a dental physical examination of the patient	F.U2	booklet of practical skills, classroom observation, assignment report
U10	explain the nature of his or her ailment to the patient, determine the method of treatment confirmed by the patient's informed consent and prognosis	F.U3	booklet of practical skills, classroom observation, assignment report
U11	determine the indications and contraindications for performing a specific dental procedure	F.U7	booklet of practical skills, classroom observation, assignment report

U12	diagnose and treat periodontal disease in the basic range	F.U17	booklet of practical skills, classroom observation, assignment report
U13	carry out prosthetic rehabilitation in simple cases in the field of clinical and laboratory procedures	F.U22	booklet of practical skills, classroom observation, assignment report
U14	map anatomic occlusal conditions and analyze occlusion	C.U12	booklet of practical skills, classroom observation, assignment report
U15	design prosthetic restorations in accordance with the principles of their laboratory performance	C.U13	booklet of practical skills, classroom observation, assignment report
U16	plan the basic stages of preventive care in patients in the area of periodontological needs	C.U15	booklet of practical skills, classroom observation, assignment report
U17	plan the basic stages of preventive care in patients in the area of orthodontic needs	C.U16	booklet of practical skills, classroom observation, assignment report
U18	select restorative, prosthetic and connective biomaterials based on material properties and clinical conditions	C.U11	booklet of practical skills
U19	provide assistance in the event of damage to the orthodontic appliance	F.U19	oral answer
U20	make simple orthodontic appliances	F.U20	oral answer
<b>Social competences - Student is ready to:</b>			
K1	to establish and maintain deep and respectful contact with patients and to show understanding for differences in world views and cultures	O.K1	classroom observation, assignment report
K2	to be guided by the well-being of a patient	O.K2	classroom observation, assignment report
K3	respect medical confidentiality and patients' rights	O.K3	classroom observation, assignment report
K4	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	O.K4	classroom observation, assignment report
K5	formulate conclusions from own measurements or observations	O.K8	classroom observation, assignment report
K6	use objective sources of information	O.K7	classroom observation, assignment report
K7	promote health-promoting behaviors	O.K6	classroom observation, assignment report
K8	assume responsibility for decisions taken in the course of their professional activities, including in terms of the safety of oneself and others.	O.K11	classroom observation, assignment report
K9	perceive and recognize own limitations, self-assess educational deficits and needs	O.K5	classroom observation, assignment report

## Calculation of ECTS points

### Semester 3

Activity form	Activity hours*
e-learning	8
seminar	14
simulations	56
preparation for classes	30
preparation for colloquium	30
preparation for test	30
<b>Student workload</b>	<b>Hours</b> 168
<b>Workload involving teacher</b>	<b>Hours</b> 78
<b>Practical workload</b>	<b>Hours</b> 56

\* hour means 45 minutes

### Semester 4

Activity form	Activity hours*
e-learning	8
seminar	14
simulations	60
preparation for classes	30
preparation for test	30
preparation for colloquium	30
<b>Student workload</b>	<b>Hours</b> 172
<b>Workload involving teacher</b>	<b>Hours</b> 82
<b>Practical workload</b>	<b>Hours</b> 60

\* hour means 45 minutes

## Semester 5

Activity form	Activity hours*
e-learning	10
seminar	5
simulations	50
preparation for classes	30
preparation for colloquium	30
preparation for test	30
preparation for examination	50
<b>Student workload</b>	<b>Hours</b> 205
<b>Workload involving teacher</b>	<b>Hours</b> 65
<b>Practical workload</b>	<b>Hours</b> 50

\* hour means 45 minutes

## Study content

No.	Course content	Subject's learning outcomes	Activities
1.	History taking. Examination of the patient. Basic diagnostic tests in dentistry. Ergonomy in dentistry. Regional anesthesia. Dental materials used in conservative dentistry - review. Tooth anatomy: anterior & posterior. Roots anatomy. Tooth notation. Radiology in dentistry.	W10, W11, W3, W9, U18, U2, U3, U5, U6, U7, U8, U9, K1, K2, K3, K4, K5, K6, K7, K8, K9	seminar, e-learning, simulations
2.	Introduction to cariology. Clinical and histological features, diagnosis, prevention. Non operative management of caries. Operative management of caries. Cavity preparation for composite, cgj; Black's classification - classes I-V. Root caries. Noncarious cavities. Trauma of the teeth.	W1, W11, W15, W16, W4, W5, W6, U1, U10, U2, K1, K2, K3, K4, K5, K6, K7, K8, K9	seminar, e-learning, simulations

3.	<p>Introduction to endodontics. Endodontic equipment: burs, instruments and irrigants. Morphology and function of endodontium.</p> <p>Sensibility tests.</p> <p>Biological pulp treatment.</p> <p>Pulp diseases. Periapical tissues diseases.</p> <p>Morphology of pulp chambers and root canals. Access preparation in particular groups of teeth.</p> <p>Morphology of apical portion of root canal. Working length: definition, methods of calculation.</p> <p>Root canal preparation using standardize technique.</p> <p>Cold lateral condensation of gutta-percha. Obturation of the root canal in maxillary central incisor.</p>	W15, W16, W2, W3, W5, W6, U10, U11, U2, U4, U5, K1, K2, K3, K4, K5, K6, K7, K8, K9	seminar, e-learning, simulations
4.	<p>Dental posts, clinical and laboratorial aspects.</p> <p>Indications for crowns and bridges, introduction to temporary crowns, classification of prosthetic crowns, principles of tooth preparation: chamfer; finishing line shoulder, vital pulp preservation</p> <p>Classification of impression materials, classification of impression methods, bite registration.</p> <p>Temporary crown (materials and method), cements for temporary crowns, shade guides – principles of choosing tooth colors.</p> <p>Metal-ceramic crown lab fabrication, CAD/CAM crowns.</p> <p>Dental bridges – biomechanical principals.</p> <p>Complete denture: - maxillary and mandibular impressions. Diagnostic/study casts.</p> <p>Individual impression trays.</p>	W5, W6, W9, U11, U13, U14, U15, U2, K1, K2, K3, K4, K5, K6, K7, K8, K9	seminar, e-learning, simulations
5.	<p>Etiopathogenesis of periodontal diseases. Entities.</p> <p>Periodontal examination, indices, data collection.</p> <p>Prevention of periodontal diseases.</p> <p>Diagnosis of basic periodontal diseases. Disease entities.</p> <p>Therapeutic concepts and treatment.</p>	W12, W13, W14, W5, W7, U1, U12, U16, U2, U9, K1, K2, K3, K4, K5, K6, K7, K8, K9	seminar, e-learning, simulations
6.	<p>Introduction to Orthodontics:</p> <p>Prevention, diagnosis.</p> <p>Basic therapeutic concepts.</p>	W8, U17, U19, U20, K5, K6, K9	seminar, e-learning, simulations

## Course advanced

### Semester 3

#### Teaching methods:

classes / practicals, laboratories (labs), classes in simulated conditions, demonstration, e-learning, seminar, lecture, lecture with multimedia presentation, practical classes

Activities	Examination methods	Credit conditions
e-learning	test	Final exam at the end of 5th semester. The theoretical part- The test consists of 100 questions which cover the whole material of the course. The practical part: identification of dental situations on models, instruments, dental materials



Activities	Examination methods	Credit conditions
seminar	written examination, theoretical colloquiums, oral answer	Colloquium I - written test ( 50 questions). Oral answers from the subject of the seminar, assessed immediately after the student's speech. Written test - a short card from a given topic of the seminar, unannounced, allowing students to check the knowledge before part of the practical exercises (simulation).
simulations	booklet of practical skills, classroom observation, assignment report	Booklet of practical procedures, signed by an assistant at the end of the class. Assessment of each of the required dental procedures. System for assessing dental procedures: Elements of credit: 1. Performed during classes. 2. Theoretical knowledge during classes, attitude to the assistant. 3. Ergonomics. 4. Marginal tightness (in the case of fillings). 5. Performance aesthetics. Failure to perform the indicated work - no credit. Active participation in simulations.

#### Semester 4

##### Teaching methods:

classes / practicals, laboratories (labs), classes in simulated conditions, demonstration, e-learning, seminar, lecture, lecture with multimedia presentation, practical classes

Activities	Examination methods	Credit conditions
e-learning	test	Final exam at the end of 5th semester. The theoretical part- The test consists of 100 questions which cover the whole material of the course. The practical part: identification of dental situations on models, instruments, dental materials.
seminar	written examination, theoretical colloquiums, oral answer	Colloquium II - written test ( 50 questions). Oral answers from the subject of the seminar, assessed immediately after the student's speech. Written test - a short card from a given topic of the seminar, unannounced, allowing students to check the knowledge before part of the practical exercises (simulation).
simulations	booklet of practical skills, classroom observation, assignment report	Booklet of practical procedures, signed by an assistant at the end of the class. Assessment of each of the required dental procedures. System for assessing dental procedures: Elements of credit: 1. Performed during classes. 2. Theoretical knowledge during classes, attitude to the assistant. 3. Ergonomics. 4. Marginal tightness (in the case of fillings). 5. Performance aesthetics. Failure to perform the indicated work - no credit. Active participation in simulations.

#### Semester 5

##### Teaching methods:

classes / practicals, laboratories (labs), classes in simulated conditions, demonstration, e-learning, seminar, lecture, lecture with multimedia presentation, practical classes

Activities	Examination methods	Credit conditions
e-learning	test	Final exam at the end of 5th semester. The theoretical part- The test consists of 100 questions which cover the whole material of the course. The practical part: identification of dental situations on models, instruments, dental materials
seminar	written examination, theoretical colloquiums, oral answer	Colloquium III - written test ( 50 questions). Oral answers from the subject of the seminar, assessed immediately after the student's speech. Written test - a short card from a given topic of the seminar, unannounced, allowing students to check the knowledge before part of the practical exercises (simulation).
simulations	booklet of practical skills, classroom observation, assignment report	Booklet of practical procedures, signed by an assistant at the end of the class. Assessment of each of the required dental procedures. System for assessing dental procedures: Elements of credit: 1. Performed during classes. 2. Theoretical knowledge during classes, attitude to the assistant. 3. Ergonomics. 4. Marginal tightness (in the case of fillings). 5. Performance aesthetics. Failure to perform the indicated work - no credit. Active participation in simulations.

### Entry requirements

Required credit in Propaedeutics to Medicine and Dentistry.  
Lectures, seminars and simulations are obligatory.

## Medical Polish

### Educational subject description sheet

#### Basic information

<b>Department</b> Faculty of Medicine  <b>Field of study</b> Medical and Dental Program  <b>Study level</b> long-cycle master's degree program  <b>Study form</b> full-time  <b>Education profile</b> general academic  <b>Disciplines</b> Medical science  <b>ISCED classification</b> 0231 Language acquisition	<b>Didactic cycle</b> 2020/21  <b>Realization year</b> 2020/21, 2021/22, 2022/23  <b>Lecture languages</b> Polish  <b>Block</b> obligatory for passing in the course of studies  <b>Mandatory</b> obligatory  <b>Examination</b> examination  <b>Standard group</b> D. Behavioral and social sciences with elements of professionalism
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<b>Period</b> Semester 1	<b>Examination</b> -  <b>Activities and hours</b> foreign language course: 30	<b>Number of ECTS points</b> 0.0
<b>Period</b> Semester 2	<b>Examination</b> credit  <b>Activities and hours</b> foreign language course: 30	<b>Number of ECTS points</b> 3.0
<b>Period</b> Semester 3	<b>Examination</b> -  <b>Activities and hours</b> foreign language course: 30	<b>Number of ECTS points</b> 0.0

<b>Period</b> Semester 4	<b>Examination</b> credit  <b>Activities and hours</b> foreign language course: 30	<b>Number of ECTS points</b> 3.0
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<b>Period</b> Semester 5	<b>Examination</b> -  <b>Activities and hours</b> foreign language course: 30	<b>Number of ECTS points</b> 0.0
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<b>Period</b> Semester 6	<b>Examination</b> examination  <b>Activities and hours</b> foreign language course: 30	<b>Number of ECTS points</b> 3.0
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## Goals

C1	Development of language competences at the level A1-C1 in terms of: pronunciation, vocabulary, grammar/function and listening ,reading , speaking, writing
C2	Mastering communication strategies especially in terms of communication with the patient
C3	Developing and strengthening the motivation to learn Polish and learning strategies and intercultural awareness, exploring Polish realities
C4	Recognizing and noticing cultural differences and similarities
C5	Intellectual and emotional development

## Subject's learning outcomes

Code	Outcomes in terms of	Effects	Examination methods
<b>Knowledge - Student knows and understands:</b>			
W1	issues in the field of medicine and natural sciences - in the basic scope	O.W1	written examination, clinical case presentation, test
<b>Skills - Student can:</b>			
U1	communicate with the patient and his family in an atmosphere of trust, taking into account the needs of the patient	O.U7	written examination, oral examination, oral answer, clinical case presentation, project
U2	talk to the adult patient, child and family using active listening and empathy techniques	D.U6	written examination, oral examination, oral answer, clinical case presentation, project
U3	communicate with the patient in one of the foreign languages at B2+ level of the Common European Framework of Reference for Languages	D.U15	written examination, oral examination, oral answer, clinical case presentation, project

Social competences - Student is ready to:			
K1	to establish and maintain deep and respectful contact with patients and to show understanding for differences in world views and cultures	O.K1	written examination, oral examination, oral answer, project

## Calculation of ECTS points

### Semester 1

Activity form	Activity hours*
foreign language course	30
preparation for classes	10
<b>Student workload</b>	<b>Hours</b> 40
<b>Workload involving teacher</b>	<b>Hours</b> 30

\* hour means 45 minutes

### Semester 2

Activity form	Activity hours*
foreign language course	30
preparation for classes	10
preparation for examination	10
<b>Student workload</b>	<b>Hours</b> 50
<b>Workload involving teacher</b>	<b>Hours</b> 30

\* hour means 45 minutes

### Semester 3

Activity form	Activity hours*
foreign language course	30
preparation for classes	10
<b>Student workload</b>	<b>Hours</b> 40
<b>Workload involving teacher</b>	<b>Hours</b> 30

\* hour means 45 minutes

#### Semester 4

Activity form	Activity hours*
foreign language course	30
<b>Student workload</b>	<b>Hours</b> 30
<b>Workload involving teacher</b>	<b>Hours</b> 30

\* hour means 45 minutes

#### Semester 5

Activity form	Activity hours*
foreign language course	30
preparation for classes	10
preparation for examination	5
<b>Student workload</b>	<b>Hours</b> 45
<b>Workload involving teacher</b>	<b>Hours</b> 30

\* hour means 45 minutes

#### Semester 6

Activity form	Activity hours*
foreign language course	30
<b>Student workload</b>	<b>Hours</b> 30
<b>Workload involving teacher</b>	<b>Hours</b> 30

\* hour means 45 minutes

### Study content

No.	Course content	Subject's learning outcomes	Activities
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1.	Vocabulary in terms of: man, family, everyday life, leisure time activities, housing, places, means of transport, work, education, nutrition, shopping and services, natural environment, basic human anatomy, health and personal hygiene, diseases, symptoms	W1, U1, U2, U3, K1	foreign language course
2.	Grammar and syntactic problems (inflection, word formation, syntax)	U1, U2, K1	foreign language course
3.	Speaking strategies and communication roles provided for level A1-B2, as appropriate, according to the: Programy nauczania języka polskiego jako obcego. Poziomy A1-C2" pod red. I. Janowskiej, E. Lipińskiej, A. Rabiej, A. Seretny, P. Turka, Kraków 2011	U1, U2, K1	foreign language course

## Course advanced

### Semester 1

#### Teaching methods:

textual analysis, educational game, language conversation classes, foreign language course, situation method

Activities	Examination methods	Credit conditions
foreign language course	written examination, oral answer, test	1. The final grade will be a result of the following scores: 50 % (final test) 30 % (partial tests/midterms) 10 % (attendance) 10 % (class work) Grading scale: 0-59 failed (2.0) 60-67 satisfactory (3.0) 68-75 satisfactory + (3.5) 76-83 good (4.0) 84-91 good + (4.5) 92-100 very good (5.0)

### Semester 2

#### Teaching methods:

textual analysis, classes / practicals, educational game, project method, situation method, practical classes in simulated conditions

Activities	Examination methods	Credit conditions
foreign language course	written examination, oral examination, oral answer, test	1. The final grade will be a result of the following scores: 50 % (final test) 30 % (partial tests/midterms) 10 % (attendance) 10 % (class work) Grading scale: 0-59 failed (2.0) 60-67 satisfactory (3.0) 68-75 satisfactory + (3.5) 76-83 good (4.0) 84-91 good + (4.5) 92-100 very good (5.0)

### Semester 3

#### Teaching methods:

textual analysis, classes / practicals, educational game, language conversation classes, project method, situation method, presentation, group work

Activities	Examination methods	Credit conditions
foreign language course	written examination, oral examination, oral answer, clinical case presentation, project, test	1. The final grade will be a result of the following scores: 50 % (final exam) 30 % (partial tests/midterms) 10 % (attendance) 10 % (class work) Grading scale: 0-59 failed (2.0) 60-67 satisfactory (3.0) 68-75 satisfactory + (3.5) 76-83 good(4.0) 84-91 good+ (4.5) 92-100 very good (5.0)

#### Semester 4

##### Teaching methods:

textual analysis, educational game, language conversation classes, presentation

Activities	Examination methods	Credit conditions
foreign language course	written examination, oral examination, oral answer, project, test	1. The final grade will be a result of the following scores: 50 % (final exam) 30 % (partial tests/midterms) 10 % (attendance) 10 % (class work) Grading scale: 0-59 failed (2.0) 60-67 satisfactory (3.0) 68-75 satisfactory + (3.5) 76-83 good(4.0) 84-91 good+ (4.5) 92-100 very good (5.0)

#### Semester 5

##### Teaching methods:

textual analysis, educational game, language conversation classes

Activities	Examination methods	Credit conditions
foreign language course	written examination, oral examination, oral answer	1. The final grade will be a result of the following scores: 50 % (final exam) 30 % (partial tests/midterms) 10 % (attendance) 10 % (class work) Grading scale: 0-59 failed (2.0) 60-67 satisfactory (3.0) 68-75 satisfactory + (3.5) 76-83 good(4.0) 84-91 good+ (4.5) 92-100 very good (5.0)

#### Semester 6

##### Teaching methods:

textual analysis, classes / practicals, language conversation classes

Activities	Examination methods	Credit conditions
foreign language course	written examination, oral examination, oral answer, project, test	1. The final grade will be a result of the following scores: 50 % (final exam) 30 % (partial tests/midterms) 10 % (attendance) 10 % (class work) Grading scale: 0-59 failed (2.0) 60-67 satisfactory (3.0) 68-75 satisfactory + (3.5) 76-83 good(4.0) 84-91 good+ (4.5) 92-100 very good (5.0)



## Medical Psychology

### Educational subject description sheet

#### Basic information

<b>Department</b> Faculty of Medicine  <b>Field of study</b> Medical and Dental Program  <b>Study level</b> long-cycle master's degree program  <b>Study form</b> full-time  <b>Education profile</b> general academic  <b>Disciplines</b> Medical science  <b>ISCED classification</b> 0912 Medicine	<b>Didactic cycle</b> 2020/21  <b>Realization year</b> 2021/22  <b>Lecture languages</b> English  <b>Block</b> obligatory for passing in the course of studies  <b>Mandatory</b> obligatory  <b>Examination</b> graded credit  <b>Standard group</b> D. Behavioral and social sciences with elements of professionalism
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<b>Period</b> Semester 3	<b>Examination</b> graded credit  <b>Activities and hours</b> classes: 45	<b>Number of ECTS points</b> 3.0
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## Goals

C1	The course aims to give an overview and introduction to medical psychology.
C2	The student learns about different perspectives and the level of analysis in psychology, about memory, attention, intelligence, learning, thinking process.
C3	The course introduces a student with the basics of developmental psychology and personality characteristics.
C4	The focus will be turned also on topics such as understanding psychological characteristics of different groups of dental patients (children, adults, elderly).
C5	The student is intended to convey understanding of problems of dental pain and anxiety, role of emotions and empathy in dental practice, too.
C6	The course aims to give a knowledge of stress, burnout syndrome, coping and adaptation process according to health psychology.
C7	It will also focus on a basic psychological knowledge of psychopathology.
C8	Finally, the course will enable to gain verbal and non-verbal communication skills in dental practice.

## Subject's learning outcomes

Code	Outcomes in terms of	Effects	Examination methods
<b>Knowledge - Student knows and understands:</b>			
W1	basic psychological mechanisms of human functioning in health and disease	D.W6	multiple choice test
W2	patterns of human mental development and the role of the patient's family in the treatment process	D.W7	multiple choice test
W3	mechanisms of coping with stress and its role in the etiopathogenesis and course of diseases	D.W9	multiple choice test
W4	mechanisms of addiction to psychoactive substances, as well as treatment goals and methods	D.W10	multiple choice test
W5	principles of motivating the patient to health-promoting behaviors and informing about unsuccessful prognosis	D.W11	multiple choice test
W6	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	D.W8	multiple choice test
W7	principles of the therapeutic team's functioning	D.W13	classroom observation
<b>Skills - Student can:</b>			
U1	build an atmosphere of trust throughout the entire diagnostic and treatment process	D.U4	classroom observation, multiple choice test
U2	talk to the adult patient, child and family using active listening and empathy techniques	D.U6	classroom observation, multiple choice test
U3	apply basic psychological motivational and supportive interventions	D.U8	classroom observation, multiple choice test
U4	plan the work of the dental team and the equipment of the dental office in accordance with the principles of ergonomics and safety at work	D.U14	classroom observation, multiple choice test

U5	work in a multidisciplinary team, in a multicultural and multinational environment	D.U10	classroom observation
U6	identify risk factors for violence, recognize violence and respond accordingly	D.U7	classroom observation
U7	recognize the premises for taking medical action without the patient's consent or with the use of coercion towards the patient and apply the measures provided for in the generally applicable law	D.U9	classroom observation
<b>Social competences - Student is ready to:</b>			
K1	to be guided by the well-being of a patient	O.K2	classroom observation

### Calculation of ECTS points

Activity form	Activity hours*
classes	45
preparation for classes	8
preparation for test	20
preparation of multimedia presentation	5
consultations with lecturer	2
<b>Student workload</b>	<b>Hours</b> 80
<b>Workload involving teacher</b>	<b>Hours</b> 45
<b>Practical workload</b>	<b>Hours</b> 45

\* hour means 45 minutes

### Study content

No.	Course content	Subject's learning outcomes	Activities
1.	Introduction to medical psychology.	W1, W7, U1, U6, U7	classes
2.	Basic psychological constructs: memory, attention, perception, intelligence, How to learn efficiently?	W2	classes
3.	Theory of human development.	W2	classes
4.	Personality and motivation theories.	W5	classes

5.	Stress and concept of homeostasis.  Psychological mechanisms of adaptation and coping with stress.  Relaxation method.	W3, K1	classes
6.	Role of emotions.  Characteristics and functions of pain - general issues.  Psychology in dental care, problems of dental pain and anxiety.	W1, W3, K1	classes
7.	Empathy in students of dentistry.  Role of empathy.	W5, U1, U2	classes
8.	Working burnout in dental practice.  Therapy in burnout.	U3, U5	classes
9.	General review of abnormal psychology: mental disorders.	W1	classes
10.	Psychological mechanisms of addiction.	W4, U1, U3	classes
11.	Mental disorders in elderly people.  Patients with organic brain damages: general neuropsychological characteristics.	W6, U3, K1	classes
12.	Mood disorders (depression, mania), problem of suicide.  Anxiety disorders.  Eating disorders.  Psychosis: symptoms, delusions, hallucinations.  Mental disorders in children and young people.	W1, W3, U1, U3, K1	classes
13.	Introduction to theory of communication.  Common mistakes in communication.  Tell-Show-Do Techniques.	W5, U1, U2, U3, U4	classes
14.	Non-verbal communication.  Ways of communicating with different patients: elderly people, children, difficult patients.	W5, U1, U2	classes

## Course advanced

### Teaching methods:

case study, classes / practicals, discussion, educational film, problem solving method, case study method, presentation, group work, lecture with multimedia presentation, PBL Problem Based Learning

Activities	Examination methods	Credit conditions
classes	classroom observation, multiple choice test	A student is obliged to actively participate in the classes, prepare oral presentations and pass themultiple choice test. Manner of completion: - Speeches and presentations on the chosen topics, - Activity during the classes, - Writing exam consisting of: a) multiple-choice test, b) short case study.

## Sociology of medicine in dentistry

### Educational subject description sheet

#### Basic information

<b>Department</b> Faculty of Medicine  <b>Field of study</b> Medical and Dental Program  <b>Study level</b> long-cycle master's degree program  <b>Study form</b> full-time  <b>Education profile</b> general academic  <b>Disciplines</b> Medical science  <b>ISCED classification</b> 0912 Medicine  <b>Subject related to scientific research</b> Yes	<b>Didactic cycle</b> 2020/21  <b>Realization year</b> 2021/22  <b>Lecture languages</b> English  <b>Block</b> obligatory for passing in the course of studies  <b>Mandatory</b> obligatory  <b>Examination</b> graded credit  <b>Standard group</b> D. Behavioral and social sciences with elements of professionalism
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<b>Period</b> Semester 3	<b>Examination</b> graded credit  <b>Activities and hours</b> classes: 20	<b>Number of ECTS points</b> 1.0
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## Goals

C1	To present the student the modern concept of the influence of environment on health, considering the role of family of the patient and his social ties.
C2	To show the factors that influence inequalities in health.
C3	To show the students socio - cultural differences in behaviour, considering gender differences in behaviour.
C4	To show the concepts of health, illness, disability as a social construct and to present social attitudes against disease and disability.
C5	To present the social consequences of the disease and the medical intervention.
C6	To present the concept of the "role of the patient"
C7	To present the role of verbal and non-verbal communication between the dentist and the patient.
C8	To show the concept of the social role based on the example of the dentist and to underline the role of the mutual trust in the dentist - patient relations
C9	To present the concept of the health - related quality of life
C10	To understand functioning of medical institutions as the examples of social institutions.

## Subject's learning outcomes

Code	Outcomes in terms of	Effects	Examination methods
<b>Knowledge - Student knows and understands:</b>			
W1	the current views on 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;	D.W1	written examination, classroom observation
W2	forms of violence, models explaining domestic and institutional violence, the social determinants of the various forms of violence and the role of the doctor and the dentist in recognizing it	D.W2	written examination, classroom observation
W3	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	D.W3	written examination
W4	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	D.W4	written examination
W5	functioning of health care system entities and social role of a physician and a dentist	D.W5	written examination
W6	principles of motivating the patient to health-promoting behaviors and informing about unsuccessful prognosis	D.W11	written examination
<b>Skills - Student can:</b>			

U1	take into account the subjective needs and expectations of the patient resulting from socio-cultural conditions in the process of therapeutic management	D.U1	written examination
U2	recognize and respond to signs of anti-health and self-destructive behavior	D.U2	written examination
U3	choose treatment that minimizes the social consequences for the patient	D.U3	written examination, classroom observation
U4	build an atmosphere of trust throughout the entire diagnostic and treatment process	D.U4	written examination, classroom observation
U5	talk to the adult patient, child and family using active listening and empathy techniques	D.U6	written examination
U6	identify risk factors for violence, recognize violence and respond accordingly	D.U7	written examination, classroom observation
U7	use and process information using IT tools and modern sources of medical knowledge	D.U13	written examination
<b>Social competences - Student is ready to:</b>			
K1	to establish and maintain deep and respectful contact with patients and to show understanding for differences in world views and cultures	O.K1	written examination, classroom observation
K2	promote health-promoting behaviors	O.K6	written examination, classroom observation

### Calculation of ECTS points

Activity form	Activity hours*
classes	20
preparation for classes	3
preparation of multimedia presentation	3
preparation for examination	4
<b>Student workload</b>	<b>Hours</b> 30
<b>Workload involving teacher</b>	<b>Hours</b> 20
<b>Practical workload</b>	<b>Hours</b> 20

\* hour means 45 minutes

### Study content

No.	Course content	Subject's learning outcomes	Activities
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1.	Sociological concepts of health and illness. Psychosocial dimensions of subjective health. Illness and sickness role. Symbolic meaning of illness. Psychosocial indicators of health (well-being). Scales measuring different dimensions of the oral cavity health.	W1, W3, U1	classes
2.	Cultural and social determinants of health and health-related behaviors. Lifestyle and health-damaging behaviors (poor diet, lack of knowledge about the hygiene of mouth). Lay self-care in health. Socialization of dental health attitudes and behaviors. Health education.	W1, W5, U1, U2, K1, K2	classes
3.	Social inequalities in health; (gender, age, socio-economic status, ethnic minorities). Illness as a stressful life event. Social stress and dental health outcome. Psychosocial consequences of chronic dental problems. Psychosocial dimensions and indicators of the oral cavity health.	W1, W5, U1, U2, K2	classes
4.	Family and dental health. The role of the family in creation of healthy lifestyle. Functions of the family (social support). Early experience during family life and health outcomes in adulthood. Role of social network (ties) in health status. Role of social capital.	W6, U5, K2	classes
5.	Pathological role of the family environment. Physical and psychological abuse.	W2, U6	classes
6.	Disability as a social construct. Stigma. Changes in the facial region and oral cavity disorders as a stigmatizing condition. Living with stigmatizing disease.	W3, K2	classes
7.	Functional status and health-related quality of life in patients with chronic conditions (dental caries, paradontosis). Scales measuring different dimensions of quality of life in patients with dental problems.	W3, U1, K1	classes
8.	Decision-making process in seeking professional help. Types of relation between the dentist and the patient. Doctor-centered model vs Patient-centered model. Professional role of the dentist. Job stress in medical profession. Communication between physician and patient (types of questions, language, verbal and non-verbal communication).	W4, W5, W6, U1, U3, U4, U5, U7, K1	classes
9.	Patient satisfaction with the medical care. Problems with the doctor – patient relations. Dentophobia and the ways to minimize it.	W4, U3, U4, U5, U7, K1	classes
10.	The theory of institution. Hospital as an institution.	W5	classes

## Course advanced

### Teaching methods:

case study, textual analysis, discussion, case study method, group work, seminar, lecture with multimedia presentation

Activities	Examination methods	Credit conditions
classes	written examination, classroom observation	<p>1. Attendance on each class - absence is available only because of illness and should be confirmed by an appropriate medical leave. Each absence requires an oral/written credit the person leading classes. 2. Power Point presentation - prepared and presented by each student based on the article delivered. Presentation should last approx. 25 minutes. 3. Active participation during seminars. 4. Written final exam: the exam will have form of test consisting of multiple-choice questions, filling gaps, true/false questions as well as open questions with short answer. The exam will check the sociological knowledge acquired during course (comprising both terms and theories presented during classes as well as concepts in articles for students' presentations). Student's evaluation: Student may achieve maximum 60 points from the whole course: 1. PP presentation - max. 15 p. 2. Active participation during seminars - max. 10 p. 3. Final exam - max. 33 p. In order to pass the course, student has to achieve 60% of the maximum points. Assessment of PP presentation: 5 p. - adequate summary of terms in the given article; 3 p. - additional sources, e.g. adequate data from other research illustrating article's terms; 4 p. - presentation skills ( e.g. presenting by own words, not reading slides), visual traits of presentation, overall preparation to presentation 3 p. - critical, subjective thoughts concerning presented topic in conclusion part, critical thinking questions to the rest of the group</p>

### Entry requirements

No requirements

## Dental Materials and Equipment

### Educational subject description sheet

#### Basic information

<b>Department</b> Faculty of Medicine  <b>Field of study</b> Medical and Dental Program  <b>Study level</b> long-cycle master's degree program  <b>Study form</b> full-time  <b>Education profile</b> general academic  <b>Disciplines</b> Medical science  <b>ISCED classification</b> 0911 Dental studies  <b>Subject related to scientific research</b> Yes	<b>Didactic cycle</b> 2020/21  <b>Realization year</b> 2020/21, 2021/22  <b>Lecture languages</b> English  <b>Block</b> obligatory for passing in the course of studies  <b>Mandatory</b> obligatory  <b>Examination</b> examination  <b>Standard group</b> C. Preclinical course
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<b>Period</b> Semester 2	<b>Examination</b> credit  <b>Activities and hours</b> e-learning: 10, simulations: 20	<b>Number of ECTS points</b> 3.0
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<b>Period</b> Semester 3	<b>Examination</b> examination  <b>Activities and hours</b> e-learning: 10, seminar: 20	<b>Number of ECTS points</b> 3.0
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## Goals

C1	Teaching of general characteristics of dental materials divided into basic and auxiliary materials. Indication of the division of materials according to the field of dentistry.
C2	To familiarize students with biomechanics of the US and correlation of this area with the requirements for biomaterials.
C3	Teaching of theoretical knowledge regarding strength issues of masticatory tissues and dental materials.
C4	To familiarize students with material testing and determining their mechanical parameters and biocompatibility.
C5	To introduce students with basic and auxiliary materials and to provide practical skills in the field of work with the above materials.
C6	To introduce theoretical knowledge in the field of prosthetic constructions manufacturing technology.
C7	To familiarize students with methods of diagnostic imaging.
C8	To introduce students with disinfection and sterilization techniques.
C9	To familiarize students with the equipment used in the laboratory of dental and orthodontic technology.
C10	To familiarize students with the possibilities and functioning of modern clinical dental equipment.

## Subject's learning outcomes

Code	Outcomes in terms of	Effects	Examination methods
<b>Knowledge - Student knows and understands:</b>			
W1	issues in dentistry – at an advanced level	O.W2	written examination, practical examination, theoretical colloquiums
W2	dental office equipment and instruments used in dental procedures	C.W23	written examination, theoretical colloquiums
W3	definition and classification of basic and auxiliary dental materials	C.W24	written examination, theoretical colloquiums
W4	composition, structure, binding method, properties, purpose and use method of dental materials	C.W25	written examination, practical examination, theoretical colloquiums
W5	surface properties of hard tooth tissues and dental biomaterials	C.W26	written examination, practical examination, theoretical colloquiums
W6	the phenomenon of adhesion and mechanisms for the production of adhesive bond, and the procedure for the adhesive preparation of enamel, dentine and dental biomaterials	C.W27	written examination, practical examination, theoretical colloquiums
W7	mechanisms of degradation (corrosion) of dental biomaterials in the oral cavity and their impact on the biological properties of materials	C.W29	written examination, practical examination, theoretical colloquiums
W8	basic principles of disinfection, sterilization and aseptic management	C.W5	written examination, practical examination, theoretical colloquiums
W9	basic clinical procedures for dental hard tissue reconstruction and endodontic treatment, as well as methods and technical and laboratory procedures for prosthetic restorations	C.W28	written examination, practical examination, theoretical colloquiums

W10	basic clinical procedures for periodontal prevention	C.W32	written examination, practical examination, theoretical colloquiums
W11	basic clinical procedures for orthodontic prevention	C.W33	written examination, practical examination, theoretical colloquiums
<b>Skills - Student can:</b>			
U1	select restorative, prosthetic and connective biomaterials based on material properties and clinical conditions	C.U11	practical examination, theoretical colloquiums
U2	apply adhesive techniques	C.U10	written examination, theoretical colloquiums
U3	carry out endodontic treatment and reconstruct missing mineralised tissues in phantom teeth	C.U9	written examination
<b>Social competences - Student is ready to:</b>			
K1	use objective sources of information	O.K7	written examination, practical examination, theoretical colloquiums
K2	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	O.K9	theoretical colloquiums

## Calculation of ECTS points

### Semester 2

Activity form	Activity hours*
e-learning	10
simulations	20
preparation for classes	15
preparation for examination	15
preparation for colloquium	15
information collection	15
<b>Student workload</b>	<b>Hours</b> 90
<b>Workload involving teacher</b>	<b>Hours</b> 30
<b>Practical workload</b>	<b>Hours</b> 20

\* hour means 45 minutes

### Semester 3

Activity form	Activity hours*
e-learning	10
seminar	20
preparation for examination	15
preparation of multimedia presentation	15
preparation for classes	15
preparation for colloquium	15
<b>Student workload</b>	<b>Hours</b> 90
<b>Workload involving teacher</b>	<b>Hours</b> 30

\* hour means 45 minutes

### Study content

No.	Course content	Subject's learning outcomes	Activities
1.	2nd semester; lectures. Lecture topics: 1. Biomechanics of the stomatognathic system. Strength issues of masticatory tissues and dental materials. Division and properties of dental materials. 2. General characteristics of dental materials. Impression materials. Dental plasters. 3. Laboratory waxes. The use of polymers in dental prosthetics and maxillofacial surgery. 4. Metals and metal alloys used in dentistry. Dental alloys, casting procedures. Plastic processing - orthodontic wires. Intraosseous implants. 5. New technologies in the production of prosthetic constructions. Galvanoforming. CAD CAM technologies in the milling procedure and in the laser sintering procedure.	W1, W10, W11, W2, W3, W4, W5, W6, W7, W9, K1	e-learning

2.	<p>2nd semester; Laboratory exercises. The components of each exercise are: demonstration, discussion and student work. Subjects of laboratory exercises:</p> <ol style="list-style-type: none"> <li>1. Overview of the program and exercise rules. Demonstration of instruments and devices for carrying out exercises. To familiarize students with the functioning of the clinic and the computer system supporting its work.</li> <li>2. Types, properties and use of dental gypsum in dental prosthetics and orthodontics. Gypsum insulation materials. Demonstration and individual work of the student with the material - dental plaster.</li> <li>3. Types, properties, clinical and laboratory use of rigid and flexible impression materials. Discussion of impression trays.</li> <li>4. Types, properties and use of laboratory waxes and insulation materials.</li> <li>5. Disinfection and sterilization techniques.</li> <li>6. Imaging of the masticatory apparatus using x-rays.</li> <li>7. Spatial modeling.</li> <li>8. Analysis of strength parameters of alloys and metals used in dentistry. The use of wire as a construction material in orthodontics and prosthetics.</li> <li>9. Polymer materials in dentistry. Application and properties of acrylic.</li> </ol>	W1, W2, W3, W4, W5, W6, W7, W8, U1, U3, K1, K2	simulations
3.	<p>3rd semester; lectures. Lecture topics:</p> <ol style="list-style-type: none"> <li>1. Dental ceramics. Classification. Ceramic-metal systems. All-ceramic restorations.</li> <li>2. Cements used in dentistry. Connecting systems.</li> <li>3. Materials for permanent fillings. Creation of dentin and enamel joints with dental materials. Materials for filling root canals.</li> <li>4. Clinical dental equipment.</li> <li>5. Laboratory dental equipment.</li> </ol>	U1, K1	e-learning, simulations

4.	<p>3rd semester: seminars</p> <p>Seminars include multimedia presentations and discussions on the following topics:</p> <ol style="list-style-type: none"> <li>1. Mechanical properties of biomaterials, the concept of stress and strain. Strength laboratory tests.</li> <li>2. Impression materials - types, properties, advantages, disadvantages, standard and individual impression trays. Rigid and flexible masses and ways of grinding them. Two-layer impressions - one-time and two-time impressions.</li> <li>3. Cements in dentistry. Composition analysis, setting, clinical significance of cement type, strength parameters, retention problem. Cements based on water, resins and oils. Auxiliary materials and preparations.</li> <li>4. Materials for dental fillings. Composites, glass ionomers, compomers, amalgams - discussion of properties and indications. Adhesion of tissues and restorative materials.</li> <li>5. Dental alloys - types of alloys and their properties. Methods for obtaining cast metal constructions. Dental implants. methods of holding metal structures using modern technologies.</li> <li>6. Biomaterials and tissue scaffolds. Stem cells. Tissue engineering.</li> <li>7. Characteristics of acrylic materials and flexible materials.</li> <li>8. Dental ceramics. Ceramics fired on metal and metal-free.</li> <li>9. Dental equipment - presentation of modern clinical and diagnostic equipment.</li> <li>10. Dental laboratory equipment - demonstration of laboratory procedures (gypsum shop, acrylic laboratory, foundry, technical positions, precision machining laboratory, dental ceramics laboratory).</li> </ol>	W1, W2, W3, W4, W5, W6, W7, U1, U2, K1, K2	seminar
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## Course advanced

### Semester 2

#### Teaching methods:

case study, classes / practicals, laboratories (labs), preclinical classes, classes in simulated conditions, demonstration, discussion, e-learning, educational film, presentation, group work, assignments solving, seminar, simulation, workshop, practical classes

Activities	Examination methods	Credit conditions
e-learning	written examination, practical examination	all classes are obligatory
simulations	written examination, practical examination, theoretical colloquiums	Presence mandatory required at all exercises, positive assessment of all practical procedures and tests.

### Semester 3

#### Teaching methods:

demonstration, discussion, e-learning, educational film, presentation, group work, seminar, lecture with multimedia presentation



<b>Activities</b>	<b>Examination methods</b>	<b>Credit conditions</b>
e-learning	written examination, practical examination	all classes are obligatory
seminar	written examination, practical examination, theoretical colloquiums	Presence mandatory required at all seminars, positive assessment of colloquias.

### **Entry requirements**

Students attendance is compulsory.

## Dental occlusion and function of the jaw

### Educational subject description sheet

#### Basic information

<b>Department</b> Faculty of Medicine  <b>Field of study</b> Medical and Dental Program  <b>Study level</b> long-cycle master's degree program  <b>Study form</b> full-time  <b>Education profile</b> general academic  <b>Disciplines</b> Medical science  <b>ISCED classification</b> 0911 Dental studies  <b>Subject related to scientific research</b> Yes	<b>Didactic cycle</b> 2020/21  <b>Realization year</b> 2021/22  <b>Lecture languages</b> English  <b>Block</b> obligatory for passing in the course of studies  <b>Mandatory</b> obligatory  <b>Examination</b> examination  <b>Standard group</b> C. Preclinical course
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<b>Period</b> Semester 3	<b>Examination</b> examination  <b>Activities and hours</b> e-learning: 6, seminar: 8, classes: 24	<b>Number of ECTS points</b> 3.0
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#### Goals

C1	The aim of education is to combine knowledge of the anatomy of the stomatognathic system with physiological functions of oral tissues and organs including familiarization with the process of occlusion system development and types of malocclusion.
C2	Another goal is to learn how to transfer clinical articulometric data to diagnostic instruments used in dentistry .
C3	An additional aim of education is to familiarize the student with clinical and laboratory materials used in dentistry.

#### Subject's learning outcomes

Code	Outcomes in terms of	Effects	Examination methods
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<b>Knowledge - Student knows and understands:</b>			
W1	relationship between morphological abnormalities and the function of changed organs and systems, as well as clinical symptoms and possibilities of diagnostics and treatment	E.W1	oral answer, multiple choice test
W2	issues in the field of medicine and natural sciences - in the basic scope	O.W1	oral answer, multiple choice test
W3	basic methods of medical examination and the role of additional examinations in the diagnosis, monitoring, prognosis and prevention of organ and systemic disorders, with particular emphasis on their impact on oral tissues	E.W2	oral answer, multiple choice test
<b>Skills - Student can:</b>			
U1	communicate and share knowledge with colleagues in a team	O.U8	classroom observation, oral answer
U2	critically evaluate the results of scientific research and adequately justify the position	O.U9	classroom observation, oral answer, multiple choice test
U3	carry out diagnostics of the most common diseases, assess and describe the patient's somatic and mental state	O.U1	oral answer, multiple choice test
U4	perform differential diagnosis of the most common diseases of adults	E.U1	oral answer, multiple choice test
<b>Social competences - Student is ready to:</b>			
K1	perceive and recognize own limitations, self-assess educational deficits and needs	O.K5	classroom observation
K2	use objective sources of information	O.K7	classroom observation, oral answer
K3	formulate conclusions from own measurements or observations	O.K8	classroom observation, oral answer
K4	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	O.K9	classroom observation
K5	assume responsibility for decisions taken in the course of their professional activities, including in terms of the safety of oneself and others.	O.K11	classroom observation

### Calculation of ECTS points

<b>Activity form</b>	<b>Activity hours*</b>
e-learning	6
seminar	8
classes	24
preparation for classes	8

preparation for classes	12
preparation for test	30
<b>Student workload</b>	<b>Hours</b> 88
<b>Workload involving teacher</b>	<b>Hours</b> 38
<b>Practical workload</b>	<b>Hours</b> 24

\* hour means 45 minutes

## Study content

No.	Course content	Subject's learning outcomes	Activities
1.	Anatomy of the masticatory organ – bones, muscles, joints, nerves and blood vessels.	W1, K1, K2	e-learning
2.	Physiology of temporomandibular joints, jaw movements and function.	W1, W2, K2	e-learning
3.	Teeth, periodontium, occlusion, tooth contacts and jaw position, articulators and facebow systems.	W1, W3, K2	e-learning
4.	Anatomy of the masticatory organ	W1, U1, U2, K2	seminar
5.	Bones, muscles and temporomandibular joint anatomy.	W1, W2, U1, U2, K1, K2	classes
6.	Clinical examination of jaw function.	W1, W2, U1, U2, U3, U4, K1, K2, K3, K4	seminar
7.	The examination of muscles and jaw function.	W1, W2, W3, U1, U3, U4, K1, K2, K3, K4, K5	classes
8.	Normal dental and skeletal development, tooth numbering, Angle'a Classes, dental age.	W1, W2, W3, U3, U4, K2, K3	seminar
9.	Plaster study cast analysis – tooth numbering, dental age assessment, classification of malocclusion.	W1, W2, W3, U1, U3, U4, K1, K2, K3, K4, K5	classes
10.	Clinical examination of the jaw function, interarch relationships of teeth, selected anthropometric points, vertical dimension calculating.	W1, W2, W3, U1, U2, U3, K2, K3	seminar
11.	Alginate impression taking, plaster cast preparation, rest position and vertical dimension calculating.	W1, U1, U2, K1, K2, K3, K4, K5	classes
12.	Articulators and evaluation of study casts, facebow systems, occlusal records.	W1, W2, U1, U2, K2, K3	seminar
13.	Arbitrary hinge axis facebow use in phantom patient, registration of occlusion.	W1, W2, W3, U1, U2, U4, K1, K2, K3, K4, K5	classes
14.	Average value articulators, articulometric parameters	W1, W2, U1, U2, U3, U4, K2, K3	seminar
15.	Plaster casts preparation, articulation to the average value articulators.	W1, U1, K1, K2, K3, K4, K5	classes

16.	Dental arches and tooth anatomy, types of occlusion, Andrew's keys of occlusion.	W1, W2, U1, U2, K2, K3	seminar
17.	Wax-up of occlusal surfaces of teeth 15 and 16 - part I.	W1, U1, K1, K2, K3, K4, K5	classes
18.	Oral cavity physiology and function. Periodontal health.	W1, U2, K2, K3	seminar
19.	Wax-up of occlusal surfaces of teeth 15 and 16 - part II.	W1, U1, K1, K2, K3, K4, K5	classes

## Course advanced

### Teaching methods:

preclinical classes, classes in simulated conditions, demonstration, discussion, e-learning, problem solving method, seminar, simulated patient, lecture, lecture with multimedia presentation, practical classes in simulated conditions

Activities	Examination methods	Credit conditions
e-learning	multiple choice test	The multiple choice test consists of 40 questions which cover the whole material of the course (seminars, classes, lectures) – 60% positive answers to pass is required.
seminar	oral answer, multiple choice test	Theory on each seminars passed, attendance in all seminars. The multiple choice test consists of 40 questions which cover the whole material of the course (seminars, classes, lectures) – 60% positive answers to pass is required.
classes	classroom observation, oral answer, multiple choice test	Theory on each classes passed, attendance in all classes, all procedures made. The multiple choice test consists of 40 questions which cover the whole material of the course (seminars, classes, lectures) – 60% positive answers to pass is required.

# Immunology

## Educational subject description sheet

### Basic information

<b>Department</b> Faculty of Medicine  <b>Field of study</b> Medical and Dental Program  <b>Study level</b> long-cycle master's degree program  <b>Study form</b> full-time  <b>Education profile</b> general academic  <b>Disciplines</b> Medical science  <b>ISCED classification</b> 0912 Medicine  <b>Subject related to scientific research</b> Yes	<b>Didactic cycle</b> 2020/21  <b>Realization year</b> 2021/22  <b>Lecture languages</b> English  <b>Block</b> obligatory for passing in the course of studies  <b>Mandatory</b> obligatory  <b>Examination</b> graded credit  <b>Standard groups</b> B. Scientific basis for medicine, E. General clinical sciences (non-invasive)
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<b>Period</b> Semester 4	<b>Examination</b> graded credit  <b>Activities and hours</b> e-learning: 4, seminar: 6, classes: 15	<b>Number of ECTS points</b> 2.0
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### Goals

C1	The course aims at presenting the general concepts of immunological processes and mechanisms underlying human immunity, with the special emphasis on those, which understanding is important in the dental profession.
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### Subject's learning outcomes

Code	Outcomes in terms of	Effects	Examination methods
Knowledge - Student knows and understands:			

W1	etiopathogenesis and symptomatology of respiratory, circulatory, hematopoietic, genitourinary, immune, digestive, motor and endocrine glands diseases, with particular regard to disease entities whose symptoms occur in the oral cavity	E.W3	theoretical colloquiums, multiple choice test
W2	symptoms of hepatitis, HIV infection and acquired immune deficiency syndrome (AIDS) in infectious and parasitic diseases	E.W8	theoretical colloquiums, multiple choice test
W3	immunological aspects of transplantation and blood therapy	E.W16	theoretical colloquiums, multiple choice test
W4	basic methods of medical examination and the role of additional examinations in the diagnosis, monitoring, prognosis and prevention of organ and systemic disorders, with particular emphasis on their impact on oral tissues	E.W2	theoretical colloquiums, multiple choice test
W5	relationship between morphological abnormalities and the function of changed organs and systems, as well as clinical symptoms and possibilities of diagnostics and treatment	E.W1	theoretical colloquiums, multiple choice test
W6	life-threatening conditions	E.W18	theoretical colloquiums, multiple choice test
W7	issues in the field of medicine and natural sciences - in the basic scope	O.W1	theoretical colloquiums, multiple choice test
W8	health education issues	O.W3	theoretical colloquiums, multiple choice test
W9	the role and importance of body fluids, including saliva	B.W6	theoretical colloquiums, multiple choice test
<b>Skills - Student can:</b>			
U1	interpret the results of laboratory tests	E.U4	practical colloquiums, classroom observation
U2	qualify the patient for vaccination	E.U7	practical colloquiums, classroom observation
U3	plan the management of exposure to blood-borne infections	E.U6	practical colloquiums, classroom observation
U4	recognize the risk of life threat	E.U8	practical colloquiums, classroom observation
U5	apply knowledge of genetics and molecular biology in clinical work	B.U5	practical colloquiums, classroom observation
<b>Social competences - Student is ready to:</b>			
K1	perceive and recognize own limitations, self-assess educational deficits and needs	O.K5	classroom observation
K2	promote health-promoting behaviors	O.K6	classroom observation
K3	use objective sources of information	O.K7	classroom observation
K4	formulate conclusions from own measurements or observations	O.K8	classroom observation

### Calculation of ECTS points

Activity form	Activity hours*
e-learning	4
seminar	6
classes	15
preparation for classes	10
preparation for colloquium	10
preparation for examination	15
<b>Student workload</b>	<b>Hours</b> 60
<b>Workload involving teacher</b>	<b>Hours</b> 25
<b>Practical workload</b>	<b>Hours</b> 15

\* hour means 45 minutes

## Study content

No.	Course content	Subject's learning outcomes	Activities
1.	Organization and function of immune system. Primary and secondary lymphatic organs. Innate and acquired immunity. Cytokines. Recognition of pathogens by innate immune cells and lymphocytes.	W1, W5, K1, K2, K3	classes, e-learning
2.	Antigens. Immunoglobulins. Complement. Immunoglobulin superfamily. Primary and secondary humoral response against T-dependent and T-independent antigens. Monoclonal antibodies. Antisera. Human gammaglobulin.	W1, W2, W3, W4, W5, W6, W7, W8, W9, U3, U4, K1, K2, K3, K4	classes, e-learning
3.	Induction of antigen-specific response, antigen presentation by APC cells. MHC complex.	W1, W2, W4, W5, U3, U4, K1, K2, K3	e-learning
4.	Subpopulations of lymphocytes. Mechanism of humoral immune response.	W1, W2, W3, W5, W6, U1, U2, U3, U4, K1, K2, K3	seminar, e-learning
5.	Allergic reactions based on humoral immunity (type I, II and III hypersensitivities).	W1, W2, W3, W4, W5, W6, U1, U2, U3, U4, K1, K2, K3, K4	classes
6.	Cellular response. Cells of innate and antigen-specific cellular immune response (phagocytes, NK cells, T lymphocytes). Toll-like receptors (TLR). Delayed-type hypersensitivity. Cytotoxic reactions involving CD8+ T lymphocytes.	W1, W2, W3, W4, W5, W6, U1, U2, U3, U4, K1, K2, K3, K4	classes, seminar, e-learning
7.	Mucosa-associated lymphatic tissue (MALT), defense mechanisms of saliva, pathomechanism of periodontitis.	W1, W2, W3, W4, W5, W6, U1, U2, U3, U4, K1, K2, K3, K4	classes, seminar, e-learning



8.	Active and passive immunization. Vaccinations.	W1, W2, W3, W4, W5, W6, U2, U3, K1, K2, K3	classes
9.	Immune tolerance and self-tolerance. Regulation of immune response.	W1, W2, W3, W4, W5, W6, U1, U2, U3, U4, K1, K2, K3, K4	seminar
10.	Immune mechanisms in bacteria, virus and parasite infections.	W1, W2, W3, W4, W5, W6, U1, U2, U3, U4, U5, K1, K2, K3, K4	classes

## Course advanced

### Teaching methods:

laboratories (labs), demonstration, discussion, e-learning, educational film, presentation, seminar, lecture

Activities	Examination methods	Credit conditions
e-learning	multiple choice test	multiple choice test with one correct answer; mark scale: 0-50% NDST; 51-60% DST; 61-70% DST+; 71-80% DB; 81-90% DB+; 91-100% BDB
seminar	theoretical colloquiums, classroom observation	multiple choice test with one correct answer, credit; mark scale: 0-50% NDST; 51-60% DST; 61-70% DST+; 71-80% DB; 81-90% DB+; 91-100% BDB
classes	practical colloquiums, classroom observation	credit

## Entry requirements

WL-ED2.BioCH, WL-ED2.HumPhys; The presence on seminars and lab classes is mandatory

## General radiology

### Educational subject description sheet

#### Basic information

<b>Department</b> Faculty of Medicine  <b>Field of study</b> Medical and Dental Program  <b>Study level</b> long-cycle master's degree program  <b>Study form</b> full-time  <b>Education profile</b> general academic  <b>Disciplines</b> Medical science  <b>ISCED classification</b> 0912 Medicine	<b>Didactic cycle</b> 2020/21  <b>Realization year</b> 2021/22  <b>Lecture languages</b> English  <b>Block</b> obligatory for passing in the course of studies  <b>Mandatory</b> obligatory  <b>Examination</b> graded credit  <b>Standard group</b> E. General clinical sciences (non-invasive)
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<b>Period</b> Semester 4	<b>Examination</b> graded credit  <b>Activities and hours</b> e-learning: 8, classes: 7	<b>Number of ECTS points</b> 1.0
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#### Goals

C1	Basic of Radiology and diagnostic methods.
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#### Subject's learning outcomes

Code	Outcomes in terms of	Effects	Examination methods
<b>Knowledge - Student knows and understands:</b>			
W1	principles of radiological diagnosis	F.W18	credit
<b>Skills - Student can:</b>			
U1	interpret the results of additional tests and consultations	F.U6	credit
<b>Social competences - Student is ready to:</b>			

K1	to be guided by the well-being of a patient	O.K2	credit
K2	respect medical confidentiality and patients' rights	O.K3	credit

### Calculation of ECTS points

Activity form	Activity hours*
e-learning	8
classes	7
preparation for classes	10
<b>Student workload</b>	<b>Hours</b> 25
<b>Workload involving teacher</b>	<b>Hours</b> 15
<b>Practical workload</b>	<b>Hours</b> 7

\* hour means 45 minutes

### Study content

No.	Course content	Subject's learning outcomes	Activities
1.	Basic principles of rad. Physics. Basic principles of CT, CT-cone beam. Basic principles of USG. Basic principles of MR. Anatomy and pathol. of cranial nerves Pathology of the neck  ANGIO-lab CT-lab Conv. Lab MR-lab	W1, U1, K1, K2	classes, e-learning

### Course advanced

#### Teaching methods:

case study, classes / practicals, clinical classes, laboratories (labs), e-learning, presentation, seminar, lecture, practical classes

Activities	Examination methods	Credit conditions
e-learning	credit	Attendance - no more than 2 days of absences are allowed [on both together]
classes	credit	Attendance - no more than 2 days of absences are allowed [on both together]

## Entry requirements

no

## Epidemiology and environmental medicine

### Educational subject description sheet

#### Basic information

<b>Department</b> Faculty of Medicine  <b>Field of study</b> Medical and Dental Program  <b>Study level</b> long-cycle master's degree program  <b>Study form</b> full-time  <b>Education profile</b> general academic  <b>Disciplines</b> Medical science  <b>ISCED classification</b> 0912 Medicine  <b>Subject related to scientific research</b> Yes	<b>Didactic cycle</b> 2020/21  <b>Realization year</b> 2021/22  <b>Lecture languages</b> English  <b>Block</b> obligatory for passing in the course of studies  <b>Mandatory</b> obligatory  <b>Examination</b> graded credit  <b>Standard group</b> G. Legal and organizational basis for medicine
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<b>Period</b> Semester 4	<b>Examination</b> graded credit  <b>Activities and hours</b> classes: 30	<b>Number of ECTS points</b> 2.0
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#### Goals

C1	To acquire knowledge and skills related to population health assessment, identification of factors related to health status and disease prevention strategies for communicable and non-communicable diseases in the course of natural history of the disease, as well as to familiarize students with different study types and results interpretation based on the epidemiological research and reliability assessment.
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#### Subject's learning outcomes

Code	Outcomes in terms of	Effects	Examination methods
<b>Knowledge - Student knows and understands:</b>			
W1	the rules of conducting scientific research and spreading their results	O.W4	written credit

W2	basic concepts related to health, lifestyle and health of the population	G.W4	written credit
W3	methods for determining the health needs of society	G.W5	written credit
W4	health situation in the Republic of Poland and the world	G.W6	written credit
W5	indicators of the state of health of the population and the principles of their assessment	G.W14	written credit
W6	principles of disease prevention and improvement of health condition	G.W15	written credit
W7	principles of epidemiological development of an infectious disease outbreak	G.W16	written credit
W8	rules of conduct in the event of an epidemiological threat	G.W20	written credit
<b>Skills - Student can:</b>			
U1	critically evaluate the results of scientific research and adequately justify the position	O.U9	classroom observation, written credit
U2	analyze population health data, epidemiological data and determine population health status based on it	G.U1	project, written credit
U3	describe selected health phenomena on a population scale and forecast their impact on healthcare functioning	G.U2	project, written credit
U4	assess the scale of health problems and indicate health priorities and determine their importance in health policy	G.U3	project, written credit
U5	analyze the determinants of the epidemiological situation in the aspect of social and demographic processes	G.U4	written credit
U6	design epidemiological studies	G.U18	classroom observation, project, written credit
U7	carry out an epidemiological inquiry	G.U19	project, written credit
U8	interpret basic epidemiological indicators, define and evaluate the reliability and relevance of screening tests	G.U17	written credit
U9	confirm or exclude the relationship of environmental factors with the etiology of the disease, including occupational disease	G.U14	project
U10	create simple research programs in the field of prevention and treatment	G.U5	classroom observation, project
U11	work in a team and lead a team in a dental office	G.U11	classroom observation
<b>Social competences - Student is ready to:</b>			
K1	use objective sources of information	O.K7	classroom observation
K2	perceive and recognize own limitations, self-assess educational deficits and needs	O.K5	classroom observation, project

### Calculation of ECTS points

Activity form	Activity hours*
classes	30
preparation for examination	10
preparation for classes	12
preparation of multimedia presentation	3
information collection	5
<b>Student workload</b>	<b>Hours</b> 60
<b>Workload involving teacher</b>	<b>Hours</b> 30
<b>Practical workload</b>	<b>Hours</b> 30

\* hour means 45 minutes

## Study content

No.	Course content	Subject's learning outcomes	Activities
1.	Demographical factors related to health status	W3, W4, U5	classes
2.	Criteria for the epidemiological assessment of population health. The indicators of disease burden (incidence, prevalence). Data sources for population health assessment.	W2, W3, W4, W5, U2, U3, U4, U5, U8, K1	classes
3.	Criteria for the oral health assessment in population research. Methods of the assessment of disease frequency in different population groups (standardization).	W2, W3, W4, W5, U2, U3, U4, K1	classes
4.	Diseases of oral cavity and disease burden (DALY, QALY).	U11, U4, U8	classes
5.	Epidemiological research. Interpretation of research results – example of dental caries. The identification of risk factors and populations at risk.	W1, U1, U4, U6, U9	classes
6.	The role of environment in oral health. Planning, carrying out and results interpretation of case-control study – oral cancer example.	W1, U1, U6, U9, K1, K2	classes
7.	The use of cohort study in establishing the causal relationship- cardiovascular disease example. Attributable risk.	W1, U1, U6, U9, K1, K2	classes
8.	Randomized controlled trial in assessment of effectiveness of dental treatment and prevention actions.	W1, U1, U10, U6, U9, K1, K2	classes
9.	Natural history of the disease and prevention (primary, secondary and tertiary prevention). The factors influencing the population health.	W2, W6, U10, U8	classes

10.	Early detection of the disease. The idea of screening – the validity of screening tests.	W6, U8	classes
11.	The epidemic triad. The role of dentist in triad. The dental office as a potential part of epidemiological chain of infection. Nosocomial infections.	W6, W8, U5	classes
12.	The burden of communicable diseases and methods of their spread control. The rules for the epidemiological outbreak assessment.	W7, W8, U2	classes
13.	The case study – disease outbreak.	W7, W8, U7	classes
14.	Does every relationship is a causal one? The rules for the causality judging.	W1, U1, U9, K1	classes
15.	The relationship between oral health and general health – the critical appraisal of published papers.	W1, U1, K1, K2	classes

## Course advanced

### Teaching methods:

case study, textual analysis, brainstorm, discussion, problem solving method, assignments solving, lecture with multimedia presentation

Activities	Examination methods	Credit conditions
classes	classroom observation, project, written credit	There is no absences allowed. In the case of absence student should made-up the material in the form indicated by teacher (essay, additional assignement, etc.). Student have to receive more than 50% for each of the following: presentation of the epidemiological description of the chosen disease; project based on disease outbrake and final written test.



## Medical Biophysics

### Educational subject description sheet

#### Basic information

<b>Department</b> Faculty of Medicine  <b>Field of study</b> Medical and Dental Program  <b>Study level</b> long-cycle master's degree program  <b>Study form</b> full-time  <b>Education profile</b> general academic  <b>Disciplines</b> Medical science  <b>ISCED classification</b> 0912 Medicine  <b>Subject related to scientific research</b> Yes	<b>Didactic cycle</b> 2020/21  <b>Realization year</b> 2021/22  <b>Lecture languages</b> English  <b>Block</b> obligatory for passing in the course of studies  <b>Mandatory</b> obligatory  <b>Examination</b> examination  <b>Standard group</b> B. Scientific basis for medicine
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<b>Period</b> Semester 4	<b>Examination</b> examination  <b>Activities and hours</b> seminar: 6, classes: 36, e-learning: 6	<b>Number of ECTS points</b> 3.0
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## Goals

C1	To familiarize students with the laws and concepts in biophysics used to describe processes taking place in the human body, in particular with: (1) the basics of thermodynamics (solubility, diffusion, osmotic pressure, Donnan equilibrium), (2) biophysical description of cell, tissue and organ functioning and physiological processes in the human body, (3) physical description of fluid flow and functioning of the vascular and respiratory systems, (4) basic laws describing electrical and magnetic phenomena in the human body (resting and action potential of the cell membrane, electrical properties of tissues, effects of electric current flow in the body, safety limits for current/voltage values.
C2	To familiarize students with the effects of physical factors such as temperature, gravity, pressure, acceleration, electromagnetic field and ionizing radiation on the human body, in particular with: (1) the sources of electromagnetic radiation and radiation properties depending on the source type, (2) influence of electromagnetic radiation on living organism and its application in diagnostics and therapy, (3) the phenomenon of radioactive decay and various types of ionizing radiation, interaction of ionizing radiation with living matter, (4) risk assessment methods of influence of various physical factors on the human body, (5) dose harmfulness of non-ionizing/ionizing radiation and other physical factors acting on the human body, radiation protection.
C3	To familiarize students with the basics of physical methods used in diagnostics and therapy, in particular with: (1) analysis of biophysical phenomena and processes occurring in therapy and diagnostics, (2) physical background of non-invasive imaging methods, (3) physical description of selected therapeutic techniques e.g. ultrasounds and various types of electromagnetic radiation in a wide range of energies.
C4	To familiarize students with the use of simple measuring instruments, accuracy of measurements and planning experiments to determine the physical parameters of the system, in particular with: (1) operation of selected diagnostic and therapeutic measuring instruments (e.g. multimeter, ECG apparatus, laser, ultrasound apparatus, spirometer, magnetotherapy device, dialyzer, apparatus for electrodiagnostics, X-ray tube, radiometer), (2) using dedicated software supporting or controlling the operation of these devices to assess the accuracy of the performed measurements, (3) using databases, including online ones, and searching for the information with the use of available tools, (4) performing a biophysical experiment and analyzing measurement results with the use of statistical programs, spreadsheets and graphic programs.

## Subject's learning outcomes

Code	Outcomes in terms of	Effects	Examination methods
<b>Knowledge - Student knows and understands:</b>			
W1	issues in the field of medicine and natural sciences - in the basic scope	O.W1	oral examination, test
W2	the rules of conducting scientific research and spreading their results	O.W4	assignment report
W3	the importance of the main and trace elements in the processes occurring in the body, including supply, absorption and transport	B.W1	oral examination, test
W4	the importance of electrolytes, buffer systems and chemical reactions in biological systems	B.W2	oral examination, test
W5	principles of statics and biomechanics in relation to the human body	B.W7	oral examination, test
W6	mechanics of the masticatory organ	B.W8	oral examination, assignment report, test
W7	tissue and organ imaging methods and principles of operation of diagnostic devices for this purpose	B.W9	oral examination, assignment report, test
W8	operating principles of ultrasonic devices	B.W10	oral examination, assignment report, test
W9	principles of lasers in dentistry	B.W12	oral examination, test

W10	principles of photometry and optical fibers and the use of light sources in dentistry	B.W11	oral examination, assignment report, test
W11	principles of dental equipment operation	B.W13	oral examination, assignment report, test
W12	principles of acid-base balance and transport of oxygen and carbon dioxide in the body	B.W21	oral examination, test
W13	numerical value of basic physiological variables and changes in numerical values	B.W23	oral examination, test
<b>Skills - Student can:</b>			
U1	plan own learning activities and constantly learn in order to update own knowledge	O.U5	oral examination, assignment report, test
U2	communicate and share knowledge with colleagues in a team	O.U8	assignment report
U3	critically evaluate the results of scientific research and adequately justify the position	O.U9	oral examination, assignment report, test
U4	interpret physical phenomena occurring in the masticatory organ	B.U2	oral examination, test
U5	use the physical processes appropriate to the work of a dentist	B.U3	oral examination, test
<b>Social competences - Student is ready to:</b>			
K1	perceive and recognize own limitations, self-assess educational deficits and needs	O.K5	assignment report
K2	use objective sources of information	O.K7	oral examination, assignment report, test
K3	formulate conclusions from own measurements or observations	O.K8	oral examination, assignment report
K4	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	O.K9	assignment report

### Calculation of ECTS points

Activity form	Activity hours*
seminar	6
classes	36
preparation for classes	12
preparation for examination	20
participation in examination	1
information collection	9
e-learning	6

<b>Student workload</b>	<b>Hours</b> 90
<b>Workload involving teacher</b>	<b>Hours</b> 48
<b>Practical workload</b>	<b>Hours</b> 36

\* hour means 45 minutes

## Study content

No.	Course content	Subject's learning outcomes	Activities
1.	Structure of matter - atomic nucleus, atom, molecule, gases (partial pressure, Dalton's law, air composition, vapors, liquids (surface tension, viscosity), solids (bone and tooth structure), phase transitions (ebullism), gas solubility in liquids (Henry's law, aeroembolism, caisson disease, oxygen intoxication, nitrogen narcosis). Biophysical description of biological systems, the living organism as a thermodynamic system, mechanisms of heat transport, heat loss of the body, the body's heat balance, basal metabolic rate, work of the heart, lungs and kidneys, hyperthermia, hypothermia and cryotherapy, mechanisms of membrane transport, diffusion phenomenon, Fick's law, osmosis, van't Hoff's law, osmotic pressure, role of the osmotic pressure in transport through the wall of capillary vessel.	W1, W12, W13, W3, W4, U4, U5, K2	seminar, e-learning
2.	Mechanical properties of biological systems, gravity, overloads, traffic accidents, equilibrium and deformation of solids, Hooke's law, mechanical properties of bones. Fluid mechanics, hydrostatics, the effect of hydrostatic pressure on circulatory and respiratory systems functioning, velocity distribution of blood in vessel, laminar and turbulent flow, volumetric flow, vascular resistance, pulse wave, description of cardiovascular and respiratory systems functioning based on fluid mechanics, blood pressure measurements.	W1, W5, W6, U4, U5, K2	seminar, e-learning
3.	Electrical and magnetic properties of the biological substances, electrical conductivity of tissues and organs, electric model of tissue, bioimpedance measurements, electrodiagnostics and electrotherapy, the effect of electric current flow on the human body, electric shock, pacemaker and defibrillator, magnetic fields, diamagnetic and paramagnetic materials, application of magnetic fields in medicine.	W1, W11, W4, U3, U4, U5, K1, K2, K3, K4	seminar, e-learning

4.	Types and sources of electromagnetic radiation, radio waves and microwaves, antennas, infrared radiation, visible light, photodynamic reactions, ultraviolet, physical background and properties of laser radiation, lasers, X-ray tube and its parameters, properties of X-ray radiation used in medicine, particle accelerators used in medicine. Influence of non-ionizing radiation on biological systems, application of electromagnetic radiation in the range of UV/VIS/IR in medicine, lasers in medicine, therapeutic application of electromagnetic fields in the range of low and high frequencies, specific absorption rate. Influence of ionizing radiation on biological systems, absorption law, quantities used in radiation protection and safety standards, law of radioactive decay, characteristics of radioactive sources applied in medicine, brachytherapy and teletherapy, radioactive isotopes in diagnostics, gamma camera, scintigraphy, single photon emission tomography, positron emission tomography.	W1, W10, W11, W8, W9, U3, U4, U5, K1, K2, K3, K4	seminar, e-learning
5.	Imaging diagnostics, X-ray apparatus, rentgenography, minimization of radiation doses and image optimization, pantomography, densitometry, computed tomography and principle of measurement, tomographic window, phenomenon of magnetic resonance, magnetic resonance tomography and principle of measurement, magnetic resonance spectroscopy, advanced ultrasound techniques (Doppler effect, higher harmonics, 3D and 4D imaging), types of contrast agents applied in various method of diagnostic imaging.	W1, W11, W7, U3, K2	seminar, e-learning
6.	Labs classes include self-implementation by students experiments with the use of devices and organ models built at the Biophysics Department. Individual exercises concern the following issues: methodology of physical experiment (error analysis), measurement and data analysis of selected physiological quantities, acquisition and computer processing of diagnostic images, mechanical properties of bones and teeth, model of the circulatory system, electrocardiography, ultrasonography, dental radiography, digital analysis of tooth color, polymerization kinetics, mechanics of jaw, dental drill.	W1, W10, W11, W2, W7, U1, U2, U3, U4, U5, K1, K2, K3, K4	classes, e-learning

## Course advanced

### Teaching methods:

laboratories (labs), seminar

Activities	Examination methods	Credit conditions
seminar	oral examination	Each answer is rated on a scale of 0-10 points. For getting credit it is necessary to get an average grade equal to 6 points.
classes	assignment report, test	Each exercise is rated on a scale of 0-10 points. For getting credit it is necessary to get an average grade equal to 6 points from all exercises.
e-learning		

## **Entry requirements**

Knowledge in physics, mathematics and chemistry at the basic level. Ability to adapt this knowledge to solve problems in biophysics. Ability to prepare for classes with the use of given literature and other learning materials.

## Practice in the field of assisting a dentist - summer internship

### Educational subject description sheet

#### Basic information

<b>Department</b> Faculty of Medicine  <b>Field of study</b> Medical and Dental Program  <b>Study level</b> long-cycle master's degree program  <b>Study form</b> full-time  <b>Education profile</b> general academic  <b>Disciplines</b> Medical science  <b>ISCED classification</b> 0912 Medicine	<b>Didactic cycle</b> 2020/21  <b>Realization year</b> 2021/22  <b>Lecture languages</b> English  <b>Block</b> obligatory for passing in the course of studies  <b>Mandatory</b> obligatory  <b>Examination</b> credit  <b>Standard group</b> I. Professional practice
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<b>Period</b> Semester 4	<b>Examination</b> credit  <b>Activities and hours</b> professional practice: 120	<b>Number of ECTS points</b> 4.0
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#### Goals

C1	The aim of the practice is to familiarize students with oral health care system and with basic dental procedures
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#### Subject's learning outcomes

Code	Outcomes in terms of	Effects	Examination methods
<b>Knowledge - Student knows and understands:</b>			
W1	organization of dentist practice and management principles in healthcare	O.W5	booklet of practice
<b>Skills - Student can:</b>			
U1	provide professional dental care in the field of prevention, treatment, health promotion and health education	O.U2	booklet of practice

U2	communicate with the patient and his family in an atmosphere of trust, taking into account the needs of the patient	O.U7	booklet of practice
U3	communicate and share knowledge with colleagues in a team	O.U8	booklet of practice
<b>Social competences - Student is ready to:</b>			
K1	to be guided by the well-being of a patient	O.K2	booklet of practice
K2	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	O.K4	booklet of practice
K3	promote health-promoting behaviors	O.K6	booklet of practice
K4	use objective sources of information	O.K7	booklet of practice

### Calculation of ECTS points

Activity form	Activity hours*
professional practice	120
<b>Student workload</b>	<b>Hours</b> 120
<b>Workload involving teacher</b>	<b>Hours</b> 120
<b>Practical workload</b>	<b>Hours</b> 120

\* hour means 45 minutes

### Study content

No.	Course content	Subject's learning outcomes	Activities
1.	Preparation of the dental unit for oral procedures	W1, U1, U2, U3, K1, K2, K3, K4	professional practice
2.	Preparation of dental armamentarium (disinfection and sterilization)	W1, U1, U2, U3, K1, K2, K3, K4	professional practice
3.	Assistance to dental procedures	W1, U1, U2, U3, K1, K2, K3, K4	professional practice
4.	Administrative activities (patients registration, medical records, preparation of certificates)	W1, U1, U2, U3, K1, K2, K3, K4	professional practice

### Course advanced

#### Teaching methods:

professional practice



<b>Activities</b>	<b>Examination methods</b>	<b>Credit conditions</b>
professional practice	booklet of practice	120 h of professional practice

## Basics of medical imaging

### Educational subject description sheet

#### Basic information

<b>Department</b> Faculty of Medicine  <b>Field of study</b> Medical and Dental Program  <b>Study level</b> long-cycle master's degree program  <b>Study form</b> full-time  <b>Education profile</b> general academic  <b>Disciplines</b> Medical science  <b>ISCED classification</b> 0912 Medicine	<b>Didactic cycle</b> 2020/21  <b>Realization year</b> 2021/22  <b>Lecture languages</b> English  <b>Block</b> obligatory for passing in the course of studies  <b>Mandatory</b> elective  <b>Examination</b> graded credit  <b>Standard group</b> B. Scientific basis for medicine
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<b>Period</b> Semester 4	<b>Examination</b> graded credit  <b>Activities and hours</b> e-learning: 30	<b>Number of ECTS points</b> 2.0
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#### Goals

G1	The aim of the module is to familiarize a student with, in terms of knowledge with: (1) the concepts enabling the biophysical description of the medical imaging techniques, (2) the effects of physical factors on the human body, (3) the basics of physical methods used in the diagnosis, with particular emphasis on diagnostic imaging, (4) image processing techniques and (5) methods of estimating the risk of performing a diagnostic test.
G2	To make students aware of the limitations associated with diagnostic imaging methods and side effects associated with the use of different imaging methods. In particular, familiarization with: (1) restrictions various imaging diagnostics methods, (2) characteristic artifacts for various imaging methods, (3) assessment of the harmfulness of ionizing and non-ionizing radiation used in a given diagnostic method as well as standards in this area for both patients and staff.
G3	To develop skills in optimizing the procedure to achieve a specific diagnostic purpose and preparation for the use of imaging apparatus in clinical practice. In particular, familiarization with: (1) how to choose the optimal diagnostic procedure to solve a specific problem, (2) effective using basic diagnostic imaging devices, (3) explaining the course to the patient the test that awaits him, (4) cooperation with the team operating the imaging equipment and (5) use of the literature.

## Subject's learning outcomes

Code	Outcomes in terms of	Effects	Examination methods
<b>Knowledge - Student knows and understands:</b>			
W1	issues in the field of medicine and natural sciences – in the basic scope	O.W1	oral examination
W2	tissue and organ imaging methods and principles of operation of diagnostic devices for this purpose	B.W9	essay
W3	operating principles of ultrasonic devices	B.W10	oral examination, essay
W4	principles of photometry and optical fibers and the use of light sources in dentistry	B.W11	oral examination, essay
W5	principles of lasers in dentistry	B.W12	oral examination, essay
W6	principles of dental equipment operation	B.W13	oral examination
<b>Skills - Student can:</b>			
U1	carry out diagnostics of the most common diseases, assess and describe the patient's somatic and mental state	O.U1	oral examination
U2	interpret physical phenomena occurring in the masticatory organ	B.U2	oral examination
U3	use the physical processes appropriate to the work of a dentist	B.U3	oral examination
<b>Social competences - Student is ready to:</b>			
K1	use objective sources of information	O.K7	essay
K2	formulate conclusions from own measurements or observations	O.K8	oral examination

## Calculation of ECTS points

Activity form	Activity hours*
e-learning	30
preparation for examination	10
preparation of a report	20
<b>Student workload</b>	<b>Hours</b> 60
<b>Workload involving teacher</b>	<b>Hours</b> 30

\* hour means 45 minutes

## Study content

No.	Course content	Subject's learning outcomes	Activities
1.	Image representation, processing and analysis methods in medicine - digital image, image algebra, geometric transformations, image histograms, image filtration, Fourier transformation, operations on series of images. Image data recording standards - DICOM, archiving and sending of images - PACS, information systems in radiology - RIS. Optical imaging - lasers and optical fibers, endoscopic techniques, wireless endoscopy and virtual endoscopy.	W1, W2, W4, W5, W6, U1, K1	e-learning
2.	Classical radiology - physical basics, X-ray tube, X-ray image detectors in radiology, optimization of parameters in radiological examination, calculation of ionizing radiation doses, radiation protection, mammography, contrast radiology, vascular examinations in radiology, coronary angiography, retrograde chol-angio-pactreatography, digital subtractive angiography, layered radiology and pantomography, densitometry. Computed tomography - construction and tomograph operation principle, image reconstruction methods, quantitative computed tomography (bone density determination), image quality assessment, artifacts, spiral tomography and multi-row modern systems, three-dimensional tomography, the use of contrast media, static and dynamic tomography in cardiology.	W1, W2, U1, U2, K1, K2	e-learning
3.	Ultrasonography - characteristics of acoustic waves, interaction with biological systems, structure and principle of ultrasound machine operation, image presentation methods, 3D and 4D ultrasound, endoscopic and intraoperative systems, Doppler ultrasound, special ultrasound techniques, elastography, higher harmonics, intravascular ultrasound, studies of tissue movement, contrast media in ultrasound, artifacts.	W1, W3, U3, K1, K2	e-learning
4.	Magnetic resonance tomography - magnetic tissue properties, magnetization vector, effect of nuclear magnetic resonance, Larmor frequency, relaxation times, measuring techniques, induction law, free induction decay, excitation pulses, spin echo and gradient echo methods, construction of magnetic resonance tomograph, superconducting magnet, permanent magnet, gradient coils and RF coils, image reconstruction methods, fast imaging techniques, selection of parameters in the magnetic resonance examination, sequence of pulses, PD, T1 and T2 images, imaging of blood flow, diffusion measurements, chemical shift, magnetic resonance spectroscopy, special imaging techniques in magnetic resonance tomography, noise sources, resolving power, artifacts, contrast agents in magnetic resonance tomography, biological effects of electromagnetic fields.	W1, W2, U1, U2, K1, K2	e-learning
5.	Scintigraphy and emission tomography - construction and principle of gamma camera gamma, isotope characteristics, basics of radiochemistry, single photon emission tomography (SPECT), positron emission tomography (PET).	W1, W2, U1, U2, K1, K2	e-learning

6.	New imaging diagnostics techniques - thermography, impedance tomography, tomography based on infrared radiation, optical coherence tomography.	W1, W2, K1, K2	e-learning
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## Course advanced

### Teaching methods:

lecture, lecture with multimedia presentation

Activities	Examination methods	Credit conditions
e-learning	oral examination, essay	The condition of passing the course is a positive essay grade prepared by the student and passing an oral exam covering mainly problems related to the topic of the essay. Knowledge of the issues presented in lectures can also be checked.

## Entry requirements

Completing the course on biophysics or medical physics at the academic level. Ability to self-prepare an essay by using the internet and specific books.

## Molecular Biology in Medicine

### Educational subject description sheet

#### Basic information

<b>Department</b> Faculty of Medicine  <b>Field of study</b> Medical and Dental Program  <b>Study level</b> long-cycle master's degree program  <b>Study form</b> full-time  <b>Education profile</b> general academic  <b>Disciplines</b> Medical science  <b>ISCED classification</b> 0912 Medicine	<b>Didactic cycle</b> 2020/21  <b>Realization year</b> 2021/22  <b>Lecture languages</b> English  <b>Block</b> obligatory for passing in the course of studies  <b>Mandatory</b> elective  <b>Examination</b> graded credit  <b>Standard group</b> B. Scientific basis for medicine
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<b>Period</b> Semester 4	<b>Examination</b> graded credit  <b>Activities and hours</b> e-learning: 10, classes: 20	<b>Number of ECTS points</b> 2.0
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#### Goals

C1	1. To provide students with the knowledge concerning molecular basics of normal cells functioning within tissues versus cell participation in the process of carcinogenesis
C2	2. To introduce basics of implantology
C3	3. To provide students with the skills allowing them to undertake research work in the area of cancer development with special emphasis to oral cancer and implantology

#### Subject's learning outcomes

Code	Outcomes in terms of	Effects	Examination methods
<b>Knowledge - Student knows and understands:</b>			
W1	issues in the field of medicine and natural sciences - in the basic scope	O.W1	test

W2	issues in dentistry – at an advanced level	O.W2	test
W3	the rules of conducting scientific research and spreading their results	O.W4	booklet of practice, test
W4	the importance of the main and trace elements in the processes occurring in the body, including supply, absorption and transport	B.W1	test
W5	biochemical foundations of human body integrity	B.W3	test
W6	structure and functions of important chemical compounds present in the human body, in particular properties, functions, metabolism and energy of reactions of proteins, nucleic acids, carbohydrates, lipids, enzymes and hormones	B.W4	booklet of practice, test
W7	principles of statics and biomechanics in relation to the human body	B.W7	booklet of practice, test
<b>Skills – Student can:</b>			
U1	plan own learning activities and constantly learn in order to update own knowledge	O.U5	booklet of practice
U2	communicate and share knowledge with colleagues in a team	O.U8	booklet of practice
U3	critically evaluate the results of scientific research and adequately justify the position	O.U9	booklet of practice
U4	relate chemical phenomena to oral cavity processes	B.U1	booklet of practice, test
U5	apply knowledge of genetics and molecular biology in clinical work	B.U5	booklet of practice, test
U6	provide professional dental care in the field of prevention, treatment, health promotion and health education	O.U2	booklet of practice, test
<b>Social competences – Student is ready to:</b>			
K1	perceive and recognize own limitations, self-assess educational deficits and needs	O.K5	booklet of practice
K2	use objective sources of information	O.K7	booklet of practice
K3	formulate conclusions from own measurements or observations	O.K8	booklet of practice
K4	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	O.K9	booklet of practice
K5	formulate opinions on the various aspects of the professional activity	O.K10	booklet of practice

### Calculation of ECTS points

Activity form	Activity hours*
e-learning	10
classes	20

preparation for test	20
<b>Student workload</b>	<b>Hours</b> 50
<b>Workload involving teacher</b>	<b>Hours</b> 30
<b>Practical workload</b>	<b>Hours</b> 20

\* hour means 45 minutes

## Study content

No.	Course content	Subject's learning outcomes	Activities
1.	Cell functioning within tissues and the influence of cell specific niche on differentiation/proliferation program. The sources of normal and cancer cells. Cell cycle and proliferation (mitosis) -the cell cycle checkpoints, the regulation of cyclin and cyclin-dependent kinases, growth factors contribution, stem cells properties and stem cell niche architecture, the influence of cell/cell and cell/ECM interactions on properties of cells. Cell differentiation. The natural sources of cell cultures, primary and secondary normal and malignant cell cultures, the methods of propagation for cell cultures	W1, W2, W3, W4, W5, W6, W7, U1, U2, U3, U4, U5, U6, K1, K2, K3, K4, K5	classes, e-learning
2.	The regulation of the process of gene expression in the cell The molecular mechanism of replication, transcription and translation. Molecular bases of gene expression detection-the molecular mechanism of PCR reaction. RNA isolation with common methods (trizol)	W1, W2, W3, W4, W5, W6, W7, U1, U2, U3, U4, U5, U6, K1, K2, K3, K4, K5	classes, e-learning
3.	The basics of cancerogenesis and impaired cell-cell interactions within tumours Cancer cell definition, cancer cells properties -deregulation of cell cycle progression, classes of genes involved in cancerogenesis The principles of polymerase chain reaction application and visualisation of obtained products by electrophoresis. Theoretical basics of migration and separation of charged particles (ions) under the influence of an electric field. The conduction of PCR and electrophoresis.	W1, W2, W3, W4, W5, W6, W7, U1, U2, U3, U4, U5, U6, K1, K2, K3, K4, K5	classes, e-learning
4.	The current methods for detection of changed gene expression paying special attention to genes related to inflammation and cancerogenesis Molecular biology tools for the detection of changed gene expressions - cell migration, immunofluorescence, Western Blot, PCR data analysis with the use of programs for genes expression assessing, data presentation, estimation of statistical significance.	W1, W2, W3, W4, W5, W6, W7, U1, U2, U3, U4, U5, U6, K1, K2, K3, K4, K5	classes, e-learning



5.	The requirements for tissue implantology with special emphasis to tissue explants and cell reaction to artificial substrates the reaction of the cells to artificial substrates-contact guidance mechanism, molecular mechanism of cell migration in wound healing	W1, W2, W3, W4, W5, W6, W7, U1, U2, U3, U4, U5, U6, K1, K2, K3, K4, K5	classes, e-learning
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## Course advanced

### Teaching methods:

brainstorm, classes / practicals, computer classes, laboratories (labs), demonstration, discussion, e-learning, problem solving method, presentation, professional practice, lecture, PBL Problem Based Learning

Activities	Examination methods	Credit conditions
e-learning	test	attendance
classes	booklet of practice	attendance

## Entry requirements

Physiology course

## Pathology

### Educational subject description sheet

#### Basic information

<b>Department</b> Faculty of Medicine  <b>Field of study</b> Medical and Dental Program  <b>Study level</b> long-cycle master's degree program  <b>Study form</b> full-time  <b>Education profile</b> general academic  <b>Disciplines</b> Medical science  <b>ISCED classification</b> 0912 Medicine  <b>Subject related to scientific research</b> Yes	<b>Didactic cycle</b> 2020/21  <b>Realization year</b> 2022/23  <b>Lecture languages</b> English  <b>Block</b> obligatory for passing in the course of studies  <b>Mandatory</b> obligatory  <b>Examination</b> examination  <b>Standard group</b> C. Preclinical course
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<b>Period</b> Semester 5	<b>Examination</b> -  <b>Activities and hours</b> classes: 57, e-learning: 16	<b>Number of ECTS points</b> 0.0
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<b>Period</b> Semester 6	<b>Examination</b> examination  <b>Activities and hours</b> e-learning: 14, classes: 58	<b>Number of ECTS points</b> 9.0
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## Goals

C1	Upon completion of this course, Students will: -distinguish between normal and abnormal physiologic functions, identify etiology, signs, and symptoms of diseases of all body systems, -understand pathophysiological changes, including how pathological processes are manifested, progress in the body, and primary and secondary effects, - develop skills of observation, interpretation, and integration needed to analyze human disease and explain the pathogenesis of the disease, - be able to describe the basic morphological changes in tissues and organs found in the course of various diseases - be able to explain the relationship between morphological changes in organs and abnormal physiological functions.
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## Subject's learning outcomes

Code	Outcomes in terms of	Effects	Examination methods
<b>Knowledge - Student knows and understands:</b>			
W1	pathomechanism of allergic diseases, selected hypersensitivity diseases, autoimmune diseases and immunodeficiencies	C.W11	classroom observation, multiple choice test
W2	the concept of health and disease, mechanisms of the formation and development of the disease process at the molecular, cellular, tissue and systemic level, clinical symptoms of the disease, prognosis and complications of the disease	C.W13	classroom observation, multiple choice test
W3	mechanisms of inflammation and wound healing	C.W14	classroom observation, multiple choice test
W4	basic disorders of hormone secretion regulation, water and electrolyte balance, acid-base balance, kidney and lung function, as well as mechanisms of development and effects of disorders in the cardiovascular system, including shock	C.W15	classroom observation, multiple choice test
W5	issues in the field of medicine and natural sciences - in the basic scope	O.W1	classroom observation, multiple choice test
W6	external and internal pathogens	C.W6	classroom observation, multiple choice test
W7	structure of the immune system and its role	C.W7	classroom observation, multiple choice test
W8	basics of immunodiagnostics and immunomodulation	C.W10	classroom observation, multiple choice test
W9	diagnostic methods used in pathomorphology and the role of laboratory tests in the prevention and diagnosis of organ and systemic disorders	C.W16	classroom observation, multiple choice test
W10	signs of death and post-mortem changes, as well as principles of autopsy technique and autopsy	C.W17	classroom observation, multiple choice test
W11	mechanisms leading to organ and body pathologies, including infectious, invasive, autoimmune, immunodeficiency, metabolic and genetic diseases	C.W30	classroom observation, multiple choice test
W12	influence of physical, chemical and biological factors. as well as avitaminoses and stress on the patient's body	C.W31	classroom observation, multiple choice test

W13	humoral and cellular mechanisms of innate and acquired immunity, and mechanisms of hypersensitivity reactions and autoimmune processes	C.W8	classroom observation
W14	concepts of homeostasis, adaptation, resistance, resistance, propensity, susceptibility, compensatory mechanisms, feedback and the mechanism of "vicious circle"	C.W12	multiple choice test
<b>Skills - Student can:</b>			
U1	predict and explain the complex pathomechanisms of disorders leading to the emergence of diseases	C.U4	classroom observation, multiple choice test
U2	analyze the clinical course of diseases in pathological processes	C.U5	classroom observation, multiple choice test
U3	identify pathological changes in cells, tissues and organs with regard to circulatory disorders, retrograde changes, progressive changes and inflammations	C.U6	classroom observation, multiple choice test
U4	carry out diagnostics of the most common diseases, assess and describe the patient's somatic and mental state	O.U1	classroom observation
U5	conduct clinical proceedings based on knowledge and respecting the principles of humanitarianism	O.U4	classroom observation
U6	plan own learning activities and constantly learn in order to update own knowledge	O.U5	classroom observation
U7	critically evaluate the results of scientific research and adequately justify the position	O.U9	classroom observation
U8	identify pathological changes caused by HIV infection and observed in patients with acquired immune deficiency syndrome (AIDS)	C.U7	classroom observation, multiple choice test
U9	determine pathological changes of cells, tissues and organs according to basic mechanisms	C.U14	classroom observation, multiple choice test
<b>Social competences - Student is ready to:</b>			
K1	use objective sources of information	O.K7	classroom observation, multiple choice test

## Calculation of ECTS points

### Semester 5

Activity form	Activity hours*
classes	57
e-learning	16
preparation for classes	35
preparation for colloquium	15
<b>Student workload</b>	<b>Hours</b> 123

<b>Workload involving teacher</b>	<b>Hours</b> 73
<b>Practical workload</b>	<b>Hours</b> 57

\* hour means 45 minutes

## Semester 6

<b>Activity form</b>	<b>Activity hours*</b>
e-learning	14
classes	58
preparation for classes	35
preparation for colloquium	15
preparation for examination	25
<b>Student workload</b>	<b>Hours</b> 147
<b>Workload involving teacher</b>	<b>Hours</b> 72
<b>Practical workload</b>	<b>Hours</b> 58

\* hour means 45 minutes

## Study content

<b>No.</b>	<b>Course content</b>	<b>Subject's learning outcomes</b>	<b>Activities</b>
1.	Pathophysiology - Pathogenesis processes in circulation. Heart failure.	W11, W12, W2, W3, W5, W6, W7, W9, U1, U2, U3, U4, U6, U7, U9, K1	classes, e-learning
2.	Pathophysiology - Atherosclerosis. Coronary Artery Disease. Myocardial Infraction	W1, W11, W12, W2, W3, W4, W5, W7, U1, U2, U3, U4, U6, U7, U9, K1	classes, e-learning
3.	Pathophysiology - Pathophysiology of inflammation. Types of Hypersensitivity	W1, W11, W12, W2, W3, W4, W5, W6, W7, W8, U1, U2, U3, U4, U6, U7, U9, K1	e-learning
4.	Pathophysiology - Valvular heart disease. Hypertension: classification and complications.	W1, W11, W12, W2, W3, W4, W5, W7, U1, U2, U3, U4, U6, U7, U9, K1	classes
5.	Pathophysiology - Circulatory shock. MODS.	W1, W11, W12, W2, W3, W4, W5, W6, W7, U1, U2, U3, U4, U6, U7, U9, K1	classes, e-learning

6.	Pathophysiology - Blood disorders. Anemias.	W1, W11, W12, W2, W4, W5, W6, W7, U1, U2, U3, U4, U6, U7, U9, K1	e-learning
7.	Pathophysiology - Respiratory failure, ARDS. Pulmonary hypertension	W1, W11, W12, W2, W3, W4, W5, W6, W7, U1, U2, U3, U4, U7, U9, K1	classes, e-learning
8.	Pathophysiology - Obstructive lung diseases: Asthma, COPD. Restrictive lung disease (IPF).	W1, W11, W12, W2, W3, W4, W5, W6, W7, U1, U2, U3, U4, U6, U7, U9, K1	classes
9.	Pathophysiology - Pulmonary edema. Pulmonary embolism.	W1, W11, W12, W2, W3, W4, W5, W7, U1, U2, U3, U4, U7, U8, U9, K1	classes
10.	Pathophysiology - Autonomic nervous system examination (Ewing battery)	W2, W4, W5, U1, U2, U5, U6, U7, K1	classes
11.	Pathophysiology - Disorders of the esophagus, stomach, duodenum	W1, W11, W2, W3, W4, W5, W7, U1, U2, U3, U4, U6, U7, U9, K1	classes
12.	Pathophysiology - Disorders of the small intestine and colon.	W1, W11, W12, W2, W3, W4, W5, W6, W7, U1, U2, U3, U4, U6, U7, U9, K1	classes
13.	Pathophysiology - Hyperbilirubinemias. Jaundice. Gallbladder diseases. Hepatitis. Liver cirrhosis	W1, W11, W12, W2, W3, W4, W5, W6, W7, U1, U2, U3, U4, U6, U7, K1	classes
14.	Pathophysiology - Pancreatitis. Pathophysiology of pain. Types of pain: nociceptive and neuropathic, visceral vs somatic	W1, W11, W12, W2, W3, W4, W5, W6, W7, U1, U2, U3, U4, U6, U7, U9, K1	classes
15.	Pathophysiology - Diabetes mellitus	W1, W11, W12, W2, W3, W4, W5, W6, W7, U1, U2, U3, U4, U6, U7, U9, K1	classes
16.	Pathophysiology - HP axis. Pituitary adenoma. DI. SIADH. Obesity	W1, W11, W12, W2, W3, W4, W5, W6, W7, U1, U2, U3, U4, U6, U7, U9, K1	classes
17.	Pathophysiology - Thyroid disorders. Hyperthyroidism, Hypothyroidism, Goitre. Primary and secondary parathyroidism.	W1, W11, W12, W2, W3, W4, W5, W6, W7, U1, U2, U3, U4, U6, U7, U9, K1	classes
18.	Pathophysiology - Cushing's Syndrome. Aldosteronism. Adrenocortical insufficiency. Disorders of adrenal medulla.	W1, W11, W12, W2, W3, W4, W5, W6, W7, U1, U2, U3, U4, U6, U7, U9, K1	classes
19.	Pathophysiology - Clinical manifestation of altered kidney function. Glomerulonephritis and nephrotic syndrome. Nephrolithiasis.	W1, W11, W12, W2, W3, W4, W5, W6, W7, U1, U2, U3, U4, U7, U9, K1	classes
20.	Pathophysiology - Acute kidney injury. Chronic kidney disease.	W1, W11, W12, W2, W3, W4, W5, W6, W7, U1, U2, U3, U4, U6, U7, U9, K1	classes
21.	Pathophysiology - Neurology: Parkinson's disease, Alzheimer's disease, Stroke, Myasthenia gravis, Epilepsy.	W1, W11, W12, W2, W3, W4, W5, W6, W7, U1, U2, U3, U4, U6, U7, U9, K1	classes
22.	Pathomorphology - Introduction to pathomorphology	W10, W11, W2, W5, W6, W8, W9, U1, U2, U3, U9, K1	classes

23.	Pathomorphology - cellular pathology, cell death, hypertrophy, hyperplasia, metaplasia, accumulations.	W11, W12, W13, W14, W2, W6, W9, U1, U2, U3, U9, K1	classes
24.	Pathomorphology - types of acute and chronic inflammations, wound healing, AIDS	W1, W11, W12, W2, W3, W6, W9, U2, U3, U6, U7, U9, K1	classes
25.	Pathomorphology - hemodynamics: morphological aspects of oedema, hyperaemia, thrombus, blot cloth, infarct, shock.	W12, W14, W2, W4, W9, U1, U2, U3, U6, U9, K1	classes
26.	Pathomorphology - general aspects of neoplasia, epithelial and non-epithelial neoplasms, bone neoplasms, hematological neoplasm.	W11, W2, W6, W9, U2, U3, U6, U7, U9, K1	classes
27.	Pathomorphology - pediatric pathomorphology.	W11, W12, W14, W2, W6, W9, U1, U2, U6, U9, K1	classes
28.	Pathomorphology - oral pathology, dental cysts and neoplasms.	W12, W2, W3, W6, W9, U2, U3, U6, U9, K1	classes
29.	Pathomorphology - neck, salivary glands, nose, paranasal and thyroid non-neoplastic and neoplastic changes.	W1, W11, W12, W14, W2, W3, W4, W6, W9, U1, U2, U3, U9, K1	classes
30.	Pathomorphology - cardiovascular and vessels pathology.	W12, W14, W2, W3, W4, W6, W9, U1, U2, U3, U9, K1	classes
31.	Pathomorphology- gastrointestinal and liver neoplastic and non-neoplastic changes.	W1, W11, W12, W13, W14, W2, W3, W4, W6, W7, U1, U2, U3, U9, K1	classes
32.	Pathomorphology- endocrine pathology.	W11, W12, W14, W2, W4, W9, U1, U2, U3, U9, K1	classes
33.	Pathomorphology- prostate, kidney and urinary tract pathology.	W14, W2, W3, W4, W6, W9, U1, U2, U3, U9, K1	classes
34.	Pathomorphology- female genital tract pathology.	W12, W2, W3, W6, U1, U2, U3, U9, K1	classes

## Course advanced

### Semester 5

#### Teaching methods:

case study, classes / practicals, dissection classes, demonstration, discussion, e-learning, seminar, lecture, lecture with multimedia presentation

Activities	Examination methods	Credit conditions
classes	multiple choice test	Evaluation and grade assignment Pathophysiology: 1st mid-term test 2nd mid-term test Remedial work Students who will be admitted to the final PATHOLOGY exam must obtain over 50% based on two Pathophysiology mid-term tests Pathomorphology: mid-term test, single choice, 40 questions mid-term test and the final exam (the Pathomorphology part) are based on the Robbins book and on lectures also; to take the final exam a student must collect at least 50% of points of the mid-term test PATHOLOGY - FINAL EXAM MCQs test, which includes material taught on Pathophysiology and Pathomorphology classes during the year course To get credit, Students must complete the course with over 50% based of the total test score
e-learning	classroom observation, multiple choice test	Evaluation and grade assignment Pathophysiology: 1st mid-term test 2nd mid-term test Remedial work Students who will be admitted to the final PATHOLOGY exam must obtain over 50% based on two Pathophysiology mid-term tests Pathomorphology: mid-term test, single choice, 40 questions mid-term test and the final exam (the Pathomorphology part) are based on the Robbins book and on lectures also; to take the final exam a student must collect at least 50% of points of the mid-term test PATHOLOGY - FINAL EXAM MCQs test, which includes material taught on Pathophysiology and Pathomorphology classes during the year course To get credit, Students must complete the course with over 50% based of the total test score

## Semester 6

### Teaching methods:

case study, dissection classes, discussion, seminar, lecture, lecture with multimedia presentation

Activities	Examination methods	Credit conditions
e-learning	multiple choice test	Evaluation and grade assignment Pathophysiology: 1st mid-term test 2nd mid-term test Remedial work Students who will be admitted to the final PATHOLOGY exam must obtain over 50% based on two Pathophysiology mid-term tests Pathomorphology: mid-term test, single choice, 40 questions mid-term test and the final exam (the Pathomorphology part) are based on the Robbins book and on lectures also; to take the final exam a student must collect at least 50% of points of the mid-term test PATHOLOGY - FINAL EXAM MCQs test, which includes material taught on Pathophysiology and Pathomorphology classes during the year course To get credit, Students must complete the course with over 50% based of the total test score
classes	classroom observation, multiple choice test	Evaluation and grade assignment Pathophysiology: 1st mid-term test 2nd mid-term test Remedial work Students who will be admitted to the final PATHOLOGY exam must obtain over 50% based on two Pathophysiology mid-term tests Pathomorphology: mid-term test, single choice, 40 questions mid-term test and the final exam (the Pathomorphology part) are based on the Robbins book and on lectures also; to take the final exam a student must collect at least 50% of points of the mid-term test PATHOLOGY - FINAL EXAM MCQs test, which includes material taught on Pathophysiology and Pathomorphology classes during the year course To get credit, Students must complete the course with over 50% based of the total test score



## Pharmacology with elements of clinical pharmacology

### Educational subject description sheet

#### Basic information

<b>Department</b> Faculty of Medicine  <b>Field of study</b> Medical and Dental Program  <b>Study level</b> long-cycle master's degree program  <b>Study form</b> full-time  <b>Education profile</b> general academic  <b>Disciplines</b> Medical science  <b>ISCED classification</b> 0912 Medicine	<b>Didactic cycle</b> 2020/21  <b>Realization year</b> 2022/23  <b>Lecture languages</b> English  <b>Block</b> obligatory for passing in the course of studies  <b>Mandatory</b> obligatory  <b>Examination</b> examination  <b>Standard groups</b> C. Preclinical course, F. Clinical curriculum-oriented (invasive) sciences
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<b>Period</b> Semester 5	<b>Examination</b> -  <b>Activities and hours</b> e-learning: 18, seminar: 6, classes: 28	<b>Number of ECTS points</b> 0.0
<b>Period</b> Semester 6	<b>Examination</b> examination  <b>Activities and hours</b> e-learning: 18, seminar: 6, classes: 26	<b>Number of ECTS points</b> 6.0

## Goals

C1	to know basic rules of pharmacodynamics
C2	to know general mechanisms of drug action
C3	to know basic rules of pharmacodynamics as well as the effect of diseases on metabolism and elimination of drugs
C4	to know basic rules of pharmacotherapy
C5	to know most the important side effects of drugs
C6	to know general problems of toxicology

## Subject's learning outcomes

Code	Outcomes in terms of	Effects	Examination methods
<b>Knowledge - Student knows and understands:</b>			
W1	the phenomenon of drug resistance development	C.W9	multiple choice test, credit
W2	mechanisms of drug action as well as pharmacokinetics and biotransformation of individual drug groups	C.W18	multiple choice test, credit
W3	indications and contraindications for the use of drugs, their dosage, side effects and toxic effects, and drug interactions	C.W19	multiple choice test, credit
W4	principles of therapy for viral, bacterial, fungal and parasitic infections	C.W20	multiple choice test, credit
W5	principles of preventing and combating pain and anxiety, as well as pharmacology of drugs used in life-threatening situations	C.W21	multiple choice test, credit
W6	rules for saving selected forms of ready-made and compounded drugs on a prescription	C.W22	multiple choice test, credit
W7	issues in the field of medicine and natural sciences - in the basic scope	O.W1	multiple choice test, credit
W8	issues in dentistry - at an advanced level	O.W2	multiple choice test, credit
W9	health education issues	O.W3	multiple choice test, credit
W10	basics of antibiotic therapy and antibiotic resistance	F.W13	multiple choice test, credit
<b>Skills - Student can:</b>			
U1	plan own learning activities and constantly learn in order to update own knowledge	O.U5	multiple choice test, credit
U2	plan treatment for dental problems	O.U3	multiple choice test, credit
U3	conduct clinical proceedings based on knowledge and respecting the principles of humanitarianism	O.U4	multiple choice test, credit

U4	select drugs in appropriate doses and prescribe drugs as indicated	C.U8	multiple choice test, credit
U5	prescribe medicines, taking into account their interactions and side-effects	F.U10	multiple choice test, credit
U6	take appropriate medication during and after the dental procedure to relieve pain and anxiety	F.U16	multiple choice test, credit
<b>Social competences - Student is ready to:</b>			
K1	promote health-promoting behaviors	O.K6	multiple choice test, credit
K2	use objective sources of information	O.K7	multiple choice test, credit
K3	to be guided by the well-being of a patient	O.K2	multiple choice test, credit

## Calculation of ECTS points

### Semester 5

Activity form	Activity hours*
e-learning	18
seminar	6
classes	28
preparation for classes	26
<b>Student workload</b>	<b>Hours</b> 78
<b>Workload involving teacher</b>	<b>Hours</b> 52
<b>Practical workload</b>	<b>Hours</b> 28

\* hour means 45 minutes

### Semester 6

Activity form	Activity hours*
e-learning	18
seminar	6
classes	26
preparation for test	26

preparation for examination	26
<b>Student workload</b>	<b>Hours</b> 102
<b>Workload involving teacher</b>	<b>Hours</b> 50
<b>Practical workload</b>	<b>Hours</b> 26

\* hour means 45 minutes

## Study content

No.	Course content	Subject's learning outcomes	Activities
1.	General informations, requirements, requests and general remarks. Mechanism of drug action – general principles. Types of receptors. Absorption, distribution and fate of drugs - introduction to pharmacokinetics.	W1, W2, W3, W4, W5, W6, W9, U1, U2, K1, K2, K3	classes, seminar, e-learning
2.	Chemical mediators in autonomic nervous system. Cholinergic transmission. Cholinergic agonists and antagonists. Neuromuscular blocking drugs. Autonomic ganglia drugs.	U1, U4, U5, K1, K2, K3	seminar, e-learning
3.	Adrenergic transmission. Adrenergic receptors. Adrenoceptor agonists and antagonists.	U1, U4, U5, K1, K2, K3	seminar, e-learning
4.	Local hormones (autacoids) in inflammation and allergy - histamine, serotonin Nitric oxide and drugs.	U1, K1, K2, K3	seminar
5.	Bradykinin, angiotensin II, ACEI, ARB. Endothelin and its blockers.	U1, K1, K2, K3	seminar
6.	Eicosanoids and PAF (platelet activating factor) - drugs connected with eicosanoids	U1, U6, K1, K2, K3	seminar
7.	Non-steroidal anti-inflammatory drugs - treatment of gout - treatment of rheumatoid arthritis	U1, U6, K1, K2, K3	seminar
8.	Chemical transmission in the central nervous system - classification of psychotropic drugs Non-therapeutic drugs (alcohol, others)	U1, K1, K2, K3	seminar
9.	Anxiolytic and hypnotic drugs. Opioids. Treatment of pain.	W6, W8, U1, K1, K2, K3	seminar
10.	General anaesthesia agents. Local anaesthetic drugs.	U1, U6, K1, K2, K3	seminar
11.	Neuroleptic drugs and drugs used in affective disorders.	U1, K1, K2, K3	seminar
12.	Treating of motor disorders: epilepsy and Parkinsonism.	U1, K1, K2, K3	seminar

13.	Central nervous system stimulants and psychomimetics. Cannabinoids, LSD, heroine, amphetamine, cocaine. Treatment of drug abuse.	U1, K1, K2, K3	seminar
14.	Basic principles of chemotherapy. Sulphonamides. Antibacterial agents. Cell wall synthesis inhibitors (penicillin, cephalosporin, monobactams, carbapenems).	W10, W7, U1, U3, K1, K2, K3	seminar
15.	Inhibitors of bacterial protein synthesis (tetracyclines, macrolides, aminoglycosides, chloramphenicol, other antibiotics). Fluoroquinolones. Antifolate drugs.	W10, U1, K1, K2, K3	seminar
16.	Antimycobacterial agents. Treatment of tuberculosis and leprosy. Antifungal drugs.	W10, U1, K1, K2, K3	seminar
17.	Antiviral drugs. Antiprotozoal drugs and anthelmintic drugs.	U1, K1, K2, K3	seminar
18.	Cancer chemotherapy. Progress in cancer immunotherapy.	U1, K1, K2, K3	seminar
19.	The endocrine system - anterior pituitary hormones - hypothalamic hormones.	U1, K1, K2, K3	seminar
20.	Thyroid and parathyroid hormones.	U1, K1, K2, K3	seminar
21.	Adrenal steroids and related drugs. The reproductive system. Estrogens, androgens, anabolic hormones, contraceptives.	U1, K1, K2, K3	seminar
22.	Diabetes Mellitus. Insulin. Oral hypoglycaemic agents.	U1, K1, K2, K3	seminar
23.	Treatment of diarrhea, constipation, nausea vomiting. Treatment of gastroesophageal reflux disorder (GERD), role of H2 receptors.	U1, K1, K2, K3	seminar
24.	Peptic ulcers, antacids; antisecretory drugs.	U1, K1, K2, K3	seminar
25.	Agents used to treat liver and pancreas disorders; inflammatory bowel disease, hepatitis.	U1, K1, K2, K3	seminar
26.	Diuretics, antidiuretic drugs.	U1, K1, K2, K3	seminar
27.	Diseases of respiratory tract. Bronchodilator agents; agents used to treat asthma.	U1, K1, K2, K3	seminar
28.	Decongestants; cough suppressants; antimicrobial agents used to treat patients with respiratory tract infections.	U1, K1, K2, K3	seminar
29.	Anemia. Drugs affecting haematopoiesis. Septicaemia, bacteraemia.	U1, K1, K2, K3	seminar
30.	Introduction to cardiovascular pharmacology Treatment of congestive heart failure and acute heart failure.	U1, K1, K2, K3	seminar
31.	Antiarrhythmic drugs. Resuscitation, treatment of shocks. Endocarditis.	U1, K1, K2, K3	seminar
32.	Pharmacology of coagulation, fibrinolytic drugs.	U1, K1, K2, K3	seminar
33.	Pharmacology of platelets and endothelium. Antiplatelet drugs.	U1, K1, K2, K3	seminar

34.	Classification of anti-hypertensive drugs, current concepts in treatment of hypertension. Basic and clinical pharmacology of ACE inhibitors and angiotensin receptor antagonists, adrenolytics, diuretics, calcium channel blockers, potassium channels openers, direct vasodilators.	U1, K1, K2, K3	classes, seminar
35.	Atherothrombosis – current concepts on prevention and treatment. Drugs used in the treatment of hyperlipidemias. Basic and clinical pharmacology of statins, fibrates, niacin, resins. Cholesterol-independent, pleiotropic effects of hypolipemic drugs.	U1, K1, K2, K3	classes, seminar
36.	Drugs used in the treatment of ischemic heart disease. Acute coronary syndrome.	U1, K1, K2, K3	classes, seminar

## Course advanced

### Semester 5

#### Teaching methods:

case study, discussion, seminar, lecture

Activities	Examination methods	Credit conditions
e-learning	credit	attendance on lectures
seminar	multiple choice test	passing I-III partial tests
classes	multiple choice test	passing I-III partial tests

### Semester 6

#### Teaching methods:

case study, discussion, e-learning, seminar, lecture, PBL Problem Based Learning

Activities	Examination methods	Credit conditions
e-learning	credit	attendance on lectures
seminar	multiple choice test	passing III-VI partial tests
classes	multiple choice test	final test examination

## Entry requirements

biochemistry and physiology of organism

## Internal diseases with physiotherapy and rehabilitation

### Educational subject description sheet

#### Basic information

<b>Department</b> Faculty of Medicine  <b>Field of study</b> Medical and Dental Program  <b>Study level</b> long-cycle master's degree program  <b>Study form</b> full-time  <b>Education profile</b> general academic  <b>Disciplines</b> Medical science  <b>ISCED classification</b> 0912 Medicine	<b>Didactic cycle</b> 2020/21  <b>Realization year</b> 2022/23  <b>Lecture languages</b> English  <b>Block</b> obligatory for passing in the course of studies  <b>Mandatory</b> obligatory  <b>Examination</b> examination  <b>Standard group</b> E. General clinical sciences (non-invasive)
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<b>Period</b> Semester 5	<b>Examination</b> -  <b>Activities and hours</b> e-learning: 15, clinical classes: 61	<b>Number of ECTS points</b> 0.0
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<b>Period</b> Semester 6	<b>Examination</b> examination  <b>Activities and hours</b> e-learning: 14, clinical classes: 60	<b>Number of ECTS points</b> 7.0
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## Goals

C1	To familiarize students with the most important information about internal medicine
C2	To familiarize students with the most important information about rehabilitation in internal medicine
C3	Teaching of basic practical skills, including collecting interviews and full physical examination
C4	To familiarize with issues in the field of infectious diseases related to the dental procedures, pulmonology, allergology and gastroenterology
C5	Getting to know the issues of cardiovascular, urinary tract, connective tissue and environmental diseases
C6	Teaching of practical skills in the field of internal medicine

## Subject's learning outcomes

Code	Outcomes in terms of	Effects	Examination methods
<b>Knowledge - Student knows and understands:</b>			
W1	health education issues	O.W3	written examination, credit
W2	relationship between morphological abnormalities and the function of changed organs and systems, as well as clinical symptoms and possibilities of diagnostics and treatment	E.W1	written examination, credit
W3	basic methods of medical examination and the role of additional examinations in the diagnosis, monitoring, prognosis and prevention of organ and systemic disorders, with particular emphasis on their impact on oral tissues	E.W2	written examination, credit
W4	etiopathogenesis and symptomatology of respiratory, circulatory, hematopoietic, genitourinary, immune, digestive, motor and endocrine glands diseases, with particular regard to disease entities whose symptoms occur in the oral cavity	E.W3	written examination, credit
W5	symptoms of acute abdominal diseases, intoxication, infection and sepsis	E.W7	written examination, credit
W6	symptoms of hepatitis, HIV infection and acquired immune deficiency syndrome (AIDS) in infectious and parasitic diseases	E.W8	written examination, credit
W7	principles of immunization against infectious diseases in children and adults	E.W9	written examination, credit
W8	hormonal determinants of a woman's body in specific periods of life	E.W10	written examination, credit
W9	causes and mechanisms of cardiac and respiratory arrest as well as principles of resuscitation and post-resuscitation procedures	E.W17	written examination, credit
W10	life-threatening conditions	E.W18	written examination, credit
W11	methods used in medical rehabilitation, its goals and planning methodology	E.W19	written examination, credit



W12	cases in which the patient should be referred to the hospital	E.W20	written examination, credit
<b>Skills - Student can:</b>			
U1	carry out diagnostics of the most common diseases, assess and describe the patient's somatic and mental state	O.U1	written examination, credit
U2	conduct clinical proceedings based on knowledge and respecting the principles of humanitarianism	O.U4	written examination, credit
U3	plan own learning activities and constantly learn in order to update own knowledge	O.U5	written examination, credit
U4	inspire the learning process of others	O.U6	written examination, credit
U5	communicate with the patient and his family in an atmosphere of trust, taking into account the needs of the patient	O.U7	written examination, credit
U6	communicate and share knowledge with colleagues in a team	O.U8	written examination, credit
U7	critically evaluate the results of scientific research and adequately justify the position	O.U9	written examination, credit
U8	perform differential diagnosis of the most common diseases of adults	E.U1	written examination, credit
U9	evaluate and describe the somatic and mental state of the patient	E.U2	written examination, credit
U10	plan diagnostic and therapeutic procedures for the most common adult diseases	E.U3	written examination, credit
U11	interpret the results of laboratory tests	E.U4	written examination, credit
U12	identify normal and pathological structures and organs in additional imaging tests (X-ray, ultrasound, computed tomography - CT)	E.U5	written examination, credit
U13	plan the management of exposure to blood-borne infections	E.U6	written examination, credit
U14	recognize the risk of life threat	E.U8	written examination, credit
U15	describe and recognise signs of shock and acute circulatory failure	E.U9	written examination, credit
U16	recognize the symptoms of brain injuries and cerebrovascular diseases, dementia and consciousness disorders	E.U10	written examination, credit
U17	recognize diseases related to smoking addiction, alcoholism and other addictions	E.U17	written examination, credit
U18	diagnose diseases with enlarged lymph nodes of the neck and submandibular area and infectious diseases, with particular emphasis on lesions within the oral cavity	E.U18	written examination, credit

U19	perform basic medical procedures and procedures: temperature measurement, pulse measurement, non-invasive blood pressure measurement, oxygen therapy, assisted and substitute ventilation, placement of a oropharyngeal tube, preparation of the surgical field, hygienic and surgical hand disinfection, intravenous, intramuscular and subcutaneous injection, peripheral venous blood collection, collecting nasal, pharyngeal and dermal swabs, simple strip tests, measurement of blood glucose levels	E.U20	written examination, credit
<b>Social competences - Student is ready to:</b>			
K1	to establish and maintain deep and respectful contact with patients and to show understanding for differences in world views and cultures	O.K1	written examination, credit
K2	respect medical confidentiality and patients' rights	O.K3	written examination, credit
K3	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	O.K4	written examination, credit
K4	promote health-promoting behaviors	O.K6	written examination, credit
K5	formulate conclusions from own measurements or observations	O.K8	written examination, credit
K6	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	O.K9	written examination, credit
K7	formulate opinions on the various aspects of the professional activity	O.K10	written examination, credit
K8	assume responsibility for decisions taken in the course of their professional activities, including in terms of the safety of oneself and others.	O.K11	written examination, credit
K9	to be guided by the well-being of a patient	O.K2	written examination, credit

## Calculation of ECTS points

### Semester 5

Activity form	Activity hours*
e-learning	15
clinical classes	61
preparation for classes	20
<b>Student workload</b>	<b>Hours</b> 96
<b>Workload involving teacher</b>	<b>Hours</b> 76

<b>Practical workload</b>	<b>Hours</b> 61
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\* hour means 45 minutes

## Semester 6

Activity form	Activity hours*
e-learning	14
clinical classes	60
preparation for classes	20
preparation for examination	10
<b>Student workload</b>	<b>Hours</b> 104
<b>Workload involving teacher</b>	<b>Hours</b> 74
<b>Practical workload</b>	<b>Hours</b> 60

\* hour means 45 minutes

## Study content

No.	Course content	Subject's learning outcomes	Activities
1.	<p>Semester 5 * Principles of medical procedure, Introduction to internal medicine examination. Rules for medical history taking * Medical examination of the cardiovascular system. * Diseases manifested by changes within head and neck, with particular emphasis on changes in the mouth. * Viral hepatitis. Liver Cirrhosis * Medical examination of the respiratory system. * Medical examination of the abdominal organ diseases. * Principles of medical and physical examination in musculoskeletal disorders. Osteoarticular diseases - introduction. * Medical and physical examination of the nervous system. Diagnosis of causes of unconsciousness.</p> <p>* Types of shock with special attention considering cardiogenic shock, medical treatment. * Left and right-sided heart failure.</p> <p>Clinical symptoms, diagnosis and treatment.</p> <p>* Ischemic heart disease. Myocardial infarction. Etiology, clinical symptoms, diagnostic methods, treatment. * Acquired and congenital heart defects. Rheumatic disease.</p> <p>* Endocarditis, myocarditis. Cardiomyopathies</p>	<p>W1, W10, W11, W2, W3, W4, W5, W6, W8, W9, U1, U10, U11, U12, U13, U14, U15, U16, U17, U18, U19, U2, U3, U4, U5, U6, U7, U8, U9, K1, K2, K3, K4, K5, K6, K7, K8</p>	e-learning

2.	Semester 5 * Medical interview, purpose, analysis, interpretation of the patient data. Scheme of medical history. General symptoms. Symptoms from head and neck. Cardiovascular disorders. * Skin changes in internal diseases. Differential diagnosis of cyanosis and jaundice. * Physical examination of the abdomen, genitourinary system. * Aetiology and pathogenesis of chronic obstructive pulmonary disease. Types of allergic reactions. * Physical examination of head, neck and sense organs. Physical examination of the respiratory system. * Physical examination of the cardiovascular system.	W1, W2, W3, W4, W5, W6, W7, W8, W9	clinical classes
3.	* Hemorrhagic diathesis. Rules of anticoagulant treatment. * Inflammatory kidney disease. Nephrotic syndrome. Kidney failure. * Emergency medical procedures in internal medicine* Allergy tests interpretation.	W1, W2, W3, W4, W5, W6, W7, W8, W9, U1, U10, U11, U12, U13, U14, U15, U16, U17, U18, U19, U2, U3, U4, U5, U6, U7, U8, U9, K1, K2, K3, K4, K5, K6, K7, K8, K9	e-learning
4.	Semester 6 * Aetiology of endocarditis and urinary tract infectio. Principles of diagnostics and prevention. * Aetiology, diagnostics and empirical therapy of infectious (viral and bacterial) diseases causing changes in the mouth. * Pituitary gland and adrenal gland diseases. * Thyroid and parathyroid gland diseases * Diabetes. *Physiotherapy in diseases of: circulatory system; respiratory system and inflammatory and degenerative musculoskeletal disorders. Basics of physical therapy. *In-hospital and out-of-hospital infections and infection in dental office. Aetiology; prevention and general principles of medical treatment.	W1, W10, W11, W12, W2, W3, W5, W6, W7, W8, W9, U1, U11, U12, U18	clinical classes

## Course advanced

### Semester 5

#### Teaching methods:

case study, brainstorm, classes / practicals, clinical classes, demonstration, discussion, problem solving method, case study method, group work, lecture, lecture with multimedia presentation, PBL Problem Based Learning, practical classes

Activities	Examination methods	Credit conditions
e-learning	credit	Attendance at lectures (two excused absences allowed)
clinical classes	credit	Attendance at lectures (two excused absences allowed)

### Semester 6

#### Teaching methods:

case study, brainstorm, classes / practicals, demonstration, discussion, problem solving method, case study method, group work, lecture, PBL Problem Based Learning, practical classes

<b>Activities</b>	<b>Examination methods</b>	<b>Credit conditions</b>
e-learning	written examination	Attendance at lectures (two excused absences allowed)
clinical classes	written examination	Attendance at lectures (two excused absences allowed)

## Conservative dentistry with endodontics

### Educational subject description sheet

#### Basic information

<b>Department</b> Faculty of Medicine  <b>Field of study</b> Medical and Dental Program  <b>Study level</b> long-cycle master's degree program  <b>Study form</b> full-time  <b>Education profile</b> general academic  <b>Disciplines</b> Medical science  <b>ISCED classification</b> 0911 Dental studies  <b>Subject related to scientific research</b> Yes	<b>Didactic cycle</b> 2020/21  <b>Realization year</b> 2022/23, 2023/24, 2024/25  <b>Lecture languages</b> English  <b>Block</b> obligatory for passing in the course of studies  <b>Mandatory</b> obligatory  <b>Examination</b> examination  <b>Standard groups</b> F. Clinical curriculum-oriented (invasive) sciences, H. Clinical training
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<b>Period</b> Semester 5	<b>Examination</b> -  <b>Activities and hours</b> seminar: 10, clinical classes: 56	<b>Number of ECTS points</b> 0.0
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<b>Period</b> Semester 6	<b>Examination</b> credit  <b>Activities and hours</b> seminar: 10, clinical classes: 54	<b>Number of ECTS points</b> 9.0
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<b>Period</b> Semester 7	<b>Examination</b> -  <b>Activities and hours</b> e-learning: 3, seminar: 8, clinical classes: 62	<b>Number of ECTS points</b> 0.0
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<b>Period</b> Semester 8	<b>Examination</b> credit  <b>Activities and hours</b> e-learning: 3, seminar: 7, clinical classes: 62	<b>Number of ECTS points</b> 8.0
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<b>Period</b> Semester 9	<b>Examination</b> -  <b>Activities and hours</b> e-learning: 3, seminar: 10, clinical classes: 73	<b>Number of ECTS points</b> 0.0
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<b>Period</b> Semester 10	<b>Examination</b> examination  <b>Activities and hours</b> e-learning: 3, seminar: 10, clinical classes: 72	<b>Number of ECTS points</b> 11.0
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## Goals

C1	Integration and improvement of knowledge and skills acquired in the course of pre-clinical training, which will enable independent, proper preparation of the dental stand and ergonomic work. Mastering the principles of physical and physical examination and restoring the function of teeth - using all currently available means - in the patient's mouth. Acquaintance with the principles of prevention enabling maintaining a healthy mouth. Acquiring skills in therapeutic treatment in diseases of non-carious origin of mineralized tissues - abrasion, erosion, pathological tooth wear. Mastering the principles of pulp pathology prevention. Familiarization with the properties and indications for the use of filling materials.
C2	Acquiring skills in the prevention of pulp and periapical tissue pathologies and therapeutic treatment in these cases. Getting to know the remedies and materials used in endodontics. Introduction to the basic concepts of aesthetic dentistry. Acquiring knowledge on the impact of dental tissue and apical periodontal disease on the general condition of the body.
C3	Improving diagnostic, preventive and therapeutic skills in the field of karyology and endodontics.
C4	Implemented basic principles of proper relations between doctors (students), doctor (student), and patient and doctor (student) and his supervisor (in accordance with the Code of Medical Ethics).

## Subject's learning outcomes

Code	Outcomes in terms of	Effects	Examination methods
<b>Knowledge - Student knows and understands:</b>			
W1	rules of conduct in the case of pulp and mineralized dental tissues, as well as trauma to the teeth and bones of the face	F.W5	multiple choice test
W2	rules for management of periapical tissue diseases	F.W6	multiple choice test
W3	morphology of dental chambers and principles of endodontic treatment and instruments used in this treatment	F.W7	multiple choice test
W4	health education issues	O.W3	multiple choice test
W5	organization of dentist practice and management principles in healthcare	O.W5	multiple choice test

W6	indications and contraindications for performing procedures in the field of cosmetic dentistry	F.W11	multiple choice test
W7	principles of anesthesia in dental procedures and basic pharmacological agents	F.W16	multiple choice test
W8	principles of radiological diagnosis	F.W18	multiple choice test
W9	issues in the field of medicine and natural sciences – in the basic scope	O.W1	multiple choice test
W10	issues in dentistry – at an advanced level	O.W2	multiple choice test
W11	pathomechanism of the impact of oral diseases on general health	F.W19	multiple choice test
W12	pathomechanism of the effects of general diseases or therapies on the oral cavity	F.W20	multiple choice test
W13	prevention of oral diseases	F.W21	multiple choice test
W14	the specificity of dental care for a patient suffering from a general disease and the principles of cooperation with a doctor treating the underlying disease	F.W23	multiple choice test
<b>Skills – Student can:</b>			
U1	provide professional dental care in the field of prevention, treatment, health promotion and health education	O.U2	classroom observation
U2	plan treatment for dental problems	O.U3	OSCE examination, classroom observation
U3	carry out a medical interview with the patient and his or her family	F.U1	classroom observation
U4	carry out a dental physical examination of the patient	F.U2	classroom observation
U5	interpret the results of additional tests and consultations	F.U6	classroom observation
U6	determine the indications and contraindications for performing a specific dental procedure	F.U7	booklet of practical skills, OSCE examination, classroom observation, clinical case presentation
U7	conduct treatment of acute and chronic, odontogenic and non-odontogenic inflammatory processes of soft tissues of the oral cavity, periodontium and jaw bones	F.U8	OSCE examination, classroom observation, clinical case presentation
U8	proceed in case of general and local complications during and after dental procedures	F.U9	classroom observation
U9	plan own learning activities and constantly learn in order to update own knowledge	O.U5	classroom observation
U10	communicate with the patient and his family in an atmosphere of trust, taking into account the needs of the patient	O.U7	OSCE examination, classroom observation, clinical case presentation
U11	communicate and share knowledge with colleagues in a team	O.U8	OSCE examination, classroom observation, clinical case presentation
U12	explain the nature of his or her ailment to the patient, determine the method of treatment confirmed by the patient's informed consent and prognosis	F.U3	classroom observation, clinical case presentation



U13	provide the patient or his or her family with information about unfavorable prognosis	F.U4	classroom observation
U14	describe dental and pantomographic images	F.U23	booklet of practical skills, OSCE examination, classroom observation
U15	present selected medical problems in oral or written form in a manner appropriate to the level of recipients	F.U13	classroom observation
U16	determine the treatment of diseases of tissues of the stomatognathic system	F.U15	OSCE examination, classroom observation
<b>Social competences - Student is ready to:</b>			
K1	to be guided by the well-being of a patient	O.K2	classroom observation
K2	respect medical confidentiality and patients' rights	O.K3	classroom observation
K3	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	O.K4	classroom observation
K4	perceive and recognize own limitations, self-assess educational deficits and needs	O.K5	classroom observation
K5	promote health-promoting behaviors	O.K6	classroom observation
K6	use objective sources of information	O.K7	classroom observation
K7	formulate conclusions from own measurements or observations	O.K8	classroom observation
K8	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	O.K9	classroom observation
K9	assume responsibility for decisions taken in the course of their professional activities, including in terms of the safety of oneself and others.	O.K11	classroom observation
K10	to establish and maintain deep and respectful contact with patients and to show understanding for differences in world views and cultures	O.K1	classroom observation
K11	formulate opinions on the various aspects of the professional activity	O.K10	classroom observation

## Calculation of ECTS points

### Semester 5

Activity form	Activity hours*
seminar	10
clinical classes	56
<b>Student workload</b>	<b>Hours</b> 66
<b>Workload involving teacher</b>	<b>Hours</b> 66

<b>Practical workload</b>	<b>Hours</b> 56
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\* hour means 45 minutes

### Semester 6

<b>Activity form</b>	<b>Activity hours*</b>
seminar	10
clinical classes	54
professional practice	120
preparation for colloquium	15
<b>Student workload</b>	<b>Hours</b> 199
<b>Workload involving teacher</b>	<b>Hours</b> 64
<b>Practical workload</b>	<b>Hours</b> 174

\* hour means 45 minutes

### Semester 7

<b>Activity form</b>	<b>Activity hours*</b>
e-learning	3
seminar	8
clinical classes	62
preparation for colloquium	15
<b>Student workload</b>	<b>Hours</b> 88
<b>Workload involving teacher</b>	<b>Hours</b> 73
<b>Practical workload</b>	<b>Hours</b> 62

\* hour means 45 minutes

### Semester 8

<b>Activity form</b>	<b>Activity hours*</b>
e-learning	3

seminar	7
clinical classes	62
professional practice	120
preparation for colloquium	15
<b>Student workload</b>	<b>Hours</b> 207
<b>Workload involving teacher</b>	<b>Hours</b> 72
<b>Practical workload</b>	<b>Hours</b> 182

\* hour means 45 minutes

### Semester 9

Activity form	Activity hours*
e-learning	3
seminar	10
clinical classes	73
preparation for colloquium	30
<b>Student workload</b>	<b>Hours</b> 116
<b>Workload involving teacher</b>	<b>Hours</b> 86
<b>Practical workload</b>	<b>Hours</b> 73

\* hour means 45 minutes

### Semester 10

Activity form	Activity hours*
e-learning	3
seminar	10
clinical classes	72
preparation of multimedia presentation	14
preparation for examination	50

<b>Student workload</b>	<b>Hours</b> 149
<b>Workload involving teacher</b>	<b>Hours</b> 85
<b>Practical workload</b>	<b>Hours</b> 72

\* hour means 45 minutes

## Study content

No.	Course content	Subject's learning outcomes	Activities
1.	1. Principles of work ergonomics in conservative dentistry. 2. rubberdam. 3. Materials in the conservative treatment of teeth. 4. A set of basic treatment instruments. 5. Small instruments: cariological and endodontic. 6. Dental tools. 7. Medical and dental management: interview, physical examination, diagnosis, preventive and therapeutic treatment plan, documentation. 8. Basic and auxiliary research in conservative dentistry. 9. Patient card - overview. 10. Caries risk assessment, caries risk and caries activity, caries risk and caries treatment. The relationship between diagnostic information and the choice of therapeutic treatment. 11. Clinical exercises - students treat patients qualified by class assistants.	W1, W10, W11, W12, W13, W14, W2, W3, W4, W5, W6, W7, W8, W9, U1, U10, U11, U12, U13, U15, U2, U3, U4, U5, U6, U7, U8, U9, K1, K10, K11, K2, K3, K4, K5, K6, K7, K8, K9	clinical classes

2.	<p>SEMINAR I. Etiology of tooth decay: the role of bacteria, carbohydrates, influence of morphology and chemical structure of hard tooth tissues, the role of time.</p> <p>SEMINAR II. Caries prophylaxis: oral hygiene, diet, fluoride, protection of tooth surfaces with insulating layers. Fluorosis.</p> <p>SEMINAR III. The role of saliva in the carious process: organic and inorganic constituents of saliva, saliva functions, salivary tests. Disorders of secretion.</p> <p>SEMINAR IV. Caries pathology. Caries in enamel. Dentine caries. Types of dentin. Cementum caries. Clinical course and classification of dental caries: Acute caries. Chronic caries. Secondary caries. Atypical caries. Hidden caries. Rampant caries. Circular caries. Early childhood caries. Root caries. Classification of caries due to the severity of changes.</p> <p>SEMINAR V. Caries diagnosis: conditions for diagnosing carious lesions, methods of diagnosing early carious lesions, diagnostics of carious lesions within the crown, diagnostics of carious lesions within the root. New classifications of carious defects.</p> <p>SEMINAR VI. Non-invasive treatment of carious lesions. Minimally invasive treatment of carious lesions.</p> <p>SEMINAR VII. Preparation of carious cavities for non-adhesive filling (amalgam). Preparation of cavities for adhesive filling (adhesive amalgam, composite, compomer, ormocer and glass ionomer cement). Clinical aspects of the development of carious defects.</p> <p>SEMINAR VIII. Filling cavities with non-adhesive (amalgam) and adhesive materials (composite, compomer, ormocers and glass ionomer cement). Clinical aspects of cavity reconstruction (sandwich technique, inserts, layered reconstruction in lateral teeth, indirect restorations). Polymerization methods.</p> <p>SEMINAR IX. Complications of dental caries treatment: complete loss of filling, secondary caries, assessment of the filling margin, replacement and repair of the filling, tooth or filling fracture, post-operative hypersensitivity. Making decisions whether to repair or to replace fillings.</p> <p>SEMINAR X. Hard tissue defects of non-carious origin - teeth wear processes</p>	W3, W5, U3, K7, K8	seminar
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3.	<p>SEMINAR I. Morphology and functions of endodontium and periapical tissues of the tooth, age-related changes in endodontium. Morphology of dental cavities and endodontic treatment.</p> <p>SEMINAR II. Etiology, prevention, etiogenesis and pathomechanism of endodontium diseases and periapical tooth tissues.</p> <p>SEMINAR III. Symptomatology and clinical diagnosis of endodontium diseases. Classifications of pulp diseases. SEMINAR IV. Symptomatology and clinical diagnostics of periapical diseases. tooth tissue. Classifications of periapical tissue diseases. Differential diagnosis. Diagnostics of facial pain of dental and non-dental origin.</p> <p>SEMINAR V. X-ray diagnostics in endodontics.</p> <p>SEMINAR VI. Fighting pain in endodontics. SEMINAR VII. Devices for increasing the treatment area in endodontic treatment. SEMINAR VIII. Endodontic instruments. SEMINAR IX. Endodontic treatment - biological pulp treatment, odontotropic preparations. SEMINAR X. Endodontic treatment - treatment involving pulp removal.</p> <p>SEMINAR XI. Methods for determining the working length of a tooth. Mechanical root canal treatment. SEMINAR XII. Chemical treatment of root canals. Materials and methods for decontaminating root canals. The smear layer and its role in endodontic treatment.</p> <p>SEMINAR XIII. Filling root canals - materials for final filling of root canals.</p> <p>SEMINAR XIV. Filling root canals - methods of filling root canal systems.</p> <p>SEMINAR XV. Complications in endodontic treatment.</p>	W12, W3, W5, W6, W9, U14, U16, U3, K7, K8	seminar
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4.	<p>SEMINAR I. First aid in endodontics - emergency treatment.</p> <p>SEMINAR II. Non-surgical endodontic retreatment</p> <p>SEMINAR III. Endodontic surgery.</p> <p>SEMINAR IV. Dentine hypersensitivity.</p> <p>SEMINAR V. Pathological tooth resorption.</p> <p>SEMINAR VI. Endo - perio syndrome.</p> <p>SEMINAR VII. Teeth abnormalities - anatomical structure, number, position, shape and color disorders.</p> <p>SEMINAR VIII. Disorders of the tooth tissue structure (enamel, dentine, cement, all tissues). Developmental defects of enamel and dentin.</p> <p>SEMINAR IX. Hard tissue defects of non-carious origin - acute mechanical injuries. Endodontic management in traumatic injuries of permanent teeth.</p> <p>SEMINAR X. Discussion of selected clinical cases.</p> <p>SEMINAR XI. Basic concepts of aesthetics in conservative dentistry.</p> <p>SEMINAR XII. Aesthetic reconstruction of anterior teeth: criteria for aesthetic restorations, methods of aesthetic reconstruction, reconstruction of erosive, and abrasive lesions, enamel hypoplasia. Making decisions whether to repair or replace fillings.</p> <p>SEMINAR XIII. Vital teeth whitening: tooth discoloration, tooth color assessment, whitening preparations, whitening techniques, whitening side effects.</p> <p>SEMINAR XIV. Discoloration and whitening of the endodontically treated teeth.</p> <p>SEMINAR XV. Restoration and reinforcement of the structure of endodontically treated teeth.</p> <p>SEMINAR XVI. Gerostomatology - specificity of endodontic treatment and reconstruction of hard tissues in elderly people.</p> <p>SEMINAR XVII. Focal disease - primary foci of dental origin.</p> <p>SEMINAR XVIII. Epidemiology of dental caries in adults - socioepidemiological studies of dental caries (civilization nature of tooth decay, dental health goals, epidemiological caries indicators, unification of dental indicators, practical application of socioepidemiological studies, dynamics of caries - international analysis, results of socioepidemiological studies) over caries Epidemiology in endodontics.</p> <p>SEMINAR XIX. A multimedia presentation on the latest developments in dentistry or presentation of clinical cases. The subject of the presentation is accepted by the assistant, presentation time 10 min, work in groups of 3-4 people. Part 1.</p> <p>SEMINAR XX. A multimedia presentation on the latest developments in dentistry or presentation of clinical cases. The subject of the presentation is accepted by the assistant, presentation time 10 min, work in groups of 3-4 people. Part 2.</p>	W10, W11, W12, W2, W3, W5, W6, W7, W9, U3, K7, K8	seminar
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5.	1. Dental caries disease - etiology. 2. Dental caries disease - pathology. 3. Dental caries - non-invasive treatment methods - prevention. 4. Tooth caries disease - invasive methods of treatment. 5. Diseases of hard dental tissues of non-carious origin - fluorosis, signs of tooth wear.	W1, W2, W5, U3	seminar
6.	1. Radiological assessment of the root structure. Apex morphology. Isolation of the treatment field and adequate access to the root canal. Chemo-mechanical root canal preparation, part 1. Mechanical development: step-back, hybrid technique. Endodontic instruments. Working length and methods of its measurement. 2. Chemo-mechanical root canal preparation, part 2. Chemical root canal treatment. Antiseptics in root canal treatment. Root canal filling and tooth reconstruction after root canal treatment: lateral condensation, continuous wave technique. 3. Surgical and non-surgical methods of treating periapical tissues.	W1, W2, W5, W6, U3	seminar
7.	1. Resorption of hard dental tissues. 2. Diseases of hard dental tissues of non-carious origin - acute mechanical injuries. 3. Focal diseases with particular emphasis on their prevention. 4. Aesthetics in conservative dentistry.	W1, W10, W11, W2, W7, U3	e-learning

## Course advanced

### Semester 5

#### Teaching methods:

case study, clinical classes, discussion, situation method, presentation, group work, seminar, lecture, lecture with multimedia presentation, practical classes

Activities	Examination methods	Credit conditions
seminar	multiple choice test	Two tests in the form of a test. Each test includes 25 questions. There are 5 answers to each question, only one is correct. The pass threshold is 70%
clinical classes	multiple choice test	Two tests in the form of a test. Each test includes 25 questions. There are 5 answers to each question, only one is correct. The pass threshold is 70%.

### Semester 6

#### Teaching methods:

case study, clinical classes, demonstration, discussion, situation method, presentation, group work, seminar, lecture, lecture with multimedia presentation, practical classes



Activities	Examination methods	Credit conditions
seminar	multiple choice test	Two tests in the form of a test. Each test includes 25 questions. There are 5 answers to each question, only one is correct. The pass threshold is 70%.
clinical classes	multiple choice test	Two tests in the form of a test. Each test includes 25 questions. There are 5 answers to each question, only one is correct. The pass threshold is 70%.

## Semester 7

### Teaching methods:

case study, clinical classes, discussion, situation method, group work, seminar, lecture, lecture with multimedia presentation, practical classes

Activities	Examination methods	Credit conditions
e-learning	multiple choice test	Two tests in the form of a test. Each test includes 25 questions. There are 5 answers to each question, only one is correct. The pass threshold is 70%.
seminar	multiple choice test	Dwa kolokwia w formie testu. Każdy test obejmuje 25 pytań. Do każdego pytania jest 5 odpowiedzi, tylko jedna jest prawidłowa. Próg zaliczeniowy wynosi 70%.
clinical classes	booklet of practical skills, classroom observation, clinical case presentation	Active student participation in classes. Independent performance of an appropriate number of diagnostic, preventive and therapeutic procedures in accordance with the principles of medical art. Proceedings in accordance with the Chair's Regulations. 100% presence.

## Semester 8

### Teaching methods:

case study, clinical classes, discussion, situation method, group work, seminar, lecture, lecture with multimedia presentation, practical classes

Activities	Examination methods	Credit conditions
e-learning	multiple choice test	Two tests in the form of a test. Each test includes 25 questions. There are 5 answers to each question, only one is correct. The pass threshold is 70%.
seminar	multiple choice test	Dwa kolokwia w formie testu. Każdy test obejmuje 25 pytań. Do każdego pytania jest 5 odpowiedzi, tylko jedna jest prawidłowa. Próg zaliczeniowy wynosi 70%.
clinical classes	booklet of practical skills, classroom observation, clinical case presentation	Active student participation in classes. Independent performance of an appropriate number of diagnostic, preventive and therapeutic procedures in accordance with the principles of medical art. Proceedings in accordance with the Chair's Regulations. 100% presence.

## Semester 9

**Teaching methods:**

case study, clinical classes, discussion, e-learning, situation method, group work, seminar, lecture, lecture with multimedia presentation, practical classes

Activities	Examination methods	Credit conditions
e-learning	multiple choice test	test
seminar	multiple choice test	Dwa kolokwia w formie testu. Każdy test obejmuje 25 pytań. Do każdego pytania jest 5 odpowiedzi, tylko jedna jest prawidłowa. Próg zaliczeniowy wynosi 70%.
clinical classes	booklet of practical skills, classroom observation, clinical case presentation	Active student participation in classes. Independent performance of an appropriate number of diagnostic, preventive and therapeutic procedures in accordance with the principles of medical art. Proceedings in accordance with the Chair's Regulations. 100% presence.

**Semester 10****Teaching methods:**

case study, clinical classes, demonstration, discussion, OSCE examination, e-learning, educational film, project method, situation method, group work, seminar, lecture, lecture with multimedia presentation, practical classes

Activities	Examination methods	Credit conditions
e-learning	multiple choice test	final test
seminar	multiple choice test	Two tests in the form of a test. Each test includes 25 questions. There are 5 answers to each question, only one is correct. The pass threshold is 70%.
clinical classes	booklet of practical skills, OSCE examination, classroom observation, clinical case presentation	Active student participation in classes. Independent performance of an appropriate number of diagnostic, preventive and therapeutic procedures in accordance with the principles of medical art. Proceedings in accordance with the Chair's Regulations. 100% presence.

## Anesthesiology and resuscitation

### Educational subject description sheet

#### Basic information

<b>Department</b> Faculty of Medicine  <b>Field of study</b> Medical and Dental Program  <b>Study level</b> long-cycle master's degree program  <b>Study form</b> full-time  <b>Education profile</b> general academic  <b>Disciplines</b> Medical science  <b>ISCED classification</b> 0912 Medicine  <b>Subject related to scientific research</b> Yes	<b>Didactic cycle</b> 2020/21  <b>Realization year</b> 2022/23  <b>Lecture languages</b> English  <b>Block</b> obligatory for passing in the course of studies  <b>Mandatory</b> obligatory  <b>Examination</b> graded credit  <b>Standard group</b> E. General clinical sciences (non-invasive)
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<b>Period</b> Semester 5	<b>Examination</b> graded credit  <b>Activities and hours</b> e-learning: 10, simulations: 20	<b>Number of ECTS points</b> 2.0
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#### Goals

C1	Introduction to the basics of the subject Anesthesiology and Intensive Care, in particular: - principles of perioperative safety, preparing the patient for surgery, performing general anesthesia, local anesthesia and controlled sedation.
C2	Acquainting with current guidelines of cardiopulmonary resuscitation and management of life-threatening states in adult.
C3	Awareing students of the need to systematically supplement and update their knowledge in this area, Acquaintance with the principles of cooperation in a group and taking responsibility for timely and reliable performance entrusted tasks.

#### Subject's learning outcomes

Code	Outcomes in terms of	Effects	Examination methods
<b>Knowledge - Student knows and understands:</b>			
W1	issues in dentistry – at an advanced level	O.W2	written examination, credit
W2	symptoms, course and procedures in specific diseases of the mouth, head and neck, taking into account age groups	F.W4	written examination, credit
W3	therapeutic methods of reducing and enduring pain as well as reducing anxiety and stress	F.W15	written examination, credit
W4	principles of anesthesia in dental procedures and basic pharmacological agents	F.W16	written examination, credit
<b>Skills - Student can:</b>			
U1	carry out diagnostics of the most common diseases, assess and describe the patient's somatic and mental state	O.U1	credit
U2	plan own learning activities and constantly learn in order to update own knowledge	O.U5	credit
U3	communicate with the patient and his family in an atmosphere of trust, taking into account the needs of the patient	O.U7	credit
U4	communicate and share knowledge with colleagues in a team	O.U8	credit
U5	critically evaluate the results of scientific research and adequately justify the position	O.U9	credit
U6	carry out a medical interview with the patient and his or her family	F.U1	credit
U7	interpret the results of additional tests and consultations	F.U6	credit
U8	collect and secure specimens for diagnostic tests, including cytological tests	F.U5	credit
U9	provide professional dental care in the field of prevention, treatment, health promotion and health education	O.U2	credit
U10	inspire the learning process of others	O.U6	credit
U11	carry out a dental physical examination of the patient	F.U2	credit
U12	explain the nature of his or her ailment to the patient, determine the method of treatment confirmed by the patient's informed consent and prognosis	F.U3	credit
U13	provide the patient or his or her family with information about unfavorable prognosis	F.U4	credit
U14	determine the indications and contraindications for performing a specific dental procedure	F.U7	credit
U15	proceed in case of general and local complications during and after dental procedures	F.U9	credit
U16	prescribe medicines, taking into account their interactions and side-effects	F.U10	credit

U17	present selected medical problems in oral or written form in a manner appropriate to the level of recipients	F.U13	credit
U18	take appropriate medication during and after the dental procedure to relieve pain and anxiety	F.U16	credit
<b>Social competences - Student is ready to:</b>			
K1	to establish and maintain deep and respectful contact with patients and to show understanding for differences in world views and cultures	O.K1	credit
K2	to be guided by the well-being of a patient	O.K2	credit
K3	respect medical confidentiality and patients' rights	O.K3	credit
K4	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	O.K4	credit
K5	perceive and recognize own limitations, self-assess educational deficits and needs	O.K5	credit
K6	promote health-promoting behaviors	O.K6	credit
K7	use objective sources of information	O.K7	credit
K8	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	O.K9	credit
K9	assume responsibility for decisions taken in the course of their professional activities, including in terms of the safety of oneself and others.	O.K11	credit
K10	formulate conclusions from own measurements or observations	O.K8	credit
K11	formulate opinions on the various aspects of the professional activity	O.K10	credit

### Calculation of ECTS points

Activity form	Activity hours*
e-learning	10
simulations	20
preparation for classes	10
preparation for examination	6
case analysis	10
<b>Student workload</b>	<b>Hours</b> 56
<b>Workload involving teacher</b>	<b>Hours</b> 30

<b>Practical workload</b>	<b>Hours</b> 30
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\* hour means 45 minutes

## Study content

No.	Course content	Subject's learning outcomes	Activities
1.	Anaesthesia as a speciality; past, present, future. Evaluation of the patient before dental procedures. Endocarditis prophylaxis- recommendations	W1, W2, W3, W4, U1, U10, U12, U13, U14, U15, U16, U17, U18, U2, U3, U4, U5, U6, U7, U8, U9, K2, K3, K4, K5, K7, K8	e-learning, simulations
2.	Pediatric anaesthesia in dentistry. Different anesthesiological management of children during dental procedures. General anesthesia. Protection of airways.	W3, W4, U1, U10, U2, U3, U4, U5, U6, U7, K1, K10, K11, K2, K3, K4, K5, K6, K7, K8, K9	e-learning, simulations
3.	Local anaesthesia in dentistry. Ability to perform local anesthesia. Side effects of local anesthesia drugs. Patient safety.	W1, W4, U1, U10, U11, U12, U13, U14, U15, U16, U17, U18, U7, K1, K2, K3, K7, K9	e-learning, simulations
4.	Acute and chronic pain. Ability to treat acute pain during and after dental procedure. Ability to determine home treatment for chronic pain.	W3, W4, U1, U13, U14, U15, U16, U17, U18, U3, U4, U5, K1, K2, K3, K6, K7, K9	e-learning, simulations

## Course advanced

### Teaching methods:

case study, brainstorm, classes / practicals, clinical classes, e-learning, educational film, problem solving method, presentation, lecture

Activities	Examination methods	Credit conditions
e-learning	written examination	obligatory presence at lectures
simulations	credit	obligatory presence at clinical practice

## Entry requirements

completed and passed courses: physiology, anatomy, internal medicine, surgery, pediatrics, neurosurgery, neurology, radiology, orthopedics and traumatology,

## General surgery with oncology

### Educational subject description sheet

#### Basic information

<b>Department</b> Faculty of Medicine  <b>Field of study</b> Medical and Dental Program  <b>Study level</b> long-cycle master's degree program  <b>Study form</b> full-time  <b>Education profile</b> general academic  <b>Disciplines</b> Medical science  <b>ISCED classification</b> 0912 Medicine	<b>Didactic cycle</b> 2020/21  <b>Realization year</b> 2022/23  <b>Lecture languages</b> English  <b>Block</b> obligatory for passing in the course of studies  <b>Mandatory</b> obligatory  <b>Examination</b> examination  <b>Standard group</b> E. General clinical sciences (non-invasive)
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<b>Period</b> Semester 5	<b>Examination</b> examination  <b>Activities and hours</b> e-learning: 12, clinical classes: 44	<b>Number of ECTS points</b> 3.0
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#### Goals

C1	To acquaint the student with basic concepts of perioperative care, various diseases which may require surgical intervention, particularly of the acute abdomen spectrum and the most common human cancers.
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#### Subject's learning outcomes

Code	Outcomes in terms of	Effects	Examination methods
<b>Knowledge - Student knows and understands:</b>			
W1	issues in the field of medicine and natural sciences - in the basic scope	O.W1	written examination, classroom observation
W2	relationship between morphological abnormalities and the function of changed organs and systems, as well as clinical symptoms and possibilities of diagnostics and treatment	E.W1	written examination, classroom observation

W3	basic methods of medical examination and the role of additional examinations in the diagnosis, monitoring, prognosis and prevention of organ and systemic disorders, with particular emphasis on their impact on oral tissues	E.W2	written examination, classroom observation
W4	rules for dealing with victims in multi-organ injuries	E.W4	written examination, classroom observation
W5	symptoms of acute abdominal diseases, intoxication, infection and sepsis	E.W7	written examination, classroom observation
W6	methods of cytological diagnostics and cytodiagnostic criteria for diagnosis and differentiation of cancer and non-cancer diseases	E.W15	written examination, classroom observation
W7	life-threatening conditions	E.W18	written examination, classroom observation
W8	cases in which the patient should be referred to the hospital	E.W20	written examination, classroom observation
W9	immunological aspects of transplantation and blood therapy	E.W16	classroom observation
<b>Skills - Student can:</b>			
U1	perform differential diagnosis of the most common diseases of adults	E.U1	written examination, classroom observation
U2	carry out diagnostics of the most common diseases, assess and describe the patient's somatic and mental state	O.U1	written examination, classroom observation
U3	communicate and share knowledge with colleagues in a team	O.U8	classroom observation
U4	critically evaluate the results of scientific research and adequately justify the position	O.U9	written examination, classroom observation
U5	plan diagnostic and therapeutic procedures for the most common adult diseases	E.U3	written examination, classroom observation
U6	interpret the results of laboratory tests	E.U4	written examination, classroom observation
U7	identify normal and pathological structures and organs in additional imaging tests (X-ray, ultrasound, computed tomography - CT)	E.U5	written examination, classroom observation
U8	describe and recognise signs of shock and acute circulatory failure	E.U9	written examination, classroom observation
U9	recognize diseases related to smoking addiction, alcoholism and other addictions	E.U17	written examination, classroom observation
U10	recognize skin cancers and precancerous conditions	E.U15	written examination, classroom observation
<b>Social competences - Student is ready to:</b>			
K1	to establish and maintain deep and respectful contact with patients and to show understanding for differences in world views and cultures	O.K1	classroom observation
K2	to be guided by the well-being of a patient	O.K2	classroom observation
K3	respect medical confidentiality and patients' rights	O.K3	classroom observation



K4	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	O.K4	classroom observation
K5	perceive and recognize own limitations, self-assess educational deficits and needs	O.K5	classroom observation
K6	promote health-promoting behaviors	O.K6	classroom observation
K7	use objective sources of information	O.K7	classroom observation
K8	formulate conclusions from own measurements or observations	O.K8	classroom observation
K9	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	O.K9	classroom observation
K10	formulate opinions on the various aspects of the professional activity	O.K10	classroom observation
K11	assume responsibility for decisions taken in the course of their professional activities, including in terms of the safety of oneself and others.	O.K11	classroom observation

### Calculation of ECTS points

Activity form	Activity hours*
e-learning	12
clinical classes	44
preparation for classes	15
preparation for examination	9
<b>Student workload</b>	<b>Hours</b> 80
<b>Workload involving teacher</b>	<b>Hours</b> 56
<b>Practical workload</b>	<b>Hours</b> 44

\* hour means 45 minutes

### Study content

No.	Course content	Subject's learning outcomes	Activities
1.	Introduction to acute abdominal diseases: definition, symptoms, physical examination, diagnostic procedure, non-surgical causes of acute abdomen	W1, W2, W3, W4, W5, W6, W7, W8, W9, U1, U10, U2, U3, U4, U5, U6, U7, U8, U9, K1, K10, K11, K2, K3, K4, K5, K6, K7, K8, K9	e-learning, clinical classes

2.	Basics of fluid therapy and surgical nutrition. Shock (types, diagnosis, treatment). Wound healing.	W1, W2, W3, W4, W5, W6, W7, W8, U1, U10, U2, U3, U4, U5, U6, U7, U8, U9, K1, K10, K11, K2, K3, K4, K5, K6, K7, K8, K9	e-learning, clinical classes
3.	Acute appendicitis, Meckel diverticulitis, Acute cholecystitis.	W1, W2, W3, W4, W5, W6, W7, W8, U1, U10, U2, U3, U4, U5, U6, U7, U8, U9, K1, K10, K11, K2, K3, K4, K5, K6, K7, K8, K9	e-learning, clinical classes
4.	Gastrointestinal obstruction. Acute diverticulitis.	W1, W2, W3, W4, W5, W6, W7, W8, U1, U10, U2, U3, U4, U5, U6, U7, U8, U9, K1, K10, K11, K2, K3, K4, K5, K6, K7, K8, K9	e-learning, clinical classes
5.	Acute pancreatitis. Gastrointestinal perforation.	W1, W2, W3, W4, W5, W6, W7, W8, U1, U10, U2, U3, U4, U5, U6, U7, U8, U9, K1, K10, K11, K2, K3, K4, K5, K6, K7, K8, K9	clinical classes
6.	Bleeding to the gastrointestinal tract.	W1, W2, W3, W4, W5, W6, W7, W8, U1, U10, U2, U3, U4, U5, U6, U7, U8, U9, K1, K10, K11, K2, K3, K4, K5, K6, K7, K8, K9	e-learning, clinical classes
7.	Basics of the oncology. Esophageal and stomach cancer.	W1, W2, W3, W4, W5, W6, W7, W8, U1, U10, U2, U3, U4, U5, U6, U7, U8, U9, K1, K10, K11, K2, K3, K4, K5, K6, K7, K8, K9	e-learning, clinical classes
8.	Pancreatic cancer. Gallbladder cancer. Lung cancer.	W1, W2, W3, W4, W5, W6, W7, W8, U1, U10, U2, U3, U4, U5, U6, U7, U8, U9, K1, K10, K11, K2, K3, K4, K5, K6, K7, K8, K9	e-learning, clinical classes
9.	Colorectal cancer. Breast cancer. Melanoma.	W1, W2, W3, W4, W5, W6, W7, W8, U1, U10, U2, U3, U4, U5, U6, U7, U8, U9, K1, K10, K11, K2, K3, K4, K5, K6, K7, K8, K9	e-learning, clinical classes
10.	Basic treatment of the abdomen, chest and head injuries.	W1, W2, W3, W4, W5, W6, W7, W8, U1, U10, U2, U3, U4, U5, U6, U7, U8, U9, K1, K10, K11, K2, K3, K4, K5, K6, K7, K8, K9	e-learning, clinical classes

## Course advanced

### Teaching methods:

case study, classes / practicals, clinical classes, discussion, case study method, presentation, group work, seminar, lecture

<b>Activities</b>	<b>Examination methods</b>	<b>Credit conditions</b>
e-learning	written examination, classroom observation	Attendance at all classes. The final exam will consist of sixty single choice questions with 5 distractors. 60% of correct answers are required to pass the exam.
clinical classes	written examination, classroom observation	Attendance at all classes. The final exam will consist of sixty single choice questions with 5 distractors. 60% of correct answers are required to pass the exam.

### **Entry requirements**

Having a deep understanding of human anatomy, physiology, and biochemistry, particularly of the abdominal organs.

## Microbiology and oral cavity microbiology with mycology

### Educational subject description sheet

#### Basic information

<b>Department</b> Faculty of Medicine  <b>Field of study</b> Medical and Dental Program  <b>Study level</b> long-cycle master's degree program  <b>Study form</b> full-time  <b>Education profile</b> general academic  <b>Disciplines</b> Medical science  <b>ISCED classification</b> 0912 Medicine  <b>Subject related to scientific research</b> Yes	<b>Didactic cycle</b> 2020/21  <b>Realization year</b> 2022/23  <b>Lecture languages</b> English  <b>Block</b> obligatory for passing in the course of studies  <b>Mandatory</b> obligatory  <b>Examination</b> examination  <b>Standard groups</b> C. Preclinical course, F. Clinical curriculum-oriented (invasive) sciences
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<b>Period</b> Semester 5	<b>Examination</b> examination  <b>Activities and hours</b> seminar: 9, classes: 36	<b>Number of ECTS points</b> 3.0
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#### Goals

C1	Presentation of issues related to microorganisms with particular emphasis on microorganisms that are important in oral cavity infections as well as those that pose a risk in dental practice. Preparing students to solve problems related to oral cavity infections and familiarizing with treatment and prevention options for these infections.
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#### Subject's learning outcomes

Code	Outcomes in terms of	Effects	Examination methods
<b>Knowledge - Student knows and understands:</b>			
W1	types and species, as well as the structure of viruses, bacteria, fungi and parasites, their biological properties and pathogenic mechanisms	C.W1	classroom observation, multiple choice test

W2	basics of epidemiology of viral and bacterial infections, fungal and parasitic infections and paths of their spread in the human body	C.W3	multiple choice test
W3	species of bacteria, viruses and fungi which are the most common etiological factors of infections	C.W4	classroom observation, oral answer, multiple choice test
W4	basic principles of disinfection, sterilization and aseptic management	C.W5	classroom observation, multiple choice test
W5	viral, bacterial and fungal flora of the oral cavity and its importance	F.W3	multiple choice test
W6	pathomechanism of the impact of oral diseases on general health	F.W19	oral answer, multiple choice test
W7	basics of antibiotic therapy and antibiotic resistance	F.W13	classroom observation, multiple choice test
W8	principles of therapy for viral, bacterial, fungal and parasitic infections	C.W20	oral answer, multiple choice test
W9	human physiological bacterial flora	C.W2	multiple choice test
W10	the phenomenon of drug resistance development	C.W9	classroom observation
<b>Skills - Student can:</b>			
U1	take an appropriately selected type of biological material for microbiological examination depending on the location and course of the infection	C.U1	classroom observation, multiple choice test
U2	interpret the results of microbiological, serological and antibiogram tests	C.U2	classroom observation, oral answer, multiple choice test
U3	select and perform appropriate tests indicating the number of bacteria in body fluids	C.U3	classroom observation, oral answer, multiple choice test
U4	identify pathological changes caused by HIV infection and observed in patients with acquired immune deficiency syndrome (AIDS)	C.U7	classroom observation, multiple choice test
U5	assess the risk of caries using bacteriological tests and saliva tests	F.U14	classroom observation, multiple choice test
<b>Social competences - Student is ready to:</b>			
K1	formulate conclusions from own measurements or observations	O.K8	classroom observation, oral answer
K2	assume responsibility for decisions taken in the course of their professional activities, including in terms of the safety of oneself and others.	O.K11	multiple choice test
K3	promote health-promoting behaviors	O.K6	multiple choice test

### Calculation of ECTS points

Activity form	Activity hours*
seminar	9

classes	36
preparation for examination	30
participation in examination	2
preparation for classes	13
<b>Student workload</b>	<b>Hours</b> 90
<b>Workload involving teacher</b>	<b>Hours</b> 45
<b>Practical workload</b>	<b>Hours</b> 36

\* hour means 45 minutes

## Study content

No.	Course content	Subject's learning outcomes	Activities
1.	The structure of a bacterial cell, differences in the cell wall structure of Gram-positive and Gram-negative bacteria. Microbiological examination (collection of specimens for microbiological examination, specimen preparation and staining methods, microscopy techniques, culture methods, bacterial identification tests).	W1, W10, U1, U2, K1	classes
2.	Methods of drug susceptibility testing of bacteria and the principles of rational chemotherapy for bacterial infections.	W7, W8, U2, K1	classes
3.	Gram-positive and Gram-negative bacteria important for dentists.	W3, W9, U2, K2	classes, seminar
4.	Flora in gingival sulcus and its participation in periodontal disease. Stages of plaque formation and its role in development of dental caries.	W1, W6, U2, U3, U5, K3	classes
5.	Salivary defense mechanisms, xerostomy complications and microbiological aspects of halitosis.	W5, W6, K3	classes
6.	Disinfection and sterilization of equipment and dental tools.	W4, U2, K1, K2	classes
7.	The structure and characteristics of viruses, techniques of viruses cultivation and identification.	W1, U1	classes
8.	The most important human pathogenic viruses (pathogens of the respiratory tract, mucous membranes and skin, viruses transmitted by blood).	W2, W3, U2, U4, K1, K2	classes
9.	The main antiviral drugs and their use principles.	W1, W8	seminar
10.	Characteristics of human pathogenic fungi, their classification, basics of mycological diagnostics, differences between superficial, organ and systemic mycosis, the main types of fungi involved in these processes.	W1, W3, U1, U2, K1	classes

11.	Basic concepts concerning the epidemiology of parasitic infections. Biological characteristics of parasites and the mechanisms of their pathogenic impact on the human body. Selected protozoan and worm species which are the most common etiological agents of parasitic infections.	W1, W2, U1, U2, K1	classes
12.	The influence of bacterial, fungal and viral diseases of the oral cavity on the general state of human health.	W3, W6, K2	seminar

## Course advanced

### Teaching methods:

laboratories (labs), e-learning, seminar, lecture, practical classes

Activities	Examination methods	Credit conditions
seminar	oral answer, multiple choice test	Attendance in classes. Active participation in classes, i.e. performing a particular task (exercise) indicated by the teacher. At the end of the course passing the final exam from the material discussed in class (50 multiple choice test questions with one answer correct, 60% needed to pass).
classes	classroom observation, multiple choice test	Attendance in classes (maximum 2 excused absences are allowed); active participation in classes, i.e. performing a particular task (exercise) indicated by the teacher. At the end of the course passing the final exam from the material discussed in class (50 multiple choice test questions with one answer correct, 60% needed to pass).

## Physiology of pregnancy

### Educational subject description sheet

#### Basic information

<b>Department</b> Faculty of Medicine  <b>Field of study</b> Medical and Dental Program  <b>Study level</b> long-cycle master's degree program  <b>Study form</b> full-time  <b>Education profile</b> general academic  <b>Disciplines</b> Medical science  <b>ISCED classification</b> 0912 Medicine  <b>Subject related to scientific research</b> Yes	<b>Didactic cycle</b> 2020/21  <b>Realization year</b> 2022/23  <b>Lecture languages</b> English  <b>Block</b> obligatory for passing in the course of studies  <b>Mandatory</b> obligatory  <b>Examination</b> graded credit  <b>Standard group</b> E. General clinical sciences (non-invasive)
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<b>Period</b> Semester 5	<b>Examination</b> graded credit  <b>Activities and hours</b> e-learning: 5, clinical classes: 10	<b>Number of ECTS points</b> 1.0
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## Goals

C1	Providing students with a basic resource of information on pregnancy physiology, enabling them to make simple diagnostic and therapeutic decisions.
C2	Paying attention to assessing the correct course of pregnancy and recognizing the symptoms of departures from the normal state
C3	Developing ethical, social and legal conditions for medical students and principles of health promotion based on scientific evidence and accepted standards of conduct in students
C4	Developing students' conversation skills with the patient Making students aware of the need to systematically supplement their knowledge in the scope of knowledge discussed during the module: -know and understand the causes, symptoms and principles of diagnosis and therapeutic procedure in relation to the course of physiological pregnancy -has knowledge of the woman's reproductive functions, related disorders, procreation planning principles, and in particular: 1. Period of puberty and menopause. 2.Fertilization. Embryo and fetal development 3 Birth regulation. The women's sex cycle. 4. Monitor the development of pregnancy and the condition of the fetus during pregnancy and delivery. 5. Correct delivery - conditions and conduct. 6. Conducting physiological delivery.
C5	In terms of skills: Recognizes the signs and symptoms indicating the normal course of pregnancy and the symptoms that prove its abnormalities (genital bleeding, uterine contractions) Interprets the results of a physical examination of a pregnant woman (blood pressure, pregnancy of a pregnant woman) and the results of laboratory tests that show the correct course of pregnancy He knows the correct delivery mechanism, recognizes the beginning of delivery and the incorrect duration Interprets signs and symptoms during the puerperium Sets recommendations and contraindications for the use of contraceptive methods Effectively uses sources of information on medical issues and verify their credibility, i.e. has the ability to self-study
C6	In terms of social competence - shows respect for the patient and concern for his welfare - adheres to the principles of ethics - observes the patient's rights, including protection of personal data and intimacy - is aware of the need for systematic supplementation and updating of knowledge and is able to critically analyze data from literature (including English) - demonstrates problem-solving skills -can work in a group - effectively cooperates with representatives of other medical professions -can make self-assessment and recognize the limits of their own competences

## Subject's learning outcomes

Code	Outcomes in terms of	Effects	Examination methods
<b>Knowledge - Student knows and understands:</b>			
W1	relationship between morphological abnormalities and the function of changed organs and systems, as well as clinical symptoms and possibilities of diagnostics and treatment	E.W1	credit
W2	hormonal determinants of a woman's body in specific periods of life	E.W10	credit
W3	principles of dental care for a pregnant woman	E.W12	credit
W4	influence of nutrition in pregnancy and addiction of a pregnant woman on fetal development	E.W11	credit
W5	cases in which the patient should be referred to the hospital	E.W20	credit
<b>Skills - Student can:</b>			
U1	conduct clinical proceedings based on knowledge and respecting the principles of humanitarianism	O.U4	oral answer
U2	plan own learning activities and constantly learn in order to update own knowledge	O.U5	oral answer
U3	inspire the learning process of others	O.U6	oral answer

U4	communicate with the patient and his family in an atmosphere of trust, taking into account the needs of the patient	O.U7	classroom observation, oral answer
U5	communicate and share knowledge with colleagues in a team	O.U8	classroom observation, oral answer
U6	critically evaluate the results of scientific research and adequately justify the position	O.U9	oral answer
<b>Social competences - Student is ready to:</b>			
K1	to establish and maintain deep and respectful contact with patients and to show understanding for differences in world views and cultures	O.K1	oral answer
K2	to be guided by the well-being of a patient	O.K2	oral answer
K3	respect medical confidentiality and patients' rights	O.K3	oral answer
K4	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	O.K4	oral answer
K5	perceive and recognize own limitations, self-assess educational deficits and needs	O.K5	oral answer
K6	promote health-promoting behaviors	O.K6	oral answer
K7	use objective sources of information	O.K7	oral answer
K8	formulate conclusions from own measurements or observations	O.K8	oral answer
K9	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	O.K9	oral answer
K10	formulate opinions on the various aspects of the professional activity	O.K10	oral answer
K11	assume responsibility for decisions taken in the course of their professional activities, including in terms of the safety of oneself and others.	O.K11	oral answer

### Calculation of ECTS points

Activity form	Activity hours*
e-learning	5
clinical classes	10
preparation for classes	10
<b>Student workload</b>	<b>Hours</b> 25
<b>Workload involving teacher</b>	<b>Hours</b> 15
<b>Practical workload</b>	<b>Hours</b> 10

\* hour means 45 minutes

## Study content

No.	Course content	Subject's learning outcomes	Activities
1.	1. Period of puberty and menopause. 2. Fertilization. Embryo and fetal development	W1, W2, W3, W4, W5, U1, U2, U3, U4, U5, U6, K1, K2, K3, K4, K5, K6, K7, K8, K9	e-learning, clinical classes
2.	Birth control. The women's menstruation cycle.	W1, W2, W3, W4, W5, U1, U2, U3, U4, U5, U6, K1, K10, K11, K2, K3, K4, K5, K6, K7, K8, K9	e-learning, clinical classes
3.	Monitor the development of pregnancy and the condition of the fetus during pregnancy and delivery. Normal delivery - conditions and conduct. Conducting physiological delivery.	W1, W5, U1, U2, U3, U4, U5, U6, K1, K10, K11, K2, K3, K4, K5, K6, K7, K8, K9	e-learning, clinical classes

## Course advanced

### Teaching methods:

case study, classes / practicals, clinical classes, classes in clinical skills room, demonstration, discussion, case study method, presentation, group work, seminar, lecture, practical classes

Activities	Examination methods	Credit conditions
e-learning	credit	presence
clinical classes	classroom observation, oral answer	presence

## Entry requirements

Knowledge of the anatomy, physiology and pathophysiology of a woman's reproductive organ. Knowledge of aseptic principles.

## Bioethics

### Educational subject description sheet

#### Basic information

<b>Department</b> Faculty of Medicine  <b>Field of study</b> Medical and Dental Program  <b>Study level</b> long-cycle master's degree program  <b>Study form</b> full-time  <b>Education profile</b> general academic  <b>Disciplines</b> Medical science  <b>ISCED classification</b> 0223 Philosophy and ethics  <b>Subject related to scientific research</b> Yes	<b>Didactic cycle</b> 2020/21  <b>Realization year</b> 2022/23  <b>Lecture languages</b> English  <b>Block</b> obligatory for passing in the course of studies  <b>Mandatory</b> obligatory  <b>Examination</b> graded credit  <b>Standard group</b> D. Behavioral and social sciences with elements of professionalism
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<b>Period</b> Semester 5	<b>Examination</b> graded credit  <b>Activities and hours</b> seminar: 10	<b>Number of ECTS points</b> 1.0
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#### Goals

C1	Prepare students for recognition of moral dimension of dental practice.
C2	Transfer knowledge about main theories of general ethics, typical methods of ethical reasoning, and their applications to moral deliberations in medicine.
C3	Prepare students to self-reliant solving moral dilemmas of dental practice based on rational ethical argumentation.

#### Subject's learning outcomes

Code	Outcomes in terms of	Effects	Examination methods
<b>Knowledge - Student knows and understands:</b>			

W1	principles of altruism and clinical responsibility	D.W12	classroom observation, credit
W2	the imperative and the behavioral pattern of the doctor and dentist established by the professional self-governing organization of doctors and dentists	D.W14	classroom observation, credit
W3	patient rights	D.W15	classroom observation, credit
W4	principles of the therapeutic team's functioning	D.W13	classroom observation, credit
<b>Skills - Student can:</b>			
U1	comply with ethical standards in professional activities	D.U11	classroom observation, credit
U2	respect the rights of the patient	D.U12	classroom observation, credit
U3	take action to improve the quality of life of patients and prevent it from deteriorating in the future	D.U5	classroom observation, credit
U4	recognize the premises for taking medical action without the patient's consent or with the use of coercion towards the patient and apply the measures provided for in the generally applicable law	D.U9	classroom observation, credit
U5	critically analyse medical literature, including in English, and draw conclusions	D.U16	classroom observation, credit
U6	plan the work of the dental team and the equipment of the dental office in accordance with the principles of ergonomics and safety at work	D.U14	classroom observation
<b>Social competences - Student is ready to:</b>			
K1	to establish and maintain deep and respectful contact with patients and to show understanding for differences in world views and cultures	O.K1	classroom observation, credit
K2	to be guided by the well-being of a patient	O.K2	classroom observation, credit
K3	respect medical confidentiality and patients' rights	O.K3	classroom observation, credit
K4	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	O.K4	classroom observation, credit

### Calculation of ECTS points

Activity form	Activity hours*
seminar	10
preparation for classes	10
preparation for colloquium	10
<b>Student workload</b>	<b>Hours</b> 30

<b>Workload involving teacher</b>	<b>Hours</b> 10
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\* hour means 45 minutes

### Study content

No.	Course content	Subject's learning outcomes	Activities
1.	Bioethics and modern ethical theories and appropriate rules of ethical reasoning.	U1, U5, U6, K4	seminar
2.	Problem of patient's autonomy, its scope and limits; conditions of obtaining informed consent and surrogate consent for treatment.	W3, W4, U2, U3, U4, K2, K3, K4	seminar
3.	Ethical dimension of doctor-patient relationship in dental practice.	W1, W2, W4, U1, U3, K1, K4	seminar
4.	Concept of justice in healthcare and moral dimension of healthcare economy.	W1, W2, W3, U2, U3, K4	seminar
5.	Ethics of dental profession: domestic and european standards.	W1, W2, U1, U3, U5, K2, K4	seminar

### Course advanced

#### Teaching methods:

case study, textual analysis, discussion, educational game, language conversation classes, case study method, simulated patient, lecture with multimedia presentation

Activities	Examination methods	Credit conditions
seminar	classroom observation, credit	Active and prepared participation in seminars.

## Computer science and medical statistics

### Educational subject description sheet

#### Basic information

<b>Department</b> Faculty of Medicine  <b>Field of study</b> Medical and Dental Program  <b>Study level</b> long-cycle master's degree program  <b>Study form</b> full-time  <b>Education profile</b> general academic  <b>Disciplines</b> Medical science  <b>ISCED classification</b> 0912 Medicine  <b>Subject related to scientific research</b> Yes	<b>Didactic cycle</b> 2020/21  <b>Realization year</b> 2020/21, 2022/23  <b>Lecture languages</b> English  <b>Block</b> obligatory for passing in the course of studies  <b>Mandatory</b> obligatory  <b>Examination</b> graded credit  <b>Standard group</b> C. Preclinical course
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<b>Period</b> Semester 1	<b>Examination</b> credit  <b>Activities and hours</b> classes: 20	<b>Number of ECTS points</b> 1.0
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<b>Period</b> Semester 5	<b>Examination</b> graded credit  <b>Activities and hours</b> classes: 25	<b>Number of ECTS points</b> 1.0
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#### Goals

C1	The basic aim is to introduce students with modern and innovative information systems and applications used in medicine, especially in dentistry. Objectives include also demonstrate methods and tools and develop skills to used efficiently in supporting decision and therapeutic processes
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## Subject's learning outcomes

Code	Outcomes in terms of	Effects	Examination methods
<b>Knowledge - Student knows and understands:</b>			
W1	issues in the field of medicine and natural sciences - in the basic scope	O.W1	multiple choice test
W2	the rules of conducting scientific research and spreading their results	O.W4	assignment report, multiple choice test
<b>Skills - Student can:</b>			
U1	plan own learning activities and constantly learn in order to update own knowledge	O.U5	multiple choice test
U2	critically evaluate the results of scientific research and adequately justify the position	O.U9	project
<b>Social competences - Student is ready to:</b>			
K1	use objective sources of information	O.K7	assignment report
K2	formulate conclusions from own measurements or observations	O.K8	assignment report

## Calculation of ECTS points

### Semester 1

Activity form	Activity hours*
classes	20
preparation for classes	15
<b>Student workload</b>	<b>Hours</b> 35
<b>Workload involving teacher</b>	<b>Hours</b> 20
<b>Practical workload</b>	<b>Hours</b> 20

\* hour means 45 minutes

### Semester 5

Activity form	Activity hours*
classes	25
<b>Student workload</b>	<b>Hours</b> 25
<b>Workload involving teacher</b>	<b>Hours</b> 25



<b>Practical workload</b>	<b>Hours</b> 25
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\* hour means 45 minutes

## Study content

No.	Course content	Subject's learning outcomes	Activities
1.	Medical databases	W2, U2, K1, K2	classes
2.	3D technologies in medicine	W1, U1, K1	classes
3.	E-learning in medicine	W1, U1, K1	classes
4.	Simulation in medicine, Virtual Patient	W1, U1	classes
5.	Medical images analysis	W1, U1, U2, K1	classes
6.	Clinical Decision Support Systems	U1, K1	classes
7.	Teleconsultation in medicine	W1, U1, K1	classes
8.	Biostatistics	W1, U2, K2	classes

## Course advanced

### Semester 1

#### Teaching methods:

case study, classes / practicals, computer classes, laboratories (labs), demonstration, discussion, e-learning, project method, case study method, presentation, group work, seminar, virtual patient, lecture with multimedia presentation

Activities	Examination methods	Credit conditions
classes	assignment report, multiple choice test	- attend all classes - active participation in discussions during class - preparation and execution of individual tasks - preparation of presentation on given subject - active participation in preparing and performing a clinical pathway - pass the computer test on medical informatics

### Semester 5

#### Teaching methods:

computer classes, laboratories (labs), discussion, e-learning, problem solving method, project method, presentation, group work, simulation, low fidelity simulation, PBL Problem Based Learning

Activities	Examination methods	Credit conditions
classes	project, assignment report, multiple choice test	- attend all classes - active participation in discussions during class - preparation and execution of individual tasks - preparation of presentation on given subject - active participation in preparing and performing a clinical pathway - pass the computer test on medical informatics

## Medical rescue

### Educational subject description sheet

#### Basic information

<b>Department</b> Faculty of Medicine  <b>Field of study</b> Medical and Dental Program  <b>Study level</b> long-cycle master's degree program  <b>Study form</b> full-time  <b>Education profile</b> general academic  <b>Disciplines</b> Medical science  <b>ISCED classification</b> 0912 Medicine	<b>Didactic cycle</b> 2020/21  <b>Realization year</b> 2022/23  <b>Lecture languages</b> English  <b>Block</b> obligatory for passing in the course of studies  <b>Mandatory</b> obligatory  <b>Examination</b> graded credit  <b>Standard group</b> E. General clinical sciences (non-invasive)
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<b>Period</b> Semester 5	<b>Examination</b> graded credit  <b>Activities and hours</b> e-learning: 7, seminar: 2, simulations: 6	<b>Number of ECTS points</b> 1.0
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#### Goals

C1	Preparing students for correct and independent recognition of internal and external life threatening situations. This preparation includes recognition of respiratory and circulatory failure, cardiac arrest, injury, and the ability to respond to these situations.
C2	Acquiring practical skills in rescue activities with an adult patient and a child.
C3	Developing awareness and ability to organize rescue operations and use available rescue resources.
C4	Emergencies situations in dentistry. Classification of life threatening situations.
C5	Respiratory distress. Basic airway, ventilation, oxygen therapy. Intubation. LMA. Cardiac arrest. Scenario. ALS

#### Subject's learning outcomes

Code	Outcomes in terms of	Effects	Examination methods
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<b>Knowledge - Student knows and understands:</b>			
W1	relationship between morphological abnormalities and the function of changed organs and systems, as well as clinical symptoms and possibilities of diagnostics and treatment	E.W1	oral examination, test
W2	issues in the field of medicine and natural sciences - in the basic scope	O.W1	oral examination, test
W3	organization of dentist practice and management principles in healthcare	O.W5	classroom observation, clinical case presentation
W4	etiopathogenesis and symptomatology of respiratory, circulatory, hematopoietic, genitourinary, immune, digestive, motor and endocrine glands diseases, with particular regard to disease entities whose symptoms occur in the oral cavity	E.W3	oral examination, test
W5	basic methods of medical examination and the role of additional examinations in the diagnosis, monitoring, prognosis and prevention of organ and systemic disorders, with particular emphasis on their impact on oral tissues	E.W2	oral examination, test
W6	life-threatening conditions	E.W18	practical colloquiums, test
W7	causes and mechanisms of cardiac and respiratory arrest as well as principles of resuscitation and post-resuscitation procedures	E.W17	project, test
W8	rules for dealing with victims in multi-organ injuries	E.W4	test
<b>Skills - Student can:</b>			
U1	communicate and share knowledge with colleagues in a team	O.U8	classroom observation, clinical case presentation
U2	recognize the risk of life threat	E.U8	oral examination, classroom observation, test
U3	evaluate and describe the somatic and mental state of the patient	E.U2	oral examination, classroom observation, clinical case presentation, test
U4	perform basic medical procedures and procedures: temperature measurement, pulse measurement, non-invasive blood pressure measurement, oxygen therapy, assisted and substitute ventilation, placement of a oropharyngeal tube, preparation of the surgical field, hygienic and surgical hand disinfection, intravenous, intramuscular and subcutaneous injection, peripheral venous blood collection, collecting nasal, pharyngeal and dermal swabs, simple strip tests, measurement of blood glucose levels	E.U20	classroom observation
U5	describe and recognise signs of shock and acute circulatory failure	E.U9	oral examination, classroom observation, test
U6	recognize the symptoms of brain injuries and cerebrovascular diseases, dementia and consciousness disorders	E.U10	oral examination, classroom observation, test

U7	carry out diagnostics of the most common diseases, assess and describe the patient's somatic and mental state	O.U1	oral examination, classroom observation, test
U8	conduct clinical proceedings based on knowledge and respecting the principles of humanitarianism	O.U4	classroom observation
U9	plan own learning activities and constantly learn in order to update own knowledge	O.U5	classroom observation
U10	inspire the learning process of others	O.U6	classroom observation
U11	communicate with the patient and his family in an atmosphere of trust, taking into account the needs of the patient	O.U7	classroom observation

**Social competences - Student is ready to:**

K1	to establish and maintain deep and respectful contact with patients and to show understanding for differences in world views and cultures	O.K1	classroom observation
K2	to be guided by the well-being of a patient	O.K2	classroom observation
K3	respect medical confidentiality and patients' rights	O.K3	classroom observation
K4	perceive and recognize own limitations, self-assess educational deficits and needs	O.K5	classroom observation
K5	formulate conclusions from own measurements or observations	O.K8	classroom observation
K6	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	O.K9	classroom observation
K7	assume responsibility for decisions taken in the course of their professional activities, including in terms of the safety of oneself and others.	O.K11	classroom observation
K8	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	O.K4	classroom observation

### Calculation of ECTS points

Activity form	Activity hours*
e-learning	7
seminar	2
simulations	6
preparation for classes	6
preparation for classes	6
participation in examination	2

<b>Student workload</b>	<b>Hours</b> 29
<b>Workload involving teacher</b>	<b>Hours</b> 15
<b>Practical workload</b>	<b>Hours</b> 6

\* hour means 45 minutes

## Study content

No.	Course content	Subject's learning outcomes	Activities
1.	Emergency medicine - purpose, organization. Diagnosis and emergency procedures in life-threatening situations - acute respiratory failure, circulatory failure.	W1, W2, W3, W4, U10, U9, K4	e-learning
2.	Life-threatening conditions in adults.	W1, W4, W5, W6, W7, W8, U3, U5, K1, K5	e-learning
3.	Life-threatening conditions in children.	W1, W5, W6, W7, U2, U3, K1, K2, K3, K5	e-learning
4.	Emergency procedure in injuries.	W1, W2, W6, W8, U2, U3, U5, U6, K4, K5, K7	seminar
5.	Emergency procedures in acute respiratory failure, circulatory failure, central nervous system failure in adults and children (medical examination, open the airway, ventilation, oxygen therapy).	W3, W4, W5, W6, W7, U1, U2, U3, U4, U5, U6, U7, U8, K1, K2, K3, K5	simulations
6.	Cardiopulmonary resuscitation of adults and children (AED, instrumental airway opening, ventilation with a AMBU bag).	W1, W6, W7, U1, U2, U3, U4, U5, K5, K6, K7, K8	simulations
7.	Emergency procedures for a trauma patient, accident victim (ABCDE examination, trauma test).	W6, W8, U1, U11, U2, U3, U4, U5, U6	simulations
8.	Methods of treatment of injuries (haemorrhage control, stabilization of fractures, sprains)	W8, U1, U2, U4, K1, K2, K8	simulations

## Course advanced

### Teaching methods:

case study, clinical classes, preclinical classes, classes in simulated conditions, demonstration, discussion, presentation, seminar, simulation, low fidelity simulation, simulated patient, lecture, practical classes, practical classes in simulated conditions

Activities	Examination methods	Credit conditions
e-learning	test	presence at lectures
seminar	oral examination, practical colloquiums	practical colloquium
simulations	classroom observation, clinical case presentation, project	exam

## Dental radiology

### Educational subject description sheet

#### Basic information

<b>Department</b> Faculty of Medicine  <b>Field of study</b> Medical and Dental Program  <b>Study level</b> long-cycle master's degree program  <b>Study form</b> full-time  <b>Education profile</b> general academic  <b>Disciplines</b> Medical science  <b>ISCED classification</b> 0912 Medicine	<b>Didactic cycle</b> 2020/21  <b>Realization year</b> 2022/23  <b>Lecture languages</b> English  <b>Block</b> obligatory for passing in the course of studies  <b>Mandatory</b> obligatory  <b>Examination</b> examination  <b>Standard group</b> F. Clinical curriculum-oriented (invasive) sciences
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<b>Period</b> Semester 6	<b>Examination</b> examination  <b>Activities and hours</b> e-learning: 10, seminar: 18, clinical classes: 22	<b>Number of ECTS points</b> 3.0
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#### Goals

C1	Pathological findings in maxillo-facial regions -radiological diagnosis.
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#### Subject's learning outcomes

Code	Outcomes in terms of	Effects	Examination methods
<b>Knowledge - Student knows and understands:</b>			
W1	principles of radiological diagnosis	F.W18	exam - written test
<b>Skills - Student can:</b>			
U1	describe dental and pantomographic images	F.U23	exam - written test
<b>Social competences - Student is ready to:</b>			

K1	respect medical confidentiality and patients' rights	O.K3	exam - written test
K2	to be guided by the well-being of a patient	O.K2	exam - written test

### Calculation of ECTS points

Activity form	Activity hours*
e-learning	10
seminar	18
clinical classes	22
preparation for classes	10
preparation for examination	10
analysis of the research material	10
<b>Student workload</b>	<b>Hours</b> 80
<b>Workload involving teacher</b>	<b>Hours</b> 50
<b>Practical workload</b>	<b>Hours</b> 32

\* hour means 45 minutes

### Study content

No.	Course content	Subject's learning outcomes	Activities
1.	1.Pathology of the salivary glands; 2.Cystic lesions of the jaws 3.Dental anomalies. 4.Pathology of orbits; 5.Pathology of Temporo-Mandibular joints. 6.Case based studies – trauma; 7.Pathology of the salivary glands; 8.Pathology of sinonasal cavities. 9.Odontogenic neoplasms 10.Non-odontogenic neoplasms 11.Anatomy and normal development; 12.Soft tissue calcifications; 13.Dental labs 14.Metabolic and Paget disease, bone dysplasia 15.Congenital and acquired dental anomalies; 16. Inflammatory diseases, caries	W1, U1, K1, K2	seminar, e-learning, clinical classes

### Course advanced

**Teaching methods:**

case study, classes / practicals, clinical classes, computer classes, laboratories (labs), demonstration, discussion, e-learning, presentation, computer room, seminar, lecture, lecture with multimedia presentation, practical classes, practical classes in simulated conditions

Activities	Examination methods	Credit conditions
e-learning	exam - written test	exam-written test
seminar	exam - written test	Attendance on seminars and practicals - no more than 2 days of absences are allowed [on both together]
clinical classes	exam - written test	Attendance on seminars and practicals - no more than 2 days of absences are allowed [on both together]

**Entry requirements**

no



## Oral biochemistry

### Educational subject description sheet

#### Basic information

<b>Department</b> Faculty of Medicine  <b>Field of study</b> Medical and Dental Program  <b>Study level</b> long-cycle master's degree program  <b>Study form</b> full-time  <b>Education profile</b> general academic  <b>Disciplines</b> Medical science  <b>ISCED classification</b> 0912 Medicine  <b>Subject related to scientific research</b> Yes	<b>Didactic cycle</b> 2020/21  <b>Realization year</b> 2022/23  <b>Lecture languages</b> English  <b>Block</b> obligatory for passing in the course of studies  <b>Mandatory</b> obligatory  <b>Examination</b> graded credit  <b>Standard groups</b> C. Preclinical course, F. Clinical curriculum-oriented (invasive) sciences
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<b>Period</b> Semester 6	<b>Examination</b> graded credit  <b>Activities and hours</b> e-learning: 12, seminar: 6, classes: 12	<b>Number of ECTS points</b> 2.0
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#### Goals

C1	Familiarizing students with basic/essential biochemical phenomena and processes indispensable to understand physiological and pathological phenomena taking place in oral cavity.
C2	Training students to use modern sources of information and apply knowledge in practice, to analyze experimental data and to infer based on the obtained results; familiarizing students with basic molecular and cellular biology laboratory techniques of major cognitive and diagnostic value in dentistry.
C3	Developing skills for searching for information in the field of oral cavity biochemistry, pointing at the necessity of using scientific literature as a indispensable/important tool for continuous self-learning. Developing skills for analyzing scientific texts and presenting crucial information in the form of multimedia presentations, papers.

#### Subject's learning outcomes

Code	Outcomes in terms of	Effects	Examination methods
<b>Knowledge - Student knows and understands:</b>			
W1	issues in the field of medicine and natural sciences – in the basic scope	O.W1	written examination, test, student presentation
W2	issues in dentistry – at an advanced level	O.W2	written examination, test, student presentation
W3	the rules of conducting scientific research and spreading their results	O.W4	classroom observation, assignment report
W4	causes of complications of stomatognathic system diseases and rules of conduct in case of such complications	F.W12	written examination, test
W5	pathomechanism of the impact of oral diseases on general health	F.W19	written examination, test
<b>Skills - Student can:</b>			
U1	plan treatment for dental problems	O.U3	written examination, assignment report, test
U2	conduct clinical proceedings based on knowledge and respecting the principles of humanitarianism	O.U4	classroom observation, assignment report
U3	plan own learning activities and constantly learn in order to update own knowledge	O.U5	classroom observation, assignment report, student presentation
U4	communicate and share knowledge with colleagues in a team	O.U8	classroom observation
U5	critically evaluate the results of scientific research and adequately justify the position	O.U9	classroom observation, assignment report, student presentation
<b>Social competences - Student is ready to:</b>			
K1	use objective sources of information	O.K7	classroom observation, assignment report
K2	formulate conclusions from own measurements or observations	O.K8	classroom observation, assignment report

### Calculation of ECTS points

Activity form	Activity hours*
e-learning	12
seminar	6
classes	12
preparation for classes	14
preparation of multimedia presentation	6

preparation for examination	10
<b>Student workload</b>	<b>Hours</b> 60
<b>Workload involving teacher</b>	<b>Hours</b> 30
<b>Practical workload</b>	<b>Hours</b> 12

\* hour means 45 minutes

## Study content

No.	Course content	Subject's learning outcomes	Activities
1.	Extracellular matrix - extracellular matrix proteins; general characteristics of collagens, structure and production of typical molecules of collagen fibers. Reinforcing/stabilizing bonds of collagen fibers. Non-collagen glycoproteins (elastin, fibronectin). Glycosylaminoglycans - structure and properties. Proteoglycans. Metalloproteinases – degradation of extracellular matrix proteins. Role of metalloproteinases in periodontal diseases. Chosen diseases related to collagen metabolism.	W1, W2, W3, W4	e-learning
2.	Calcium and phosphate homeostasis. The mineralization of tooth tissues. The role of fluorine.	W1, W2	e-learning
3.	Mechanisms of saliva production and secretion. Composition and properties of saliva. Proteom of saliva. Properties of saliva proteins. Functions of saliva. Saliva as a diagnostic material.	W1, W2	e-learning
4.	Diagnostics of genetically determined diseases: inherited collagen disease (OI – Osteogenesis imperfecta).	W1, W2	seminar, e-learning
5.	Biological interactions between components of dental filling materials and human tissues (cytotoxicity).	W2, W4, U1, U3, K1, K2	classes, seminar
6.	Techniques of genetic engineering and molecular biology in diagnostics of genetic diseases.	W1, W2, U3, U4, U5, K1, K2	classes, seminar, e-learning
7.	Exploiting of internet databases.	U5, K1	classes
8.	Gene expression testing methods.	W1, W2, U3, U5, K1, K2	classes, seminar
9.	Methods for cytotoxicity testing in cell cultures.	W2, W3, W4, W5, U2, U3, U4, U5, K1, K2	classes, seminar

## Course advanced

### Teaching methods:

laboratories (labs), e-learning, assignments solving, seminar, lecture with multimedia presentation, students' presentations

Activities	Examination methods	Credit conditions
e-learning	written examination	Final MCQ test (50 questions) will cover the whole material of the course.
seminar	test, student presentation	Attendance at seminars is obligatory. In justified cases, confirmed by a relevant document (i.e. sick leave, Dean's justification), it is possible to make up for the absence (maximum 1 excused) in the form determined by the coordinator (method / time specified in the detailed regulations available on the website). Each seminar ends with a short quiz to test the knowledge. Each student is required to prepare and present 2 topics (based on the materials / publications provided). The final test contains a set of questions related to the topic of the seminar.
classes	classroom observation, assignment report	Attendance at all classes is obligatory. In justified cases, confirmed by a relevant document (i.e. sick leave, dean's justification), it is possible to make up for the absence (maximum 1 excused absence) in the form determined by the coordinator (method / time specified in the detailed regulations made available on the website. Students' laboratory work and laboratory report are assessed. The final test contains a set of questions related to the content of the lab classes.

### Entry requirements

Biochemistry with Chemistry course credit.  
Obligatory attendance at classes.

## Propaedeutics of oral surgery

### Educational subject description sheet

#### Basic information

<b>Department</b> Faculty of Medicine  <b>Field of study</b> Medical and Dental Program  <b>Study level</b> long-cycle master's degree program  <b>Study form</b> full-time  <b>Education profile</b> general academic  <b>Disciplines</b> Medical science  <b>ISCED classification</b> 0911 Dental studies  <b>Subject related to scientific research</b> Yes	<b>Didactic cycle</b> 2020/21  <b>Realization year</b> 2022/23  <b>Lecture languages</b> English  <b>Block</b> obligatory for passing in the course of studies  <b>Mandatory</b> obligatory  <b>Examination</b> graded credit  <b>Standard group</b> F. Clinical curriculum-oriented (invasive) sciences
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<b>Period</b> Semester 6	<b>Examination</b> graded credit  <b>Activities and hours</b> e-learning: 10, simulations: 40	<b>Number of ECTS points</b> 3.0
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#### Goals

C1	The aim of the programme is to prepare the students within the theoretical scope and practical skills in the field of oral surgery
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#### Subject's learning outcomes

Code	Outcomes in terms of	Effects	Examination methods
<b>Knowledge - Student knows and understands:</b>			
W1	principles of anesthesia in dental procedures and basic pharmacological agents	F.W16	practical colloquiums, multiple choice test

W2	principles of radiological diagnosis	F.W18	practical colloquiums, multiple choice test
W3	the specificity of dental care for a patient suffering from a general disease and the principles of cooperation with a doctor treating the underlying disease	F.W23	practical colloquiums, multiple choice test
W4	basics of antibiotic therapy and antibiotic resistance	F.W13	practical colloquiums, multiple choice test
<b>Skills - Student can:</b>			
U1	carry out diagnostics of the most common diseases, assess and describe the patient's somatic and mental state	O.U1	practical colloquiums, multiple choice test
U2	communicate with the patient and his family in an atmosphere of trust, taking into account the needs of the patient	O.U7	practical colloquiums, multiple choice test
U3	communicate and share knowledge with colleagues in a team	O.U8	practical colloquiums, multiple choice test
U4	plan treatment for dental problems	O.U3	practical colloquiums, multiple choice test
U5	carry out a medical interview with the patient and his or her family	F.U1	practical colloquiums, multiple choice test
U6	carry out a dental physical examination of the patient	F.U2	practical colloquiums, multiple choice test
U7	explain the nature of his or her ailment to the patient, determine the method of treatment confirmed by the patient's informed consent and prognosis	F.U3	practical colloquiums, multiple choice test
U8	provide the patient or his or her family with information about unfavorable prognosis	F.U4	practical colloquiums, multiple choice test
U9	collect and secure specimens for diagnostic tests, including cytological tests	F.U5	practical colloquiums, multiple choice test
U10	interpret the results of additional tests and consultations	F.U6	practical colloquiums, multiple choice test
U11	determine the indications and contraindications for performing a specific dental procedure	F.U7	practical colloquiums, multiple choice test
U12	proceed in case of general and local complications during and after dental procedures	F.U9	practical colloquiums, multiple choice test
U13	prescribe medicines, taking into account their interactions and side-effects	F.U10	practical colloquiums, multiple choice test
U14	keep patient records on ongoing basis, provide referrals for examination or specialist treatment in dental and general medicine	F.U11	practical colloquiums, multiple choice test
<b>Social competences - Student is ready to:</b>			
K1	to establish and maintain deep and respectful contact with patients and to show understanding for differences in world views and cultures	O.K1	practical colloquiums, multiple choice test
K2	to be guided by the well-being of a patient	O.K2	practical colloquiums, multiple choice test
K3	respect medical confidentiality and patients' rights	O.K3	practical colloquiums, multiple choice test

K4	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	O.K4	practical colloquiums, multiple choice test
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### Calculation of ECTS points

Activity form	Activity hours*
e-learning	10
simulations	40
preparation for classes	20
preparation for examination	15
<b>Student workload</b>	<b>Hours</b> 85
<b>Workload involving teacher</b>	<b>Hours</b> 50
<b>Practical workload</b>	<b>Hours</b> 40

\* hour means 45 minutes

### Study content

No.	Course content	Subject's learning outcomes	Activities
1.	Surgical patient evaluation - 6th semester	U1, U10, U11, U14, U2, U3, U4, U5, U6, U7, U8, U9, K1, K2, K3, K4	e-learning, simulations
2.	High-risk patient in oral surgery department - 6th semester	W1, W2, W3, W4, U1, U11, U12, U13, U14, U4, U5, U7, K2	e-learning
3.	Radiographic imaging of the maxillofacial region - 6th semester	W2, U10, U4	e-learning
4.	Local anaesthetics used in oral surgery - 6th semester	W1, W3, U13, U4, K2	e-learning
5.	Clinical anatomy of the orofacial region - 6th semester	W1, W2, U10, U6, U9	simulations
6.	Techniques of local anaesthesia - 6th semester	W1, U11	simulations
7.	Maxillary anaesthesia - 6th semester	W1, U11, U4	simulations
8.	Mandibular anaesthesia - 6th semester	W1, U11, U4	simulations
9.	Armamentarium for surgical procedures in oral cavity - 6th semester	U4, U9	simulations

10.	Preoperative procedures in oral surgery. Basic surgical procedures for oral surgery - 6th semester	U11, U4, U9	simulations
11.	Simple and surgical extraction of teeth - 6th semester	U11, U4	simulations

## Course advanced

### Teaching methods:

educational film, presentation, group work, simulation, lecture, practical classes

Activities	Examination methods	Credit conditions
e-learning	multiple choice test	credit at the final test
simulations	practical colloquiums, multiple choice test	credit at the final test

## Entry requirements

Preclinical integrated dentistry 1/2



## Medical law

### Educational subject description sheet

#### Basic information

<b>Department</b> Faculty of Medicine  <b>Field of study</b> Medical and Dental Program  <b>Study level</b> long-cycle master's degree program  <b>Study form</b> full-time  <b>Education profile</b> general academic  <b>Disciplines</b> Medical science  <b>ISCED classification</b> 0912 Medicine	<b>Didactic cycle</b> 2020/21  <b>Realization year</b> 2022/23  <b>Lecture languages</b> English  <b>Block</b> obligatory for passing in the course of studies  <b>Mandatory</b> obligatory  <b>Examination</b> graded credit  <b>Standard group</b> G. Legal and organizational basis for medicine
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<b>Period</b> Semester 6	<b>Examination</b> graded credit  <b>Activities and hours</b> e-learning: 10	<b>Number of ECTS points</b> 1.0
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#### Goals

C1	Students are acquainted with basic solutions applicable in the area of medical law in Poland and principles of professional ethics of physicians and dentists.
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#### Subject's learning outcomes

Code	Outcomes in terms of	Effects	Examination methods
<b>Knowledge - Student knows and understands:</b>			
W1	the principles of professional liability of a dentist (moral, ethical, legal, material and professional), as well as the dentist's obligations towards the patient	G.W22	credit
W2	problems of medical error: diagnostic, technical, therapeutic and organizational	G.W23	credit

W3	principles of liability for violation of the rules of practicing the profession of a dentist	G.W24	credit
W4	patient rights	G.W26	credit
W5	principles of medical ethics and deontology, ethical dilemmas of modern medicine resulting from the dynamic development of biomedical science and technologies, as well as the principles of ethical conduct of a dentist	G.W27	credit
W6	legal basis for the functioning of the medical professions and the professional self-government of doctors and dentists in the Republic of Poland	G.W28	credit
W7	legal regulations regarding conducting healthcare activities	G.W29	credit
W8	organizational and legal aspects of the functioning of the Polish healthcare system	G.W8	credit
W9	principles of managing medical entities	G.W9	credit
W10	principles of functioning, management and computerization of medicinal entities and other public health institutions	G.W10	credit
W11	principles of functioning of primary healthcare	G.W11	credit
W12	rules for negotiating and concluding contracts for the provision of health services in the public and private sectors	G.W12	credit
W13	legal basics of communication in medicine	G.W25	credit
W14	basic duties of the employee and employer	G.W30	credit
W15	rules for providing benefits in the event of sickness, maternity, accidents at work and occupational diseases	G.W31	credit
W16	rules for deciding on temporary inability to work, inability to work for disability purposes, as well as disability	G.W32	credit
W17	rules for keeping, storing and sharing medical records and protecting personal data	G.W34	credit
W18	the concept of public health and the objectives, tasks and structure of the health system	G.W1	credit
W19	etiology of occupational diseases specified in legal regulations, including those related to the profession of a dentist	G.W13	credit
W20	indicators of the state of health of the population and the principles of their assessment	G.W14	credit
W21	principles of planning and evaluation of preventive actions	G.W17	credit
W22	principles of ergonomic organization of work in the dental office and carrying out dental procedures	G.W18	credit
W23	principles of occupational health and safety in dentistry	G.W19	credit
W24	rules of conduct in the event of an epidemiological threat	G.W20	credit

W25	rules of dealing with corpses	G.W33	credit
W26	the rules for drawing up expert opinions in criminal matters	G.W37	credit
W27	forensic aspects of human ethology	G.W38	credit
<b>Skills - Student can:</b>			
U1	identify similarities and differences between ethical and legal standards	G.U23	credit
U2	apply the legal provisions relating to the pursuit of the profession of a dentist	G.U24	credit
U3	explain and apply the standards contained in the Code of Medical Ethics and international standards of medical ethics	G.U25	credit
U4	analyze various systems of financing health services in the Republic of Poland and other countries	G.U8	credit
U5	prepare competition offers related to the provision of health services	G.U9	credit
U6	organize and run a dental office	G.U10	credit
U7	provide the patient with necessary information on oral health promotion	G.U15	credit
U8	keep medical records	G.U26	credit
U9	issue medical certificates	G.U27	credit
U10	work in a team and lead a team in a dental office	G.U11	credit
U11	assess the consequences of facial and cranial injuries and qualify them in criminal and civil proceedings	G.U30	credit
<b>Social competences - Student is ready to:</b>			
K1	to establish and maintain deep and respectful contact with patients and to show understanding for differences in world views and cultures	O.K1	credit
K2	respect medical confidentiality and patients' rights	O.K3	credit
K3	formulate opinions on the various aspects of the professional activity	O.K10	credit
K4	assume responsibility for decisions taken in the course of their professional activities, including in terms of the safety of oneself and others.	O.K11	credit

### Calculation of ECTS points

Activity form	Activity hours*
e-learning	10
analysis of the research material	10
preparation for classes	4
consultations with lecturer	4

<b>Student workload</b>	<b>Hours</b> 28
<b>Workload involving teacher</b>	<b>Hours</b> 10
<b>Practical workload</b>	<b>Hours</b> 10

\* hour means 45 minutes

## Study content

No.	Course content	Subject's learning outcomes	Activities
1.	Legal responsibility of the medical staff (in Poland) - professional and civil responsibility.	W1, W10, W2, W3, W5, W7, W8, W9, U1, U2, U7, K3, K4	e-learning
2.	Legal responsibility of the medical staff (in Poland) - criminal and employee responsibility.	W1, W2, U1, U10, U2, U5, U8, U9, K3, K4	e-learning
3.	Patient rights at the different levels of legislation: genesis, idea, evolution, fundamental rules, legislation on the international, common & national level. Specifics of the doctor - patient relation on the legal and ethical grounds with the focus on dentistry.	W1, W18, W19, W2, W20, W21, W22, W23, W24, W25, W26, W27, W4, U1, U11, U2, K1, K2, K3, K4	e-learning
4.	Perspectives for medical law, the most important contemporary general problems: transplantation and organs donation, social context of medicine and its impact on law.	W11, W12, W13, W14, W15, W16, W17, W4, W6, U1, U3, U4, U6, K1, K2	e-learning

## Course advanced

### Teaching methods:

case study, case study method, lecture, lecture with multimedia presentation

Activities	Examination methods	Credit conditions
e-learning	credit	Attendance in class and discussion with class participants. Attendance requirements: two of four meetings (e-learning).

## Entry requirements

Not applicable.

## Public Health

### Karta opisu przedmiotu

#### Informacje podstawowe

<b>Jednostka organizacyjna</b> Wydział Lekarski  <b>Kierunek studiów</b> Medical and Dental Program  <b>Poziom kształcenia</b> jednolite magisterskie  <b>Forma studiów</b> stacjonarne  <b>Profil studiów</b> ogólnoakademicki  <b>Dyscypliny</b>  <b>Klasyfikacja ISCED</b> Brak kategorii ISCED	<b>Cykl dydaktyczny</b> 2020/21  <b>Rok realizacji</b> 2022/23  <b>Języki wykładowe</b> Angielski  <b>Blok zajęciowy</b> obowiązkowy do zaliczenia w toku studiów  <b>Obligatoryjność</b> obowiązkowy  <b>Forma weryfikacji uzyskanych efektów uczenia się</b> zaliczenie na ocenę  <b>Grupa zajęć standardu</b> G. Prawno-organizacyjne podstawy medycyny
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<b>Okres</b> Semestr 6	<b>Forma weryfikacji uzyskanych efektów uczenia się</b> zaliczenie na ocenę  <b>Forma prowadzenia i godziny zajęć</b> seminarium: 12	<b>Liczba punktów ECTS</b> 1.0
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#### Cele kształcenia dla przedmiotu

G1	Zaznajomienie studentów z rolą, zadaniami, funkcjami zdrowia publicznego
G2	Przekazanie wiedzy na temat zasad promocji zdrowia, profilaktyki chorób, uwarunkowań zdrowia oraz metod diagnozy populacyjnej potrzeb zdrowotnych i ich możliwości realizacji
G3	Zaznajomienie studentów ze strategią polityki zdrowotnej na szczeblu krajowym i międzynarodowym
G4	Poznanie modeli ochrony zdrowia w Polsce i na świecie i ich zasad organizacji

#### Efekty uczenia się dla przedmiotu

Kod	Efekty w zakresie	Kierunkowe efekty uczenia się	Metody weryfikacji
<b>Wiedzy - Student zna i rozumie:</b>			

W1	pojęcie zdrowia publicznego oraz cele, zadania i strukturę systemu opieki zdrowotnej	G.W1	zaliczenie pisemne
W2	koncepcje i modele promocji zdrowia	G.W2	zaliczenie pisemne
W3	podstawowe pojęcia z zakresu profilaktyki, promocji zdrowia oraz higieny środowiskowej	G.W3	zaliczenie pisemne
W4	metody określania potrzeb zdrowotnych społeczeństwa	G.W5	zaliczenie pisemne
W5	strategię polityki zdrowotnej i społecznej Rzeczypospolitej Polskiej oraz Unii Europejskiej	G.W7	zaliczenie pisemne
W6	zasady planowania i ewaluacji działań profilaktycznych	G.W17	obserwacja pracy studenta, ocena grupy, zaliczenie pisemne
<b>Umiejętności - Student potrafi:</b>			
U1	opisywać wybrane zjawiska zdrowotne w skali populacyjnej oraz prognozować ich wpływ na funkcjonowanie opieki zdrowotnej	G.U2	obserwacja pracy studenta, zaliczenie pisemne
U2	oceniać skalę problemów zdrowotnych oraz wskazywać priorytety zdrowotne i określać ich znaczenie w polityce zdrowotnej	G.U3	obserwacja pracy studenta, zaliczenie pisemne
U3	identyfikować czynniki wpływające na politykę zdrowotną państwa	G.U6	obserwacja pracy studenta, zaliczenie pisemne
U4	planować działania z zakresu profilaktyki i promocji zdrowia oraz wdrażać działania promocyjne dotyczące zdrowia populacji	G.U7	obserwacja pracy studenta, ocena grupy
U5	analizować różne systemy finansowania świadczeń zdrowotnych w Rzeczypospolitej Polskiej i innych państwach	G.U8	obserwacja pracy studenta, ocena grupy, zaliczenie pisemne
U6	przekazywać pacjentowi informacje na temat czynników ryzyka i sposobów zapobiegania najczęstszym chorobom społecznym w Rzeczypospolitej Polskiej	G.U16	obserwacja pracy studenta
<b>Kompetencji społecznych - Student jest gotów do:</b>			
K1	propagowania zachowań prozdrowotnych	O.K6	obserwacja pracy studenta, ocena grupy

### Bilans punktów ECTS

Rodzaje zajęć studenta	Średnia liczba godzin* przeznaczonych na zrealizowane rodzaje zajęć
seminarium	12
przygotowanie do zajęć	8
konsultacje z prowadzącym zajęcia	2
przygotowanie do egzaminu	8

<b>Łączny nakład pracy studenta</b>	<b>Liczba godzin</b> 30
<b>Liczba godzin kontaktowych</b>	<b>Liczba godzin</b> 12

\* godzina (lekcyjna) oznacza 45 minut

## Treści programowe

Lp.	Treści programowe	Efekty uczenia się dla przedmiotu	Formy prowadzenia zajęć
1.	Pojęcie zdrowia publicznego. Założenia, zadania, funkcje zdrowia publicznego. Nowe miary obciążeń zdrowotnych.	W1, W4	seminarium
2.	Promocja zdrowia – definicje, koncepcje, modele.	W2, K1	seminarium
3.	Spółeczne uwarunkowania zdrowia. Strategie zapobiegania chorobom na poziomie zdrowia publicznego. Podstawowe pojęcia z zakresu profilaktyki.	W3, U4, U6, K1	seminarium
4.	Metody określania potrzeb zdrowotnych społeczeństwa. Skala problemów zdrowotnych. Polityka zdrowotna państwa – strategia, czynniki, priorytety.	W4, W5, U1, U2, U3, K1	seminarium
5.	Programy zdrowia publicznego. Przepływ wiedzy i informacji w zdrowiu publicznym. Pacjent z perspektywy zdrowia publicznego. Zasady planowania i ewaluacji programów zdrowia publicznego.	W6, U4, K1	seminarium
6.	Modele ochrony zdrowia w Polsce i na świecie. Ekonomiczne uwarunkowania zdrowia publicznego. Modele finansowania ochrony zdrowia.	W1, U5	seminarium

## Informacje rozszerzone

### Metody nauczania:

Burza mózgów, Dyskusja, Praca w grupie, Seminarium, Wykład z prezentacją multimedialną

Rodzaj zajęć	Formy zaliczenia	Warunki zaliczenia przedmiotu
seminarium	obserwacja pracy studenta, ocena grupy, zaliczenie pisemne	Egzamin końcowy w pierwszym terminie ma formę pisemną w postaci testu wielokrotnego wyboru. Liczba pytań testu: 30. Egzamin końcowy w drugim terminie odbywa się w odpowiedniej sesji poprawkowej, ma formę pisemną w postaci 4 pytań otwartych. Odpowiedzi na każde z pytań są punktowane w skali od 0 do 5 punktów (co 0,5 punktu). Kryterium zaliczenia dla każdego z terminów egzaminu końcowego $\geq 60\%$ poprawnych odpowiedzi. Kryteria oceny końcowej dla każdego z terminów egzaminu: 60,0% do 68,0% = dostateczny; >68,0% do 76,0% = dostateczny plus; >76,0% do 84,0% = dobry; >84,0% do 92,0% = dobry plus; >92,0% do 100% = bardzo dobry

### Dodatkowy opis

Warunkiem dopuszczenia do zaliczenia końcowego jest zaliczenie 100% przewidzianych harmonogramem seminariów.

Student jest zobowiązany uczestniczyć czynnie w zajęciach lub w uzasadnionych przypadkach dopuszcza się nieobecność na zajęciach z koniecznością zaliczenia danego tematu w terminie uzgodnionym z prowadzącym.

W przypadku niespełnienia powyższego warunku student traci możliwość przystąpienia do zaliczenia końcowego (co jest równoznaczne z utratą pierwszego lub drugiego terminu zaliczenia).

Student jest zobowiązany przychodzić punktualnie na zajęcia. Dopuszcza się maksymalnie 2 spóźnienia bez ponoszenia konsekwencji.

W przypadku 3 spóźnień student jest zobowiązany do zaliczenia jednego (wylosowanego) tematu spośród tematów, na których odnotowano spóźnienie.

### **Wymagania wstępne i dodatkowe**

Obowiązkowa obecność na zajęciach. Warunkiem uczestnictwa w kursie jest uzyskanie zaliczenia z przedmiotu Epidemiologia i medycyna środowiskowa lub podobnego zawierającego odpowiednie kierunkowe efekty uczenia się, to znaczy G.W1-3,5,7,17; G.U2-3,6-8,16; O.K6.



## Dental practice in a dental office - summer internship

### Educational subject description sheet

#### Basic information

<b>Department</b> Faculty of Medicine  <b>Field of study</b> Medical and Dental Program  <b>Study level</b> long-cycle master's degree program  <b>Study form</b> full-time  <b>Education profile</b> general academic  <b>Disciplines</b> Medical science  <b>ISCED classification</b> 0912 Medicine	<b>Didactic cycle</b> 2020/21  <b>Realization year</b> 2022/23, 2023/24  <b>Lecture languages</b> English  <b>Block</b> obligatory for passing in the course of studies  <b>Mandatory</b> obligatory  <b>Examination</b> credit  <b>Standard group</b> I. Professional practice
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<b>Period</b> Semester 6	<b>Examination</b> credit  <b>Activities and hours</b> professional practice: 120	<b>Number of ECTS points</b> 4.0
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<b>Period</b> Semester 8	<b>Examination</b> credit  <b>Activities and hours</b> professional practice: 120	<b>Number of ECTS points</b> 4.0
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#### Goals

C1	The aim of dental electives after third and fourth year is to gain more clinical experience by assisting and performing simple dental procedures under the qualified dentist supervision.
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#### Subject's learning outcomes

Code	Outcomes in terms of	Effects	Examination methods
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<b>Knowledge - Student knows and understands:</b>			
W1	health education issues	O.W3	booklet of practice
W2	organization of dentist practice and management principles in healthcare	O.W5	booklet of practice
W3	issues in dentistry – at an advanced level	O.W2	booklet of practice
<b>Skills - Student can:</b>			
U1	provide professional dental care in the field of prevention, treatment, health promotion and health education	O.U2	booklet of practice
U2	plan treatment for dental problems	O.U3	booklet of practice
U3	communicate with the patient and his family in an atmosphere of trust, taking into account the needs of the patient	O.U7	booklet of practice
U4	communicate and share knowledge with colleagues in a team	O.U8	booklet of practice
U5	carry out diagnostics of the most common diseases, assess and describe the patient's somatic and mental state	O.U1	booklet of practice
U6	conduct clinical proceedings based on knowledge and respecting the principles of humanitarianism	O.U4	booklet of practice
<b>Social competences - Student is ready to:</b>			
K1	to be guided by the well-being of a patient	O.K2	booklet of practice
K2	respect medical confidentiality and patients' rights	O.K3	booklet of practice
K3	to establish and maintain deep and respectful contact with patients and to show understanding for differences in world views and cultures	O.K1	booklet of practice
K4	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	O.K4	booklet of practice
K5	promote health-promoting behaviors	O.K6	booklet of practice
K6	assume responsibility for decisions taken in the course of their professional activities, including in terms of the safety of oneself and others.	O.K11	booklet of practice
K7	perceive and recognize own limitations, self-assess educational deficits and needs	O.K5	booklet of practice

## Calculation of ECTS points

### Semester 6

<b>Activity form</b>	<b>Activity hours*</b>
professional practice	120
<b>Student workload</b>	<b>Hours</b> 120

<b>Workload involving teacher</b>	<b>Hours</b> 120
<b>Practical workload</b>	<b>Hours</b> 120

\* hour means 45 minutes

### Semester 8

<b>Activity form</b>	<b>Activity hours*</b>
professional practice	120
<b>Student workload</b>	<b>Hours</b> 120
<b>Workload involving teacher</b>	<b>Hours</b> 120
<b>Practical workload</b>	<b>Hours</b> 120

\* hour means 45 minutes

## Study content

No.	Course content	Subject's learning outcomes	Activities
1.	After third year: Dental examination of the patient Principles of keeping records in a dental office Active assistance in dental procedures Conducting oral hygiene instruction. Understanding the principles of local anesthesia in dentistry Extending the knowledge of instruments and dental apparatus. Extending the knowledge of sterilization principles and keeping records of its course in the dentist's office After fourth year: Performing basic dental treatment procedure under the supervision of the qualified dentist.	W1, W2, W3, U1, U2, U3, U4, U5, U6, K1, K2, K3, K4, K5, K6, K7	professional practice

## Course advanced

### Semester 6

#### Teaching methods:

professional practice

Activities	Examination methods	Credit conditions
professional practice	booklet of practice	attendance to the assigned dental office to fulfil hours requirement confirmed with the signature the supervisor of the summer internship.

## Semester 8

### Teaching methods:

professional practice

Activities	Examination methods	Credit conditions
professional practice	booklet of practice	attendance to the assigned dental office to fulfil hours requirement confirmed with the signature the supervisor of the summer internship.

### Entry requirements

no initial requirement to enter the course

## Methodology of scientific research in medicine

### Educational subject description sheet

#### Basic information

<b>Department</b> Faculty of Medicine  <b>Field of study</b> Medical and Dental Program  <b>Study level</b> long-cycle master's degree program  <b>Study form</b> full-time  <b>Education profile</b> general academic  <b>Disciplines</b> Medical science  <b>ISCED classification</b> 0912 Medicine  <b>Subject related to scientific research</b> Yes	<b>Didactic cycle</b> 2020/21  <b>Realization year</b> 2022/23  <b>Lecture languages</b> English  <b>Block</b> obligatory for passing in the course of studies  <b>Mandatory</b> elective  <b>Examination</b> graded credit  <b>Standard group</b> C. Preclinical course
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<b>Period</b> Semester 6	<b>Examination</b> graded credit  <b>Activities and hours</b> seminar: 30	<b>Number of ECTS points</b> 2.0
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#### Goals

C1	acquainting students with criteria and methodological requirements necessary to conduct scientific research in medical sciences
C2	preparing students for involvement in design of a scientific research in compliance with the applicable rules of methodological correctness

#### Subject's learning outcomes

Code	Outcomes in terms of	Effects	Examination methods
<b>Knowledge - Student knows and understands:</b>			

W1	the rules of conducting scientific research and spreading their results	O.W4	classroom observation, project, test
<b>Skills - Student can:</b>			
U1	communicate and share knowledge with colleagues in a team	O.U8	classroom observation, project
U2	critically evaluate the results of scientific research and adequately justify the position	O.U9	classroom observation, project

### Calculation of ECTS points

Activity form	Activity hours*
seminar	30
analysis of the research material	15
preparation of a project	5
information collection	10
<b>Student workload</b>	<b>Hours</b> 60
<b>Workload involving teacher</b>	<b>Hours</b> 30
<b>Practical workload</b>	<b>Hours</b> 15

\* hour means 45 minutes

### Study content

No.	Course content	Subject's learning outcomes	Activities
1.	Introduction to research methodology. What is scientific research?	W1, U1, U2	seminar
2.	From the idea to its implementation - the process of planning a scientific research.	W1, U1, U2	seminar
3.	Setting research goals and hypotheses.	W1, U1, U2	seminar
4.	Which studies will be most appropriate to achieve the purpose of the study? The most important variables in the study - operationalization.	W1, U1, U2	seminar
5.	Population sampling - the importance of selection methods in the context of results generalization	W1, U1, U2	seminar
6.	Sample size estimation.	W1, U1	seminar
7.	Questionnaire as a research tool - advantages and disadvantages	W1, U1, U2	seminar
8.	The most important critical elements in the study plan	W1, U1, U2	seminar

9.	Quality of diagnostic methods. Assessment of the accuracy of diagnostic tests.	W1, U1, U2	seminar
10.	Causality analysis in medical research. The role of confounders in determining the cause-effect relationship.	W1, U1, U2	seminar
11.	Generalization of the research results. . Selection of the method of statistical analysis of collected material	W1, U1, U2	seminar
12.	Rules for presenting research results, reports and publications.	W1, U1, U2	seminar

## Course advanced

### Teaching methods:

textual analysis, brainstorm, discussion, project method, group work, lecture with multimedia presentation

Activities	Examination methods	Credit conditions
seminar	classroom observation, project, test	<ul style="list-style-type: none"> <li>• The student is required to participate in all seminars provided - in the event of a justified absence, the teacher may indicate to the student tasks that will be the basis for crediting the absence.</li> <li>• Based on the work at the seminars and self-education, the student is required to perform (individually or in small groups) practical tasks - each of them rated on a scale of 0-100%.</li> <li>• The student has to achieve &gt; 60% of points for the knowledge test.</li> </ul>

# Borderline problems of human existence: suicide, assisted suicide, euthanasia

## Educational subject description sheet

### Basic information

<b>Department</b> Faculty of Medicine  <b>Field of study</b> Medical and Dental Program  <b>Study level</b> long-cycle master's degree program  <b>Study form</b> full-time  <b>Education profile</b> general academic  <b>Disciplines</b> Medical science  <b>ISCED classification</b> 0912 Medicine	<b>Didactic cycle</b> 2020/21  <b>Realization year</b> 2022/23  <b>Lecture languages</b> English  <b>Block</b> obligatory for passing in the course of studies  <b>Mandatory</b> elective  <b>Examination</b> graded credit  <b>Standard group</b> C. Preclinical course
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<b>Period</b> Semester 6	<b>Examination</b> graded credit  <b>Activities and hours</b> seminar: 30	<b>Number of ECTS points</b> 2.0
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### Goals

C1	Providing students with knowledge on the most significant ethical and legal problems concerning death and dying, euthanasia and suicide
C2	Providing students with knowledge on the ethical justification for the policies concerning death and dying, euthanasia and suicide
C3	Developing in students sensitivity to ethical problems concerning death and dying, euthanasia and suicide
C4	Developing in students sensitivity to different attitudes towards meaning of death (attitude of physicians, patients, family)
C5	Developing in students holistic attitudes towards patients and ability to reconstruct his/her social and cultural context of life



## Subject's learning outcomes

Code	Outcomes in terms of	Effects	Examination methods
<b>Knowledge - Student knows and understands:</b>			
W1	signs of death and post-mortem changes, as well as principles of autopsy technique and autopsy	C.W17	classroom observation, project
W2	principles of preventing and combating pain and anxiety, as well as pharmacology of drugs used in life-threatening situations	C.W21	classroom observation
<b>Skills - Student can:</b>			
U1	communicate with the patient and his family in an atmosphere of trust, taking into account the needs of the patient	O.U7	classroom observation
U2	critically evaluate the results of scientific research and adequately justify the position	O.U9	classroom observation
<b>Social competences - Student is ready to:</b>			
K1	to establish and maintain deep and respectful contact with patients and to show understanding for differences in world views and cultures	O.K1	oral examination, classroom observation
K2	to be guided by the well-being of a patient	O.K2	oral examination, classroom observation
K3	respect medical confidentiality and patients' rights	O.K3	oral examination, classroom observation
K4	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	O.K4	oral examination, classroom observation
K5	use objective sources of information	O.K7	oral examination, classroom observation
K6	formulate conclusions from own measurements or observations	O.K8	oral examination, classroom observation

## Calculation of ECTS points

Activity form	Activity hours*
seminar	30
preparation for classes	15
preparation of multimedia presentation	15
<b>Student workload</b>	<b>Hours</b> 60
<b>Workload involving teacher</b>	<b>Hours</b> 30

\* hour means 45 minutes

## Study content

No.	Course content	Subject's learning outcomes	Activities
1.	The phenomenon of suicide and its interpretations: medical, philosophical, religious	W1, W2, U2, K5, K6	seminar
2.	The concept and practice of euthanasia.	U1, U2, K2, K4, K5, K6	seminar
3.	Euthanasia of minors: the practice and ethical justification	U1, U2, K2, K5, K6	seminar
4.	The concept and history of palliative care	U1, U2, K1, K2, K3, K4, K5, K6	seminar
5.	The concept and practice of physician assisted suicide.	U2, K2, K3, K4, K5, K6	seminar
6.	The concept of "a duty to die"	U1, U2, K1, K2, K3, K4, K5, K6	seminar
7.	Euthanasia and organ transplantation: legal status and moral controversies	U1, U2, K1, K2, K3, K4, K5, K6	seminar
8.	The future of death. How the progress of medicine will impact the way we die?	U1, U2, K2, K3, K5, K6	seminar

## Course advanced

### Teaching methods:

case study, textual analysis, brainstorm, classes / practicals, discussion, e-learning, educational film, project method, lecture with multimedia presentation

Activities	Examination methods	Credit conditions
seminar	oral examination, classroom observation, project	Presence is obligatory. A student can be absent two times, without any excuse. In case of further absence a student is obliged to additional work assigned by a teacher. Students activity impacts his final mark To pass, student has to receive 50% on his/her project

## Entry requirements

Block

## Periodontal and oral mucosa diseases

### Educational subject description sheet

#### Basic information

<b>Department</b> Faculty of Medicine  <b>Field of study</b> Medical and Dental Program  <b>Study level</b> long-cycle master's degree program  <b>Study form</b> full-time  <b>Education profile</b> general academic  <b>Disciplines</b> Medical science  <b>ISCED classification</b> 0911 Dental studies  <b>Subject related to scientific research</b> Yes	<b>Didactic cycle</b> 2020/21  <b>Realization year</b> 2023/24, 2024/25  <b>Lecture languages</b> English  <b>Block</b> obligatory for passing in the course of studies  <b>Mandatory</b> obligatory  <b>Examination</b> examination  <b>Standard groups</b> F. Clinical curriculum-oriented (invasive) sciences, H. Clinical training
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<b>Period</b> Semester 7	<b>Examination</b> -  <b>Activities and hours</b> seminar: 11, clinical classes: 62	<b>Number of ECTS points</b> 0.0
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<b>Period</b> Semester 8	<b>Examination</b> credit  <b>Activities and hours</b> seminar: 10, clinical classes: 62	<b>Number of ECTS points</b> 8.0
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<b>Period</b> Semester 9	<b>Examination</b> -  <b>Activities and hours</b> seminar: 13, clinical classes: 48	<b>Number of ECTS points</b> 0.0
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<b>Period</b> Semester 10	<b>Examination</b> examination  <b>Activities and hours</b> seminar: 12, clinical classes: 47	<b>Number of ECTS points</b> 7.0
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## Goals

C1	The aim of the course is to familiarize students with the physiological and pathological lesions of oral mucosa and periodontium.
C2	Students will be provided with knowledge in the diagnosis and treatment of oral mucosa and periodontal diseases.
C3	Students will be familiarized with knowledge in oncological prophylaxis.

## Subject's learning outcomes

Code	Outcomes in terms of	Effects	Examination methods
<b>Knowledge - Student knows and understands:</b>			
W1	issues in dentistry – at an advanced level	O.W2	OSCE examination, written examination, practical examination, oral examination, theoretical colloquiums, test
W2	viral, bacterial and fungal flora of the oral cavity and its importance	F.W3	OSCE examination, written examination, practical examination, oral examination, theoretical colloquiums, test
W3	symptoms, course and procedures in specific diseases of the mouth, head and neck, taking into account age groups	F.W4	OSCE examination, written examination, practical examination, oral examination, theoretical colloquiums, test
W4	diagnostics and methods of treatment of periodontal and oral mucosa diseases	F.W9	OSCE examination, written examination, practical examination, oral examination, theoretical colloquiums, test
W5	indications and contraindications for treatment using dental implants	F.W10	OSCE examination, written examination, practical examination, oral examination, theoretical colloquiums, test

W6	basics of antibiotic therapy and antibiotic resistance	F.W13	OSCE examination, written examination, practical examination, oral examination, theoretical colloquiums, test
W7	pathomechanism of the effects of general diseases or therapies on the oral cavity	F.W20	OSCE examination, written examination, practical examination, oral examination, theoretical colloquiums, test
W8	prevention of oral diseases	F.W21	OSCE examination, written examination, practical examination, oral examination, theoretical colloquiums, test
W9	the specificity of dental care for a patient suffering from a general disease and the principles of cooperation with a doctor treating the underlying disease	F.W23	OSCE examination, written examination, practical examination, oral examination, theoretical colloquiums, test
W10	issues in the field of medicine and natural sciences – in the basic scope	O.W1	OSCE examination, written examination, practical examination, oral examination, theoretical colloquiums, test
W11	health education issues	O.W3	OSCE examination, written examination, practical examination, oral examination, theoretical colloquiums, test
W12	rules for dealing with cysts, precancerous conditions, and head and neck cancers	F.W8	OSCE examination, written examination, practical examination, oral examination, theoretical colloquiums, test
W13	causes of complications of stomatognathic system diseases and rules of conduct in case of such complications	F.W12	OSCE examination, written examination, practical examination, oral examination, theoretical colloquiums, test
W14	principles of anesthesia in dental procedures and basic pharmacological agents	F.W16	OSCE examination, written examination, practical examination, oral examination, theoretical colloquiums, test

W15	principles of radiological diagnosis	F.W18	OSCE examination, written examination, practical examination, oral examination, theoretical colloquiums, test
W16	pathomechanism of the impact of oral diseases on general health	F.W19	OSCE examination, written examination, practical examination, oral examination, theoretical colloquiums, test
<b>Skills - Student can:</b>			
U1	carry out diagnostics of the most common diseases, assess and describe the patient's somatic and mental state	O.U1	booklet of practical skills, OSCE examination, practical examination, classroom observation
U2	provide professional dental care in the field of prevention, treatment, health promotion and health education	O.U2	booklet of practical skills, OSCE examination, practical examination, classroom observation
U3	plan treatment for dental problems	O.U3	booklet of practical skills, OSCE examination, practical examination, classroom observation
U4	conduct clinical proceedings based on knowledge and respecting the principles of humanitarianism	O.U4	booklet of practical skills, OSCE examination, practical examination, classroom observation
U5	communicate with the patient and his family in an atmosphere of trust, taking into account the needs of the patient	O.U7	booklet of practical skills, OSCE examination, practical examination, classroom observation
U6	carry out a medical interview with the patient and his or her family	F.U1	booklet of practical skills, OSCE examination, practical examination, classroom observation
U7	carry out a dental physical examination of the patient	F.U2	booklet of practical skills, OSCE examination, practical examination, classroom observation
U8	explain the nature of his or her ailment to the patient, determine the method of treatment confirmed by the patient's informed consent and prognosis	F.U3	booklet of practical skills, OSCE examination, practical examination, classroom observation
U9	provide the patient or his or her family with information about unfavorable prognosis	F.U4	booklet of practical skills, OSCE examination, practical examination, classroom observation
U10	interpret the results of additional tests and consultations	F.U6	booklet of practical skills, OSCE examination, practical examination, classroom observation

U11	determine the indications and contraindications for performing a specific dental procedure	F.U7	booklet of practical skills, OSCE examination, practical examination, classroom observation
U12	conduct treatment of acute and chronic, odontogenic and non-odontogenic inflammatory processes of soft tissues of the oral cavity, periodontium and jaw bones	F.U8	booklet of practical skills, OSCE examination, practical examination, classroom observation
U13	proceed in case of general and local complications during and after dental procedures	F.U9	booklet of practical skills, OSCE examination, practical examination, classroom observation
U14	prescribe medicines, taking into account their interactions and side-effects	F.U10	booklet of practical skills, OSCE examination, practical examination, classroom observation
U15	keep patient records on ongoing basis, provide referrals for examination or specialist treatment in dental and general medicine	F.U11	booklet of practical skills, OSCE examination, practical examination, classroom observation
U16	diagnose and treat periodontal disease in the basic range	F.U17	booklet of practical skills, OSCE examination, practical examination, classroom observation
U17	present selected medical problems in oral or written form in a manner appropriate to the level of recipients	F.U13	booklet of practical skills, OSCE examination, practical examination, classroom observation
U18	take appropriate medication during and after the dental procedure to relieve pain and anxiety	F.U16	booklet of practical skills, OSCE examination, practical examination, classroom observation
U19	describe dental and pantomographic images	F.U23	booklet of practical skills, OSCE examination, practical examination, classroom observation
<b>Social competences - Student is ready to:</b>			
K1	to establish and maintain deep and respectful contact with patients and to show understanding for differences in world views and cultures	O.K1	booklet of practical skills, classroom observation
K2	to be guided by the well-being of a patient	O.K2	booklet of practical skills, classroom observation
K3	respect medical confidentiality and patients' rights	O.K3	booklet of practical skills, classroom observation
K4	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	O.K4	booklet of practical skills, classroom observation
K5	promote health-promoting behaviors	O.K6	booklet of practical skills, classroom observation
K6	use objective sources of information	O.K7	booklet of practical skills, classroom observation
K7	formulate conclusions from own measurements or observations	O.K8	booklet of practical skills, classroom observation

K8	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	O.K9	booklet of practical skills, classroom observation
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## Calculation of ECTS points

### Semester 7

Activity form	Activity hours*
seminar	11
clinical classes	62
preparation for classes	10
preparation for colloquium	10
information collection	10
preparation for examination	10
<b>Student workload</b>	<b>Hours</b> 113
<b>Workload involving teacher</b>	<b>Hours</b> 73
<b>Practical workload</b>	<b>Hours</b> 62

\* hour means 45 minutes

### Semester 8

Activity form	Activity hours*
seminar	10
clinical classes	62
preparation for colloquium	10
preparation for classes	10
preparation for examination	10
information collection	10
<b>Student workload</b>	<b>Hours</b> 112



<b>Workload involving teacher</b>	<b>Hours</b> 72
<b>Practical workload</b>	<b>Hours</b> 62

\* hour means 45 minutes

### Semester 9

<b>Activity form</b>	<b>Activity hours*</b>
seminar	13
clinical classes	48
preparation for classes	10
preparation for examination	20
information collection	20
<b>Student workload</b>	<b>Hours</b> 111
<b>Workload involving teacher</b>	<b>Hours</b> 61
<b>Practical workload</b>	<b>Hours</b> 48

\* hour means 45 minutes

### Semester 10

<b>Activity form</b>	<b>Activity hours*</b>
seminar	12
clinical classes	47
preparation for colloquium	10
preparation for classes	10
preparation for examination	35
<b>Student workload</b>	<b>Hours</b> 114
<b>Workload involving teacher</b>	<b>Hours</b> 59
<b>Practical workload</b>	<b>Hours</b> 47

\* hour means 45 minutes

## Study content

No.	Course content	Subject's learning outcomes	Activities
1.	Periodontal and oral mucosa diseases 1/2 and 2/2.  Morphology and physiology of the oral mucosa. Primary and secondary lesions on the oral mucosa.  Congenital defects and pigmented lesions.	W1, W2, W3, W4, W5, U1, U2, U3, U4, U8, K3, K5, K7	seminar, clinical classes
2.	Periodontal and oral mucosa diseases 1/2 and 2/2.  Clinical and additional examination in oral mucosa diseases.	W1, W12, W15, W16, W2, W3, W4, U1, U10, U11, U15, U16, U19, U2, U3, U4, U5, U6, U7, U8, U9, K1, K2, K3, K4, K5, K6, K7, K8	seminar, clinical classes
3.	Periodontal and oral mucosa diseases 1/2 and 2/2.  Saliva - composition, properties and role in the mouth.  Salivation disorders. Mouth burning syndrome.	W1, W10, W12, W13, W14, W15, W16, W2, W3, W4, W5, W6, W7, W9, U1, U10, U11, U12, U13, U14, U15, U16, U17, U18, U19, U2, U3, U4, U5, U6, U7, U8, U9, K1, K2, K3, K4, K5, K6, K7, K8	seminar, clinical classes
4.	Periodontal and oral mucosa diseases 1/2 and 2/2.  Diseases of the oral mucosa: allergic, fungal, bacterial, viral.  Aftoses, dermatoses.	W1, W10, W13, W14, W15, W16, W2, W3, W4, W5, W7, U1, U10, U12, U13, U14, U15, U16, U19, U2, U3, U4, U5, U6, U7, U8, U9	seminar, clinical classes
5.	Periodontal and oral mucosa diseases 1/2 and 2/2.  Pre-neoplastic conditions and oncological prophylaxis.	W1, W12, W13, W14, W15, W16, W2, W3, W4, W5, W6, W7, U1, U10, U12, U14, U15, U16, U17, U19, U2, U3, U4, U5, U6, U7, U8, U9, K1, K2, K3, K4, K5, K6, K7, K8	seminar, clinical classes
6.	Periodontal and oral mucosa diseases 1/2 and 2/2.  Inflammation of the oral mucosa after chemo- and radiation therapy. Changes in the oral cavity in hematopoietic system diseases.	W1, W10, W13, W14, W15, W16, W2, W3, W4, W5, W6, W7, U1, U10, U11, U12, U13, U16, U17, U18, U19, U2, U3, U4, U5, U6, U7, U8, U9, K1, K2, K3, K4, K5, K6, K7, K8	seminar, clinical classes
7.	Periodontal and oral mucosa diseases 1/2 and 2/2.  Anatomy and physiology of periodontal tissues.  Etiopathogenesis of periodontal diseases.	W1, W13, W14, W15, W2, W3, W4, W5, W9, U16, U5, U8, U9, K1, K2, K3, K4, K5, K6, K7, K8	seminar, clinical classes

8.	Periodontal and oral mucosa diseases 1/2 and 2/2.  Periodontal examination. Additional tests and X-ray diagnostics.  Differential diagnosis of periodontal diseases.	W1, W12, W15, W2, W3, W4, W5, W7, U1, U10, U11, U15, U16, U18, U19, U5, U6, U7, U8, U9, K1, K2, K3, K4, K5, K6, K7, K8	seminar, clinical classes
9.	Periodontal and oral mucosa diseases 1/2 and 2/2.  Treatment of periodontal diseases - non-surgical and surgical treatment. Treatment within the muco-gingival complex.  Management of acute periodontal conditions.	W1, W10, W11, W13, W14, W16, W2, W3, W4, W5, W6, W7, W9, U10, U11, U12, U13, U14, U15, U16, U17, U18, U19, U2, U3, U4, U5, U8, U9, K1, K2, K3, K4, K5, K6, K7, K8	seminar, clinical classes
10.	Periodontal and oral mucosa diseases 1/2 and 2/2.  Systemic antibiotic therapy in periodontal diseases.	W1, W10, W13, W14, W2, W3, W4, W5, W6, W7, W8, W9, U13, U14, U16, U17, K1, K2, K3, K4, K5, K6, K7, K8	seminar, clinical classes
11.	Periodontal and oral mucosa diseases 1/2 and 2/2.  Primary and secondary occlusal trauma. Prosthetic, orthodontic and implantological treatment in patients with periodontal diseases.	W1, W12, W13, W14, W15, W16, W2, W3, W4, W7, W8, W9, U1, U10, U11, U12, U13, U14, U15, U16, U17, U19, U2, U3, U4, U5, U6, U7, U8, U9, K1, K2, K3, K4, K5, K6, K7, K8	seminar, clinical classes
12.	Periodontal and oral mucosa diseases 1/2 and 2/2.  Correlation of periodontal and systemic diseases.	W1, W12, W13, W14, W15, W16, W2, W3, W4, U1, U10, U11, U12, U14, U15, U16, U17, U18, U19, U2, U3, U4, U5, U6, U7, U8, U9, K1, K2, K3, K4, K5, K6, K7, K8	seminar, clinical classes
13.	Periodontal and oral mucosa diseases 1/2 and 2/2.  Oral lesions in children and adolescents.	W1, W12, W13, W14, W15, W2, W3, W4, W5, W6, W7, U1, U10, U11, U12, U13, U14, U15, U16, U17, U18, U19, U2, U3, U4, U5, U6, U7, U8, U9, K1, K2, K3, K4, K5, K6, K7, K8	seminar, clinical classes

## Course advanced

### Semester 7

#### Teaching methods:

case study, clinical classes, demonstration, discussion, case study method, seminar, practical classes

Activities	Examination methods	Credit conditions
seminar	oral examination, theoretical colloquiums, test	Obligatory attendance, Periodontal diseases midterm test and Oral Mucosa Diseases midterm test

Activities	Examination methods	Credit conditions
clinical classes	booklet of practical skills, classroom observation	Obligatory attendance. Clinical treatment during each classes. Booklet of practical skills.

## Semester 8

### Teaching methods:

case study, clinical classes, demonstration, discussion, case study method, seminar, practical classes

Activities	Examination methods	Credit conditions
seminar	written examination, oral examination, test	Obligatory attendance, Periodontal diseases midterm test and Oral Mucosa Diseases midterm test
clinical classes	booklet of practical skills, classroom observation	Obligatory attendance. Clinical treatment during each classes. Booklet of practical skills.

## Semester 9

### Teaching methods:

clinical classes, demonstration, discussion, case study method, seminar, practical classes

Activities	Examination methods	Credit conditions
seminar	written examination, oral examination, test	Obligatory attendance.
clinical classes	booklet of practical skills, classroom observation	Obligatory attendance. Clinical treatment during each classes. Booklet of practical skills.

## Semester 10

### Teaching methods:

case study, clinical classes, discussion, case study method, seminar, practical classes

Activities	Examination methods	Credit conditions
seminar	written examination, oral examination, test	Obligatory attendance. Periodontal diseases midterm test and Oral Mucosa Diseases midterm test. Final test exam.
clinical classes	booklet of practical skills, OSCE examination, practical examination, classroom observation	Obligatory attendance. Clinical treatment during each classes. Booklet of practical skills. Practical exam.

## Dental surgery

### Educational subject description sheet

#### Basic information

<b>Department</b> Faculty of Medicine  <b>Field of study</b> Medical and Dental Program  <b>Study level</b> long-cycle master's degree program  <b>Study form</b> full-time  <b>Education profile</b> general academic  <b>Disciplines</b> Medical science  <b>ISCED classification</b> 0911 Dental studies  <b>Subject related to scientific research</b> Yes	<b>Didactic cycle</b> 2020/21  <b>Realization year</b> 2023/24, 2024/25  <b>Lecture languages</b> English  <b>Block</b> obligatory for passing in the course of studies  <b>Mandatory</b> obligatory  <b>Examination</b> examination  <b>Standard groups</b> F. Clinical curriculum-oriented (invasive) sciences, H. Clinical training
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<b>Period</b> Semester 7	<b>Examination</b> -  <b>Activities and hours</b> e-learning: 3, seminar: 5, classes: 52	<b>Number of ECTS points</b> 0.0
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<b>Period</b> Semester 8	<b>Examination</b> credit  <b>Activities and hours</b> e-learning: 3, seminar: 5, classes: 52	<b>Number of ECTS points</b> 6.0
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<b>Period</b> Semester 9	<b>Examination</b> -  <b>Activities and hours</b> e-learning: 5, seminar: 8, clinical classes: 58	<b>Number of ECTS points</b> 0.0
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<b>Period</b> Semester 10	<b>Examination</b> examination  <b>Activities and hours</b> e-learning: 5, seminar: 7, clinical classes: 57	<b>Number of ECTS points</b> 8.0
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## Goals

C1	The aim of the programme is to gain the ability to diagnose and to surgically treat oral disorders
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## Subject's learning outcomes

Code	Outcomes in terms of	Effects	Examination methods
<b>Knowledge - Student knows and understands:</b>			
W1	issues in the field of medicine and natural sciences – in the basic scope	O.W1	booklet of practical skills, practical examination, oral examination, practical colloquiums, oral answer, practical test, multiple choice test
W2	issues in dentistry – at an advanced level	O.W2	booklet of practical skills, practical examination, oral examination, practical colloquiums, oral answer, practical test, multiple choice test
W3	health education issues	O.W3	booklet of practical skills, practical examination, oral examination, practical colloquiums, oral answer, practical test, multiple choice test
W4	the rules of conducting scientific research and spreading their results	O.W4	booklet of practical skills, practical examination, oral examination, practical colloquiums, oral answer, practical test, multiple choice test
W5	principles of preventive and therapeutic management in diseases of the masticatory organ in various periods of development	F.W2	booklet of practical skills, practical examination, oral examination, practical colloquiums, oral answer, practical test, multiple choice test
W6	viral, bacterial and fungal flora of the oral cavity and its importance	F.W3	booklet of practical skills, practical examination, oral examination, practical colloquiums, oral answer, practical test, multiple choice test

W7	symptoms, course and procedures in specific diseases of the mouth, head and neck, taking into account age groups	F.W4	booklet of practical skills, practical examination, oral examination, practical colloquiums, oral answer, practical test, multiple choice test
W8	rules of conduct in the case of pulp and mineralized dental tissues, as well as trauma to the teeth and bones of the face	F.W5	booklet of practical skills, practical examination, oral examination, practical colloquiums, oral answer, practical test, multiple choice test
W9	rules for management of periapical tissue diseases	F.W6	booklet of practical skills, practical examination, oral examination, practical colloquiums, oral answer, practical test, multiple choice test
W10	rules for dealing with cysts, precancerous conditions, and head and neck cancers	F.W8	booklet of practical skills, practical examination, oral examination, practical colloquiums, oral answer, practical test, multiple choice test
W11	diagnostics and methods of treatment of periodontal and oral mucosa diseases	F.W9	booklet of practical skills, practical examination, oral examination, practical colloquiums, oral answer, practical test, multiple choice test
W12	causes of complications of stomatognathic system diseases and rules of conduct in case of such complications	F.W12	booklet of practical skills, practical examination, oral examination, practical colloquiums, oral answer, practical test, multiple choice test
W13	basics of antibiotic therapy and antibiotic resistance	F.W13	booklet of practical skills, practical examination, oral examination, practical colloquiums, oral answer, practical test, multiple choice test
W14	therapeutic methods of reducing and enduring pain as well as reducing anxiety and stress	F.W15	booklet of practical skills, practical examination, oral examination, practical colloquiums, oral answer, practical test, multiple choice test
W15	principles of anesthesia in dental procedures and basic pharmacological agents	F.W16	booklet of practical skills, practical examination, oral examination, practical colloquiums, oral answer, practical test, multiple choice test

W16	prevention of oral diseases	F.W21	booklet of practical skills, practical examination, oral examination, practical colloquiums, oral answer, practical test, multiple choice test
W17	rules for dealing with masticatory organ tissue diseases, injuries to teeth and jawbones	F.W22	booklet of practical skills, practical examination, oral examination, practical colloquiums, oral answer, practical test, multiple choice test
W18	indications and contraindications for treatment using dental implants	F.W10	oral examination
<b>Skills - Student can:</b>			
U1	carry out diagnostics of the most common diseases, assess and describe the patient's somatic and mental state	O.U1	booklet of practical skills, practical examination, oral examination, practical colloquiums, oral answer, practical test, multiple choice test
U2	provide professional dental care in the field of prevention, treatment, health promotion and health education	O.U2	booklet of practical skills, practical examination, oral examination, practical colloquiums, oral answer, practical test, multiple choice test
U3	plan treatment for dental problems	O.U3	booklet of practical skills, practical examination, oral examination, practical colloquiums, oral answer, practical test, multiple choice test
U4	conduct clinical proceedings based on knowledge and respecting the principles of humanitarianism	O.U4	booklet of practical skills, practical examination, oral examination, practical colloquiums, oral answer, practical test, multiple choice test
U5	communicate with the patient and his family in an atmosphere of trust, taking into account the needs of the patient	O.U7	booklet of practical skills, practical examination, oral examination, practical colloquiums, oral answer, practical test, multiple choice test
U6	communicate and share knowledge with colleagues in a team	O.U8	booklet of practical skills, practical examination, oral examination, practical colloquiums, oral answer, practical test, multiple choice test
U7	carry out a medical interview with the patient and his or her family	F.U1	booklet of practical skills, practical examination, oral examination, practical colloquiums, oral answer, practical test, multiple choice test



U8	carry out a dental physical examination of the patient	F.U2	booklet of practical skills, practical examination, oral examination, practical colloquiums, oral answer, practical test, multiple choice test
U9	explain the nature of his or her ailment to the patient, determine the method of treatment confirmed by the patient's informed consent and prognosis	F.U3	booklet of practical skills, practical examination, oral examination, practical colloquiums, oral answer, practical test, multiple choice test
U10	provide the patient or his or her family with information about unfavorable prognosis	F.U4	booklet of practical skills, practical examination, oral examination, practical colloquiums, oral answer, practical test, multiple choice test
U11	collect and secure specimens for diagnostic tests, including cytological tests	F.U5	booklet of practical skills, practical examination, oral examination, practical colloquiums, oral answer, practical test, multiple choice test
U12	interpret the results of additional tests and consultations	F.U6	booklet of practical skills, practical examination, oral examination, practical colloquiums, oral answer, practical test, multiple choice test
U13	determine the indications and contraindications for performing a specific dental procedure	F.U7	booklet of practical skills, practical examination, oral examination, practical colloquiums, oral answer, practical test, multiple choice test
U14	conduct treatment of acute and chronic, odontogenic and non-odontogenic inflammatory processes of soft tissues of the oral cavity, periodontium and jaw bones	F.U8	booklet of practical skills, practical examination, oral examination, practical colloquiums, oral answer, practical test, multiple choice test
U15	proceed in case of general and local complications during and after dental procedures	F.U9	booklet of practical skills, practical examination, oral examination, practical colloquiums, oral answer, practical test, multiple choice test
U16	prescribe medicines, taking into account their interactions and side-effects	F.U10	booklet of practical skills, practical examination, oral examination, practical colloquiums, oral answer, practical test, multiple choice test

U17	keep patient records on ongoing basis, provide referrals for examination or specialist treatment in dental and general medicine	F.U11	booklet of practical skills, practical examination, oral examination, practical colloquiums, oral answer, practical test, multiple choice test
U18	determine the treatment of diseases of tissues of the stomatognathic system	F.U15	booklet of practical skills, practical examination, oral examination, practical colloquiums, oral answer, practical test, multiple choice test
U19	take appropriate medication during and after the dental procedure to relieve pain and anxiety	F.U16	booklet of practical skills, practical examination, oral examination, practical colloquiums, oral answer, practical test, multiple choice test
U20	diagnose and treat periodontal disease in the basic range	F.U17	booklet of practical skills, practical examination, oral examination, practical colloquiums, oral answer, practical test, multiple choice test
<b>Social competences - Student is ready to:</b>			
K1	to establish and maintain deep and respectful contact with patients and to show understanding for differences in world views and cultures	O.K1	booklet of practical skills, practical examination, oral examination, practical colloquiums, oral answer, practical test, multiple choice test
K2	to be guided by the well-being of a patient	O.K2	booklet of practical skills, practical examination, oral examination, practical colloquiums, oral answer, practical test, multiple choice test
K3	respect medical confidentiality and patients' rights	O.K3	booklet of practical skills, practical examination, oral examination, practical colloquiums, oral answer, practical test, multiple choice test
K4	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	O.K4	booklet of practical skills, practical examination, oral examination, practical colloquiums, oral answer, practical test, multiple choice test
K5	promote health-promoting behaviors	O.K6	booklet of practical skills, practical examination, oral examination, practical colloquiums, oral answer, practical test, multiple choice test

K6	formulate conclusions from own measurements or observations	O.K8	booklet of practical skills, practical examination, oral examination, practical colloquiums, oral answer, practical test, multiple choice test
K7	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	O.K9	booklet of practical skills, practical examination, oral examination, practical colloquiums, oral answer, practical test, multiple choice test

## Calculation of ECTS points

### Semester 7

Activity form	Activity hours*
e-learning	3
seminar	5
classes	52
preparation for classes	30
<b>Student workload</b>	<b>Hours</b> 90
<b>Workload involving teacher</b>	<b>Hours</b> 60
<b>Practical workload</b>	<b>Hours</b> 52

\* hour means 45 minutes

### Semester 8

Activity form	Activity hours*
e-learning	3
seminar	5
classes	52
preparation for classes	30
preparation for examination	20
<b>Student workload</b>	<b>Hours</b> 110

<b>Workload involving teacher</b>	<b>Hours</b> 60
<b>Practical workload</b>	<b>Hours</b> 52

\* hour means 45 minutes

### Semester 9

<b>Activity form</b>	<b>Activity hours*</b>
e-learning	5
seminar	8
clinical classes	58
preparation for classes	30
<b>Student workload</b>	<b>Hours</b> 101
<b>Workload involving teacher</b>	<b>Hours</b> 71
<b>Practical workload</b>	<b>Hours</b> 58

\* hour means 45 minutes

### Semester 10

<b>Activity form</b>	<b>Activity hours*</b>
e-learning	5
seminar	7
clinical classes	57
preparation for classes	30
preparation for examination	20
<b>Student workload</b>	<b>Hours</b> 119
<b>Workload involving teacher</b>	<b>Hours</b> 69
<b>Practical workload</b>	<b>Hours</b> 57

\* hour means 45 minutes

## Study content

No.	Course content	Subject's learning outcomes	Activities
1.	Endodontic/periodontic surgery and atraumatic extractions - 9th and 10th semester	W1, W10, W11, W13, W16, W18, W2, W3, W6, W7, W8, W9, U1, U11, U12, U13, U14, U15, U16, U17, U18, U19, U2, U20, U3, U4, U5, U6, U7, U8, U9, K1, K2, K3, K5, K6, K7	seminar, e-learning
2.	Intraoral abscesses -7th and 8 th semester	W1, W12, W13, W14, W15, W2, W3, W6, W7, W8, W9, U1, U10, U11, U12, U13, U14, U15, U16, U17, U18, U19, U2, U20, U3, U4, U5, U6, U7, U8, U9, K2, K3, K4, K5, K6, K7	seminar, e-learning, clinical classes
3.	Extraoral abscess -7th and 8 th semester	W1, W12, W13, W15, W17, W2, W3, W4, W5, W6, W7, W9, U1, U10, U11, U12, U13, U14, U15, U16, U17, U18, U19, U2, U20, U3, U4, U5, U6, U7, U8, U9, K1, K2, K3, K4, K5, K6, K7	seminar, e-learning, clinical classes
4.	Retained teeth -7th and 8 th semester	W1, W12, W13, W15, W2, W3, W4, W5, W6, W7, U1, U10, U11, U12, U13, U14, U15, U16, U17, U18, U19, U2, U3, U4, U5, U6, U7, U8, U9	seminar, e-learning, clinical classes
5.	Preprosthetic surgery and biomaterials for bone replacement -7th and 8 th semester	W1, W10, W11, W12, W15, W2, W3, W4, W5, W6, W7, U1, U10, U11, U12, U13, U14, U15, U17, U18, U2, U20, U3, U4, U5, U6, U7, U8, U9, K1, K2, K4, K5	classes, seminar, e-learning, clinical classes
6.	Prophylactic and therapeutic use of antibiotics in oral surgery -7th and 8 th semester	W1, W13, W2, W6, U16, K5, K6	e-learning, clinical classes
7.	Pain management in oral surgery -7th and 8 th semester	W14, W15, U16, U17, U19, K2, K5	e-learning, clinical classes
8.	Osteomyelitis of the jaws -7th and 8 th semester	W1, W12, W13, W14, W17, W2, W3, W4, W5, W6, W7, W8, W9, U1, U10, U11, U12, U13, U14, U15, U16, U17, U18, U2, U3, U4, U5, U6, U7, U8, U9, K1, K2, K7	e-learning, clinical classes

9.	Granulomatous infections of the orofacial region - 9th and 10th semester	W1, W11, W12, W13, W16, W2, W3, W4, W6, W7, U1, U10, U11, U12, U13, U14, U15, U16, U17, U18, U2, U3, U4, U5, U6, U7, U8, U9, K1, K2, K3, K4, K5, K6, K7	e-learning, clinical classes
10.	Infections of orofacial region: complications - 9th and 10th semester	W12, W13, W6, U1, U2, U3, K1, K2, K4	seminar, e-learning, clinical classes
11.	Inflammatory odontogenic disorders of the maxillary sinuses. Langerhans cell histiocytosis - 9th and 10th semester	W12, W13, W16, W2, W3, W6, W7, U1, U10, U11, U12, U13, U14, U15, U16, U17, U18, U2, U20, U3, U4, U5, U6, U7, U8, U9	classes, seminar, e-learning, clinical classes
12.	Diseases of the salivary glands - 9th and 10th semester	W1, W10, W11, W12, W13, W2, W3, W6, W7, K2	e-learning, clinical classes
13.	Dental trauma - 9th and 10th semester	W11, W12, W17, W8, U1, U2, U3	seminar, e-learning, clinical classes
14.	Cysts of the maxillary region - 9th and 10th semester	W1, W10, W2, W3, U1, U2, U3, U4, U5, U6, K1, K2, K3, K4, K5, K6, K7	e-learning, clinical classes
15.	Odontogenic tumours and tumour-like lesions of the jaws - 9th and 10th semester	W1, W10, W11, W2, W3, U1, U2, U3, U4, K1, K2, K3, K4, K5, K6, K7	e-learning, clinical classes
16.	Replantation and autotransplantation of a tooth - 9th and 10th semester	W15, W17, W2, W3, W4, W8, U1, U10, U12, U15, U2, U3, U5, U6, U7, U8, U9, K1, K2, K3, K4, K5, K6, K7	seminar, e-learning, clinical classes
17.	Potentially malignant disorders of the oral mucosa - 9th and 10th semester	W1, W10, W11, W16, W2, W3, W4, U1, U10, U11, U12, U13, U16, U17, U2, U20, U3, U4, U5, U6, U7, U8, U9, K1, K2, K3, K4, K5, K6, K7	e-learning, clinical classes

## Course advanced

### Semester 7

#### Teaching methods:

classes / practicals, clinical classes, discussion, seminar, participation in research, lecture, lecture with multimedia presentation, practical classes

Activities	Examination methods	Credit conditions
e-learning	practical examination, practical colloquiums, oral answer, multiple choice test	final practical and theoretical tests

Activities	Examination methods	Credit conditions
seminar	practical examination, practical test, multiple choice test	final practical and theoretical tests
classes	booklet of practical skills, practical colloquiums, oral answer, practical test	final practical and theoretical tests

## Semester 8

### Teaching methods:

classes / practicals, discussion, seminar, lecture, practical classes

Activities	Examination methods	Credit conditions
e-learning	multiple choice test	final practical and theoretical tests
seminar	multiple choice test	final practical and theoretical tests
classes	booklet of practical skills, practical examination, oral examination	final practical and theoretical tests

## Semester 9

### Teaching methods:

classes / practicals, discussion, seminar, lecture, practical classes

Activities	Examination methods	Credit conditions
e-learning	multiple choice test	final practical and theoretical tests
seminar	multiple choice test	final practical and theoretical tests
clinical classes	booklet of practical skills, practical examination	final practical and theoretical tests

## Semester 10

### Teaching methods:

discussion, seminar, participation in research, practical classes

Activities	Examination methods	Credit conditions
e-learning	multiple choice test	final practical and theoretical tests
seminar	multiple choice test	final practical and theoretical tests
clinical classes	booklet of practical skills, practical examination, oral examination	final practical and theoretical tests

## Entry requirements

Propedeutics of oral surgery (Introduction to oral surgery)

## Prosthodontics

### Educational subject description sheet

#### Basic information

<b>Department</b> Faculty of Medicine  <b>Field of study</b> Medical and Dental Program  <b>Study level</b> long-cycle master's degree program  <b>Study form</b> full-time  <b>Education profile</b> general academic  <b>Disciplines</b> Medical science  <b>ISCED classification</b> 0911 Dental studies  <b>Subject related to scientific research</b> Yes	<b>Didactic cycle</b> 2020/21  <b>Realization year</b> 2023/24, 2024/25  <b>Lecture languages</b> English  <b>Block</b> obligatory for passing in the course of studies  <b>Mandatory</b> obligatory  <b>Examination</b> examination  <b>Standard groups</b> F. Clinical curriculum-oriented (invasive) sciences, H. Clinical training
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<b>Period</b> Semester 7	<b>Examination</b> -  <b>Activities and hours</b> e-learning: 5, seminar: 12, clinical classes: 70	<b>Number of ECTS points</b> 0.0
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<b>Period</b> Semester 8	<b>Examination</b> credit  <b>Activities and hours</b> e-learning: 5, seminar: 12, clinical classes: 70	<b>Number of ECTS points</b> 7.0
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<b>Period</b> Semester 9	<b>Examination</b> -  <b>Activities and hours</b> e-learning: 5, seminar: 7, clinical classes: 73	<b>Number of ECTS points</b> 0.0
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<b>Period</b> Semester 10	<b>Examination</b> examination  <b>Activities and hours</b> e-learning: 5, seminar: 7, clinical classes: 72	<b>Number of ECTS points</b> 11.0
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## Goals

C1	Transfer of theoretical knowledge and principles of clinical management in the field of patient diagnosis and treatment with complete missing teeth with the use of removable restorations. Knowledge of material science and laboratory stages related to the use of removable dentures.
C2	Acquiring theoretical knowledge and principles of clinical management in the field of diagnostics and treatment of patients with partial dentition with the use of removable restorations.
C3	Repeating knowledge of the fixed dentures
C4	To familiarize students with additional tests recommended in dental treatment including radiology.
C5	The principles of keeping medical records and ethical behavior towards to the patients.
C6	Teaching practical skills in the field of basic prosthetic treatment in cases of stomatopathy, periodontal disease, temporomandibular disorders and patients after surgery
C7	Teaching practical skills in the field of basic prosthetic treatment using fixed and removable immediate and early dentures
C8	Transfer of theoretical basic knowledge of implant treatment.
C9	Repetition of basic and supplementary materials used in prosthetic treatment

## Subject's learning outcomes

Code	Outcomes in terms of	Effects	Examination methods
<b>Knowledge - Student knows and understands:</b>			
W1	issues in dentistry – at an advanced level	O.W2	booklet of practical skills, OSCE examination, theoretical colloquiums, classroom observation, oral answer, multiple choice test, credit
W2	occlusal normal conditions at various stages of individual development and deviations from norms	F.W1	theoretical colloquiums, oral answer, test, written credit
W3	methods of rehabilitation of the masticatory organ	F.W14	OSCE examination, theoretical colloquiums, oral answer, assignment report, written credit, oral credit
W4	principles of radiological diagnosis	F.W18	OSCE examination, theoretical colloquiums, oral answer, multiple choice test
W5	pathomechanism of the effects of general diseases or therapies on the oral cavity	F.W20	theoretical colloquiums, oral answer, multiple choice test, oral credit

<b>Skills - Student can:</b>			
U1	plan treatment for dental problems	O.U3	OSCE examination, theoretical colloquiums, classroom observation, oral answer, assignment report, multiple choice test
U2	conduct clinical proceedings based on knowledge and respecting the principles of humanitarianism	O.U4	booklet of practical skills, theoretical colloquiums, classroom observation, written credit, credit
U3	plan own learning activities and constantly learn in order to update own knowledge	O.U5	theoretical colloquiums, classroom observation
U4	communicate with the patient and his family in an atmosphere of trust, taking into account the needs of the patient	O.U7	assignment report
U5	carry out a medical interview with the patient and his or her family	F.U1	theoretical colloquiums, classroom observation
U6	carry out a dental physical examination of the patient	F.U2	theoretical colloquiums, classroom observation, oral credit
U7	explain the nature of his or her ailment to the patient, determine the method of treatment confirmed by the patient's informed consent and prognosis	F.U3	classroom observation
U8	interpret the results of additional tests and consultations	F.U6	OSCE examination, theoretical colloquiums, test, oral credit, credit
U9	determine the indications and contraindications for performing a specific dental procedure	F.U7	OSCE examination, theoretical colloquiums, oral answer, test
U10	proceed in case of general and local complications during and after dental procedures	F.U9	OSCE examination, oral answer, test, multiple choice test, credit
U11	keep patient records on ongoing basis, provide referrals for examination or specialist treatment in dental and general medicine	F.U11	booklet of practical skills, oral answer
U12	determine the treatment of diseases of tissues of the stomatognathic system	F.U15	theoretical colloquiums, oral answer, assignment report, test, oral credit
U13	take appropriate medication during and after the dental procedure to relieve pain and anxiety	F.U16	theoretical colloquiums, oral answer, assignment report, test
U14	diagnose, differentiate and classify malocclusions	F.U18	theoretical colloquiums, oral answer, assignment report, test
U15	carry out prosthetic rehabilitation in simple cases in the field of clinical and laboratory procedures	F.U22	booklet of practical skills, theoretical colloquiums, oral answer, oral credit
<b>Social competences - Student is ready to:</b>			
K1	to establish and maintain deep and respectful contact with patients and to show understanding for differences in world views and cultures	O.K1	classroom observation

K2	to be guided by the well-being of a patient	O.K2	OSCE examination, theoretical colloquiums, classroom observation, test, multiple choice test, written credit, oral credit, credit
K3	respect medical confidentiality and patients' rights	O.K3	booklet of practical skills, classroom observation, oral answer
K4	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	O.K4	classroom observation
K5	perceive and recognize own limitations, self-assess educational deficits and needs	O.K5	classroom observation, assignment report
K6	promote health-promoting behaviors	O.K6	classroom observation, oral answer, assignment report
K7	use objective sources of information	O.K7	OSCE examination, theoretical colloquiums, classroom observation, assignment report, multiple choice test, written credit, oral credit, credit
K8	formulate conclusions from own measurements or observations	O.K8	classroom observation, oral answer

## Calculation of ECTS points

### Semester 7

Activity form	Activity hours*
e-learning	5
seminar	12
clinical classes	70
preparation for classes	40
preparation for colloquium	10
preparation for classes	20
<b>Student workload</b>	<b>Hours</b> 157
<b>Workload involving teacher</b>	<b>Hours</b> 87
<b>Practical workload</b>	<b>Hours</b> 70

\* hour means 45 minutes

### Semester 8

Activity form	Activity hours*
e-learning	5
seminar	12
clinical classes	70
preparation for classes	40
preparation for colloquium	20
preparation for classes	20
<b>Student workload</b>	<b>Hours</b> 167
<b>Workload involving teacher</b>	<b>Hours</b> 87
<b>Practical workload</b>	<b>Hours</b> 70

\* hour means 45 minutes

### Semester 9

Activity form	Activity hours*
e-learning	5
seminar	7
clinical classes	73
preparation for classes	40
preparation for colloquium	30
preparation for classes	20
<b>Student workload</b>	<b>Hours</b> 175
<b>Workload involving teacher</b>	<b>Hours</b> 85
<b>Practical workload</b>	<b>Hours</b> 73

\* hour means 45 minutes

**Semester 10**

<b>Activity form</b>	<b>Activity hours*</b>
e-learning	5
seminar	7
clinical classes	72
preparation for classes	40
preparation for colloquium	20
preparation for classes	20
preparation for test	20
<b>Student workload</b>	<b>Hours</b> 184
<b>Workload involving teacher</b>	<b>Hours</b> 84
<b>Practical workload</b>	<b>Hours</b> 72

\* hour means 45 minutes

**Study content**

<b>No.</b>	<b>Course content</b>	<b>Subject's learning outcomes</b>	<b>Activities</b>
1.	<p>7th semester; lectures</p> <p>1. Specificity of the clinical trial and planning principles prosthetic treatment. Additional Exams. Preparation for prosthetic treatment (conservative, periodontological, surgical and initial prosthetic procedure).</p> <p>2. Consequences of tooth loss in the stomatognathic system.</p> <p>Diagnostics and treatment principles in edentulous patients using total dentures.</p> <p>3. Diagnostics and treatment principles for partial missing tooth patients. Surveys of models. Planning partial dentures.</p> <p>4. Indications and methods prosthetic treatment, type of used dentures.</p> <p>5. The importance of reconstructing the occlusion in prosthetic treatment, type of correction methods.</p>	W1, W2, W3, W4, W5, U1, U11, U12, U2, U5, U6, U8, K2	seminar, e-learning

2.	<p>7th and 8th semester; seminars and clinical classes</p> <p>Diagnostics and clinical examination and treatment edentulous patients or with partial toothless dentition.</p> <p>Additional exams used - relevant to rehabilitation prosthetic, interpretation of examinations, diagnosis, planning the stages of treatment and the type of use denture.</p> <p>Rules for fulfill medical records.</p> <p>Laboratory stages of making complete dentures and partial acrylic and framework.</p> <p>Dental materials connected used to fabricated total and partial ( also framework) prostheses.</p> <p>Post rehabilitation medical care for patients.</p>	W1, W3, U1, U5, U6, K2	seminar, clinical classes
3.	<p>Semester 9; lectures</p> <p>1. Prosthetic treatment with fixed dentures.</p> <p>Dental material and technologies used in fabrication of fixed prosthesis.</p> <p>2. Diagnosis and treatment of temporomandibular disorders.</p> <p>3. X-ray methods used in dental prosthetics as a supplemental examination in the diagnosis and planning of prosthetic treatment.</p> <p>4. Prosthetic treatment with immediate and postoperative dentures.</p> <p>5. Methods of implant and prosthetic treatment.</p>	W1, W3, W4, U1, U12, U14, U2, U3, U4, U5, U7, K2, K3, K6, K7, K8	seminar, e-learning, clinical classes
4.	<p>Semester 9 and 10; Seminars and clinical exercises</p> <p>Seminars; theoretical basis of dental prosthetics.</p> <p>The use of articulators in prosthetic treatment, articulometric data.</p> <p>Prosthetic treatment with fixed and immediate and early removable dentures.</p> <p>Stomatopathy; etiopathogenesis, diagnosis and principles of treatment.</p> <p>Prosthetic treatment in cases with periodontal disease.</p> <p>Prosthetic rehabilitation of patients with tissue defects within the facial part of the skull.</p> <p>Diagnostics and general principles of treatment of temporomandibular disorders.</p> <p>Principles of prosthetic treatment for children and adolescents and elderly patients.</p> <p>Principles of implant and prosthetic treatment.</p> <p>Clinical exercises with patients; clinical examination and additional examination, interpretation of outcomes, prosthetic treatment plan (with the use of removable or fixed dentures), clinical procedures, repeating knowledge of laboratory stages of fabrication of prosthetic restorations and dental materials.</p> <p>Rules of fulfilling of medical records, taking care after rehabilitation for a patient</p>	W1, W3, W4, W5, U1, U10, U11, U12, U13, U14, U15, U2, U3, U4, U5, U6, U7, U8, U9, K1, K2, K3, K4, K5, K6, K7, K8	seminar, e-learning, clinical classes

## Course advanced

### Semester 7

#### Teaching methods:

case study, clinical classes, laboratories (labs), demonstration, discussion, e-learning, educational film, presentation,

seminar, lecture, practical classes

Activities	Examination methods	Credit conditions
e-learning	oral answer, test	attendance at all lectures
seminar	oral answer, test	Colloquium I; diagnostics, clinical procedures and laboratory work and materials science related to utilizing of full dentures. Required attendance at all seminars and positive score from oral answer from the given seminar problem, assessed immediately after completion student statements.
clinical classes	booklet of practical skills, classroom observation, oral answer, assignment report	Attendance required at all exercises, performance all required clinical procedures and laboratory works. Keeping a booklet of completed prosthetic procedures, signed by the Assistant at the end of the class. Assessment of each of the required clinical procedures.

## Semester 8

### Teaching methods:

case study, classes / practicals, clinical classes, laboratories (labs), demonstration, educational film, presentation, seminar, simulated patient, practical classes

Activities	Examination methods	Credit conditions
e-learning	oral answer, test	Oral answer in the scope of lecture topics
seminar	theoretical colloquiums, test, oral credit	II colloquium; Indications for use of partial dentures, the specificity of examining a patient with partial missing teeth, clinical procedures and laboratory steps, and dental materials related to the implementation of partial dentures acrylic. III colloquium; Diagnostics and treatment of patients with partial denture using a framework, indications for the use of framework prostheses, clinical and laboratory stages and dental materials related to fabricating framework dentures. Presence required for all seminars, positive evaluation of the colloquium.
clinical classes	booklet of practical skills, classroom observation, oral answer	Keeping a record of prosthetic procedures performed in booklet, signed by the Assistant at the end of the class. Assessment of each of the required dental procedures. Attendance at all clinical classes, implementation of practical activities provided for in the program.

## Semester 9

### Teaching methods:

case study, classes / practicals, clinical classes, discussion, e-learning, professional practice, lecture, lecture with multimedia presentation, practical classes

Activities	Examination methods	Credit conditions
e-learning	theoretical colloquiums, test	Completion of oral tests in the scope of lectures

Activities	Examination methods	Credit conditions
seminar	theoretical colloquiums, oral answer, written credit	Passing oral tests, which will be carried out during the last exercises in a given month by the Assistant, will last 30 minutes (as the preparation for the diploma exam) October: Applying technologies for fabrications of fixed dentures, clinical procedures and laboratory stages, dental materials November: Full dentures, denture repair, dental materials December: Partial acrylic and framework dentures, dental materials science January: Stomatopathy, diagnostics, and treatment
clinical classes	booklet of practical skills, theoretical colloquiums, oral answer	Keeping a register of prosthetic procedures in booklet signed by the Assistant at the end of each class. Assessment of each of the required dental procedures. Attendance at all clinical classes, implementation of practical activities provided for in the program.

## Semester 10

### Teaching methods:

case study, classes / practicals, clinical classes, discussion, e-learning, case study method, professional practice, practical classes

Activities	Examination methods	Credit conditions
e-learning	test, credit	
seminar	credit	
clinical classes	booklet of practical skills, OSCE examination, classroom observation, oral answer, multiple choice test, written credit	Passing oral tests, which will be carried out during the last exercises in a given month by the Assistant, will last 30 minutes (preparation for the diploma exam). March: Temporomandibular disorders April: immediate and early dentures May: Implantology

## Entry requirements

Credit of subjects: Materials and dental equipment 1/2 and 2/2, Preclinical integrated dentistry 1/2, and 2/2 and Physiology of the masticatory system. Student attendance is mandatory.



## Pediatrics

### Educational subject description sheet

#### Basic information

<b>Department</b> Faculty of Medicine  <b>Field of study</b> Medical and Dental Program  <b>Study level</b> long-cycle master's degree program  <b>Study form</b> full-time  <b>Education profile</b> general academic  <b>Disciplines</b> Medical science  <b>ISCED classification</b> 0912 Medicine  <b>Subject related to scientific research</b> Yes	<b>Didactic cycle</b> 2020/21  <b>Realization year</b> 2023/24  <b>Lecture languages</b> English  <b>Block</b> obligatory for passing in the course of studies  <b>Mandatory</b> obligatory  <b>Examination</b> examination  <b>Standard group</b> E. General clinical sciences (non-invasive)
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<b>Period</b> Semester 7	<b>Examination</b> examination  <b>Activities and hours</b> e-learning: 10, seminar: 6, clinical classes: 30	<b>Number of ECTS points</b> 3.0
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#### Goals

C1	The aim of the education is to familiarize students with the most important issues of developmental medicine, stages and factors conditioning the child's proper development as well as causes, clinical symptoms and the principles of diagnosis and treatment of the most frequent diseases of the childhood.
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#### Subject's learning outcomes

Code	Outcomes in terms of	Effects	Examination methods
<b>Knowledge - Student knows and understands:</b>			
W1	issues in the field of medicine and natural sciences - in the basic scope	O.W1	credit

W2	health education issues	O.W3	credit
W3	relationship between morphological abnormalities and the function of changed organs and systems, as well as clinical symptoms and possibilities of diagnostics and treatment	E.W1	credit
W4	basic methods of medical examination and the role of additional examinations in the diagnosis, monitoring, prognosis and prevention of organ and systemic disorders, with particular emphasis on their impact on oral tissues	E.W2	credit
W5	etiopathogenesis and symptomatology of respiratory, circulatory, hematopoietic, genitourinary, immune, digestive, motor and endocrine glands diseases, with particular regard to disease entities whose symptoms occur in the oral cavity	E.W3	credit
W6	symptoms of acute abdominal diseases, intoxication, infection and sepsis	E.W7	credit
W7	symptoms of hepatitis, HIV infection and acquired immune deficiency syndrome (AIDS) in infectious and parasitic diseases	E.W8	credit
W8	principles of immunization against infectious diseases in children and adults	E.W9	credit
W9	life-threatening conditions	E.W18	credit
W10	cases in which the patient should be referred to the hospital	E.W20	credit
<b>Skills - Student can:</b>			
U1	carry out diagnostics of the most common diseases, assess and describe the patient's somatic and mental state	O.U1	classroom observation
U2	conduct clinical proceedings based on knowledge and respecting the principles of humanitarianism	O.U4	classroom observation
U3	plan own learning activities and constantly learn in order to update own knowledge	O.U5	classroom observation, credit
U4	critically evaluate the results of scientific research and adequately justify the position	O.U9	classroom observation, credit
U5	evaluate and describe the somatic and mental state of the patient	E.U2	classroom observation
U6	interpret the results of laboratory tests	E.U4	classroom observation
U7	identify normal and pathological structures and organs in additional imaging tests (X-ray, ultrasound, computed tomography - CT)	E.U5	classroom observation
U8	qualify the patient for vaccination	E.U7	classroom observation
U9	recognize the risk of life threat	E.U8	classroom observation
U10	describe and recognise signs of shock and acute circulatory failure	E.U9	classroom observation
U11	recognize nasopharyngeal diseases, their etiology and pathomechanism	E.U12	classroom observation

U12	diagnose diseases with enlarged lymph nodes of the neck and submandibular area and infectious diseases, with particular emphasis on lesions within the oral cavity	E.U18	classroom observation
U13	diagnose headaches, facial pains and neurological diseases of adults and children causing problems in dental practice	E.U11	classroom observation
<b>Social competences - Student is ready to:</b>			
K1	to establish and maintain deep and respectful contact with patients and to show understanding for differences in world views and cultures	O.K1	classroom observation
K2	to be guided by the well-being of a patient	O.K2	classroom observation
K3	respect medical confidentiality and patients' rights	O.K3	classroom observation
K4	perceive and recognize own limitations, self-assess educational deficits and needs	O.K5	classroom observation
K5	promote health-promoting behaviors	O.K6	classroom observation
K6	formulate conclusions from own measurements or observations	O.K8	classroom observation
K7	use objective sources of information	O.K7	classroom observation

### Calculation of ECTS points

Activity form	Activity hours*
e-learning	10
seminar	6
clinical classes	30
preparation for classes	10
information collection	10
preparation for examination	8
participation in examination	1
<b>Student workload</b>	<b>Hours</b> 75
<b>Workload involving teacher</b>	<b>Hours</b> 46
<b>Practical workload</b>	<b>Hours</b> 30

\* hour means 45 minutes

## Study content

No.	Course content	Subject's learning outcomes	Activities
1.	1. Nutrition of infants and older children	W1, W10, W2, U13, U4, U5, K5	seminar, clinical classes
2.	2. Acute and chronic diarrhea. Selected issues in pediatric gastroenterology	W1, W10, W2, W3, W4, W6, W8, W9, U1, U2, U3, U4, U5, U6, U7, U8, K1, K2, K3, K4, K5, K6, K7	seminar, clinical classes
3.	3. Introduction to issues of developmental medicine. Newborn, prematurity, dystrophy.	W1, W10, W2, W3, W4, W5, W7, W9, U1, U2, U4, U5, U6, U7, U8, U9	e-learning, clinical classes
4.	4. Acute and chronic diseases of the nervous system	W1, W10, W3, W4, W7, W9, U1, U2, U4, U5, U6, U7, K1, K2, K3, K4, K5, K6, K7	clinical classes
5.	5. The main and non-characteristic symptoms occurring in diseases of the hematopoietic system in children	W1, W2, W3, W4, W5, W9, U1, U12, U2, U3, U4, U5, U6, U7, U8, U9, K1	clinical classes
6.	6. The basics of diagnosis of congenital heart diseases	W1, W10, W2, W3, W4, W5, W9, U1, U2, U3, U4, U5, U6, U7, U9	clinical classes
7.	7. The rules of conduct in the most common kidney diseases in children	W1, W2, W3, W4, W5, W6, W9, U1, U2, U3, U4, U5, U6, U7, U9, K1, K2, K3, K4, K5, K6, K7	clinical classes
8.	8. Infectious diseases of childhood	W1, W10, W2, W3, W4, W5, W6, W7, W8, W9, U1, U10, U11, U12, U2, U5, U6, U7, U8, U9, K1, K2, K3, K4, K5, K6, K7	seminar, clinical classes
9.	9. Avitaminosis and the vitamin D deficiency rickets	W1, W2, W3, U2, U4, U6, U9, K1, K2, K3, K4, K5, K6, K7	seminar, clinical classes
10.	10. Diseases of respiratory system in children	W1, W2, W3, W4, W5, W7, W9, U1, U2, U3, U4, U5, U6, U7, U8, U9, K1, K2, K3, K4, K5, K6, K7	seminar, e-learning, clinical classes
11.	11. Emergencies in pediatric endocrinology	W1, W10, W3, W4, W9, U2, U5, U6, U9, K1, K2, K3, K4, K5, K6, K7	e-learning, clinical classes
12.	12. Selected diseases requiring surgical treatment in children	W1, W10, W3, W4, W6, W9, U1, U2, U5, U6, U9, K1, K2, K3, K4, K5, K6, K7	clinical classes

## Course advanced

### Teaching methods:

clinical classes, seminar, lecture

<b>Activities</b>	<b>Examination methods</b>	<b>Credit conditions</b>
e-learning	credit	obligation to attend lectures
seminar	classroom observation	the obligation to attend and pass seminars
clinical classes	classroom observation	the obligation to participate and complete bedsides

### **Entry requirements**

Completions of pre-clinical components i.e. pathophysiology, pathomorphology are obligatory

## Basics of psychiatry

### Educational subject description sheet

#### Basic information

<b>Department</b> Faculty of Medicine  <b>Field of study</b> Medical and Dental Program  <b>Study level</b> long-cycle master's degree program  <b>Study form</b> full-time  <b>Education profile</b> general academic  <b>Disciplines</b> Medical science  <b>ISCED classification</b> 0912 Medicine	<b>Didactic cycle</b> 2020/21  <b>Realization year</b> 2023/24  <b>Lecture languages</b> English  <b>Block</b> obligatory for passing in the course of studies  <b>Mandatory</b> obligatory  <b>Examination</b> graded credit  <b>Standard group</b> E. General clinical sciences (non-invasive)
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<b>Period</b> Semester 7	<b>Examination</b> graded credit  <b>Activities and hours</b> seminar: 5, classes: 10	<b>Number of ECTS points</b> 1.0
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#### Goals

C1	- Gaining knowledge about basic psychopathology
C2	- Learning how to properly conduct a thorough interview
C3	- Learning about basis of patient-doctor relationship
C4	- Learning how to conduct a proper diagnose basing on clinical data

#### Subject's learning outcomes

Code	Outcomes in terms of	Effects	Examination methods
<b>Knowledge - Student knows and understands:</b>			
W1	issues in the field of medicine and natural sciences - in the basic scope	O.W1	credit

W2	neurological effects of chronic drug use	E.W6	credit
W3	influence of nutrition in pregnancy and addiction of a pregnant woman on fetal development	E.W11	credit
<b>Skills - Student can:</b>			
U1	plan own learning activities and constantly learn in order to update own knowledge	O.U5	credit
U2	inspire the learning process of others	O.U6	credit
U3	communicate with the patient and his family in an atmosphere of trust, taking into account the needs of the patient	O.U7	credit
U4	communicate and share knowledge with colleagues in a team	O.U8	credit
U5	plan diagnostic and therapeutic procedures for the most common adult diseases	E.U3	credit
<b>Social competences - Student is ready to:</b>			
K1	to establish and maintain deep and respectful contact with patients and to show understanding for differences in world views and cultures	O.K1	classroom observation
K2	to be guided by the well-being of a patient	O.K2	classroom observation
K3	use objective sources of information	O.K7	classroom observation
K4	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	O.K9	classroom observation
K5	perceive and recognize own limitations, self-assess educational deficits and needs	O.K5	classroom observation
K6	promote health-promoting behaviors	O.K6	classroom observation
K7	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	O.K4	classroom observation

### Calculation of ECTS points

Activity form	Activity hours*
seminar	5
classes	10
preparation for classes	10
<b>Student workload</b>	<b>Hours</b> 25
<b>Workload involving teacher</b>	<b>Hours</b> 15
<b>Practical workload</b>	<b>Hours</b> 10

\* hour means 45 minutes

## Study content

No.	Course content	Subject's learning outcomes	Activities
1.	Norms in psychiatry	W1, W2, W3, U1, U2, U3, U4, U5, K1, K2, K3, K4, K5, K6, K7	classes, seminar
2.	Psychopathology	W1, U1, U2, U3, U4, U5, K1, K2, K3, K4, K5, K6, K7	classes, seminar
3.	Psychiatry in clinical cases	W1, U1, U2, U3, U4, U5, K1, K2, K3, K4, K5, K6, K7	classes, seminar

## Course advanced

### Teaching methods:

case study, brainstorm, discussion, problem solving method, case study method, presentation, seminar

Activities	Examination methods	Credit conditions
seminar	credit	Attendance to classes and the teacher's assessment required, no absence allowed.
classes	classroom observation	



## Dermatology with venereology and allergology in dentistry

### Educational subject description sheet

#### Basic information

<b>Department</b> Faculty of Medicine  <b>Field of study</b> Medical and Dental Program  <b>Study level</b> long-cycle master's degree program  <b>Study form</b> full-time  <b>Education profile</b> general academic  <b>Disciplines</b> Medical science  <b>ISCED classification</b> 0912 Medicine	<b>Didactic cycle</b> 2020/21  <b>Realization year</b> 2023/24  <b>Lecture languages</b> English  <b>Block</b> obligatory for passing in the course of studies  <b>Mandatory</b> obligatory  <b>Examination</b> examination  <b>Standard group</b> E. General clinical sciences (non-invasive)
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<b>Period</b> Semester 7	<b>Examination</b> examination  <b>Activities and hours</b> e-learning: 14, clinical classes: 26	<b>Number of ECTS points</b> 2.0
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#### Goals

C1	During the course of courses in dermatology and venereology, the student should acquire knowledge and skills.
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#### Subject's learning outcomes

Code	Outcomes in terms of	Effects	Examination methods
<b>Knowledge - Student knows and understands:</b>			
W1	issues in the field of medicine and natural sciences - in the basic scope	O.W1	practical examination, credit
W2	the rules of conducting scientific research and spreading their results	O.W4	practical examination, credit
W3	cases in which the patient should be referred to the hospital	E.W20	practical examination, credit

W4	life-threatening conditions	E.W18	practical examination, credit
W5	etiopathogenesis and symptomatology of respiratory, circulatory, hematopoietic, genitourinary, immune, digestive, motor and endocrine glands diseases, with particular regard to disease entities whose symptoms occur in the oral cavity	E.W3	practical examination, credit
W6	symptoms of hepatitis, HIV infection and acquired immune deficiency syndrome (AIDS) in infectious and parasitic diseases	E.W8	practical examination, credit
W7	relationship between morphological abnormalities and the function of changed organs and systems, as well as clinical symptoms and possibilities of diagnostics and treatment	E.W1	practical examination, credit
W8	basic methods of medical examination and the role of additional examinations in the diagnosis, monitoring, prognosis and prevention of organ and systemic disorders, with particular emphasis on their impact on oral tissues	E.W2	practical examination, credit
<b>Skills - Student can:</b>			
U1	perform differential diagnosis of the most common diseases of adults	E.U1	practical examination
U2	diagnose and treat skin diseases: infectious, allergic and sexually transmitted	E.U14	practical examination
U3	recognise dermatoses and collagenoses with symptoms in the oral mucosa	E.U16	practical examination
U4	perform basic medical procedures and procedures: temperature measurement, pulse measurement, non-invasive blood pressure measurement, oxygen therapy, assisted and substitute ventilation, placement of a oropharyngeal tube, preparation of the surgical field, hygienic and surgical hand disinfection, intravenous, intramuscular and subcutaneous injection, peripheral venous blood collection, collecting nasal, pharyngeal and dermal swabs, simple strip tests, measurement of blood glucose levels	E.U20	practical examination
U5	interpret the results of laboratory tests	E.U4	practical examination
U6	recognize the risk of life threat	E.U8	practical examination
U7	recognize nasopharyngeal diseases, their etiology and pathomechanism	E.U12	practical examination
U8	recognize skin cancers and precancerous conditions	E.U15	practical examination
<b>Social competences - Student is ready to:</b>			
K1	to establish and maintain deep and respectful contact with patients and to show understanding for differences in world views and cultures	O.K1	classroom observation
K2	to be guided by the well-being of a patient	O.K2	classroom observation
K3	respect medical confidentiality and patients' rights	O.K3	classroom observation
K4	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	O.K4	classroom observation

K5	perceive and recognize own limitations, self-assess educational deficits and needs	O.K5	classroom observation
K6	promote health-promoting behaviors	O.K6	classroom observation
K7	use objective sources of information	O.K7	classroom observation
K8	formulate conclusions from own measurements or observations	O.K8	classroom observation
K9	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	O.K9	classroom observation
K10	formulate opinions on the various aspects of the professional activity	O.K10	classroom observation
K11	assume responsibility for decisions taken in the course of their professional activities, including in terms of the safety of oneself and others.	O.K11	classroom observation

### Calculation of ECTS points

Activity form	Activity hours*
e-learning	14
clinical classes	26
case analysis	10
<b>Student workload</b>	<b>Hours</b> 50
<b>Workload involving teacher</b>	<b>Hours</b> 40
<b>Practical workload</b>	<b>Hours</b> 36

\* hour means 45 minutes

### Study content

No.	Course content	Subject's learning outcomes	Activities
1.	During the course of courses in dermatology and venereology, the student should acquire knowledge and skills.	W1, W2, W3, W4, W5, W6, W7, W8, U1, U2, U3, U4, U5, U6, U7, U8, K1, K10, K11, K2, K3, K4, K5, K6, K7, K8, K9	e-learning, clinical classes

### Course advanced

#### Teaching methods:

case study, textual analysis, brainstorm, classes / practicals, clinical classes, demonstration, discussion, presentation, group

work, lecture, practical classes

Activities	Examination methods	Credit conditions
e-learning	credit	The decision on the threshold for passing the test is made each time by the Head of the Department of Dermatology, taking into account the results obtained by all students. The decision on the form and date of the second date of the examination is made by the Head of the Department of Dermatology, taking into account the number of persons who did not obtain credit in the written test.
clinical classes	practical examination, classroom observation	The decision on the threshold for passing the test is made each time by the Head of the Department of Dermatology, taking into account the results obtained by all students. The decision on the form and date of the second date of the examination is made by the Head of the Department of Dermatology, taking into account the number of persons who did not obtain credit in the written test.

### Entry requirements

Classes in dermatology and venereology include exercises and lectures that take place in the Department of Dermatology, ul. Skawińska 8. Participation in the exercises is compulsory. It is allowed to be absent from one of the practice classes in the whole block. Students are required to prepare for the exercises with exercises and to actively participate in them. In the event of more than one absence, the assistant must be compensated for in the manner prescribed by the assistant. On the last day of the course there is a practical credit in dermatology and venereology. Absence may not be taken advantage of in the last class of the course for which credit is being given.

## Orthodontics

### Educational subject description sheet

#### Basic information

<b>Department</b> Faculty of Medicine  <b>Field of study</b> Medical and Dental Program  <b>Study level</b> long-cycle master's degree program  <b>Study form</b> full-time  <b>Education profile</b> general academic  <b>Disciplines</b> Medical science  <b>ISCED classification</b> 0911 Dental studies  <b>Subject related to scientific research</b> Yes	<b>Didactic cycle</b> 2020/21  <b>Realization year</b> 2023/24, 2024/25  <b>Lecture languages</b> English  <b>Block</b> obligatory for passing in the course of studies  <b>Mandatory</b> obligatory  <b>Examination</b> examination  <b>Standard groups</b> F. Clinical curriculum-oriented (invasive) sciences, H. Clinical training
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<b>Period</b> Semester 7	<b>Examination</b> credit  <b>Activities and hours</b> e-learning: 6, seminar: 12, clinical classes: 60	<b>Number of ECTS points</b> 5.0
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<b>Period</b> Semester 10	<b>Examination</b> examination  <b>Activities and hours</b> e-learning: 10, seminar: 18, clinical classes: 95	<b>Number of ECTS points</b> 8.0
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#### Goals

C1	Teaching craniofacial development and occlusion development in the context of malocclusion and orthodontic diagnostics.
C2	Teaching the prevention of acquired malocclusion, interceptive procedures and early treatment of uncomplicated cases using so-called simple therapeutic procedures (preventive procedures).
C3	Knowledge of indications for orthodontic treatment.

## Subject's learning outcomes

Code	Outcomes in terms of	Effects	Examination methods
<b>Knowledge - Student knows and understands:</b>			
W1	occlusal normal conditions at various stages of individual development and deviations from norms	F.W1	self-assessment, test, credit
W2	principles of preventive and therapeutic management in diseases of the masticatory organ in various periods of development	F.W2	self-assessment, test, credit
W3	principles of construction and operation of mobile and fixed orthodontic appliances	F.W17	self-assessment, test, credit
W4	principles of radiological diagnosis	F.W18	self-assessment, test, credit
<b>Skills - Student can:</b>			
U1	carry out a medical interview with the patient and his or her family	F.U1	booklet of practical skills, self-assessment, test
U2	carry out a dental physical examination of the patient	F.U2	booklet of practical skills, self-assessment, test
U3	diagnose, differentiate and classify malocclusions	F.U18	booklet of practical skills, self-assessment, test
U4	provide assistance in the event of damage to the orthodontic appliance	F.U19	booklet of practical skills, self-assessment, test
U5	make simple orthodontic appliances	F.U20	booklet of practical skills, self-assessment, test
U6	carry out treatment to prevent malocclusion during the period of deciduous teeth and early replacement of teeth	F.U21	booklet of practical skills, self-assessment, test
<b>Social competences - Student is ready to:</b>			
K1	to establish and maintain deep and respectful contact with patients and to show understanding for differences in world views and cultures	O.K1	group assessment, self-assessment
K2	to be guided by the well-being of a patient	O.K2	group assessment, self-assessment
K3	respect medical confidentiality and patients' rights	O.K3	group assessment, self-assessment
K4	perceive and recognize own limitations, self-assess educational deficits and needs	O.K5	group assessment, self-assessment
K5	promote health-promoting behaviors	O.K6	group assessment, self-assessment
K6	use objective sources of information	O.K7	group assessment, self-assessment
K7	formulate conclusions from own measurements or observations	O.K8	group assessment, self-assessment
K8	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	O.K9	group assessment, self-assessment

## Calculation of ECTS points

### Semester 7

Activity form	Activity hours*
e-learning	6
seminar	12
clinical classes	60
<b>Student workload</b>	<b>Hours</b> 78
<b>Workload involving teacher</b>	<b>Hours</b> 78
<b>Practical workload</b>	<b>Hours</b> 60

\* hour means 45 minutes

### Semester 10

Activity form	Activity hours*
e-learning	10
seminar	18
clinical classes	95
<b>Student workload</b>	<b>Hours</b> 123
<b>Workload involving teacher</b>	<b>Hours</b> 123
<b>Practical workload</b>	<b>Hours</b> 95

\* hour means 45 minutes

## Study content

No.	Course content	Subject's learning outcomes	Activities
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1.	Introduction to the basics of orthodontics. Configuration of the norm and malocclusion. Indications for orthodontic treatment. Differential diagnosis. Orthodontics and general dentistry: treatment of adult patients. Orthodontics and orthognathic surgery. The importance of the function of the masticatory system in orthodontics. The specificity of orthodontic treatment in patients after cleft palate and / or lip.	W1, W2, W3, W4, U1, U2, U3, U4, U5, U6, K1, K2, K3, K4, K5, K6, K7, K8	e-learning
2.	Classification of dental-occlusal relations. Diagnostics of malocclusion. History of orthodontics. Concepts of growth and development. Pre and postnatal period of growth and development. Growth intensity and growth potential. Assessment of bone and dental age. Etiology of malocclusion. Clinical examination of the patient. Study models assessment. Imaging diagnostics used in orthodontics. Cephalometric analysis. Preventive and therapeutic appliances. Prevention and health education in orthodontics. Methods of orthodontic treatment. Interdisciplinary cooperation. Cleft jaws. Genetically conditioned defects.	W1, W2, W3, W4, U1, U2, U3, U4, U5, U6	seminar
3.	Clinical examination of an orthodontic patient: medical documentation. Models, radiographs, dental maturity. Morphological analysis of models. Biological assessment of occlusion. Recognizing the symptoms of malocclusion in three dimensions. Virtual diagnostic models.	U1, U2, U3, U4, U5, U6, K1, K2, K3, K4, K5, K6, K7, K8	clinical classes

## Course advanced

### Semester 7

#### Teaching methods:

clinical classes, seminar, lecture

Activities	Examination methods	Credit conditions
e-learning	test	The presented issues included in the final test with a 65% threshold.
seminar	test	The presented issues included in the final test with a 65% threshold.
clinical classes	booklet of practical skills	A completed booklet of practical skills in accordance with the requirements provided by the Dean's Office.

### Semester 10

#### Teaching methods:

clinical classes, seminar, lecture

Activities	Examination methods	Credit conditions
e-learning	credit	graded exam
seminar	self-assessment	graded exam
clinical classes	group assessment	graded exam



## **Entry requirements**

Completed: Occlusion and function of the jaws.

## Pediatric dentistry

### Educational subject description sheet

#### Basic information

<b>Department</b> Faculty of Medicine  <b>Field of study</b> Medical and Dental Program  <b>Study level</b> long-cycle master's degree program  <b>Study form</b> full-time  <b>Education profile</b> general academic  <b>Disciplines</b> Medical science  <b>ISCED classification</b> 0911 Dental studies  <b>Subject related to scientific research</b> Yes	<b>Didactic cycle</b> 2020/21  <b>Realization year</b> 2023/24, 2024/25  <b>Lecture languages</b> English  <b>Block</b> obligatory for passing in the course of studies  <b>Mandatory</b> obligatory  <b>Examination</b> examination  <b>Standard groups</b> F. Clinical curriculum-oriented (invasive) sciences, H. Clinical training
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<b>Period</b> Semester 7	<b>Examination</b> credit  <b>Activities and hours</b> seminar: 12, clinical classes: 104	<b>Number of ECTS points</b> 4.0
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<b>Period</b> Semester 10	<b>Examination</b> examination  <b>Activities and hours</b> seminar: 18, clinical classes: 90	<b>Number of ECTS points</b> 7.0
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## Goals

C1	1. Transfer of knowledge in the field of dentistry of developmental age with particular emphasis on morphological and functional differences of primary and permanent dentition. Discussing the principles of working with a child as a patient.
C2	2. To make students aware of problems related to the specifics of prevention, diagnosis and treatment of oral diseases in patients of developmental age, taking into account particular age groups.
C3	3. Presentation of the principles of preventive and therapeutic treatment of caries in developmental patients. Discussing the issue of non-carious lesions in this age group.
C4	4. To acquaint students with the specifics of endodontic treatment of milk teeth and permanent immature teeth, including the selection of methods, materials and instruments.
C5	5. Presentation of the rules of conduct in the case of dental trauma in patients of developmental age, including first aid.
C6	6. To familiarize with the most common irregularities in the morphological structure of teeth, including complex defects.
C7	7. Acquaintance with pharmacological and non-pharmacological methods of bearing anxiety and pain in children. Principles of pharmacotherapy, use of general anesthesia in pediatric dentistry.
C8	8. Presentation of the principles of x-ray diagnostics in pediatric dentistry including radiological protection.

## Subject's learning outcomes

Code	Outcomes in terms of	Effects	Examination methods
<b>Knowledge - Student knows and understands:</b>			
W1	rules of conduct in the case of pulp and mineralized dental tissues, as well as trauma to the teeth and bones of the face	F.W5	booklet of practical skills, theoretical colloquiums, classroom observation, credit
W2	morphology of dental chambers and principles of endodontic treatment and instruments used in this treatment	F.W7	booklet of practical skills, theoretical colloquiums, classroom observation, credit
W3	viral, bacterial and fungal flora of the oral cavity and its importance	F.W3	booklet of practical skills, theoretical colloquiums, classroom observation, credit
W4	principles of preventive and therapeutic management in diseases of the masticatory organ in various periods of development	F.W2	booklet of practical skills, theoretical colloquiums, classroom observation, credit
W5	causes of complications of stomatognathic system diseases and rules of conduct in case of such complications	F.W12	booklet of practical skills, theoretical colloquiums, classroom observation, credit
W6	therapeutic methods of reducing and enduring pain as well as reducing anxiety and stress	F.W15	booklet of practical skills, theoretical colloquiums, classroom observation, credit

W7	principles of anesthesia in dental procedures and basic pharmacological agents	F.W16	booklet of practical skills, theoretical colloquiums, classroom observation, credit
W8	prevention of oral diseases	F.W21	booklet of practical skills, theoretical colloquiums, classroom observation, credit
W9	health education issues	O.W3	booklet of practical skills, theoretical colloquiums, classroom observation, credit
W10	organization of dentist practice and management principles in healthcare	O.W5	booklet of practical skills, theoretical colloquiums, classroom observation, credit
W11	issues in the field of medicine and natural sciences – in the basic scope	O.W1	booklet of practical skills, theoretical colloquiums, classroom observation, credit
W12	issues in dentistry – at an advanced level	O.W2	booklet of practical skills, theoretical colloquiums, classroom observation, credit
W13	occlusal normal conditions at various stages of individual development and deviations from norms	F.W1	booklet of practical skills, theoretical colloquiums, classroom observation, credit
W14	symptoms, course and procedures in specific diseases of the mouth, head and neck, taking into account age groups	F.W4	booklet of practical skills, theoretical colloquiums, classroom observation, credit
W15	indications and contraindications for performing procedures in the field of cosmetic dentistry	F.W11	booklet of practical skills, theoretical colloquiums, classroom observation, credit
W16	basics of antibiotic therapy and antibiotic resistance	F.W13	booklet of practical skills, theoretical colloquiums, classroom observation, credit
W17	methods of rehabilitation of the masticatory organ	F.W14	booklet of practical skills, theoretical colloquiums, classroom observation, credit
W18	principles of radiological diagnosis	F.W18	booklet of practical skills, theoretical colloquiums, classroom observation, credit
W19	rules for dealing with masticatory organ tissue diseases, injuries to teeth and jawbones	F.W22	booklet of practical skills, theoretical colloquiums, classroom observation, credit
<b>Skills – Student can:</b>			

U1	carry out a medical interview with the patient and his or her family	F.U1	booklet of practical skills, theoretical colloquiums, classroom observation, credit
U2	carry out a dental physical examination of the patient	F.U2	booklet of practical skills, theoretical colloquiums, classroom observation, credit
U3	provide the patient or his or her family with information about unfavorable prognosis	F.U4	booklet of practical skills, theoretical colloquiums, classroom observation, credit
U4	determine the indications and contraindications for performing a specific dental procedure	F.U7	booklet of practical skills, theoretical colloquiums, classroom observation, credit
U5	proceed in case of general and local complications during and after dental procedures	F.U9	booklet of practical skills, theoretical colloquiums, classroom observation, credit
U6	keep patient records on ongoing basis, provide referrals for examination or specialist treatment in dental and general medicine	F.U11	booklet of practical skills, theoretical colloquiums, classroom observation, credit
U7	assess the risk of caries using bacteriological tests and saliva tests	F.U14	booklet of practical skills, theoretical colloquiums, classroom observation, credit
U8	determine the treatment of diseases of tissues of the stomatognathic system	F.U15	booklet of practical skills, theoretical colloquiums, classroom observation, credit
U9	take appropriate medication during and after the dental procedure to relieve pain and anxiety	F.U16	booklet of practical skills, theoretical colloquiums, classroom observation, credit
U10	carry out treatment to prevent malocclusion during the period of deciduous teeth and early replacement of teeth	F.U21	booklet of practical skills, theoretical colloquiums, classroom observation, credit
U11	carry out diagnostics of the most common diseases, assess and describe the patient's somatic and mental state	O.U1	booklet of practical skills, theoretical colloquiums, classroom observation, credit
U12	provide professional dental care in the field of prevention, treatment, health promotion and health education	O.U2	booklet of practical skills, theoretical colloquiums, classroom observation, credit
U13	plan treatment for dental problems	O.U3	booklet of practical skills, theoretical colloquiums, classroom observation, credit

U14	communicate with the patient and his family in an atmosphere of trust, taking into account the needs of the patient	O.U7	booklet of practical skills, theoretical colloquiums, classroom observation, credit
U15	interpret the results of additional tests and consultations	F.U6	booklet of practical skills, theoretical colloquiums, classroom observation, credit
U16	formulate research problems in the field of dentistry	F.U12	booklet of practical skills, theoretical colloquiums, classroom observation, credit
U17	describe dental and pantomographic images	F.U23	booklet of practical skills, theoretical colloquiums, classroom observation, credit

#### **Social competences - Student is ready to:**

K1	to establish and maintain deep and respectful contact with patients and to show understanding for differences in world views and cultures	O.K1	booklet of practical skills, theoretical colloquiums, classroom observation, credit
K2	respect medical confidentiality and patients' rights	O.K3	booklet of practical skills, theoretical colloquiums, classroom observation, credit
K3	promote health-promoting behaviors	O.K6	booklet of practical skills, theoretical colloquiums, classroom observation, credit
K4	to be guided by the well-being of a patient	O.K2	booklet of practical skills, theoretical colloquiums, classroom observation, credit
K5	formulate conclusions from own measurements or observations	O.K8	booklet of practical skills, theoretical colloquiums, classroom observation, credit
K6	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	O.K4	booklet of practical skills, theoretical colloquiums, classroom observation, credit

## **Calculation of ECTS points**

### **Semester 7**

<b>Activity form</b>	<b>Activity hours*</b>
seminar	12
clinical classes	104
preparation for classes	1

preparation for colloquium	10
<b>Student workload</b>	<b>Hours</b> 127
<b>Workload involving teacher</b>	<b>Hours</b> 116
<b>Practical workload</b>	<b>Hours</b> 104

\* hour means 45 minutes

#### Semester 10

Activity form	Activity hours*
seminar	18
clinical classes	90
preparation for classes	2
<b>Student workload</b>	<b>Hours</b> 110
<b>Workload involving teacher</b>	<b>Hours</b> 108
<b>Practical workload</b>	<b>Hours</b> 90

\* hour means 45 minutes

### Study content

No.	Course content	Subject's learning outcomes	Activities
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1.	<p>Semester 7</p> <p>Topic: Physiology of child development</p> <ul style="list-style-type: none"> <li>- histological differences in the structure of primary and permanent teeth</li> <li>- resorption of mineralized tooth tissues (roots of primary teeth)</li> <li>- tooth eruption mechanism</li> <li>- eruption of primary and permanent teeth</li> <li>- teething symptoms</li> <li>- primary teeth anatomy</li> <li>- physiology and morphology of permanent teeth with an unformed and formed root</li> </ul>	<p>W1, W11, W13, W14, W18, W19, W4, W5, W6, W8, U1, U11, U12, U17, U2, U6, U8, K1, K2, K3, K5</p>	<p>seminar, clinical classes</p>
2.	<p>Semester 7</p> <p>Topic: The child as a patient in the dental office.</p> <ul style="list-style-type: none"> <li>- physical and psychosocial development of the child</li> <li>- child's behavior in the dentist's office (without scale)</li> <li>- dental anxiety</li> <li>- communication with the child and his guardians</li> <li>- first visit of the child in the dentist's office</li> <li>- behavioral methods of shaping the child's behavior</li> </ul> <p>Pharmacological premedication and analgesic treatment</p> <ul style="list-style-type: none"> <li>- painkillers</li> <li>- local anesthesia</li> <li>- inhalation sedation with nitrous oxide</li> <li>- general anesthesia</li> </ul>	<p>W11, W13, W4, W6, W7, W8, W9, U1, U11, U12, U13, U2, U3, U6, U9, K1, K2, K3, K4, K6</p>	<p>seminar, clinical classes</p>



3.	<p>Semester 7</p> <p>Topic: Dental examination of the child</p> <ul style="list-style-type: none"> <li>- family and general medical history</li> <li>- dental history</li> <li>- clinical examination</li> <li>- course of visits and principles of treatment planning</li> <li>- additional tests in pediatric dentistry</li> </ul> <p>The specificity of radiological diagnostics in developmental age dentistry</p> <ul style="list-style-type: none"> <li>- legal regulations regarding dental radiology</li> <li>- diagnostic imaging in pediatric dentistry</li> </ul>	<p>W10, W11, W13, W18, W3, W4, W6, W8, W9, U1, U11, U13, U14, U15, U17, U2, U3, U4, U6, U7, K1, K2, K3</p>	<p>seminar</p>
4.	<p>Semester 7</p> <p>Topic: Etiology and epidemiology of tooth decay in developmental age. The caries process. Caries in children.</p> <ul style="list-style-type: none"> <li>- etiological factors of dental caries</li> <li>- caries indicators, teeth status indicators (PUFA)</li> <li>- frequency and intensity of caries disease</li> <li>- caries disease epidemiology</li> <li>- caries of primary teeth</li> <li>- caries of permanent immature teeth</li> </ul>	<p>W11, W13, W14, W19, W3, W4, W6, W7, W8, U1, U10, U11, U12, U16, U2, U5, U6, U7, U8, U9, K1</p>	<p>seminar, clinical classes</p>

5.	<p>Semester 7</p> <p>Topic: Clinical division and diagnosis of dental caries. Materials used to treat caries disease in children.</p> <ul style="list-style-type: none"> <li>- caries process</li> <li>- clinical division of caries, classifications</li> <li>- caries diagnosis, methods of diagnosing early caries lesions, visual methods, radiological methods, methods based on optical phenomena (FOTI, DI-FOTI, QLF), electrical methods</li> <li>- materials used in pediatric dentistry, prefabricated steel crowns</li> </ul>	<p>W1, W14, W19, W3, W4, W5, W7, W8, W9, U1, U10, U11, U15, U16, U2, U3, U4, U6, U7, U8, K1, K2, K3, K4, K6</p>	<p>seminar, clinical classes</p>
6.	<p>Semester 7</p> <p>Topic: Therapeutic management in caries disease.</p> <ul style="list-style-type: none"> <li>- treatment planning</li> <li>- caries risk assessment using selected methods</li> <li>- salivary tests, dmf, DMF indicators</li> <li>- ICDA's</li> <li>- dental treatment depending on the level of caries risk</li> </ul>	<p>W1, W12, W13, W14, W15, W19, W3, W4, W6, W7, W8, W9, U1, U10, U11, U12, U13, U15, U16, U2, U4, U6, U7, U8, U9, K1, K2, K3, K4</p>	<p>seminar, clinical classes</p>
7.	<p>Semester 7</p> <p>Topic: Non-invasive treatment of caries lesions. Operative treatment (invasive).</p> <ul style="list-style-type: none"> <li>-remineralization, fluorine compounds, calcium and phosphate ions</li> <li>- minimally intervention dentistry</li> <li>- stripping, impregnation, povidone iodine</li> <li>- preparation of cavities for adhesive and non-adhesive restorations</li> <li>- deep caries treatment</li> <li>- methods of hard tissue reconstruction</li> <li>- minimally invasive methods of treatment of carious lesions (ART,PRR-I, PRR-II infiltration)</li> </ul>	<p>W1, W10, W12, W14, W15, W19, W3, W4, W5, W6, W7, W8, U1, U10, U12, U13, U16, U2, U3, U4, U5, U6, U8, U9, K1, K2, K3, K4, K6</p>	<p>seminar, clinical classes</p>

8.	<p>Semester 7</p> <p>Topic: Caries prophylaxis in children.</p> <ul style="list-style-type: none"> <li>- caries prevention</li> <li>- primary primary prevention, primary prevention, secondary prevention</li> <li>- oral hygiene</li> <li>- fluoride prophylaxis</li> <li>- non-fluoride prevention of tooth decay</li> <li>- limiting the influence of the bacterial factor of caries disease: mechanical biofilm removal, use of chemical methods</li> </ul>	W1, W10, W11, W3, W4, W5, W8, W9, U1, U10, U12, U13, U16, U2, U4, U6, U7, K1, K3, K4	seminar
9.	<p>Semester 7</p> <p>Topic: Lesions of hard tissues of non-cariou origin.</p> <ul style="list-style-type: none"> <li>- abrasion</li> <li>- attrition</li> <li>- demastication</li> <li>- abfraction</li> <li>- erosion</li> </ul>	W1, W14, W17, W4, W6, W7, W8, W9, U1, U11, U12, U14, U16, U2, U3, U4, U5, U6, U8, U9, K1, K2	seminar, clinical classes
10.	<p>Semester 7</p> <p>Topic: Pathologies of craniofacial development.</p> <ul style="list-style-type: none"> <li>- Causes of developmental abnormalities of the masticatory organ</li> <li>- Disorders of tooth eruption</li> <li>- Developmental disorders of the number and anatomical structure of teeth:</li> </ul> <p>reducing and increasing the number of teeth</p> <p>tooth size disorders</p> <p>tooth shape disorders</p>	W1, W10, W12, W13, W15, W17, W19, W2, W4, W5, W9, U1, U10, U15, U17, U2, U3, U4, U5, U6, U8, K1, K2, K3, K4, K6	seminar, clinical classes

11.	<p>Semester 7</p> <p>Topic: Developmental defects of mineralized teeth tissues.</p> <ul style="list-style-type: none"> <li>- enamel developmental disorders caused by environmental factors</li> <li>- enamel developmental abnormalities caused by genetic factors</li> <li>- tooth discoloration</li> <li>- dentine development disorders: regional odontodysplasia, dentin dysplasia, dentinogenesis imperfecta</li> <li>- cement development disorders</li> </ul>	<p>W1, W12, W13, W14, W15, W17, W18, W19, W4, W5, W8, W9, U1, U2, U3, U4, U6, U8, K1, K2, K3, K4</p>	<p>seminar</p>
12.	<p>Semester 7</p> <p>Topic: Oral cavity in selected genetic syndromes.</p> <ul style="list-style-type: none"> <li>- ectodermal dysplasia</li> <li>- cleido-cranial syndrome</li> <li>- osteogenesis imperfecta</li> <li>- Down syndrome</li> <li>- calcium phosphate metabolism disorders</li> </ul>	<p>W1, W12, W13, W14, W15, W17, W18, W19, W4, W5, W9, U1, U13, U14, U15, U17, U2, U3, U6, U8, K1, K2, K4</p>	<p>seminar, clinical classes</p>
13.	<p>Semester 9</p> <p>Topic: Specificity of the pulp of primary and permanent immature teeth.</p> <ul style="list-style-type: none"> <li>- characteristics of the pulp of primary and permanent teeth</li> <li>- features of primary and permanent teeth that play a role in the etiopathogenesis of pulpopathy and affect therapeutic management</li> <li>- pathogenesis of pulp diseases: harmful factors, pulpitis, pulp necrosis, osklerotic changes, proliferative pulpitis, inflammatory internal resorption, exchange internal resorption, obliteration of the tooth cavity, pseudotomas</li> </ul>	<p>W1, W12, W13, W14, W18, W19, W2, W3, W4, W6, U1, U14, U15, U17, U2, U4, U6, U9, K1, K2, K4, K6</p>	<p>seminar, clinical classes</p>

14.	<p>Semester 9</p> <p>Topic: Diagnostics of pulpopathy and changes in periapical tissues. Classifications of pulp diseases.</p> <ul style="list-style-type: none"> <li>- medical history</li> <li>- physical examination for pulp diseases</li> <li>- pulp vitality tests</li> <li>- assessment of the condition of periapical tissues</li> <li>- radiological examination in the diagnosis of pulp and periapical tissues diseases</li> <li>- classifications of pulp diseases of primary and permanent teeth</li> <li>- differentiation of acute and chronic inflammation of periodontal tissues diseases</li> </ul>	<p>W1, W12, W14, W16, W18, W19, W2, W3, W5, W6, W7, U1, U13, U14, U17, U2, U3, U4, U5, U9, K1, K2, K4, K6</p>	<p>seminar, clinical classes</p>
15.	<p>Semester 9</p> <p>Topic: General principles and medicaments used in endodontic treatment in children.</p> <ul style="list-style-type: none"> <li>- methods of treating pulp diseases: vital, mortal</li> <li>- drugs and medicaments used in endodontics of developmental age: auxiliary materials, materials used to cover the pulp or fill root canals in primary and permanent teeth</li> </ul>	<p>W1, W12, W14, W16, W18, W19, W2, W4, W5, W6, W7, U1, U13, U14, U15, U17, U2, U3, U4, U5, U6, U8, U9</p>	<p>seminar, clinical classes</p>
16.	<p>Semester 9</p> <p>Topic: Treatment of pulp disease in primary teeth-part 1.</p> <ul style="list-style-type: none"> <li>- indications and contraindications for endodontic treatment of primary teeth</li> <li>- intravital methods: indirect pulp treatment, direct pulp capping, pulp amputation (indications, technique, materials used)</li> </ul>	<p>W1, W10, W13, W16, W2, W3, W4, W6, W7, U1, U12, U14, U15, U17, U2, U3, U4, U5, U8, U9, K1, K2, K4</p>	<p>seminar, clinical classes</p>
17.	<p>Semester 9</p> <p>Topic: Treatment of pulp disease in primary teeth-part 2.</p> <ul style="list-style-type: none"> <li>- intravital pulpectomy (indications and contraindications, technique, materials used)</li> <li>- mortal methods: pulpotomy after devitalization, pulp extirpation (when allowed, technique, materials used)</li> </ul>	<p>W1, W14, W18, W19, W2, W4, W5, W6, U1, U2, U4, U6, U9, K1, K2, K4, K6</p>	<p>seminar, clinical classes</p>

18.	<p>Semester 9</p> <p>Topic: Specificity in the treatment of pulp diseases of permanent immature teeth. Biological treatment.</p> <ul style="list-style-type: none"> <li>- indirect pulp treatment method (one- and two-stage treatment), (indications, technique, materials used)</li> <li>- direct pulp capping method (indications, technique, materials used)</li> <li>- partial intravital amputation (indications, contraindications, technique, materials used)</li> <li>- total intravital amputation (indications, contraindications, technique, materials used)</li> <li>- intravital pulp extirpation (indications, technique, materials used)</li> </ul>	<p>W1, W12, W13, W18, W19, W2, W3, W4, W5, W6, W7, U1, U13, U14, U17, U2, U3, U4, U5, U6, U9, K1, K2, K4</p>	<p>seminar, clinical classes</p>
19.	<p>Semester 9</p> <p>Topic: Treatment of pulp necrosis of permanent immature teeth. Apexification methods.</p> <ul style="list-style-type: none"> <li>- apexification vis apexogenesis</li> <li>- apexification using Ca (OH)<sub>2</sub> based pastes</li> <li>- apexification using MTA or Biodentine</li> <li>- endodontic regenerative treatment</li> <li>- radiological assessment of the quality of endodontic treatment</li> </ul>	<p>W1, W16, W18, W19, W2, W3, W5, W7, U1, U14, U15, U17, U2, U3, U4, U5, U6, U8, K1, K2, K4, K5, K6</p>	<p>seminar, clinical classes</p>
20.	<p>Semester 9</p> <p>Topic: Traumatic dental injuries- introduction.</p> <ul style="list-style-type: none"> <li>- etiology of traumatic dental injuries</li> <li>- epidemiology of traumatic dental injuries</li> <li>- classification of traumatic dental injuries</li> <li>- diagnosis and management of abused children</li> <li>- intraoral and peroral jewelry (piercing)</li> </ul>	<p>W11, W14, W18, W19, W4, W6, W9, U1, U11, U14, U15, U17, U2, U3, K1, K2, K3, K4, K6</p>	<p>seminar, clinical classes</p>

21.	<p>Semester 9</p> <p>Topic: Examination of the patient after mechanical trauma.</p> <ul style="list-style-type: none"> <li>- general medical and dental interview</li> <li>- Extra-oral clinical examination of the patient after injury</li> <li>- Clinical intraoral examination of the patient after injury</li> <li>- Radiological examination of the patient after injury</li> <li>- Planning the treatment of the patient after injury</li> </ul> <p>Rules of conduct in traumatic dental injuries.</p>	W1, W13, W14, W18, W19, W4, W6, W9, U1, U13, U14, U16, U17, U2, U4, U6, K1, K2, K5, K6	seminar, clinical classes
22.	<p>Semester 10</p> <p>Topic: Traumatic dental injuries of permanent teeth (part 1).</p> <p>Diagnosis and treatment in post-traumatic injuries of permanent teeth according to Andreasen.</p> <p>enamel crack (infracture)</p> <p>enamel fracture</p> <p>enamel- dentin fracture uncomplicated</p> <p>enamel- dentin fracture complicated</p> <p>crown- root fracture uncomplicated</p> <p>crown- root fracture complicated</p> <p>root fracture</p> <p>Alveolar fracture</p>	W1, W12, W13, W14, W16, W18, W19, W6, W7, U1, U11, U14, U15, U17, U2, U3, U6, U9, K1, K2, K6	seminar, clinical classes

23.	<p>Semester 10</p> <p>Topic: Traumatic dental injuries of permanent teeth (part 2).</p> <p>Diagnosis and treatment in post-traumatic injuries of permanent teeth according to Andreasen.</p> <ul style="list-style-type: none"> <li>-concussion (shock)</li> <li>- subluxation</li> <li>- extrusion</li> <li>- intrusion</li> </ul> <p>lateral luxation</p> <p>-</p>	<p>W1, W12, W13, W16, W18, W19, W2, W5, W6, W7, U1, U11, U14, U15, U17, U2, U3, U4, U6, U8, U9, K1, K2, K4, K5, K6</p>	<p>seminar, clinical classes</p>
24.	<p>Semester 10</p> <p>Topic: Traumatic dental injuries of permanent teeth (part 3). Diagnostics, treatment procedures taking into account the degree of tooth root development.</p> <ul style="list-style-type: none"> <li>- total luxation (avulsion)</li> </ul> <p>Teeth immobilization after injury.</p>	<p>W1, W12, W13, W14, W16, W17, W18, W19, W3, W4, W5, W6, W7, U1, U14, U15, U17, U2, U3, U4, U5, U6, U9, K1, K2, K4, K6</p>	<p>seminar, clinical classes</p>
25.	<p>Semester 10</p> <p>Topic: Traumatic dental injuries of primary teeth (part 1).</p> <p>Diagnosis and treatment in traumatic injuries of primary teeth according to Andreasen.</p> <ul style="list-style-type: none"> <li>enamel crack (infracture)</li> <li>enamel fracture</li> <li>enamel- dentin fracture uncomplicated</li> <li>enamel- dentin fracture complicated</li> <li>crown- root fracture without pulp involvement</li> <li>crown- root fracture with pulp involvement</li> <li>root fracture</li> <li>Alveolar fracture</li> </ul>	<p>W1, W12, W13, W14, W18, W19, W3, W4, W5, W6, W7, U1, U13, U15, U16, U17, U2, U3, U6, U9, K1, K2, K3, K4</p>	<p>seminar, clinical classes</p>



26.	<p>Semester 10</p> <p>Topic: Traumatic dental injuries of primary teeth (part 2). Diagnosis and treatment.</p> <p>concussion</p> <p>subluxation</p> <p>extrusion</p> <p>lateral luxation</p> <p>intrusion</p> <p>total luxation</p> <p>Complications after primary teeth injuries.</p>	<p>W1, W12, W13, W16, W18, W19, W3, W4, W6, W7, U1, U15, U17, U2, U3, U4, U6, U9, K1, K2, K4, K6</p>	<p>seminar, clinical classes</p>
27.	<p>Semester 10</p> <p>Topic: Damage to the gums and oral mucosa as a result of injury. Diagnostics and procedures in the aftermath of post-traumatic permanent tooth damage:</p> <ol style="list-style-type: none"> <li>1. Complications after dental crown injuries.</li> <li>2. Complications after tooth root fractures.</li> <li>3. Complications after tooth dislocation:</li> </ol> <ul style="list-style-type: none"> <li>- pulp necrosis</li> <li>- resorption: internal and external</li> <li>- tooth cavity obliteration</li> <li>- inhibition of root development</li> <li>- decoronation</li> </ul> <p>Prevention of traumatic dental injuries.</p> <ul style="list-style-type: none"> <li>- Primary, secondary and tertiary prevention</li> <li>- Prevention of trauma to teeth during sports. Extraoral and intraoral protectors.</li> </ul>	<p>W1, W10, W12, W13, W14, W18, W19, W4, W6, W7, U1, U13, U14, U16, U17, U2, U3, U6, U9, K1, K2, K4, K6</p>	<p>seminar, clinical classes</p>

28.	<p>Semester 10</p> <p>Topic: Dental care for children with disabilities and with systemic diseases (part 1).</p> <p>1. Oral diseases and general health</p> <p>The potential impact of infectious lesions on general health</p> <p>Dental management in chronically ill patients</p> <p>General principles of antibiotic prophylaxis before surgery at risk of bacteraemia</p> <p>2. Patient with physical and intellectual disabilities with particular emphasis:</p> <p>Down Syndrome, Cerebral Palsy and Sensory Disability.</p> <p>-</p>	<p>W10, W11, W12, W14, W16, W3, W7, W8, W9, U1, U11, U13, U14, U15, U2, U3, U4, U6, U7, U9, K1, K2, K4, K6</p>	<p>seminar, clinical classes</p>
29.	<p>Semester 10</p> <p>Topic: Pediatric patient with systemic diseases: oral cavity image and dental management (part 2).</p> <p>Congenital heart disease</p> <p>infective endocarditis</p> <p>leukemias</p> <p>Anti cancer treatment</p> <p>Immunodeficiency</p> <p>Graft versus Host Disease (GvHD)</p> <p>Gastroesophageal reflux disease</p> <p>Inflammatory bowel disease</p> <p>Diabetes</p> <p>Hemorrhagic diathesis: Willebrand disease, hemophilia</p>	<p>W11, W12, W13, W14, W16, W19, W4, W6, W8, W9, U1, U11, U12, U13, U14, U15, U2, U3, U4, U6, U7, U8, K1, K2, K3, K4, K6</p>	<p>seminar, clinical classes</p>

30.	<p>Semester 10</p> <p>Topic: Pediatric patient with systemic diseases: oral cavity image and dental management (part 3).</p> <p>Hyperthyroidism Hypothyroidism Hyperparathyroidism Hypoparathyroidism Pituitary overactive Pituitary insufficiency Adrenal insufficiency Adrenal hyperfunction</p> <p>Acute renal failure Chronic renal failure Nephrotic Syndrome Bronchial asthma Cystic fibrosis Epilepsy</p>	W11, W12, W14, W16, W3, W4, W6, W8, W9, U1, U13, U14, U15, U2, U3, U4, U6, U7, U8, K1, K2, K3, K4, K6	seminar, clinical classes
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## Course advanced

### Semester 7

#### Teaching methods:

clinical classes, seminar

Activities	Examination methods	Credit conditions
seminar	theoretical colloquiums	Positive assessment of the resultant grades: from seminars, clinical classes, opinion of the assistant and test colloquium.
clinical classes	booklet of practical skills	1. Booklet of completed procedures, confirmed by the assistant's signature. 2. Student's assessment during classes including: theoretical knowledge and its application in practice, attitude towards the patient, active participation in classes.

### Semester 10

#### Teaching methods:

clinical classes, seminar

Activities	Examination methods	Credit conditions
seminar	credit	Positive grades from seminars.
clinical classes	classroom observation	Presence on clinical classes and opinion of the assistant based on components: correctness of procedures, ability to apply theoretical knowledge in practice, attitude towards the patient.

## Entry requirements

mandatory presence

## Sensory organ diseases with elements of neurology

### Educational subject description sheet

#### Basic information

<b>Department</b> Faculty of Medicine  <b>Field of study</b> Medical and Dental Program  <b>Study level</b> long-cycle master's degree program  <b>Study form</b> full-time  <b>Education profile</b> general academic  <b>Disciplines</b> Medical science  <b>ISCED classification</b> 0912 Medicine	<b>Didactic cycle</b> 2020/21  <b>Realization year</b> 2023/24  <b>Lecture languages</b> English  <b>Block</b> obligatory for passing in the course of studies  <b>Mandatory</b> obligatory  <b>Examination</b> examination  <b>Standard group</b> E. General clinical sciences (non-invasive)
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<b>Period</b> Semester 7	<b>Examination</b> -  <b>Activities and hours</b> seminar: 20, clinical classes: 20	<b>Number of ECTS points</b> 0.0
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<b>Period</b> Semester 8	<b>Examination</b> examination  <b>Activities and hours</b> clinical classes: 30, e-learning: 10	<b>Number of ECTS points</b> 3.0
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## Goals

C1	- familiarizing the students with issues concerning diseases of the ear, nose, paranasal sinuses, pharynx, larynx and salivary glands
C2	- knowledge of diseases of the nervous system that can cause ailments and symptoms in the facial skeleton
C3	- the ability to conduct a neurological examination in order to evaluate craniofacial diseases
C4	- the ability to provide emergency support in sudden nervous system symptoms
C5	- knowledge of neurological diseases that may influence preventive/surgical treatment in the oral cavity
C6	- creating proper ethical attitudes and the ability to communicate with patients and colleagues
C7	- teaching the students how to recognise the most vital symptoms of laryngological diseases
C8	- providing the knowledge on current treatment methods of the most serious laryngological diseases
C9	- familiarizing the students with the principles of procedure in otolaryngological emergencies
C10	- The aim of education is gaining knowledge and skills concerning diagnosis of ocular diseases, providing first aid in eye injuries, diagnosis of symptoms that require immediate specialist help and a proper choice of diagnostic tests with a interpretation of ophthalmological referral results

## Subject's learning outcomes

Code	Outcomes in terms of	Effects	Examination methods
<b>Knowledge - Student knows and understands:</b>			
W1	relationship between morphological abnormalities and the function of changed organs and systems, as well as clinical symptoms and possibilities of diagnostics and treatment	E.W1	written examination, multiple choice test
W2	basic methods of medical examination and the role of additional examinations in the diagnosis, monitoring, prognosis and prevention of organ and systemic disorders, with particular emphasis on their impact on oral tissues	E.W2	written examination, multiple choice test
W3	life-threatening conditions	E.W18	written examination, multiple choice test
W4	cases in which the patient should be referred to the hospital	E.W20	written examination, multiple choice test
W5	diagnostic principles of eye diseases, including eye injuries	E.W13	written examination, multiple choice test
W6	the role of focus-related infections in eye diseases	E.W14	written examination, multiple choice test
W7	neurological effects of chronic drug use	E.W6	written examination, multiple choice test
<b>Skills - Student can:</b>			
U1	carry out diagnostics of the most common diseases, assess and describe the patient's somatic and mental state	O.U1	written examination, multiple choice test
U2	perform differential diagnosis of the most common diseases of adults	E.U1	written examination, multiple choice test

U3	evaluate and describe the somatic and mental state of the patient	E.U2	written examination, multiple choice test
U4	plan diagnostic and therapeutic procedures for the most common adult diseases	E.U3	written examination, multiple choice test
U5	recognize the symptoms of brain injuries and cerebrovascular diseases, dementia and consciousness disorders	E.U10	written examination, multiple choice test
U6	diagnose headaches, facial pains and neurological diseases of adults and children causing problems in dental practice	E.U11	written examination, multiple choice test
U7	recognize the risk of life threat	E.U8	written examination, multiple choice test
U8	recognize diseases related to smoking addiction, alcoholism and other addictions	E.U17	written examination, multiple choice test
U9	diagnose diseases with enlarged lymph nodes of the neck and submandibular area and infectious diseases, with particular emphasis on lesions within the oral cavity	E.U18	written examination, multiple choice test
U10	communicate and share knowledge with colleagues in a team	O.U8	written examination, multiple choice test
U11	discuss and diagnose selected diseases of the optical and protective system of the eye	E.U19	written examination, multiple choice test
U12	provide preliminary diagnosis of neoplastic lesions in the nose, throat and larynx	E.U13	written examination, multiple choice test
U13	recognize nasopharyngeal diseases, their etiology and pathomechanism	E.U12	written examination, multiple choice test
<b>Social competences - Student is ready to:</b>			
K1	to establish and maintain deep and respectful contact with patients and to show understanding for differences in world views and cultures	O.K1	written examination, multiple choice test
K2	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	O.K4	written examination, multiple choice test

## Calculation of ECTS points

### Semester 7

Activity form	Activity hours*
seminar	20
clinical classes	20
preparation for classes	10
<b>Student workload</b>	<b>Hours</b> 50

<b>Workload involving teacher</b>	<b>Hours</b> 40
<b>Practical workload</b>	<b>Hours</b> 20

\* hour means 45 minutes

### Semester 8

<b>Activity form</b>	<b>Activity hours*</b>
clinical classes	30
e-learning	10
<b>Student workload</b>	<b>Hours</b> 40
<b>Workload involving teacher</b>	<b>Hours</b> 40
<b>Practical workload</b>	<b>Hours</b> 30

\* hour means 45 minutes

## Study content

<b>No.</b>	<b>Course content</b>	<b>Subject's learning outcomes</b>	<b>Activities</b>
1.	Stroke	W1, W3, W4, U1, U2, U5, K1	e-learning, clinical classes
2.	Tonsils and adenoids diseases	W1, W2, W3, W4, U1, U12, U13, U2, U3, U4, U7, K1	seminar, clinical classes
3.	Headaches	W1, W2, W3, W4, U1, U2, U3, U6, K1	seminar, e-learning, clinical classes
4.	Epilepsy	W1, W2, W3, W4, U1, U2, U3, U5, K1	clinical classes
5.	Degenerative brain diseases	W1, W2, W4, U1, U2, U3, U4, U5, K1	e-learning, clinical classes
6.	Selected diseases of the nervous system with symptoms in the facial skeleton and oral cavity	W1, W2, W3, W4, W7, U1, U2, U3, U6, K1	seminar, clinical classes
7.	History taking and neurological examination with an emphasis on evaluation of cranial nerves (3 h)	W1, W2, U1, U2, U3, K1	e-learning, clinical classes
8.	Clinical evaluation of patients with symptoms regarding cranial nerves (neuropathy, damage to the brain stem) (4 h)	W1, W2, W3, W4, U1, U2, U3, U5, K1	clinical classes
9.	Clinical evaluation of patients with neurological symptoms in the head (myasthenia gravis, myopathies, motor neurone disease, selected diseases of the extrapyramidal system) (4 h)	W1, W2, W3, W4, U1, U2, U3, U4, K1	e-learning, clinical classes

10.	Supportive procedures in life-threatening situations and in acute diseases of the nervous system (stroke, epileptic seizure, status epilepticus, cerebral oedema, syncope, acute pain syndromes) - clinical evaluation and discussion (4 h)	W1, W2, W3, W4, U1, U2, U3, U5, U6, K1	clinical classes
11.	Malignant tumors of the oral cavity, pharynx and larynx.	W1, W2, W3, W4, U1, U2, U3, U4, U7, U8, U9, K1	seminar, clinical classes
12.	Ear diseases and their treatment	W1, W2, W4, U1, U2, U3, U4, K1	seminar, clinical classes
13.	Diseases of the nose and paranasal sinuses	W1, W2, W3, W4, U1, U2, U3, U4, U7, K1	seminar, clinical classes
14.	Diseases of the salivary glands	W1, W2, U1, U2, U3, U4	seminar, clinical classes
15.	Emergencies in otolaryngology	W1, W3, W4, U1, U2, U3, U4, U7, K1	seminar, clinical classes
16.	Lectures: include revision of the information in the field of ocular anatomy and physiology, discussing main eye diseases that result in so called "red eye", diseases that cause sudden decrease of vision (acute ophthalmological condition) and chronic ophthalmological diseases that also result in loss of vision (cataract, glaucoma, macular disease). Practicals: include practical classes with examining patients suffering from various ophthalmological diseases using slit-lamp microscopes and ophthalmic eye speculums. Furthermore, the students are taught practical procedures in case of eye injuries, eyelid inversion, rinsing the conjunctival sac and applying an eye dressing.	W5, W6, U10, U11, K2	clinical classes

## Course advanced

### Semester 7

#### Teaching methods:

textual analysis, classes / practicals, clinical classes, demonstration, discussion, educational film, problem solving method, case study method, group work, assignments solving, seminar, Mentoring

Activities	Examination methods	Credit conditions
seminar	written examination	min. 60% pts. + 1
clinical classes	written examination	min. 60% pts. + 1

### Semester 8

#### Teaching methods:

case study, brainstorm, classes / practicals, clinical classes, discussion, educational film, case study method, presentation, group work, seminar, virtual patient, lecture, lecture with multimedia presentation, PBL Problem Based Learning, practical classes



Activities	Examination methods	Credit conditions
clinical classes	multiple choice test	Test exam covering "Sense organ disorders", including questions of neurology (15 questions), ophthalmology (15 questions) and laryngology (30 questions).
e-learning	multiple choice test	Test exam covering "Sense organ disorders"

### Entry requirements

Getting a credit for subjects: pathology, internal medicine diseases, general radiology, pharmacology Attendance at classes is obligatory, it is possible to have 1 absence at an otolaryngology seminar (2 hours) and at otolaryngology practicals (2 hours) and 1 absence at neurology practicals. It is obligatory to attend ophthalmology classes. It is possible to have 1 absence at practicals (2 hours).

## Infectious Diseases

### Educational subject description sheet

#### Basic information

<b>Department</b> Faculty of Medicine  <b>Field of study</b> Medical and Dental Program  <b>Study level</b> long-cycle master's degree program  <b>Study form</b> full-time  <b>Education profile</b> general academic  <b>Disciplines</b> Medical science  <b>ISCED classification</b> 0912 Medicine  <b>Subject related to scientific research</b> Yes	<b>Didactic cycle</b> 2020/21  <b>Realization year</b> 2023/24  <b>Lecture languages</b> English  <b>Block</b> obligatory for passing in the course of studies  <b>Mandatory</b> obligatory  <b>Examination</b> examination  <b>Standard group</b> E. General clinical sciences (non-invasive)
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<b>Period</b> Semester 8	<b>Examination</b> examination  <b>Activities and hours</b> e-learning: 10, seminar: 10, clinical classes: 10	<b>Number of ECTS points</b> 2.0
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#### Goals

C1	Knows and understand epidemiology, pathogenesis, clinical picture and treatment of selected infectious diseases. Knows methods of infectious diseases prophylaxis
C2	Knows and understand prophylaxis, including post-exposure prophylaxis in the case of occupational exposure
C3	Knows changes in the oral cavity caused by infectious diseases

#### Subject's learning outcomes

Code	Outcomes in terms of	Effects	Examination methods
<b>Knowledge - Student knows and understands:</b>			

W1	basic methods of medical examination and the role of additional examinations in the diagnosis, monitoring, prognosis and prevention of organ and systemic disorders, with particular emphasis on their impact on oral tissues	E.W2	group assessment, oral answer
W2	symptoms of acute abdominal diseases, intoxication, infection and sepsis	E.W7	group assessment, oral answer
W3	symptoms of hepatitis, HIV infection and acquired immune deficiency syndrome (AIDS) in infectious and parasitic diseases	E.W8	group assessment, oral answer
W4	principles of immunization against infectious diseases in children and adults	E.W9	group assessment, oral answer
W5	the role of focus-related infections in eye diseases	E.W14	oral answer
<b>Skills - Student can:</b>			
U1	plan the management of exposure to blood-borne infections	E.U6	group assessment, oral answer
U2	recognize the risk of life threat	E.U8	group assessment, oral answer
U3	diagnose diseases with enlarged lymph nodes of the neck and submandibular area and infectious diseases, with particular emphasis on lesions within the oral cavity	E.U18	group assessment, oral answer
U4	diagnose and treat skin diseases: infectious, allergic and sexually transmitted	E.U14	oral answer
<b>Social competences - Student is ready to:</b>			
K1	to be guided by the well-being of a patient	O.K2	group assessment, oral answer
K2	respect medical confidentiality and patients' rights	O.K3	group assessment, oral answer
K3	promote health-promoting behaviors	O.K6	group assessment, oral answer
K4	use objective sources of information	O.K7	group assessment, oral answer

### Calculation of ECTS points

Activity form	Activity hours*
e-learning	10
seminar	10
clinical classes	10
preparation for classes	10
preparation for examination	20

<b>Student workload</b>	<b>Hours</b> 60
<b>Workload involving teacher</b>	<b>Hours</b> 30
<b>Practical workload</b>	<b>Hours</b> 10

\* hour means 45 minutes

## Study content

No.	Course content	Subject's learning outcomes	Activities
1.	Current epidemiological problems of infectious diseases in Poland and on the World. New and reemerging infectious diseases	W1, W5, U2, U4, K3, K4	seminar, clinical classes
2.	HIV infection, AIDS	W3, U1, U2, K1, K2, K3, K4	e-learning, clinical classes
3.	Highly contagious infectious diseases (influenza, SARS, COVID-19)	W4, U2, K3, K4	seminar, clinical classes
4.	Selected infectious diseases of the Central Nervous System	W1, U2	e-learning, clinical classes
5.	Viral hepatitis	W2, W3, W4, U1, K3	e-learning, clinical classes
6.	Post-exposure prophylaxis of HIV, HBV, HCV	U1	seminar, clinical classes
7.	Immunoprophylaxis of infectious diseases	W4, K4	e-learning, clinical classes
8.	Sepsis and septic shock	W2, U2, K1	seminar, clinical classes
9.	Infectious diseases with changes in oral cavity	W1, U3	seminar, clinical classes

## Course advanced

### Teaching methods:

clinical classes, seminar, lecture with multimedia presentation

Activities	Examination methods	Credit conditions
e-learning	group assessment	Student must attend all bedside and seminar
seminar	oral answer	Concerning the knowledge: a written multiple-choice test
clinical classes	oral answer	Attendance

## Entry requirements

Fellows will be able and expected to: knows and understand epidemiology, pathogenesis, clinical picture and treatment of selected infectious diseases; knows methods of infectious diseases prophylaxis; knows and understand prophylaxis, including post-exposure prophylaxis in the case of occupational exposure; knows changes in the oral cavity caused by infectious diseases

Attendance at lectures, seminars and clinical classes is obligatory

## Maxillofacial surgery

### Educational subject description sheet

#### Basic information

<b>Department</b> Faculty of Medicine  <b>Field of study</b> Medical and Dental Program  <b>Study level</b> long-cycle master's degree program  <b>Study form</b> full-time  <b>Education profile</b> general academic  <b>Disciplines</b> Medical science  <b>ISCED classification</b> 0911 Dental studies  <b>Subject related to scientific research</b> Yes	<b>Didactic cycle</b> 2020/21  <b>Realization year</b> 2023/24, 2024/25  <b>Lecture languages</b> English  <b>Block</b> obligatory for passing in the course of studies  <b>Mandatory</b> obligatory  <b>Examination</b> examination  <b>Standard groups</b> F. Clinical curriculum-oriented (invasive) sciences, H. Clinical training
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<b>Period</b> Semester 8	<b>Examination</b> credit  <b>Activities and hours</b> e-learning: 12, clinical classes: 55	<b>Number of ECTS points</b> 3.0
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<b>Period</b> Semester 9	<b>Examination</b> -  <b>Activities and hours</b> clinical classes: 55	<b>Number of ECTS points</b> 0.0
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<b>Period</b> Semester 10	<b>Examination</b> examination  <b>Activities and hours</b> clinical classes: 5	<b>Number of ECTS points</b> 4.0
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## Goals

C1	Students are taught to examine patients with pathologies of the face, oral cavity and neck.
C2	The principles of clinical diagnostics with elements of differentiation diagnosis in patients with injuries of the facial skeleton and tumours of the face, oral cavity and the facial skeleton are explained.
C3	The principles of diagnostics and surgical treatment of the pathologies of head and neck are taught.

## Subject's learning outcomes

Code	Outcomes in terms of	Effects	Examination methods
<b>Knowledge - Student knows and understands:</b>			
W1	issues in the field of medicine and natural sciences – in the basic scope	O.W1	booklet of practical skills, written examination, theoretical colloquiums, oral answer, clinical case presentation, credit
W2	issues in dentistry – at an advanced level	O.W2	booklet of practical skills, written examination, theoretical colloquiums, oral answer, clinical case presentation, credit
W3	health education issues	O.W3	booklet of practical skills, written examination, theoretical colloquiums, oral answer, clinical case presentation, credit
W4	the rules of conducting scientific research and spreading their results	O.W4	booklet of practical skills, written examination, theoretical colloquiums, oral answer, clinical case presentation, credit
W5	organization of dentist practice and management principles in healthcare	O.W5	booklet of practical skills, written examination, theoretical colloquiums, oral answer, clinical case presentation, credit
W6	occlusal normal conditions at various stages of individual development and deviations from norms	F.W1	booklet of practical skills, written examination, theoretical colloquiums, oral answer, clinical case presentation, credit
W7	principles of preventive and therapeutic management in diseases of the masticatory organ in various periods of development	F.W2	booklet of practical skills, written examination, theoretical colloquiums, oral answer, clinical case presentation, credit
W8	viral, bacterial and fungal flora of the oral cavity and its importance	F.W3	booklet of practical skills, written examination, theoretical colloquiums, oral answer, clinical case presentation, credit

W9	symptoms, course and procedures in specific diseases of the mouth, head and neck, taking into account age groups	F.W4	booklet of practical skills, written examination, theoretical colloquiums, oral answer, clinical case presentation, credit
W10	rules of conduct in the case of pulp and mineralized dental tissues, as well as trauma to the teeth and bones of the face	F.W5	booklet of practical skills, written examination, theoretical colloquiums, oral answer, clinical case presentation, credit
W11	rules for dealing with cysts, precancerous conditions, and head and neck cancers	F.W8	booklet of practical skills, written examination, theoretical colloquiums, oral answer, clinical case presentation, credit
W12	causes of complications of stomatognathic system diseases and rules of conduct in case of such complications	F.W12	booklet of practical skills, written examination, theoretical colloquiums, oral answer, clinical case presentation, credit
W13	basics of antibiotic therapy and antibiotic resistance	F.W13	booklet of practical skills, written examination, theoretical colloquiums, oral answer, clinical case presentation, credit
W14	methods of rehabilitation of the masticatory organ	F.W14	booklet of practical skills, written examination, theoretical colloquiums, oral answer, clinical case presentation, credit
W15	therapeutic methods of reducing and enduring pain as well as reducing anxiety and stress	F.W15	booklet of practical skills, written examination, theoretical colloquiums, oral answer, clinical case presentation, credit
W16	principles of anesthesia in dental procedures and basic pharmacological agents	F.W16	booklet of practical skills, written examination, theoretical colloquiums, oral answer, clinical case presentation, credit
W17	principles of radiological diagnosis	F.W18	booklet of practical skills, written examination, theoretical colloquiums, oral answer, clinical case presentation, credit
W18	pathomechanism of the impact of oral diseases on general health	F.W19	booklet of practical skills, written examination, theoretical colloquiums, oral answer, clinical case presentation, credit
W19	prevention of oral diseases	F.W21	booklet of practical skills, written examination, theoretical colloquiums, oral answer, clinical case presentation, credit

W20	rules for dealing with masticatory organ tissue diseases, injuries to teeth and jawbones	F.W22	booklet of practical skills, written examination, theoretical colloquiums, oral answer, clinical case presentation, credit
W21	the specificity of dental care for a patient suffering from a general disease and the principles of cooperation with a doctor treating the underlying disease	F.W23	booklet of practical skills, written examination, theoretical colloquiums, oral answer, clinical case presentation, credit
<b>Skills - Student can:</b>			
U1	carry out diagnostics of the most common diseases, assess and describe the patient's somatic and mental state	O.U1	booklet of practical skills, written examination, theoretical colloquiums, oral answer, clinical case presentation, credit
U2	provide professional dental care in the field of prevention, treatment, health promotion and health education	O.U2	booklet of practical skills, written examination, theoretical colloquiums, oral answer, clinical case presentation, credit
U3	plan treatment for dental problems	O.U3	booklet of practical skills, written examination, theoretical colloquiums, oral answer, clinical case presentation, credit
U4	conduct clinical proceedings based on knowledge and respecting the principles of humanitarianism	O.U4	booklet of practical skills, written examination, theoretical colloquiums, oral answer, clinical case presentation, credit
U5	plan own learning activities and constantly learn in order to update own knowledge	O.U5	booklet of practical skills, written examination, theoretical colloquiums, oral answer, clinical case presentation, credit
U6	inspire the learning process of others	O.U6	booklet of practical skills, written examination, theoretical colloquiums, oral answer, clinical case presentation, credit
U7	communicate with the patient and his family in an atmosphere of trust, taking into account the needs of the patient	O.U7	booklet of practical skills, written examination, theoretical colloquiums, oral answer, clinical case presentation, credit
U8	communicate and share knowledge with colleagues in a team	O.U8	booklet of practical skills, written examination, theoretical colloquiums, oral answer, clinical case presentation, credit
U9	critically evaluate the results of scientific research and adequately justify the position	O.U9	booklet of practical skills, written examination, theoretical colloquiums, oral answer, clinical case presentation, credit



U10	carry out a medical interview with the patient and his or her family	F.U1	booklet of practical skills, written examination, theoretical colloquiums, oral answer, clinical case presentation, credit
U11	carry out a dental physical examination of the patient	F.U2	booklet of practical skills, written examination, theoretical colloquiums, oral answer, clinical case presentation, credit
U12	explain the nature of his or her ailment to the patient, determine the method of treatment confirmed by the patient's informed consent and prognosis	F.U3	booklet of practical skills, written examination, theoretical colloquiums, oral answer, clinical case presentation, credit
U13	provide the patient or his or her family with information about unfavorable prognosis	F.U4	booklet of practical skills, written examination, theoretical colloquiums, oral answer, clinical case presentation, credit
U14	collect and secure specimens for diagnostic tests, including cytological tests	F.U5	booklet of practical skills, written examination, theoretical colloquiums, oral answer, clinical case presentation, credit
U15	interpret the results of additional tests and consultations	F.U6	booklet of practical skills, written examination, theoretical colloquiums, oral answer, clinical case presentation, credit
U16	determine the indications and contraindications for performing a specific dental procedure	F.U7	booklet of practical skills, written examination, theoretical colloquiums, oral answer, clinical case presentation, credit
U17	conduct treatment of acute and chronic, odontogenic and non-odontogenic inflammatory processes of soft tissues of the oral cavity, periodontium and jaw bones	F.U8	booklet of practical skills, written examination, theoretical colloquiums, oral answer, clinical case presentation, credit
U18	proceed in case of general and local complications during and after dental procedures	F.U9	booklet of practical skills, written examination, theoretical colloquiums, oral answer, clinical case presentation, credit
U19	prescribe medicines, taking into account their interactions and side-effects	F.U10	booklet of practical skills, written examination, theoretical colloquiums, oral answer, clinical case presentation, credit
U20	keep patient records on ongoing basis, provide referrals for examination or specialist treatment in dental and general medicine	F.U11	booklet of practical skills, written examination, theoretical colloquiums, oral answer, clinical case presentation, credit

U21	formulate research problems in the field of dentistry	F.U12	booklet of practical skills, written examination, theoretical colloquiums, oral answer, clinical case presentation, credit
U22	present selected medical problems in oral or written form in a manner appropriate to the level of recipients	F.U13	booklet of practical skills, written examination, theoretical colloquiums, oral answer, clinical case presentation, credit
U23	determine the treatment of diseases of tissues of the stomatognathic system	F.U15	booklet of practical skills, written examination, theoretical colloquiums, oral answer, clinical case presentation, credit
U24	take appropriate medication during and after the dental procedure to relieve pain and anxiety	F.U16	booklet of practical skills, written examination, theoretical colloquiums, oral answer, clinical case presentation, credit
U25	diagnose, differentiate and classify malocclusions	F.U18	booklet of practical skills, written examination, theoretical colloquiums, oral answer, clinical case presentation, credit
U26	carry out prosthetic rehabilitation in simple cases in the field of clinical and laboratory procedures	F.U22	booklet of practical skills, written examination, theoretical colloquiums, oral answer, clinical case presentation, credit
U27	describe dental and pantomographic images	F.U23	booklet of practical skills, written examination, theoretical colloquiums, oral answer, clinical case presentation, credit
<b>Social competences - Student is ready to:</b>			
K1	to establish and maintain deep and respectful contact with patients and to show understanding for differences in world views and cultures	O.K1	booklet of practical skills, written examination, theoretical colloquiums, oral answer, clinical case presentation, credit
K2	to be guided by the well-being of a patient	O.K2	booklet of practical skills, written examination, theoretical colloquiums, oral answer, clinical case presentation, credit
K3	respect medical confidentiality and patients' rights	O.K3	booklet of practical skills, written examination, theoretical colloquiums, oral answer, clinical case presentation, credit
K4	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	O.K4	booklet of practical skills, written examination, theoretical colloquiums, oral answer, clinical case presentation, credit

K5	perceive and recognize own limitations, self-assess educational deficits and needs	O.K5	booklet of practical skills, written examination, theoretical colloquiums, oral answer, clinical case presentation, credit
K6	promote health-promoting behaviors	O.K6	booklet of practical skills, written examination, theoretical colloquiums, oral answer, clinical case presentation, credit
K7	use objective sources of information	O.K7	booklet of practical skills, written examination, theoretical colloquiums, oral answer, clinical case presentation, credit
K8	formulate conclusions from own measurements or observations	O.K8	booklet of practical skills, written examination, theoretical colloquiums, oral answer, clinical case presentation, credit
K9	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	O.K9	booklet of practical skills, written examination, theoretical colloquiums, oral answer, clinical case presentation, credit
K10	formulate opinions on the various aspects of the professional activity	O.K10	booklet of practical skills, written examination, theoretical colloquiums, oral answer, clinical case presentation, credit
K11	assume responsibility for decisions taken in the course of their professional activities, including in terms of the safety of oneself and others.	O.K11	booklet of practical skills, written examination, theoretical colloquiums, oral answer, clinical case presentation, credit

## Calculation of ECTS points

### Semester 8

Activity form	Activity hours*
e-learning	12
clinical classes	55
preparation for classes	8
conducting literature research	2
case analysis	1
preparation for test	10

preparation for colloquium	2
<b>Student workload</b>	<b>Hours</b> 90
<b>Workload involving teacher</b>	<b>Hours</b> 67
<b>Practical workload</b>	<b>Hours</b> 56

\* hour means 45 minutes

### Semester 9

Activity form	Activity hours*
clinical classes	55
preparation for classes	10
preparation for test	8
case analysis	5
preparation for colloquium	10
conducting literature research	2
<b>Student workload</b>	<b>Hours</b> 90
<b>Workload involving teacher</b>	<b>Hours</b> 55
<b>Practical workload</b>	<b>Hours</b> 60

\* hour means 45 minutes

### Semester 10

Activity form	Activity hours*
clinical classes	5
case analysis	5
preparation for examination	20
<b>Student workload</b>	<b>Hours</b> 30
<b>Workload involving teacher</b>	<b>Hours</b> 5

<b>Practical workload</b>	<b>Hours</b> 10
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\* hour means 45 minutes

### Study content

No.	Course content	Subject's learning outcomes	Activities
1.	Soft tissues injuries of the face.Treatment. Complications. Tetanus and rabies profilaxis.	W1, W12, W13, W14, W15, W16, W17, W18, W20, W3, W4, W7, W8, W9, U1, U10, U11, U12, U13, U14, U15, U16, U17, U18, U19, U20, U21, U22, U23, U24, U27, U4, U5, U6, U7, U8, U9, K1, K10, K11, K2, K3, K4, K5, K6, K7, K8, K9	e-learning, clinical classes
2.	Nasal, maxillary and naso-maxillary fractures. Symptomes, diagnostics, treatment.	W1, W10, W12, W13, W14, W15, W16, W17, W18, W19, W2, W20, W21, W3, W4, W5, W6, W7, W8, W9, U1, U10, U11, U12, U13, U14, U15, U16, U17, U18, U19, U2, U20, U21, U22, U23, U24, U25, U26, U27, U3, U4, U5, U6, U7, U8, U9, K1, K10, K11, K2, K3, K4, K5, K6, K7, K8, K9	e-learning, clinical classes
3.	Orbital and zygomatic fractures. Symptoms. Diagnostics. Treatment.	W1, W10, W12, W13, W14, W15, W16, W17, W18, W19, W2, W20, W3, W4, W6, W7, W8, W9, U1, U10, U11, U12, U13, U14, U15, U16, U17, U18, U19, U2, U20, U21, U22, U23, U24, U25, U26, U27, U3, U4, U5, U6, U7, U8, U9, K1, K10, K11, K2, K3, K4, K5, K6, K7, K8, K9	e-learning, clinical classes
4.	Mandibular fractures, symptoms, treatment. Injuries of the facial skeleton in children. Teeth injuries.	W1, W10, W12, W13, W14, W15, W16, W17, W18, W19, W2, W20, W3, W4, W5, W6, W7, W8, W9, U1, U10, U11, U12, U13, U14, U15, U16, U17, U18, U19, U2, U20, U21, U22, U23, U24, U25, U26, U27, U3, U4, U5, U6, U7, U8, U9, K1, K10, K11, K2, K3, K4, K5, K6, K7, K8, K9	e-learning, clinical classes

5.	Complications of the facial skeleton fractures. Multiorgan injuries of the face. Central nervous system injuries. Burns.	W1, W10, W12, W13, W14, W15, W16, W17, W18, W19, W2, W20, W3, W4, W5, W6, W7, W8, W9, U1, U10, U11, U12, U13, U14, U15, U16, U17, U18, U19, U2, U20, U21, U22, U23, U24, U25, U26, U27, U3, U4, U5, U6, U7, U8, U9, K1, K10, K11, K2, K3, K4, K5, K6, K7, K8, K9	e-learning, clinical classes
6.	Congenital malformations and syndromes. Symptoms, diagnostics, team approach in the treatment of congenital malformations. Basic principles of plastic surgery.	W1, W10, W11, W12, W13, W14, W15, W16, W17, W18, W19, W2, W20, W3, W4, W5, W6, W7, W8, W9, U1, U10, U11, U12, U13, U14, U15, U16, U17, U18, U19, U2, U20, U21, U22, U23, U24, U25, U26, U27, U3, U4, U5, U6, U7, U8, U9, K1, K10, K11, K2, K3, K4, K5, K6, K7, K8, K9	e-learning, clinical classes
7.	Temporo-mandibular joint disorders. Symptoms, diagnostics, treatment.	W1, W10, W12, W13, W14, W15, W16, W17, W18, W19, W2, W20, W3, W4, W5, W6, W7, W8, W9, U1, U10, U11, U12, U13, U14, U15, U16, U17, U18, U19, U2, U20, U21, U22, U23, U24, U25, U26, U27, U3, U4, U5, U6, U7, U8, U9, K1, K10, K11, K2, K3, K4, K5, K6, K7, K8, K9	e-learning, clinical classes
8.	Cranial nerves diseases. Symptoms, diagnostics, treatment. Inflammations of the head and neck region.	W1, W10, W11, W12, W13, W14, W15, W16, W17, W18, W19, W2, W20, W3, W4, W5, W6, W7, W8, W9, U1, U10, U11, U12, U13, U14, U15, U16, U17, U18, U19, U2, U20, U21, U22, U23, U24, U25, U26, U27, U3, U4, U5, U6, U7, U8, U9, K1, K10, K11, K2, K3, K4, K5, K6, K7, K8, K9	e-learning, clinical classes
9.	Benign neoplasms of the face and oral cavity. Haemangiomas. Odontogenic tumours. Symptoms, diagnostics, treatment.	W1, W11, W12, W13, W14, W15, W16, W17, W18, W19, W2, W20, W3, W4, W5, W7, W8, W9, U1, U10, U11, U12, U13, U14, U15, U16, U17, U18, U19, U2, U20, U21, U22, U23, U24, U25, U26, U27, U3, U4, U5, U6, U7, U8, U9, K1, K10, K11, K2, K3, K4, K5, K6, K7, K8, K9	e-learning, clinical classes

10.	Lip cancer. Symptoms, diagnostics, treatment. Diagnostics of neck metastases. Neck dissections.	W1, W10, W11, W12, W13, W14, W15, W16, W17, W18, W19, W2, W20, W3, W4, W5, W7, W8, W9, U1, U10, U11, U12, U13, U14, U15, U16, U17, U18, U19, U2, U20, U21, U22, U23, U24, U25, U26, U27, U3, U4, U5, U6, U7, U8, U9, K1, K10, K11, K2, K3, K4, K5, K6, K7, K8, K9	e-learning, clinical classes
11.	Malignant epithelial tumours of the oral cavity (cancer of the tongue, floor of the mouth, buccal mucosa, lower gingiva, primary cancer of the mandible). Symptoms, diagnostics, treatment.	W1, W10, W11, W12, W13, W14, W15, W16, W17, W18, W19, W2, W20, W3, W4, W5, W7, W8, W9, U1, U10, U11, U12, U13, U14, U15, U16, U17, U18, U19, U2, U20, U21, U22, U23, U24, U25, U26, U27, U3, U4, U5, U6, U7, U8, U9, K1, K10, K11, K2, K3, K4, K5, K6, K7, K8, K9	e-learning, clinical classes
12.	Maxillary cancer. Symptoms, diagnostics, treatment.	W1, W10, W11, W12, W13, W14, W15, W16, W17, W18, W19, W2, W20, W3, W4, W5, W6, W7, W8, W9, U1, U10, U11, U12, U13, U14, U15, U16, U17, U18, U19, U2, U20, U21, U22, U23, U24, U25, U26, U27, U3, U4, U5, U6, U7, U8, U9, K1, K10, K11, K2, K3, K4, K5, K6, K7, K8, K9	e-learning, clinical classes
13.	Nonepithelial malignant tumours of the head and neck. Symptoms, diagnostics, treatment.	W1, W10, W11, W12, W13, W14, W15, W16, W17, W18, W19, W2, W20, W3, W4, W5, W7, W8, W9, U1, U10, U11, U12, U13, U14, U15, U16, U17, U18, U19, U2, U20, U21, U22, U23, U24, U25, U26, U27, U3, U4, U5, U6, U7, U8, U9, K1, K10, K11, K2, K3, K4, K5, K6, K7, K8, K9	e-learning, clinical classes
14.	Salivary glands tumours. Symptoms, diagnostics, treatment.	W1, W10, W11, W12, W13, W14, W15, W16, W17, W18, W19, W2, W20, W3, W4, W5, W7, W8, W9, U1, U10, U11, U12, U13, U14, U15, U16, U17, U18, U19, U2, U20, U21, U22, U23, U24, U25, U26, U27, U3, U4, U5, U6, U7, U8, U9, K1, K10, K11, K2, K3, K4, K5, K6, K7, K8, K9	e-learning, clinical classes

15.	Facial skin tumours. Symptoms, diagnostics, treatment.	W1, W11, W12, W13, W14, W15, W16, W17, W18, W19, W2, W20, W3, W4, W7, W8, W9, U1, U10, U11, U12, U13, U14, U15, U16, U17, U18, U19, U2, U20, U21, U22, U23, U24, U25, U26, U27, U3, U4, U5, U6, U7, U8, U9, K1, K10, K11, K2, K3, K4, K5, K6, K7, K8, K9	e-learning, clinical classes
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## Course advanced

### Semester 8

#### Teaching methods:

case study, brainstorm, clinical classes, demonstration, discussion, educational film, problem solving method, case study method, group work, trip, lecture, lecture with multimedia presentation, practical classes, Obligatory attendance in case of missed classes, obligatory retake test in case of test failure, all theoretical topics passed, one case history presented and passed.

Activities	Examination methods	Credit conditions
e-learning	credit	Obligatory attendance at all lectures
clinical classes	booklet of practical skills, theoretical colloquiums, oral answer	Obligatory attendance in case of missed classes, obligatory retake test in case of test failure, all theoretical topics passed, one case history presented and passed.

### Semester 9

#### Teaching methods:

case study, brainstorm, clinical classes, demonstration, discussion, problem solving method, case study method, group work, trip, lecture with multimedia presentation, practical classes, Obligatory attendance in case of missed classes, obligatory retake test in case of test failure, all theoretical topics passed, one case history presented and passed.

Activities	Examination methods	Credit conditions
clinical classes	booklet of practical skills, theoretical colloquiums, oral answer	Obligatory attendance in case of missed classes, obligatory retake test in case of test failure, all theoretical test passed.

### Semester 10

#### Teaching methods:

clinical classes, practical classes, Obligatory attendance in case of missed classes, obligatory retake test in case of test failure, all theoretical topics passed, one case history presented and passed.



Activities	Examination methods	Credit conditions
clinical classes	booklet of practical skills, written examination, clinical case presentation	Obligatory attendance in case of missed classes, obligatory retake test in case of test failure, all theoretical topics passed, one case history presented and passed, passed exam in oral surgery at the Department of Oral Surgery of the Institute of Stomatology of the Jagiellonian University.

## Clinical and experimental dentistry

### Educational subject description sheet

#### Basic information

<b>Department</b> Faculty of Medicine  <b>Field of study</b> Medical and Dental Program  <b>Study level</b> long-cycle master's degree program  <b>Study form</b> full-time  <b>Education profile</b> general academic  <b>Disciplines</b> Medical science  <b>ISCED classification</b> 0911 Dental studies  <b>Subject related to scientific research</b> Yes	<b>Didactic cycle</b> 2020/21  <b>Realization year</b> 2023/24  <b>Lecture languages</b> English  <b>Block</b> obligatory for passing in the course of studies  <b>Mandatory</b> obligatory  <b>Examination</b> graded credit  <b>Standard group</b> F. Clinical curriculum-oriented (invasive) sciences
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<b>Period</b> Semester 8	<b>Examination</b> graded credit  <b>Activities and hours</b> seminar: 30	<b>Number of ECTS points</b> 3.0
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#### Goals

C1	<p>The program of „Clinical and Experimental Dentistry” has been designed to give a profound foundation for the students to use “evidence based dentistry” tools in their everyday clinical practice. Students learn how to make clinical decision on the basis of data coming from articles from basic and clinical sciences. Students are taught to use medical data basis to search for the valuable information and use critical thinking methods to assess gathered information. The program includes teaching the basis of laboratory technique such as: flow cytometry, ELISA, immune-histo chemistry and molecular biology technique as PCR, RT-PCR. The meaning of basic models as: animal models and cell culture for the development of new treatment and drugs is discussed. Students are also taught how to make scientific presentation in Power Point, how to present your research or clinical data, how to analyse data basis and how to write scientific article using “Word” and „EndNote”.</p>
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#### Subject's learning outcomes

Code	Outcomes in terms of	Effects	Examination methods
<b>Knowledge - Student knows and understands:</b>			
W1	the rules of conducting scientific research and spreading their results	O.W4	credit
W2	issues in the field of medicine and natural sciences - in the basic scope	O.W1	credit
<b>Skills - Student can:</b>			
U1	plan own learning activities and constantly learn in order to update own knowledge	O.U5	credit
U2	inspire the learning process of others	O.U6	credit
U3	communicate and share knowledge with colleagues in a team	O.U8	credit
U4	formulate research problems in the field of dentistry	F.U12	credit
U5	critically evaluate the results of scientific research and adequately justify the position	O.U9	credit
U6	present selected medical problems in oral or written form in a manner appropriate to the level of recipients	F.U13	credit
<b>Social competences - Student is ready to:</b>			
K1	use objective sources of information	O.K7	credit
K2	formulate opinions on the various aspects of the professional activity	O.K10	credit
K3	assume responsibility for decisions taken in the course of their professional activities, including in terms of the safety of oneself and others.	O.K11	credit
K4	perceive and recognize own limitations, self-assess educational deficits and needs	O.K5	credit
K5	formulate conclusions from own measurements or observations	O.K8	credit
K6	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	O.K9	credit

### Calculation of ECTS points

Activity form	Activity hours*
seminar	30
preparation for classes	20
preparation of a project	15
information collection	10
<b>Student workload</b>	<b>Hours</b> 75

<b>Workload involving teacher</b>	<b>Hours</b> 30
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\* hour means 45 minutes

### Study content

<b>No.</b>	<b>Course content</b>	<b>Subject's learning outcomes</b>	<b>Activities</b>
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1.	<p>Seminar 1. evidence based medicine – introduction. Posing a question why clinicians need science tools to be good practitioners? Introduction to basic terms of clinical and experimental dentistry: evidence based medicine, translational medicine.</p> <p>Seminar 2. Do we know how we treat? How are guidelines created? Why do we need guidelines? Benefits and pitfalls of basic science studies in dentistry. Benefits and pitfalls of clinical studies in dentistry.</p> <p>Seminar 3. How to design an experiment – basic science studies? How to design an experiment – clinical studies? Power analysis. Inclusion and exclusion criteria.</p> <p>Seminar 4. How to write the paper? Types of papers: reviews, original papers and their structures.</p> <p>Seminar 5. How to find the right paper and how to read it? Introduction to online databases – Medline, PubMed, Cochrane. Critical assessment of the value of scientific evidence. Explanation of the system of validation of papers IF (impact factor), index KBN/MNiSW, index Copernicus (IC)</p> <p>Seminar 6. Task oriented database searches: Students subdivided in groups are given problem oriented questions for which they need to find answers through medical database searches.</p> <p>Seminar 7. How to make an interesting presentation? Types of presentation and their structures. Practice of the public presentation</p> <p>Seminar 8. Ability to critically read, understand and present scientific papers. “Journal club” approach – each of the students present scientific paper in dentistry and answer questions of the viewers after the presentation.</p> <p>Seminar 9. scientific techniques: 1) Molecular biology in dentistry. Basics of PCR and how we can use it for diagnostics and science. Genetics and dentistry. 2) Animal models of oral diseases. Animal models of periodontal diseases. 3) Flow cytometry</p> <p>Seminar 10. Funding for clinical and experimental dentistry – national funds. Funding for clinical and experimental dentistry – European Union funds. Basic rules of applying for grants.</p>	W1, W2, U1, U2, U3, U4, U5, U6, K1, K2, K3, K4, K5, K6	seminar
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## Course advanced

### Teaching methods:

textual analysis, classes / practicals, computer classes, demonstration, discussion, e-learning, problem solving method, project method, case study method, presentation, group work, computer room

<b>Activities</b>	<b>Examination methods</b>	<b>Credit conditions</b>
seminar	credit	

### **Entry requirements**

no initial requirements to enter the course

## Disaster and Emergency Medicine

### Educational subject description sheet

#### Basic information

<b>Department</b> Faculty of Medicine  <b>Field of study</b> Medical and Dental Program  <b>Study level</b> long-cycle master's degree program  <b>Study form</b> full-time  <b>Education profile</b> general academic  <b>Disciplines</b> Medical science  <b>ISCED classification</b> 0912 Medicine	<b>Didactic cycle</b> 2020/21  <b>Realization year</b> 2023/24  <b>Lecture languages</b> English  <b>Block</b> obligatory for passing in the course of studies  <b>Mandatory</b> obligatory  <b>Examination</b> graded credit  <b>Standard group</b> E. General clinical sciences (non-invasive)
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<b>Period</b> Semester 8	<b>Examination</b> graded credit  <b>Activities and hours</b> e-learning: 10, seminar: 10, simulations: 10	<b>Number of ECTS points</b> 2.0
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#### Goals

C1	Preparing students for correct and independent recognition of internal and external life threatening situations. This preparation includes in particular the recognition and connection of diseases with performed dental procedures (life-threatening states caused by toxicological factors) and the ability to save lives in everyday situations.
C2	Developing awareness and skills of organization and conducting cardiopulmonary resuscitation in adults and children.

#### Subject's learning outcomes

Code	Outcomes in terms of	Effects	Examination methods
<b>Knowledge - Student knows and understands:</b>			
W1	issues in the field of medicine and natural sciences - in the basic scope	O.W1	test

W2	organization of dentist practice and management principles in healthcare	O.W5	test
W3	rules for organizing rescue operations in disasters and failures, stages of rescue operations and the scope of assistance to victims	E.W5	classroom observation, test
W4	rules for dealing with victims in multi-organ injuries	E.W4	classroom observation, test
W5	etiopathogenesis and symptomatology of respiratory, circulatory, hematopoietic, genitourinary, immune, digestive, motor and endocrine glands diseases, with particular regard to disease entities whose symptoms occur in the oral cavity	E.W3	test
W6	relationship between morphological abnormalities and the function of changed organs and systems, as well as clinical symptoms and possibilities of diagnostics and treatment	E.W1	classroom observation, test
W7	life-threatening conditions	E.W18	practical test, test
W8	basic methods of medical examination and the role of additional examinations in the diagnosis, monitoring, prognosis and prevention of organ and systemic disorders, with particular emphasis on their impact on oral tissues	E.W2	classroom observation, practical test, test
W9	cases in which the patient should be referred to the hospital	E.W20	practical test, test
W10	causes and mechanisms of cardiac and respiratory arrest as well as principles of resuscitation and post-resuscitation procedures	E.W17	classroom observation, test
<b>Skills - Student can:</b>			
U1	carry out diagnostics of the most common diseases, assess and describe the patient's somatic and mental state	O.U1	classroom observation, practical test, test
U2	conduct clinical proceedings based on knowledge and respecting the principles of humanitarianism	O.U4	classroom observation
U3	plan own learning activities and constantly learn in order to update own knowledge	O.U5	classroom observation
U4	communicate with the patient and his family in an atmosphere of trust, taking into account the needs of the patient	O.U7	classroom observation, practical test
U5	communicate and share knowledge with colleagues in a team	O.U8	classroom observation
U6	perform differential diagnosis of the most common diseases of adults	E.U1	classroom observation, practical test, test
U7	evaluate and describe the somatic and mental state of the patient	E.U2	classroom observation, test
U8	plan diagnostic and therapeutic procedures for the most common adult diseases	E.U3	classroom observation, practical test, test
U9	recognize the risk of life threat	E.U8	classroom observation, practical test, test
U10	describe and recognise signs of shock and acute circulatory failure	E.U9	classroom observation, practical test, test



U11	perform basic medical procedures and procedures: temperature measurement, pulse measurement, non-invasive blood pressure measurement, oxygen therapy, assisted and substitute ventilation, placement of a oropharyngeal tube, preparation of the surgical field, hygienic and surgical hand disinfection, intravenous, intramuscular and subcutaneous injection, peripheral venous blood collection, collecting nasal, pharyngeal and dermal swabs, simple strip tests, measurement of blood glucose levels	E.U20	classroom observation, test
U12	recognize the symptoms of brain injuries and cerebrovascular diseases, dementia and consciousness disorders	E.U10	classroom observation, practical test
<b>Social competences - Student is ready to:</b>			
K1	to establish and maintain deep and respectful contact with patients and to show understanding for differences in world views and cultures	O.K1	classroom observation
K2	to be guided by the well-being of a patient	O.K2	classroom observation
K3	respect medical confidentiality and patients' rights	O.K3	classroom observation
K4	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	O.K4	classroom observation
K5	perceive and recognize own limitations, self-assess educational deficits and needs	O.K5	classroom observation
K6	formulate conclusions from own measurements or observations	O.K8	classroom observation, test
K7	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	O.K9	classroom observation
K8	assume responsibility for decisions taken in the course of their professional activities, including in terms of the safety of oneself and others.	O.K11	classroom observation, test

### Calculation of ECTS points

Activity form	Activity hours*
e-learning	10
seminar	10
simulations	10
preparation for classes	12
preparation for classes	10
preparation for examination	6
participation in examination	1

<b>Student workload</b>	<b>Hours</b> 59
<b>Workload involving teacher</b>	<b>Hours</b> 30
<b>Practical workload</b>	<b>Hours</b> 10

\* hour means 45 minutes

## Study content

No.	Course content	Subject's learning outcomes	Activities
1.	Emergency medicine - definitions, purpose, organization	W2	e-learning, simulations
2.	Selected clinical procedures in emergency medicine and rescue.	W4, W5, W6, K5	simulations
3.	Pathophysiology and management of body injuries. Prevention of injuries.	W1, W5, W7, W9	simulations
4.	Cardiopulmonary resuscitation of adults and children.	W10, W8, U10, U9, K8	simulations
5.	Contemporary threats. Principles of organizing rescue operations in individual, multiple accidents, mass casualty incidents, disasters and special situations, phases of rescue operations, triage algorithms.	W2, W3, W4, W9, U8, K2, K5, K7, K8	simulations
6.	Shock - types, pathophysiology, recognition and management. Management of selected clinical situations and life-threatening situations: loss of consciousness (syncope), electric shock, anaphylaxis, respiratory failure, asthma, choking, convulsions, burns, frostbite, injuries (haemorrhage, fractures, sprains), heart attack, stroke. Dealing with a victim of a traffic accident, rules for securing the place of accident, calling for help.	W1, W10, W4, W5, W6, W7, W8, U10, U11, U3, U7, U8, K1, K2, K6, K8	seminar, simulations
7.	Organization and procedures performed at the place of disaster, mass casualty incident. Special situations - terrorism, CBRN hazards, environmental threats.	W3, U4, U5, U6, U7, K5, K6, K7, K8	seminar, simulations
8.	Cardiopulmonary resuscitation of adults and children (AED, instrumental airway opening, ventilation with a AMBU bag).	W10, W7, W8, U1, U10, U2, U4, U5, U7, U8, U9, K1, K2, K3, K4, K5, K6, K7, K8	simulations
9.	Diagnosis and management of life-threatening conditions: anaphylactic shock, respiratory failure, asthma, choking, convulsions, heart attack, loss of consciousness, stroke.	W1, W5, W6, W7, W8, W9, U1, U10, U11, U12, U2, U4, U5, U6, U7, U8, U9, K1, K2, K3, K4, K5, K6, K7, K8	simulations
10.	Emergency procedures for a trauma patient, accident victim.	W1, W2, W4, W5, W6, W7, W8, W9, U11, U4, U5, U7, U9, K1, K2, K3, K4, K5, K6, K7, K8	simulations

11.	Rescue operations in mass casualty incident, disaster. Triage, psychological support, debriefing.	W10, W2, W3, W4, W8, W9, U1, U10, U11, U2, U4, U5, U6, U7, U8, U9, K1, K2, K3, K4, K5, K6, K7, K8	simulations
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## Course advanced

### Teaching methods:

brainstorm, preclinical classes, demonstration, discussion, educational film, educational game, presentation, group work, seminar, simulation, low fidelity simulation, lecture, lecture with multimedia presentation, practical classes in simulated conditions

Activities	Examination methods	Credit conditions
e-learning	test	Test - true/false type test - 85% to pass
seminar	practical test, test	Test - true/false type test - 85% to pass Practical test - simulation - recognition and treatment life treating patient condition in dentist office. To pass you have to properly recognize and treat simulated patient.
simulations	classroom observation, practical test	Practical test - simulation - recognition and treatment life treating patient condition in dentist office. To pass you have to properly recognize and treat simulated patient.

## Forensic Medicine

### Educational subject description sheet

#### Basic information

<b>Department</b> Faculty of Medicine  <b>Field of study</b> Medical and Dental Program  <b>Study level</b> long-cycle master's degree program  <b>Study form</b> full-time  <b>Education profile</b> general academic  <b>Disciplines</b> Medical science  <b>ISCED classification</b> 0912 Medicine  <b>Subject related to scientific research</b> Yes	<b>Didactic cycle</b> 2020/21  <b>Realization year</b> 2023/24  <b>Lecture languages</b> English  <b>Block</b> obligatory for passing in the course of studies  <b>Mandatory</b> obligatory  <b>Examination</b> graded credit  <b>Standard group</b> E. General clinical sciences (non-invasive)
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<b>Period</b> Semester 8	<b>Examination</b> graded credit  <b>Activities and hours</b> e-learning: 15	<b>Number of ECTS points</b> 1.0
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#### Goals

C1	Knowledge of the tasks / scope of forensic medicine
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#### Subject's learning outcomes

Code	Outcomes in terms of	Effects	Examination methods
<b>Knowledge - Student knows and understands:</b>			
W1	problems of medical error: diagnostic, technical, therapeutic and organizational	G.W23	classroom observation
W2	principles of liability for violation of the rules of practicing the profession of a dentist	G.W24	classroom observation

W3	the principles of professional liability of a dentist (moral, ethical, legal, material and professional), as well as the dentist's obligations towards the patient	G.W22	classroom observation
W4	rules of dealing with corpses	G.W33	classroom observation
W5	issues related to serology and medical and forensic genetics	G.W35	classroom observation
W6	basics of medical and forensic toxicology	G.W36	classroom observation
W7	the rules for drawing up expert opinions in criminal matters	G.W37	classroom observation
W8	forensic aspects of human ethology	G.W38	classroom observation
<b>Skills - Student can:</b>			
U1	plan own learning activities and constantly learn in order to update own knowledge	O.U5	classroom observation
U2	apply the legal provisions relating to the pursuit of the profession of a dentist	G.U24	classroom observation
U3	evaluate posthumous changes	G.U28	classroom observation
U4	identify corpses on the basis of a dental examination	G.U29	classroom observation
U5	assess the consequences of facial and cranial injuries and qualify them in criminal and civil proceedings	G.U30	classroom observation
<b>Social competences - Student is ready to:</b>			
K1	promote health-promoting behaviors	O.K6	classroom observation
K2	use objective sources of information	O.K7	classroom observation

### Calculation of ECTS points

Activity form	Activity hours*
e-learning	15
preparation for classes	5
preparation of multimedia presentation	5
<b>Student workload</b>	<b>Hours</b> 25
<b>Workload involving teacher</b>	<b>Hours</b> 15

\* hour means 45 minutes

### Study content

No.	Course content	Subject's learning outcomes	Activities
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1.	<ul style="list-style-type: none"> <li>• (General) thanatology</li> <li>• Medicolegal autopsy</li> <li>• Injuries, vital reactions of injury</li> <li>• Opinions in penal / civil proceedings. Child abuse</li> <li>• Death due to disease / external factor</li> <li>• Forensic genetics</li> <li>• Forensic toxicology</li> <li>• Medical malpractice</li> <li>• Post-mortem imaging including criminalistics issues</li> </ul>	W1, W2, W3, W4, W5, W6, W7, W8, U1, U2, U3, U4, U5, K1, K2	e-learning
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## Course advanced

### Teaching methods:

classes / practicals, presentation, seminar, lecture with multimedia presentation

Activities	Examination methods	Credit conditions
e-learning	classroom observation	attendance

## Endodontic treatment using a surgical microscope

### Educational subject description sheet

#### Basic information

<b>Department</b> Faculty of Medicine  <b>Field of study</b> Medical and Dental Program  <b>Study level</b> long-cycle master's degree program  <b>Study form</b> full-time  <b>Education profile</b> general academic  <b>Disciplines</b> Medical science  <b>ISCED classification</b> 0911 Dental studies	<b>Didactic cycle</b> 2020/21  <b>Realization year</b> 2023/24  <b>Lecture languages</b> English  <b>Block</b> obligatory for passing in the course of studies  <b>Mandatory</b> elective  <b>Examination</b> graded credit  <b>Standard group</b> F. Clinical curriculum-oriented (invasive) sciences
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<b>Period</b> Semester 8	<b>Examination</b> graded credit  <b>Activities and hours</b> e-learning: 6, seminar: 6, clinical classes: 18	<b>Number of ECTS points</b> 2.0
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#### Goals

C1	Students learn the structure of the microscope and learn ergonomics at work
C2	The technique of working in a surgical microscope
C3	Students train root canal preparation with a step back technique and microscopic assessment

#### Subject's learning outcomes

Code	Outcomes in terms of	Effects	Examination methods
<b>Knowledge - Student knows and understands:</b>			
W1	issues in dentistry - at an advanced level	O.W2	credit

W2	morphology of dental chambers and principles of endodontic treatment and instruments used in this treatment	F.W7	credit
<b>Skills - Student can:</b>			
U1	communicate and share knowledge with colleagues in a team	O.U8	classroom observation
<b>Social competences - Student is ready to:</b>			
K1	perceive and recognize own limitations, self-assess educational deficits and needs	O.K5	classroom observation
K2	use objective sources of information	O.K7	classroom observation
K3	formulate conclusions from own measurements or observations	O.K8	classroom observation

### Calculation of ECTS points

Activity form	Activity hours*
e-learning	6
seminar	6
clinical classes	18
preparation for classes	12
case analysis	8
practice	10
<b>Student workload</b>	<b>Hours</b> 60
<b>Workload involving teacher</b>	<b>Hours</b> 30
<b>Practical workload</b>	<b>Hours</b> 36

\* hour means 45 minutes

### Study content

No.	Course content	Subject's learning outcomes	Activities
1.	Construction of the microscope	W1, K3	seminar, e-learning, clinical classes
2.	Students evaluate developed tooth chambers and are to indicate the place of occurrence of all root canal mouths	W2, U1, K2	seminar, e-learning, clinical classes
3.	Students open tooth chambers and look for root canal orifices	W2, U1, K1	seminar, e-learning, clinical classes



## Course advanced

### Teaching methods:

preclinical classes, classes in simulated conditions, presentation, seminar, workshop, lecture

Activities	Examination methods	Credit conditions
e-learning	credit	attendance
seminar	credit	attendance
clinical classes	classroom observation, credit	attendance

# Type and incidence of lesions on oral mucosa in elderly patients

## Educational subject description sheet

### Basic information

<b>Department</b> Faculty of Medicine  <b>Field of study</b> Medical and Dental Program  <b>Study level</b> long-cycle master's degree program  <b>Study form</b> full-time  <b>Education profile</b> general academic  <b>Disciplines</b> Medical science  <b>ISCED classification</b> 0911 Dental studies  <b>Subject related to scientific research</b> Yes	<b>Didactic cycle</b> 2020/21  <b>Realization year</b> 2023/24  <b>Lecture languages</b> English  <b>Block</b> obligatory for passing in the course of studies  <b>Mandatory</b> elective  <b>Examination</b> graded credit  <b>Standard group</b> F. Clinical curriculum-oriented (invasive) sciences
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<b>Period</b> Semester 8	<b>Examination</b> graded credit  <b>Activities and hours</b> clinical classes: 30	<b>Number of ECTS points</b> 2.0
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### Goals

C1	The aim of the course is to familiarize students with the specifics of oral mucosa diseases in the elderly.
C2	During classes, students will learn the examination and diagnostics of oral mucosa diseases in the elderly, including biology of aging, physiological changes occurring with age and health problems.
C3	Students will be introduced to the principles of interdisciplinary treatment of the elderly patients.
C4	During the course, students will be taught the issue of dealing with elderly patients, including the general state of health and mental attitude of patients.

### Subject's learning outcomes

Code	Outcomes in terms of	Effects	Examination methods
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<b>Knowledge - Student knows and understands:</b>			
W1	symptoms, course and procedures in specific diseases of the mouth, head and neck, taking into account age groups	F.W4	oral answer
W2	pathomechanism of the impact of oral diseases on general health	F.W19	oral answer
W3	pathomechanism of the effects of general diseases or therapies on the oral cavity	F.W20	oral answer
W4	issues in dentistry - at an advanced level	O.W2	oral answer
W5	health education issues	O.W3	oral answer
W6	issues in the field of medicine and natural sciences - in the basic scope	O.W1	oral answer
W7	viral, bacterial and fungal flora of the oral cavity and its importance	F.W3	oral answer
W8	rules for dealing with cysts, precancerous conditions, and head and neck cancers	F.W8	oral answer
W9	diagnostics and methods of treatment of periodontal and oral mucosa diseases	F.W9	oral answer
W10	causes of complications of stomatognathic system diseases and rules of conduct in case of such complications	F.W12	oral answer
W11	prevention of oral diseases	F.W21	oral answer
W12	the specificity of dental care for a patient suffering from a general disease and the principles of cooperation with a doctor treating the underlying disease	F.W23	oral answer
<b>Skills - Student can:</b>			
U1	carry out diagnostics of the most common diseases, assess and describe the patient's somatic and mental state	O.U1	classroom observation
U2	provide professional dental care in the field of prevention, treatment, health promotion and health education	O.U2	classroom observation
U3	prescribe medicines, taking into account their interactions and side-effects	F.U10	classroom observation
U4	determine the indications and contraindications for performing a specific dental procedure	F.U7	classroom observation
U5	plan treatment for dental problems	O.U3	classroom observation
U6	conduct clinical proceedings based on knowledge and respecting the principles of humanitarianism	O.U4	classroom observation
U7	communicate with the patient and his family in an atmosphere of trust, taking into account the needs of the patient	O.U7	classroom observation
U8	communicate and share knowledge with colleagues in a team	O.U8	classroom observation
U9	critically evaluate the results of scientific research and adequately justify the position	O.U9	classroom observation

U10	carry out a medical interview with the patient and his or her family	F.U1	classroom observation
U11	carry out a dental physical examination of the patient	F.U2	classroom observation
U12	explain the nature of his or her ailment to the patient, determine the method of treatment confirmed by the patient's informed consent and prognosis	F.U3	classroom observation
U13	provide the patient or his or her family with information about unfavorable prognosis	F.U4	classroom observation
U14	conduct treatment of acute and chronic, odontogenic and non-odontogenic inflammatory processes of soft tissues of the oral cavity, periodontium and jaw bones	F.U8	classroom observation
U15	keep patient records on ongoing basis, provide referrals for examination or specialist treatment in dental and general medicine	F.U11	classroom observation
U16	present selected medical problems in oral or written form in a manner appropriate to the level of recipients	F.U13	classroom observation
U17	take appropriate medication during and after the dental procedure to relieve pain and anxiety	F.U16	classroom observation
U18	describe dental and pantomographic images	F.U23	classroom observation
<b>Social competences - Student is ready to:</b>			
K1	to establish and maintain deep and respectful contact with patients and to show understanding for differences in world views and cultures	O.K1	classroom observation
K2	respect medical confidentiality and patients' rights	O.K3	classroom observation
K3	promote health-promoting behaviors	O.K6	classroom observation
K4	formulate conclusions from own measurements or observations	O.K8	classroom observation
K5	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	O.K9	classroom observation
K6	to be guided by the well-being of a patient	O.K2	classroom observation
K7	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	O.K4	classroom observation
K8	use objective sources of information	O.K7	classroom observation
K9	assume responsibility for decisions taken in the course of their professional activities, including in terms of the safety of oneself and others.	O.K11	classroom observation

### Calculation of ECTS points

Activity form	Activity hours*
clinical classes	30
preparation for classes	10

conducting literature research	10
preparation of multimedia presentation	10
<b>Student workload</b>	<b>Hours</b> 60
<b>Workload involving teacher</b>	<b>Hours</b> 30
<b>Practical workload</b>	<b>Hours</b> 30

\* hour means 45 minutes

## Study content

No.	Course content	Subject's learning outcomes	Activities
1.	The specificity of oral mucosa diseases in the elderly.	W1, W10, W11, W12, W2, W3, W4, W5, W6, W7, W8, W9, U1, U10, U11, U12, U13, U14, U15, U16, U17, U18, U2, U3, U4, U5, U6, U7, U8, U9, K1, K2, K3, K4, K5, K6, K7, K8, K9	clinical classes
2.	Epidemiology of oral diseases in the elderly.	W1, W10, W11, W12, W2, W3, W4, W5, W6, W7, W8, W9, U1, U10, U11, U12, U13, U14, U15, U16, U17, U18, U2, U3, U4, U5, U6, U7, U8, U9, K1, K2, K3, K4, K5, K6, K7, K8, K9	clinical classes
3.	Dental surgery procedures in the elderly.	W1, W10, W11, W12, W2, W3, W4, W5, W6, W7, W8, W9, U1, U10, U11, U12, U13, U14, U15, U16, U17, U18, U2, U3, U4, U5, U6, U7, U8, U9, K1, K2, K3, K4, K5, K6, K7, K8, K9	clinical classes
4.	Dental prophylaxis in the elderly. Focal disease.	W1, W10, W11, W12, W2, W3, W4, W5, W6, W7, W8, W9, U1, U10, U11, U12, U13, U14, U15, U16, U17, U18, U2, U3, U4, U5, U6, U7, U8, U9, K1, K2, K3, K4, K5, K6, K7, K8, K9	clinical classes

## Course advanced

### Teaching methods:

case study, textual analysis, brainstorm, clinical classes, demonstration, discussion, case study method

<b>Activities</b>	<b>Examination methods</b>	<b>Credit conditions</b>
clinical classes	classroom observation, oral answer	oral credit grade, attendance at all classes

### **Entry requirements**

The course Periodontology 1/2 passed.

## Machine systems in endodontic treatment

### Educational subject description sheet

#### Basic information

<b>Department</b> Faculty of Medicine  <b>Field of study</b> Medical and Dental Program  <b>Study level</b> long-cycle master's degree program  <b>Study form</b> full-time  <b>Education profile</b> general academic  <b>Disciplines</b> Medical science  <b>ISCED classification</b> 0911 Dental studies	<b>Didactic cycle</b> 2020/21  <b>Realization year</b> 2023/24  <b>Lecture languages</b> English  <b>Block</b> obligatory for passing in the course of studies  <b>Mandatory</b> elective  <b>Examination</b> graded credit  <b>Standard group</b> F. Clinical curriculum-oriented (invasive) sciences
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<b>Period</b> Semester 8	<b>Examination</b> graded credit  <b>Activities and hours</b> seminar: 30	<b>Number of ECTS points</b> 2.0
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## Goals

C1	Introduction to rotary instruments in Endodontics
C2	Detailed anatomy in the aspect of root canal treatment
C3	Preparation of teeth for root canal treatment, isolation, flaring, initial canal preparation
C4	Magnification in endodontic treatment. Dental loupes, operating microscope
C5	Operating techniques with different types of rotary files. Rinsing protocols. Obturation.
C6	Various radiological imaging techniques and modern technologies in endodontic treatment
C7	Root canal retreatment and endodontic microsurgery. Assessment of indications, types of procedures
C8	Pain in endodontics. Management of pain cases. Prevention and treatment of early and late peri- and postoperative complications
C9	Root canal dressings, temporary fillings during treatment as well as materials and methods of tooth reconstruction after root canal treatment
C10	Follow-up visits, prognosis assessment. Topic proposed by students during classes. Summary

## Subject's learning outcomes

Code	Outcomes in terms of	Effects	Examination methods
<b>Knowledge - Student knows and understands:</b>			
W1	issues in the field of medicine and natural sciences - in the basic scope	O.W1	classroom observation, test
W2	issues in dentistry - at an advanced level	O.W2	classroom observation, test
W3	rules for management of periapical tissue diseases	F.W6	classroom observation, test
W4	morphology of dental chambers and principles of endodontic treatment and instruments used in this treatment	F.W7	classroom observation, test
W5	principles of radiological diagnosis	F.W18	classroom observation, test
W6	symptoms, course and procedures in specific diseases of the mouth, head and neck, taking into account age groups	F.W4	classroom observation, test
W7	rules of conduct in the case of pulp and mineralized dental tissues, as well as trauma to the teeth and bones of the face	F.W5	classroom observation, test
<b>Skills - Student can:</b>			
U1	plan treatment for dental problems	O.U3	classroom observation, test
U2	determine the indications and contraindications for performing a specific dental procedure	F.U7	classroom observation
U3	proceed in case of general and local complications during and after dental procedures	F.U9	classroom observation



U4	describe dental and pantomographic images	F.U23	classroom observation, test
U5	conduct clinical proceedings based on knowledge and respecting the principles of humanitarianism	O.U4	test
U6	plan own learning activities and constantly learn in order to update own knowledge	O.U5	test
U7	interpret the results of additional tests and consultations	F.U6	test
U8	conduct treatment of acute and chronic, odontogenic and non-odontogenic inflammatory processes of soft tissues of the oral cavity, periodontium and jaw bones	F.U8	test
<b>Social competences - Student is ready to:</b>			
K1	to be guided by the well-being of a patient	O.K2	classroom observation
K2	respect medical confidentiality and patients' rights	O.K3	classroom observation
K3	perceive and recognize own limitations, self-assess educational deficits and needs	O.K5	classroom observation
K4	use objective sources of information	O.K7	classroom observation, test
K5	formulate conclusions from own measurements or observations	O.K8	classroom observation, test
K6	assume responsibility for decisions taken in the course of their professional activities, including in terms of the safety of oneself and others.	O.K11	classroom observation

### Calculation of ECTS points

Activity form	Activity hours*
seminar	30
case analysis	10
preparation for classes	5
preparation for examination	5
practice	5
<b>Student workload</b>	<b>Hours</b> 55
<b>Workload involving teacher</b>	<b>Hours</b> 30
<b>Practical workload</b>	<b>Hours</b> 15

\* hour means 45 minutes

## Study content

No.	Course content	Subject's learning outcomes	Activities
1.	Detailed anatomy in the aspect of endodontic treatment. Causes of pulp and periapical tissue diseases. Indications and workflow for rotary endodontics instruments. Root canal disinfection protocols. Preparation of teeth for treatment, isolation	W1, W2, W3, W4, W5, W6, U1, U2, U3, U5, U6, U7, K1, K2, K4, K5	seminar
2.	Magnification in endodontic treatment. Working principles for dental loupes, indications for using the operation microscope	W1, W2, U1, U2, U3, K1, K2, K3	seminar
3.	Root canal obturation methods. Root canal dressings. Pain treatment. Postoperative management and check-up protocols after root canal treatment	W1, W2, W3, W4, W5, W6, U1, U2, U3, U4, U5, U6, K1, K2	seminar
4.	Root canal retreatment, indications and contraindications for endodontic microsurgery. Diagnostic methods in endodontic including radiograph examination. Complications during and after treatment.	W1, W2, W4, W5, W6, W7, U4, U5, U6, U7, U8, K1, K2, K4, K5, K6	seminar

## Course advanced

### Teaching methods:

case study, brainstorm, preclinical classes, classes in simulated conditions, demonstration, discussion, practical classes

Activities	Examination methods	Credit conditions
seminar	classroom observation, test	Credit with grade. Participation in all classes and passing the final test

## Entry requirements

not applicable

## Integrated stomatology of adulthood

### Educational subject description sheet

#### Basic information

<b>Department</b> Faculty of Medicine  <b>Field of study</b> Medical and Dental Program  <b>Study level</b> long-cycle master's degree program  <b>Study form</b> full-time  <b>Education profile</b> general academic  <b>Disciplines</b> Medical science  <b>ISCED classification</b> 0911 Dental studies  <b>Subject related to scientific research</b> Yes	<b>Didactic cycle</b> 2020/21  <b>Realization year</b> 2024/25  <b>Lecture languages</b> English  <b>Block</b> obligatory for passing in the course of studies  <b>Mandatory</b> obligatory  <b>Examination</b> graded credit  <b>Standard group</b> H. Clinical training
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<b>Period</b> Semester 9	<b>Examination</b> graded credit  <b>Activities and hours</b> clinical classes: 70	<b>Number of ECTS points</b> 4.0
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## Goals

C1	To know of the importance of ergonomic principles in dentistry
C2	To know and teach practical skills in the diagnosis and treatment of pulp diseases and periapical tissue diseases.
C3	To know and teach practical skills in the field of dental surgery
C4	To know and teach practical skills in the diagnosis and treatment of dental hard tissue diseases: carious and no carious origin
C5	To know and teach of the proper application of additional tests used in dentistry, including radiology
C6	To know and teach rules of intra oral and extra oral examination of the patient.
C7	To make students aware of problems related to the treatment of patients reporting pain and sudden dental problems
C8	Transfer of knowledge in the field of management of a patient with general diseases
C9	Teaching students various techniques of local anesthesia in the oral cavity
C10	To teach how to work in the team in the field of dental procedures

## Subject's learning outcomes

Code	Outcomes in terms of	Effects	Examination methods
<b>Knowledge - Student knows and understands:</b>			
W1	issues in dentistry - at an advanced level	O.W2	booklet of practical skills, practical test, test, written credit
<b>Skills - Student can:</b>			
U1	plan treatment for dental problems	O.U3	booklet of practical skills, classroom observation, practical test, test
<b>Social competences - Student is ready to:</b>			
K1	to be guided by the well-being of a patient	O.K2	classroom observation

## Calculation of ECTS points

Activity form	Activity hours*
clinical classes	70
case analysis	7
professional practice	13
preparation for classes	7
preparation for examination	15

<b>Student workload</b>	<b>Hours</b> 112
<b>Workload involving teacher</b>	<b>Hours</b> 70
<b>Practical workload</b>	<b>Hours</b> 90

\* hour means 45 minutes

## Study content

No.	Course content	Subject's learning outcomes	Activities
1.	Medical history, intra-oral and extra-oral dental examination as well as documenting the obtained data in the individual patient's documentation: health and disease history. Principles of ergonomics in dentistry. Tasks and workflow of the dental team. Methods of work in a dental office with aspects of ergonomics.	W1, U1, K1	clinical classes
2.	Regional anesthesia, agents used for local anesthesia and their mechanism of action. Additional examinations in dentistry (with particular emphasis on dental radiology). The role of specialist and interdisciplinary consultations. Interdisciplinary dental treatment planning.	W1, U1, K1	clinical classes
3.	Prevention and treatment of dental caries. Etiology of dental caries disease. Preparation of cavities and reconstruction with appropriate temporary or permanent materials.	W1, U1, K1	clinical classes
4.	Etiology and symptomatology of pulp and periapical tissues diseases. Diagnosis and treatment of pulp and periapical tissue diseases. Complications in endodontic treatment.	W1, U1, K1	clinical classes
5.	Dental surgery procedures. Patients suffering from pain in the face and mouth. Proper oral hygiene. Issues related to the prevention of periodontal disease. Methods for detecting tartar and professional hygiene procedures.	W1, U1, K1	clinical classes

## Course advanced

### Teaching methods:

case study, brainstorm, clinical classes, discussion

Activities	Examination methods	Credit conditions
clinical classes	booklet of practical skills, classroom observation, practical test, test, written credit	Credit with grade consisting of a single-choice test covering 100 questions and a written practical part consisting of 10 questions in which the student recognizes the clinical situation on the basis of displayed radiological photos or clinical photos

## **Entry requirements**

Required credit in Conservative Dentistry and Endodontics.  
Clinical classes are obligatory.

## Integrated dentistry of developmental age

### Educational subject description sheet

#### Basic information

<b>Department</b> Faculty of Medicine  <b>Field of study</b> Medical and Dental Program  <b>Study level</b> long-cycle master's degree program  <b>Study form</b> full-time  <b>Education profile</b> general academic  <b>Disciplines</b> Medical science  <b>ISCED classification</b> 0911 Dental studies	<b>Didactic cycle</b> 2020/21  <b>Realization year</b> 2024/25  <b>Lecture languages</b> English  <b>Block</b> obligatory for passing in the course of studies  <b>Mandatory</b> obligatory  <b>Examination</b> graded credit  <b>Standard group</b> H. Clinical training
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<b>Period</b> Semester 10	<b>Examination</b> graded credit  <b>Activities and hours</b> clinical classes: 40	<b>Number of ECTS points</b> 3.0
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#### Goals

C1	The aim of education is to learn how to promote pro-health prophylaxis and the ability to recognize indications for multidisciplinary treatment in patients of developmental age.
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#### Subject's learning outcomes

Code	Outcomes in terms of	Effects	Examination methods
<b>Knowledge - Student knows and understands:</b>			
W1	issues in dentistry – at an advanced level	O.W2	booklet of practical skills
<b>Skills - Student can:</b>			
U1	plan treatment for dental problems	O.U3	booklet of practical skills
<b>Social competences - Student is ready to:</b>			

K1	to be guided by the well-being of a patient	O.K2	booklet of practical skills
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### Calculation of ECTS points

Activity form	Activity hours*
clinical classes	40
<b>Student workload</b>	<b>Hours</b> 40
<b>Workload involving teacher</b>	<b>Hours</b> 40
<b>Practical workload</b>	<b>Hours</b> 40

\* hour means 45 minutes

### Study content

No.	Course content	Subject's learning outcomes	Activities
1.	Acquiring knowledge and skills of leading a patient during the developmental age, with particular emphasis on promoting health education for maintaining oral health, prevention and interceptive procedures with determining the optimal time of possible medical intervention.	W1, U1, K1	clinical classes

### Course advanced

#### Teaching methods:

clinical classes

Activities	Examination methods	Credit conditions
clinical classes	booklet of practical skills	A completed booklet of practical skills in accordance with the requirements provided by the Dean's Office.



## Gerostomatology

### Educational subject description sheet

#### Basic information

<b>Department</b> Faculty of Medicine  <b>Field of study</b> Medical and Dental Program  <b>Study level</b> long-cycle master's degree program  <b>Study form</b> full-time  <b>Education profile</b> general academic  <b>Disciplines</b> Medical science  <b>ISCED classification</b> 0911 Dental studies  <b>Subject related to scientific research</b> Yes	<b>Didactic cycle</b> 2020/21  <b>Realization year</b> 2024/25  <b>Lecture languages</b> English  <b>Block</b> obligatory for passing in the course of studies  <b>Mandatory</b> obligatory  <b>Examination</b> graded credit  <b>Standard group</b> H. Clinical training
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<b>Period</b> Semester 10	<b>Examination</b> graded credit  <b>Activities and hours</b> clinical classes: 45	<b>Number of ECTS points</b> 3.0
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#### Goals

C1	The aim of the course is to familiarize students with the specifics of oral mucosa diseases in the elderly.
C2	During classes, students will be introduced to physiological and pathological changes in the masticatory system related to age.
C3	Students will be introduced to the principles of interdisciplinary treatment of the elderly.

#### Subject's learning outcomes

Code	Outcomes in terms of	Effects	Examination methods
<b>Knowledge - Student knows and understands:</b>			

W1	issues in dentistry – at an advanced level	O.W2	written credit
W2	health education issues	O.W3	written credit
W3	issues in the field of medicine and natural sciences – in the basic scope	O.W1	written credit
<b>Skills – Student can:</b>			
U1	provide professional dental care in the field of prevention, treatment, health promotion and health education	O.U2	booklet of practical skills, classroom observation
U2	plan treatment for dental problems	O.U3	booklet of practical skills, classroom observation
U3	conduct clinical proceedings based on knowledge and respecting the principles of humanitarianism	O.U4	booklet of practical skills, classroom observation
U4	communicate with the patient and his family in an atmosphere of trust, taking into account the needs of the patient	O.U7	booklet of practical skills, classroom observation
U5	carry out diagnostics of the most common diseases, assess and describe the patient's somatic and mental state	O.U1	classroom observation
<b>Social competences – Student is ready to:</b>			
K1	to be guided by the well-being of a patient	O.K2	classroom observation
K2	to establish and maintain deep and respectful contact with patients and to show understanding for differences in world views and cultures	O.K1	classroom observation
K3	respect medical confidentiality and patients' rights	O.K3	classroom observation
K4	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	O.K4	classroom observation
K5	promote health-promoting behaviors	O.K6	classroom observation
K6	use objective sources of information	O.K7	classroom observation
K7	formulate conclusions from own measurements or observations	O.K8	classroom observation

### Calculation of ECTS points

Activity form	Activity hours*
clinical classes	45
preparation for classes	10
preparation for colloquium	20
<b>Student workload</b>	<b>Hours</b> 75
<b>Workload involving teacher</b>	<b>Hours</b> 45

<b>Practical workload</b>	<b>Hours</b> 45
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\* hour means 45 minutes

## Study content

No.	Course content	Subject's learning outcomes	Activities
1.	The specificity of oral mucosa diseases in the elderly.	W1, W2, U1, U2, U3, U4, U5, K1, K2, K3, K4, K5, K6, K7	clinical classes
2.	Epidemiology of oral diseases in the elderly.	W1, W2, W3, U2, K5, K6, K7	clinical classes
3.	Dental surgery and prosthetic procedures in the elderly.	W1, W2, W3, U1, U2, U3, U4, U5, K1, K2, K3, K4, K5, K6, K7	clinical classes
4.	Focal infections.	W1, W2, W3, U1, U2, U3, U4, U5, K1, K2, K3, K4, K5, K6, K7	clinical classes
5.	Dental prophylaxis in elderly, including team treatment of oral mucosa diseases and oncological prophylaxis.	W1, W2, W3, U1, U2, U3, U4, U5, K1, K2, K3, K4, K5, K6, K7	clinical classes

## Course advanced

### Teaching methods:

case study, clinical classes, demonstration, case study method

Activities	Examination methods	Credit conditions
clinical classes	booklet of practical skills, classroom observation, written credit	written credit grade, attendance at all classes