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## European Credit Transfer System at Medical University – Sofia The Common Language of Recognition

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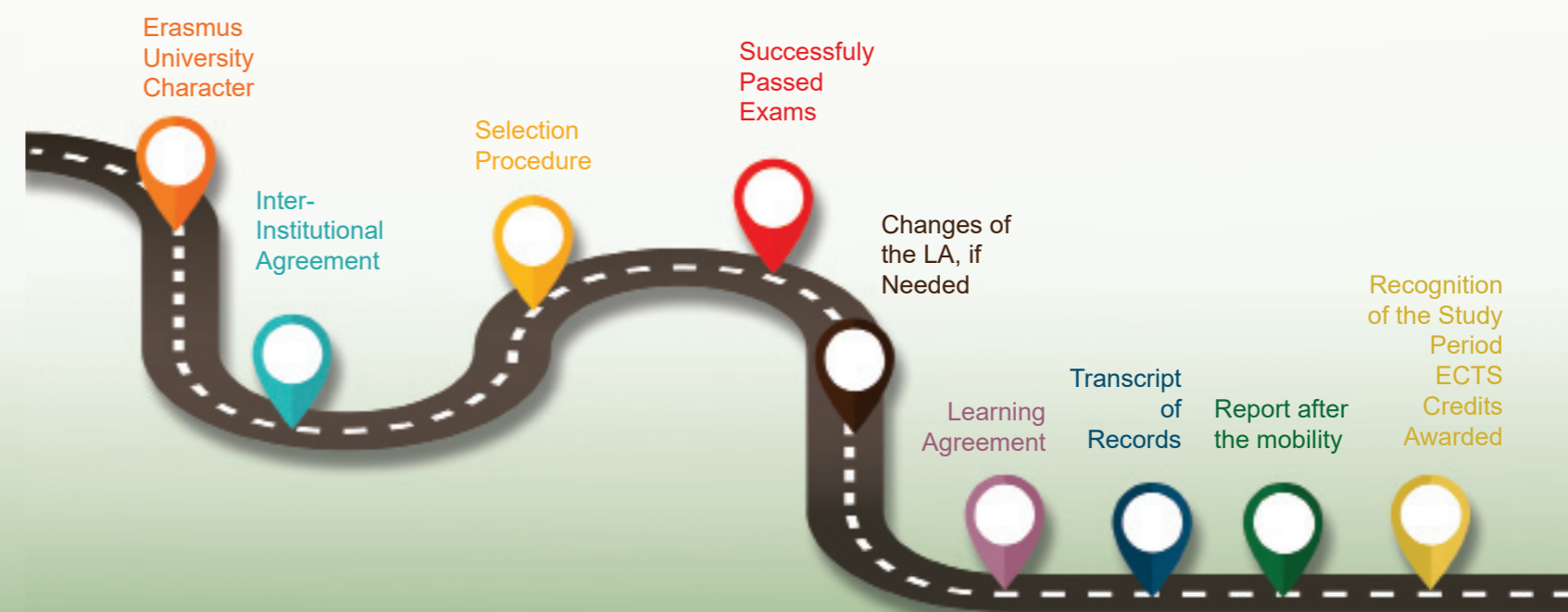
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# EUROPEAN CREDIT TRANSFER SYSTEM AT MEDICAL UNIVERSITY-SOFIA

## The Common Language of Recognition





**Dear Students,**

**It is my pleasure to welcome you at the Medical University – Sofia which has already made a history of over 100 years!**

**I would like to invite you to experience with us one of the most popular mobility schemes in Europe – Erasmus+.**

**The Medical University – Sofia is highly esteemed and undisputed leader in its area of education in all five professional fields, as the ranking of universities in Bulgaria for the past five years has shown. We remain a leader in the following areas of study: Medicine, Dental Medicine, Pharmacy, Health Care and Public Health. The Institutional accreditation, granted by the National Evaluation and Accreditation Agency for a period of 6 years, rated the university with 9.68 out of 10 points.**

**According to the strategy plan for internationalization and the Erasmus Policy Statement and Erasmus Charter of Medical**

**University – Sofia, all study programmes in Medicine, Dental Medicine and Pharmacy are taught both in English and Bulgarian languages. As it is stated in the Agenda for the Modernization of Europe’s Higher education system, globalization and digitalization emerged as important “mega trends” affecting higher education institutions directly and the world for which they are preparing graduates. Thus, each year the curricula are updated with new educational modules, exploring the Intersection of Regulation, Medicine, Science, and Law to meet the needs of a changing scientific and policy landscape. They have been structured to explicate core competencies in medical science and technology through illustrative case studies.**

**The Medical University – Sofia implements the modular system of education and bedside learning with a lot of hours of clinical practice. This is the reason why MU-Sofia attracts more and more incoming students. Both incoming and outgoing students highly appreciate the bedside learning and the higher horarium of clinical practice at MU-Sofia.**

**Quality assurance and contribution at European and international level are confirmed by the long list of graduates, including former Erasmus+ students, who get employed in prestigious hospitals and health care institutions worldwide.**

**Erasmus+ mobility helps fulfill one of the major objectives set up in the Institutional Strategy for Internationalization of the Medical University – Sofia to build up the so called „global” doctor, possessing the following skills:**

- Understanding tolerance for human diversity, multiculturalism and religious affiliation.**
- Ability to work in an international perspective.**
- Knowledge of a second language/languages.**
- General knowledge outside the field of medicine.**
- Strengthening the knowledge triangle (education, research, innovation)**

**PROF. DR. VICTOR ZLATKOV, MD  
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## ECTS GUIDE

### MEDICAL UNIVERSITY – SOFIA

Medical University – Sofia is the oldest National Higher Medical Educational Institution. It was founded by Decree of His Majesty King Ferdinand in 1917.

Medical University – Sofia comprises of four faculties. These are the Faculty of Medicine, Dental Medicine, Pharmacy and Public Health, Central Medical Library, Medical College for education of paramedics (social workers, X-ray technicians, laboratory technicians, assistant pharmacists, dental technicians, etc.) and the Center for Foreign Languages, Physical Education and Sports (CFLPES). Fifteen University hospitals are associated as clinical educational bases at the University. More than 82,000 medical specialists have graduated the Medical University – Sofia since its foundation including 10,500 international students from more than 80 countries.

The fundamental goals of the University are provision of superior education of under-, post-graduate and PhD students, scientific research and delivery of specialized, highly qualified and modern health care. The Medical University of Sofia is internationally recognized for the achievements in cardio-thoracic surgery, neurosurgery, ophthalmic surgery, high-tech diagnostics, prevention programmes for cardio-vascular and inherited diseases, bone-marrow transplantation, development of new compounds of synthetic and natural origin, etc.

The main objectives of the University are to provide high-quality education in an environment supported by research; to preserve and strengthen its position as educational and scientific institution of the highest international quality; to inspire high professional and humane virtues of its graduates in the spirits of the European democracy and tolerance; to foster the formation of high quality lecturers and instructors and improve their effectiveness.

The aims and objectives of the Erasmus+ mobility project are set in line with the European Union flagship initiatives: Youth on the Move; Education and Training 2020 Agenda and the Renewed modernization agenda of Europe's higher education systems in compliance with the specific national and institutional needs and challenges listed in the National Strategy for Higher Education and the Institutional Strategy for internationalization and the Erasmus+ Policy Statement of the Medical University – Sofia.

As stated in the main institutional documents listed above, the quality and relevance of learning and teaching is the main priority of the Medical University – Sofia. For that reason EDUCATIONAL GOALS AND LEARNING OUTCOMES have been set up and adopted at a meeting of the Faculty Council of the Faculty of Medicine at the Medical University – Sofia on 27.09.2013: <http://medfac.mu-sofia.com/?q=node/257>.

The Medical University – Sofia has started to exchange students since 2000, when the Erasmus Programme was open for participation for Bulgaria as a pre-accession country in 1999.

For more than 19 years now over 135 Erasmus+ Inter-institutional Agreements have been signed with partner universities from 25 Programme countries and 8 Partner Countries.

During the 19 years of Erasmus history out of 100 years of the Medical University – Sofia, more than 500 outgoing students have been sent and over 400 incoming students received. The number of students who have spent time abroad for studies and/or internship during their full degree study at the Medical University – Sofia is fairly stable over the times. In the last two years the number of incoming students exceeded the outgoing ones due to the fact that the education at the Medical University – Sofia explores the patients' bedside learning approach. A lot of practical hours are included in the Curriculum. During their study students practice at all 15 university hospitals under the supervision of highly qualified Professors. This opportunity is greatly appreciated by the students from our partner universities.

Additionally 130 Teaching staff has the opportunity to realize teaching and/or training Erasmus+ period at more than 81 partner universities in 25 Programme and Partner countries. Most training periods abroad were undertaken by academic staff for teaching (75%) followed by general administrative staff, including the international office (25 %).

Teaching assignment mobility contributes to achieving the objectives set in the strategy of internationalization of the Medical University – Sofia, developed in accordance with the EU Programme for modernisation and its priority areas and implementation of the Communiqué 2013 on "Open Education", in particular: improving the quality of education through mobility and cross-border cooperation. Particular emphasis is placed on mobility of teachers, in order to:

- provide support to promote the development of new ways of learning, in particular the integration of a wide variety of ways of learning through new forms of personalized learning, strategic implementation of educational resources, free access to platforms and virtual learning;
- Internationalization of the Medicine curriculum at the Medical University – Sofia with the ones from European and non-European countries.
- Exchange of research knowledge and results and development of joint research and educational projects.

The European Community promotes co-operation between universities as means of improving the quality of education for the benefit of students and higher education institutions, and student mobility is the predominant element of the cooperation. The recognition of studies and diplomas is a prerequisite for the creation of an Open European area of education and training where students and teachers can move without obstacles. That is why The European Credit Transfer System (ECTS) has been developed to improve academic recognition for studying abroad.



## ECTS - EUROPEAN CREDIT TRANSFER SYSTEM

### What is ECTS?

ECTS, the European Credit Transfer System, developed by the Commission of the European Communities, is designed to provide common procedures to guarantee academic recognition of studies abroad. It provides a way of measuring and comparing learning achievements of students by using commonly acknowledged measurements, credits and grades, and transferring them from one institution to another, thus widening the choices available to students. In itself, ECTS in no way regulates the content, structure or equivalence of study programmes.

ECTS is a decentralized system, based on the principle of mutual trust and confidence between the participating education institutions. The few rules of ECTS, concerning *Information* (on courses available), *Agreement* (between the home and host institutions) and the *Use of Credit Points* (to indicate students' workload) are set out to reinforce this mutual trust and confidence.

### ECTS credits

In general, the ECTS credits are a value allocated to the course units. ECTS credits represent the workload of a given course or year of academic study at the institution, including lectures, practical work, seminars, individual work (in the library or at home), and examinations or other assessment activities. Sixty ECTS credits represent the workload of an academic year of study, normally 30 credits are given for a semester. No special courses are set up for ECTS purposes, all courses are compulsory courses for the home students at the participating institutions. Credits are also allocated to elective courses, project work, thesis, and practical placements, which form an integral part of the degree programme.

ECTS credits are allocated to the course units only in case the students have successfully completed the course by satisfying the assessment requirements.

In the academic year 2004/2005 the credit system, compatible with the ECTS, was introduced at the Medical University – Sofia at the Faculties of Medicine, Dental Medicine, Pharmacy, and Public Health.

## THE EUROPEAN CREDIT TRANSFER SYSTEM AT MU-SOFIA

1. The Regulation № 21/30.09.2004 of the Ministry of Education and Science authorized the credit system to be implemented for all the students at the Medical University – Sofia.
2. Each student at the Medical University – Sofia should earn 60 credits per year from:
  - Compulsory courses;
  - Participation in scientific research programs;
  - Authorship of scientific reports;
  - Elective courses (modules).
3. Credits are a digital representation of students' workload and the learning outcomes of their study. Credits are awarded upon completing and passing the course with minimum grade 3 (Satisfactory) assessed through exams or other forms of evaluation for acquired knowledge and skills according to the education plan.
4. The elective courses are chosen by the students according to their personal interests from a number of optional courses in the curriculum. A minimum of earned credits is mandatory for all students.
5. The elective course training is organized by the Course Supervisor and by the department in authority. The syllabus and schedules for each class are presented to the Dean's Office in the beginning of the school year.
6. The Head of the Department in authority issues certificates for completion and passing the elective courses. A list of the successful students who have completed the course is sent to the Dean's Office at the end of the academic year. The course supervisor is responsible for entering the credits in the student's academic record.
7. The student is awarded credits for participation in scientific research after presenting to the Education Department at the Dean's Office a copy of an abstract, publication and/or projects accompanied by an official confirmation from the Department or the Project Principal Investigator that the student has been part of the project/research team in the time period.
8. On condition that the student was not awarded with the required credits for the school year, the option is a provisional authentication of the year completion. In this case, the required credits should be obtained in the following year.
9. The students are enrolled in an elective course or a project at the Department in authority. The responsible persons are the Course Supervisor or the Project Principal Investigator.

### Description of the institutional grading system

Local grade	Local definition	ECTS grade
6	Excellent	A
5	Very Good	B
4	Good	C
3	Satisfactory	DE
2	Poor (Fail)	FX
		F







## GENERAL PRACTICAL INFORMATION

### Academic calendar

The academic year at the Medical University runs from mid-September to late December (Autumn semester) and from mid-February to the beginning of June (Summer semester). Winter examinations are from the beginning of January to the beginning of February. Summer examination session is from mid-June to mid-July.

The academic year is as follows: **Autumn semester:** mid- September to December 28<sup>th</sup>

**Summer semester:** mid- February to May 31<sup>st</sup>

The clinical studies for the medical students are organized in a module teaching system from September up to end of July.

### Official holidays

January 1<sup>st</sup> – New Year

March 3<sup>rd</sup> – Bulgaria's National Day, which celebrates the liberation from Ottoman rule

Easter (Orthodox Easter is based on the Julian calendar, which often differs from the Gregorian calendar)

May 1<sup>st</sup> – Labor Day

May 6<sup>th</sup> – Bulgarian Army Day

May 24<sup>th</sup> – Day of Bulgarian Enlightenment and Culture

September 6<sup>th</sup> – Bulgaria's Unification Day

September 22<sup>nd</sup> – Independence Day

December 24<sup>th</sup> , 25<sup>th</sup> , 26<sup>th</sup> – Christmas

## International Students

1. *Exchange students within the frame of the Erasmus+ programme (Erasmus+Incoming Students)*. Medical University – Sofia works within the Erasmus + program with many universities. Students with proficiency of any language of the EU are welcome. In addition, Medical University – Sofia offers master programs in Medicine, Dental Medicine and Pharmacy in English. Erasmus+ exchange students from universities under bilateral agreement are admitted for up to two years of studies/training; the minimum stay is three months. The international Erasmus+ students are helped by their Bulgarian mates in any everyday issues. There is an option to apply for accommodation at the University dormitory. Since the number of rooms is restricted the incoming students should apply for this option with the application procedure for admission.

2. *International students*. Foreign citizens are admitted to the Medical University – Sofia in accordance with the terms and conditions of the Law on Higher Education and of the Ordinance on State Requirements for Enrollment of Students in Higher Education Institutions of the Republic of Bulgaria. The candidates are eligible in case they have completed secondary school education in their home country with a diploma required for admission in a higher education institution. In addition, the applicants should **have grades in Biology and Chemistry in their secondary education diploma or an equivalent of the diploma for secondary education document.**

A preparatory academic year is organized and carried out by the Center of Foreign Languages, Physical Education and Sports (CFLPES) at the Medical University – Sofia. The curriculum includes courses in Bulgarian language, English language and special language training for improvement of the English language skills in Biology, Chemistry, Anatomy and Physiology.

Foreign citizens who declare Bulgarian or English language knowledge pass a test-exam for evaluation of the level of their language proficiency.

Detailed description of the Application Procedure and the required documents for admission is available on the website of the Medical University – Sofia: <http://www.mu-sofia.bg/en/admission/rules-of-procedure/>

## Admission and Registration of Erasmus+ Incoming Students

The required documents for incoming Erasmus+ students at Medical University – Sofia are:

- Standard Student Application Form
- Learning Agreement for Studies/Traineeship
- Three passport photographs
- Valid transcript of academic records

The deadline for the application procedure is June 15<sup>th</sup> for students applying for the entire academic year or for the first semester of the respective academic year only, and December 1<sup>st</sup> for students applying for the second semester. Upon arrival all incoming students should report to the Office of International Relations at the University. In addition, the incoming students should register with the respective Faculty offices. The admission of the applying Erasmus+ candidates is based on their sufficient for the Medical University – Sofia standards adequate background knowledge and academic ability to pursue successfully the proposed programme of study. Erasmus+ students do not pay the due tuition, yet accommodation at the dormitory must be paid.

## Host country formalities

According to the Law of Foreigners' Stay in the Republic of Bulgaria every foreigner may enter the country with a valid passport and an entry visa for Bulgaria. Entry visas are issued in all Bulgarian diplomatic missions abroad. No visas are required from citizens of countries from the European Union and a number of other countries as well. Upon arrival in Bulgaria every foreigner (if not accommodated in a hotel) should register in the Passport Service for Foreigners (Sofia, 48 Maria Louisa Blvd.) to receive a residence permit. Those foreigners who are admitted as students at the University should present their documents for admission issued by the University.

## Accommodation

Accommodation for Erasmus+ Incoming students can be arranged in several ways:

*Students' dormitory* – Incoming Erasmus+ students may apply for the students' dormitory. Limited number of rooms is available – first come, first served. Please state your preference in the Application Form - <http://www.mu-sofia.bg/en/admission/rules-of-procedure/>

- *Private flats* - A common option for foreign students is to rent a flat within easy reach of the university for a monthly fee. The cost depends on the size, comfort, location of the housing and varies between 200 € - 350 € per month. The rent excludes electricity, phone, water supply and central heating costs.
- *Private rooms*. Contact Erasmus+ Student Network (ESN) – Bulgaria for help with the accommodation for finding private rooms from 80 - 150 Euros (monthly). The rent excludes electricity, phone, water supply and central heating costs.

For more details contact: <https://esnbg.org/>

<https://www.facebook.com/esnbulgaria>

e-mail: [bulgaria@esnbg.org](mailto:bulgaria@esnbg.org)

The International Office of the University will help incoming Erasmus+ students in finding the accommodation that matches their preferences best: <http://www.mu-sofia.bg/en/contacts/>

## Banks and Currency exchange

The lev (Bulgarian: лев, plural: leva, levove/лева, левове) is the currency of Bulgaria, which equals to 100 stotinki. Banknote denominations include 5, 10, 20, 50 and 100 leva, as well as coins of smaller denominations. One Euro is equal to 1, 95583 leva. The exchange rate to the USD and other currencies is announced every day by the Bulgarian National Bank. Many local banks and currency exchange offices function in the capital and in the big cities as well. Big international banks have offices in Sofia: BNP-Paribas, Bulgarian American Credit Bank, Raiffeisen Bank, ING Bank, Alpha Bank – Greece, Societe Generale Expressbank, etc. Near the main building of the university you can find branches of Bulgarian banks, such as Postbank, Fibank (First Investment Bank), Unicredit Bulbank, etc. They are usually open between 9.00 a.m. and 5.00 p.m. There are numerous Automated Teller Machines (ATMs) in most cities; they accept cards issued by any of the major international banking networks (Visa, MasterCard, American Express, etc.). Credit or debit cards are accepted in most of the hotels, shops, supermarkets, etc.

## Catering facilities

Various catering establishments in Sofia can satisfy the different tastes and needs of the visitors. Along with local specials Italian, Chinese, Indian, Mexican food can be found. Most restaurants are open 11.00 a.m. – 24.00 p.m. Around the main university building there are

small restaurants and cafeterias offering traditional Bulgarian cuisine, as well as fast food places where you could get a proper meal for as much as 2.50 – 4.00 Euro. Food expenses may vary on average daily basis, depending on your personal choice – from 2.50 up to 10.00 Euro. All food stores work usually until 19.00 or 20.00. There are also 24 hour open stores, and stores working on Saturdays and Sundays.

### **Health insurance**

Foreign students are advised to get medical insurance in their home country or in one of the numerous Bulgarian insurance companies. It will cover medical treatment and stay at a hospital here, should the need arise. There are many clinics and private medical offices where medical help is offered at a quite reasonable price.

### **Library**

All faculties of the Medical University – Sofia provide access to Internet and e-mail for the students in their computer rooms. Moreover, in the Central Medical Library, there is a computer room which offers free access to data bases, Internet, and a number of multimedia products and videos. The Library has a fund of more than 750 000 volumes, offers computerized book catalogue of books, issued after 1990, and gives access to more than 800 periodicals. The Library has a reading room with 35 seats, a student reading room with 40 seats.

### **Sport facilities**

The Medical University has a multipurpose gymnastics hall, which offers excellent conditions for aerobics, basketball, bodybuilding, badminton, volleyball, and calanetics. The open-air playgrounds are used for football, basketball and volleyball. Students may use the tennis court and the swimming pool of the sport club “Academic”.

### **Cost of living**

To give an idea of the cost of living in Bulgaria, an estimated monthly budget (in BG Leva; exchange rate 1 Euro=1.95 BG Leva) as estimated in 2018, might be as follows:

<b>Item</b>	<b>Expenditure in Euro (average per month)</b>
<b>Food</b>	150-250
<b>Accomodation</b>	250-300
<b>Local public transportation</b>	15-25



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The Faculty of Medicine consists of 47 departments and clinical centers. More than 800 academic and research fellows, the innovative equipment and modern views guarantee the educational, diagnostic and curative, and scientific activities.

The complete course of medical education lasts six years and is organized in three stages.-Preclinical training provides the students with the fundamental biological and medical knowledge, offering the basis for their clinical training. Clinical training is aimed at acquisition of knowledge and skills in diagnostics and treatment. Clinical education at the Medical Faculty after the third year is organized in a modular system. Pregraduation practice is carried out under the form of rotations at the departments of the University hospitals. It- aims at the application of knowledge and skills at the patient bedside and at the outpatient's clinics. The final state examination comprises five exams in Internal Medicine, Surgery, Pediatrics, Obstetrics and Gynecology, and Hygiene and Ecology. The successful graduates are conferred the "Master" degree and qualification "Physician".

*The subjects studied during the first year* of the programme are Anatomy and Histology; Cytology; Biology; Physics; Chemistry; Medical Ethics; Latin language; Foreign Language; Sports.

*During the second year* students continue their studies in Anatomy and Histology and Foreign language plus Biophysics; Biochemistry; Physiology; Medical Informatics and Biostatistics; Social Medicine; Medical Psychology; Microbiology.

*Clinical education starts in the third year* with Propaedeutics of Internal Medicine and General

and Operative Surgery; in addition the students continue with Microbiology and start training in General Pathology; Pharmacology; Pathophysiology; Medical Genetics; and Medicine of Disasters.

*In the fourth and fifth years* the education is organized in a modular system and covers the subjects Internal Diseases and Therapy; Surgery; Clinical Pathology; Pediatrics; Obstetrics and Gynecology; Neurology; Dermatology and Venereology; Ophthalmology; Oto-Rhino-Laryngology; General Medicine; Neurosurgery; Orthopedics and Traumatology; Imaging diagnostics, Nuclear medicine and Oncology; Clinical Laboratory and Clinical Immunology; Clinical Pharmacology; Hygiene, Ecology and Occupational Diseases.

*In the sixth year* the modules are in Psychiatry; Urology; Anesthesiology and Reanimation; Epidemiology, Infectious Diseases, Medical Parasitology and Tropical Diseases; Physical Therapy and Rehabilitation; Forensic Medicine and Deontology. The programme also includes clinical clerkships (rotations) in Internal Medicine; Surgery; Pediatrics; Obstetrics and Gynecology; General Medicine; Hygiene, Infectious Diseases, Epidemiology and Social Medicine.

The Medical Faculty has 57 accredited PhD programs for 3 years full time studies or 4 year part time studies.

The Medical Faculty is a basis for 3 to 5 year postgraduate education in 52 medical specialties. The postgraduate qualification is acknowledged after a final examination in front of a State Examination Commission.

## DISCIPLINES

### BIOLOGY: ECTS credits 8.2

#### Horarium:

<b>Semester 1</b>	Lectures	45	Weeks	15
	Practicals	30	Weeks	15
<b>Semester 2</b>	Lectures	30	Weeks	15
	Practicals	30	Weeks	15

**Contents:** Structure of the living organism, heredity, variation, immunological homeostasis. Sexual reproduction; individual development. Biological evaluation. Antropogenesis. Ecology. Evolution of invertebrates with elements of medical parasitology. Comparative anatomy of invertebrates. Normal human and animal karyotype. Methods of population genetics. Incidence of mutations, selection, migration, isolation, genetic drift, inbreeding coefficient. Immune genetics.

**Assessment:** W/O, semester 2<sup>nd</sup>

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### MEDICAL PHYSICS: ECTS credits 5.8

#### Horarium:

<b>Semester 1</b>	Lectures	15	Weeks	15
	Practicals	15	Weeks	15
<b>Semester 2</b>	Lectures	30	Weeks	15
	Practicals	30	Weeks	15

**Contents:** Mechanics, acoustics, molecular physics. Electricity and magnetism. Optics. Ionization radiation. Measurements during microscopy. Evaluation of the microscopic object mean size. Photometric parameters and measurements. Refractions in liquids. Principles of the optical atomic and molecular spectral analysis. Activity of the radioactive source. Radionuclide semi-decay period. Main parameters in medical radiology.

**Assessment:** W/O, semester 2<sup>nd</sup>

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### **MEDICAL CHEMISTRY: ECTS credits 5.8**

#### **Horarium:**

<b>Semester 1</b>	Lectures	15	Weeks	15
	Practicals	15	Weeks	15
<b>Semester 2</b>	Lectures	30	Weeks	15
	Practicals	30	Weeks	15

**Contents:** Chemical linkage and structure of the molecule. Complex compounds: structure and function. Chemical kinetics. Enzyme catalysis. Chemical equilibrium. Disperse systems. Acid-base equilibrium. Hydrolysis. Buffers. Electron transfer processes. Biological oxidation. Relationship between the structure and features of the organic substances. Lipids, phospholipids, carbohydrates, amino acids and nucleic acids: structures and features. Heterocyclic compounds. Compounds possessing steroid skeleton.

**Assessment:** W/O, semester 2<sup>nd</sup>

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### **LATIN LANGUAGE: ECTS credits 4.9**

<b>Horarium:</b>	Practicals	60	Weeks	30
<b>Semesters:</b>	1 and 2			

**Objectives:** General knowledge of the Latin language in the field of medicine.

**Contents:** Substantives and adjectives with their declension. Word formation, prefixes, suffixes and terms of Latin and Greek origin. Prescriptions - general principles, abbreviations. General principles in the clinical nomenclature and officinal forms.

**Assessment:** Ongoing assessment, semester 2<sup>nd</sup>

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### **HUMAN ANATOMY AND HISTOLOGY: ECTS credits 21.0**

#### **Horarium:**

<b>Semester 1</b>	Lectures	30	Weeks	15
	Practicals	30	Weeks	15
<b>Semester 2</b>	Lectures	45	Weeks	15
	Practicals	75	Weeks	15
<b>Semester 3</b>	Lectures	45	Weeks	15
	Practicals	75	Weeks	15
<b>Semester 4</b>	Lectures	45	Weeks	15
	Practicals	30	Weeks	15
<b>Semesters:</b>	1 <sup>st</sup> , 2 <sup>nd</sup> , 3 <sup>rd</sup> and 4 <sup>th</sup>			

**Contents:** Bone and muscular system. Digestive system. Respiratory system. Urinary system. Reproductive system. Endocrine system. Cardiovascular system. Lymphatic system and the organs of haematopoiesis. Central nervous system. Autonomous nervous system. Skin and the breasts. Sensory organs. Topographic anatomy of the head, neck, trunk, upper and lower extremities.

**Assessment:** W/O, semester 4<sup>th</sup>

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### **HUMAN CYTOLOGY, GENERAL HISTOLOGY AND EMBRYOLOGY: ECTS credits 6.6**

<b>Horarium:</b>	Lectures	45	Weeks	15
	Practicals	45	Weeks	15
<b>Semester:</b>	1			

**Contents:** General principles of the cytological and histological examination, external and

internal morphology of the cell. Cell membrane, membrane cellular organelles, nonmembrane cellular organelles. Physiology of the cell. General histology. General embryology.

**Assessment:** W/O, semester 1<sup>st</sup>

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**BIOPHYSICS:** ECTS credits 4.0

<b>Horarium:</b>	Lectures	30	Weeks	15
	Practicals	45	Weeks	15
<b>Semester:</b>	3			

**Contents:** Biophysics of the complex sensory systems. Biological thermodynamics. Biological membranes. Transport processes. Electrogenesis in the living cells. Electrokinetic phenomena. Free radicals in the living systems. Biomechanics phenomena.

**Assessment:** W/O, semester 3<sup>rd</sup>

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**MEDICAL PSYCHOLOGY:** ECTS credits 1.2

<b>Horarium:</b>	Lectures	15	Weeks	15
	Practicals	15	Weeks	15
<b>Semester:</b>	3 <sup>rd</sup>			

**Contents:** The course aims to acquaint students with the contribution that the science of psychology has to the medical practice. Students acquire basic skills to establish a therapeutic conduct, therapeutic communication, needed for therapeutic collaboration .

**Assessment:** W/O, semester 3<sup>rd</sup>

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**MEDICAL BIOCHEMISTRY:** ECTS credits 10.4

<b>Horarium:</b>				
<b>Semester 3</b>	Lectures	60	Weeks	15
	Practicals	45	Weeks	15
<b>Semester 4</b>	Lectures	60	Weeks	15
	Practicals	45	Weeks	15

**Contents:** Enzymes. Biopolymers (proteins and nucleic acids). Bioenergetics. Citric acid cycle. Glycolysis. Carbohydrate metabolism. Metabolism of lipids. Aminoacid metabolism. Relationship between different metabolic pathways. General regulation of metabolism in the organism. Hormones, growth factors, cytokines: molecular mechanisms of the action. Molecular mechanisms of diabetes. Liver biochemistry. Muscular tissue biochemistry. Molecular biology and pathology. Carcinogenesis. Molecular genetics.

**Assessment:** W/O, semester 4<sup>th</sup>

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**PHYSIOLOGY:** ECTS credits: 12.0

<b>Horarium:</b>				
<b>Semester 3</b>	Lectures	45	Weeks	15
	Practicals	60	Weeks	15
<b>Semester 4</b>	Lectures	60	Weeks	15
	Practicals	60	Weeks	15
<b>Semesters:</b>	3 <sup>rd</sup> and 4 <sup>th</sup>			

**Contents:** Homeostasis. Physiology of the neuron. Intercellular communication. Physiology of muscle: skeletal, smooth, cardiac. Cardiovascular physiology. Blood flow and arterial pressure regulation. Blood. Regulation of erythropoiesis. Pulmonary ventilation. Gas diffusion and transport. Gastrointestinal physiology: motor function, secretion, digestion and absorption.



Physiology of the kidney. Mechanisms of urine formation. Central nervous system: motor, sensory, autonomic and integrative functions. Physiology of the endocrine system.

**Assessment:** W/O, semester 4<sup>th</sup>

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**BIostatistics and Medical Informatics:** ECTS credits 2.3

<b>Horarium:</b>	Lectures	15	Weeks	15
	Practicals	30	Weeks	15
<b>Semester:</b>	3 <sup>rd</sup>			

**Contents:** Stages in information processing. Information transfer. Computers. Means for information transfer and processing. Computer networks. Logical principles of programming. Disk operation system. WINDOWS operation environment. Databases. Expert systems. Statistic evaluation of the medical and biological phenomena.

**Assessment:** Ongoing assessment, semester 3<sup>rd</sup>



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**MEDICAL ETHICS:** ECTS credits 3.2

<b>Horarium:</b>	Lectures	15	Weeks	15
	Practicals	15	Weeks	15
<b>Semesters:</b>	1			

**Contents:** Biological and social dimensions in human life. Health and disease. Medical ethical problems related to the reproductive behavior. Paternalism and autonomy in medicine. Relationships between physician and patient. Physicians' confidentiality. Ethical and deontological dilemmas in medicine. Ethics, law and health policy.

**Assessment:** Ongoing assessment, semester 1<sup>st</sup>

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**BULGARIAN LANGUAGE FOR INTERNATIONAL STUDENTS:** ECTS credits 6.3

<b>Horarium:</b>	Practicals	120	Weeks	30
<b>Semesters:</b>	1, 2			

**Contents:** The language education in the Medical Faculty is obligatory. The students choose one of the following languages: French, German and Russian. Foreign language education requires the knowledge and skills, acquired during the secondary education. The

aims are: To provide knowledge and ability to (1) read and translate specialized literature in the field of medicine, (2) make summaries using the foreign language, (3) carry on conversation on medical problems.

**Assessment:** Ongoing assessment, semester 4<sup>th</sup>

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**STUDENTS' SPORTS:** ECTS credits 3.0

<b>Horarium:</b>	Practicals	60	Weeks	45
<b>Semesters:</b>	1,2 and 3			

**Contents:** To help students and their teachers to balance weekly the mental load and the emotions, three forms of sport activity are being offered: standard term classes; competitive classes; additional courses on water and winter sports after the terms. Term classes: aerobics, badminton, basketball, bodybuilding, volleyball, calanetics, swimming, skiing, tennis, table tennis, and football. Yearly the Department organizes sea and mountain courses during the holidays. The students can practice yachting, sculling, surfing, and swimming. The students can acquire skiing skills (at two different levels) and practice tourism.

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**SOCIAL MEDICINE:** ECTS credits 5.2

**Horarium:**

<b>Semester 4</b>	Lectures	30	Weeks	15
	Practicals	15	Weeks	15
<b>Semester 5</b>	Lectures	30	Weeks	15
	Practicals	30	Weeks	15
<b>Semesters:</b>	4 <sup>th</sup> and 5 <sup>th</sup>			

**Contents:** General methods of Social Medicine. Sociological information in medicine and health services. Primary sociological information collection. Public health. Physical health as a public health index. Morbidity. Medical and social problems in diseases leading to temporal inability to work and disability. Life style and health. International collaboration and international health organizations. Health care as a social system, fundamentals of health policy and legislation. Types of health care systems. Health care management. Management of human resources in the health institutions. Organizations and effectiveness of the work of physicians. Organization of medical care of population. Social and medical problems in the pensioners and the elderly. Working capacity assessment. Population health culture and behavior.

**Assessment:** W/O, semester 5<sup>th</sup>

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**MEDICAL MICROBIOLOGY:** ECTS credits 7.7

**Horarium:**

<b>Semester 4</b>	Lectures	60	Weeks	15
	Practicals	30	Weeks	15
<b>Semester 5</b>	Lectures	30	Weeks	15
	Practicals	30	Weeks	15
<b>Semesters:</b>	4 <sup>th</sup> and 5 <sup>th</sup>			

**Contents:** Taxonomy of bacteria. Morphology of bacteria. Physiology of bacteria. Viruses - structure and biological characteristics. Genetics of the bacteria and phages. Chemotherapy - principles. Resistance of the microorganisms. Infection, infectious process, infectious disease. Immunity. Natural resistance. Acquired immunity. Antigens. Antigenic structure of the microorganisms. Immune response. Cellular immunity. Immune pathology. Immunoprophylaxis

and immunotherapy. Vaccines and serums – types. Immunization Calendar in the Republic of Bulgaria. Immunomodulation.

**Assessment:** W/O, semester 5<sup>th</sup>

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**MEDICINE OF DISASTERS:** ECTS credits 2.3

<b>Horarium:</b>	Lectures	15	Weeks	15
	Practicals	30	Weeks	15

**Semester:** 5<sup>th</sup>

**Contents:** General characteristics of the disasters. Organization of the defense of the population. Organization of the medical care in disasters. Planning and management. Radioecology. Biological action of the ionizing radiation in external irradiation. Biological action during radionuclide incorporation into the organism. Principles of the treatment of acute poisoning. Radiation injuries. Methods and means of detection of toxic substances and gas cleaning.

**Assessment:** Ongoing assessment, semester 5<sup>th</sup>

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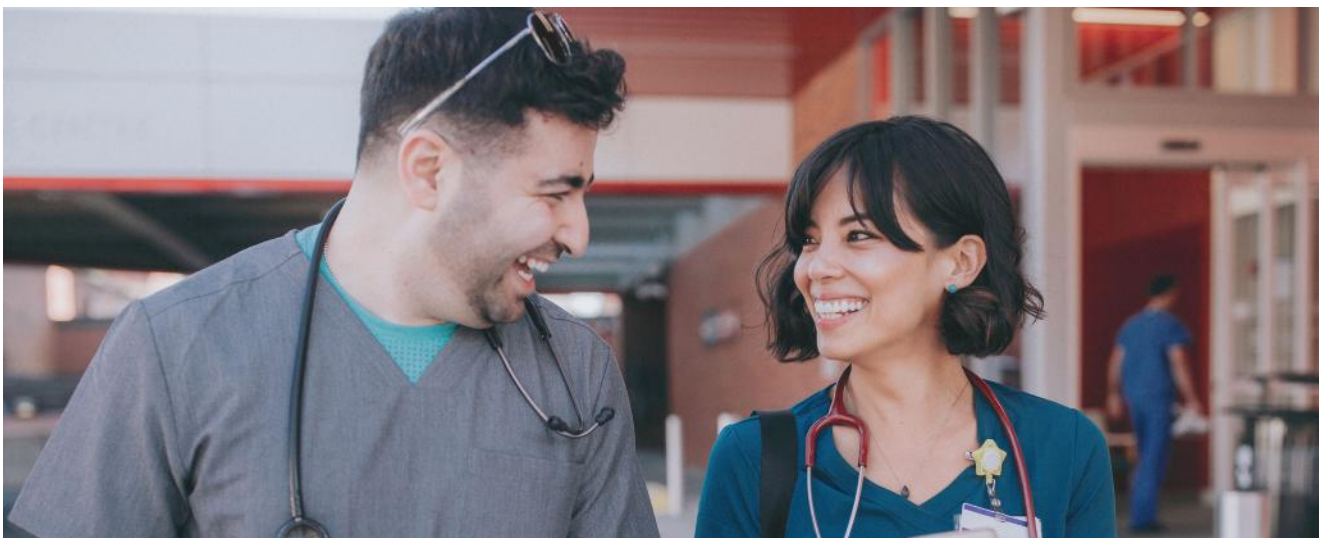
**MEDICAL GENETICS:** ECTS credits 2.9

<b>Horarium:</b>	Lectures	30	Weeks	15
	Practicals	30	Weeks	15

**Semester:** 5<sup>th</sup>

**Contents:** Methods of genetic examination. Mutagens and teratogens. Chromosomal diseases. Molecular diseases. Hereditary errors in metabolism. Pharmacogenetics. Immune response genetic control. Genetic polymorphism. Polygene. Inborn malformations. Genetics of mental insufficiency. Genetic predisposition to malignant diseases. Medical genetic consultation. Prenatal diagnostics. Genetic screening and monitoring. Organization of the genetic prevention in the country and the tasks of the medical practitioners.

**Assessment:** W/O, semester 5<sup>th</sup>



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**PATHOPHYSIOLOGY:** ECTS credits 6.8

<b>Horarium:</b>	Lectures	60	Weeks	30
	Practicals	60	Weeks	30

**Semesters:** 5<sup>th</sup> and 6<sup>th</sup>

**Contents:** Health and disease. Terminal states. General etiology. General pathogenesis. Peripheral circulation and microcirculation. Reactivity and resistance. Immune reactivity. Hypoxia. Inflammation. Fever. Pathological physiology of the blood, respiratory, cardiovascular, and digestive system; liver, urinary, endocrine, and nervous systems.

**Assessment:** W/O, semester 6<sup>th</sup>

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**PHARMACOLOGY:** ECTS credits 8.6

**Horarium:**

**Semester 5** Lectures 45 Weeks 15  
Practicals 45 Weeks 15

**Semester 6** Lectures 30 Weeks 15  
Practicals 45 Weeks 15

**Semesters:** 5<sup>th</sup> and 6<sup>th</sup>

**Contents:** General principles of pharmacology: pharmacokinetics, drug interaction, toxicology. Chemical mediators: cholinergic and adrenergic transmission and other peripheral mediators. Neurotransmission. Neuropsychopharmacology. Drugs used in treating motor disorders: Epilepsy, Parkinsonism. Central and local anesthetics. Analgetics. Cardiovascular pharmacology. Diuretics. Haemopoiesis. Haemostasis. Anti-coagulants. Pharmacology of the respiratory system. Gastro-intestinal pharmacology. Endocrine system pharmacology. Reproductive system. Chemotherapy: antibacterial, antiviral. Antifungal, antiprotozoal, antihelminthic agents. Cancer chemotherapy. Immunopharmacology.

**Assessment:** W/O, semester 6<sup>th</sup>

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**GENERAL PATHOLOGY:** ECTS credits 0

**Horarium:**

**Semester 5** Lectures 30 Weeks 15  
Practicals 30 Weeks 15

**Semester 6** Lectures 15 Weeks 15  
Practicals 30 Weeks 15

**Semesters:** 5<sup>th</sup> and 6<sup>th</sup>

**Contents:** Injuries of the cell and intercellular matrix. Necrosis. Circulatory disturbances. Inflammation. Immunotherapy. Compensatory and reparative processes. Tumors. Abnormalities in the development of the organism.

**Assessment:** 0

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**PROPEDEUTICS OF INTERNAL DISEASES:** ECTS credits 11.6

**Horarium:**

**Semester 5** Lectures 30 Weeks 15  
Practicals 90 Weeks 15

**Semester 6** Lectures 30 Weeks 15  
Practicals 90 Weeks 15

**Semesters:** 5<sup>th</sup> and 6<sup>th</sup>

**Contents:** Initial examination of the patient. History. Status. Physical methods of patient examination. Main syndromes and symptoms in the respiratory system diseases. Main symptoms

and syndromes in cardiovascular system diseases. Disease manifestations and methods of examination of the gastrointestinal system. Liver. Bile ducts. Pancreas. Principal symptoms and syndromes. Main diseases. Principal symptoms and syndromes in urinary system diseases; methods of examination. Haematopoietic system. Endocrine system. Insulin-producing apparatus. Diabetes mellitus. Hypoglycaemia. Other disorders of the metabolism. Diseases of the muscles, joints, and bones.

**Assessment:** W/O, semester 6<sup>th</sup>

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### **GENERAL AND OPERATIVE SURGERY: ECTS credits 8.6**

**Horarium:**

<b>Semester 5</b>	Lectures	30	Weeks	15
	Practicals	45	Weeks	15
<b>Semester 6</b>	Lectures	30	Weeks	15
	Practicals	60	Weeks	15

**Semesters:** 5<sup>th</sup> and 6<sup>th</sup>

**Contents:** Surgical department (clinic) organization and planning. Surgical instruments. Suture materials. Dressing and additional materials. Surgical clothing. Antiseptics and aseptics. Surgical operation. Main procedures and interventions in surgery. Puncture. Sounding. Tomia, incision, excision, stomia, anastomosis, bypass, resection, amputation. Main principles of transplantation. Organ transplantation. Anaesthesia. Local anaesthesia. Pain and pain relief. Resuscitation. Shock. Clinical death. Traumatic diseases. Bleeding. Blood transfusion. Surgery, AIDS, Hepatitis B. Surgical infection. Surgical oncology. Necrosis and gangrene. Ulcer and fistula. Surgical endoscopy. Endoscopic surgery.

**Assessment:** W/O, semester 6<sup>th</sup>

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### **IMAGING DIAGNOSTICS, NUCLEAR MEDICINE AND ONCOLOGY (Module):**

ECTS credits 5.0

**Horarium:** Lectures - 40 hours  
Practicals - 95 hours

**Study period:** Year 4<sup>th</sup>, module teaching system. Duration - 3 weeks

**Contents:** Techniques for X-ray examination. Radiological investigation of the central nervous system, urinary tract and bones. Basic theory and principles of the nuclear medicine. Radio pharmaceuticals. Equipment. Radioimmunologic analysis. Nuclear diagnostics of the urinary tract, respiratory system, cardiovascular system, haematopoietic organs, digestive tract, locomotory system, and nervous system. Radioactivity. Clinical dosimetry. Radio biologic actions of the ionizing radiation. Indications and contraindications for radiotherapy.

**Assessment:** W/O, year 4<sup>th</sup>

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### **OTO-RHINO-LARYNGOLOGY (Module): ECTS credits 3.6**

**Horarium:** Lectures - 30 hours  
Practicals - 60 hours

**Study period:** Year 4, module teaching system. Duration - 3 weeks

**Contents:** Clinical anatomy of the middle and the inner ear. Physiology of the auditory and vestibular sensory systems. Acute inflammations of the middle ear. Mastoiditis. Chronic otitis - mesotympanitis, epitympanitis. Otosclerosis. Menier's disease. Extradural and

subdural abscess. Deafness and deafdumbness. Clinical anatomy and physiology of the nose. Nosebleed. Acute and chronic rhinitis. Anatomy of the throat. Adenoid vegetations. Tonsillitis. Chronic pharyngitis. Chronic tonsillitis. Clinical anatomy of the larynx. Physiology of the larynx. Acute and subchordal laryngitis. Chronic laryngitis. Laryngeal edema and abscess. Tracheotomy. Laryngeal paralyses. Laryngeal carcinomas.

**Assessment:** W/O, year 4<sup>th</sup>



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**HYGIENE, ECOLOGY AND OCCUPATIONAL DISEASES (Module):** ECTS credits 6.0

**Horarium:** Lectures - 45 hours  
Practicals - 105 hours

**Study period:** Year 4<sup>th</sup>, module teaching system. Duration - 4 weeks

**Contents:** Hygienic and ecological problems of population. Climate and weather. Acclimatization. Climatotherapy and climatoprophylaxis. Water and water-supply. Personal hygiene. Mental health. Nutriology and nutrition hygiene. Occupational risk factors and occupational diseases. Physical factors. Micro-climate and nonionizing radiation. Occupational chemical factors. Childhood and adolescence hygiene. Pneumoconioses. Occupational bronchial asthma and chronic bronchitis. Chronic poisoning. Vibration disease. Occupational disorders of the hearing and vestibular analyzers. Occupational disorders of the vision. Occupational accidents and diseases.

**Assessment:** W/O, year 4<sup>th</sup>

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**OPHTHALMOLOGY (Module):** ECTS credits 3.6

**Horarium:** Lectures - 30 hours  
Practicals - 45 hours

**Study period:** Year 4<sup>th</sup>, module teaching system. Duration - 3 weeks

**Contents:** Light sensing. Colour sensing. Visual acuity – techniques for examination. Binocular visus. Diseases of the orbital cavity and eyelids, conjunctiva, and lacrimal apparatus, cornea and sclera, vascular cover of the eye, retina, optic nerves, lens and the vitreous body. Glaucoma. Eye injuries. First aid in ophthalmology. Operating theater.

**Minimum practical skills:** Inspection of the eye-ball and eyelids movement. Examination of the light sensing and adjustment. Color sensing examination using tables. Visual acuity, perception and projection examination. Tentative perimetry. Forster's perimetry. Focal lighting, simple and combined. Ophthalmoscopy. Retinoscopy. Palpatory investigation of the eye

pressure. Eye pressure measurement using Maclakov's tonometer. Refraction and adjustment investigation. Refraction glasses choice by neutralization. Corneal sensitivity investigation. Concomitant and paralytic strabismus differentiating. Manual examination of the orbital edge.

Shirmer's tear secretion test. Lacrimal sac pressing out. Color test for lacrimal tract patency investigation (lacrimal tract and nose tests). Upper lid up turning and fornix exposing. Conjunctival cavity bathing. Eye-drop and eye ointment application. Mono- and binocular binding up. Fluorescein coloring of corneal epithelial defects. Mirror-image investigation of the cornea. Deviated cilia epilation. Conjunctival and corneal foreign bodies' removal. Pupillary light reflex examination.

**Assessment:** W/O, year 4<sup>th</sup>

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**NEUROLOGY (Module):** ECTS credits 5.9

**Horarium:** Lectures - 60 hours  
Practicals - 60 hours

**Study period:** Year 4<sup>th</sup>, module teaching system. Duration - 4 weeks

**Contents:** Reflex activity - pathological changes. Sensory functions. Motor functions. Autonomic nervous system. Reticular formation and limbic system. Supreme cortex functions. Peripheral nervous system. Cranial nerves. Peripheral nerve diseases. Meningitis. Encephalomyelitis. Demyelinating encephalomyelitis. Borreliosis of the nervous system. Congenital degenerative diseases of the nervous system. Epilepsy. Injuries of the nervous system. Neurologic conditions caused by alcohol abuse. Neurointoxications. Neuroses. Headache.

Minimum practical skills: Clinical examination of the patient with neurological disorders. Diagnosis, differential diagnosis and management of patients with the following most important diseases: acute cerebrovascular disorders (including transportation and outpatient stroke management); epilepsy and status epilepticus; meningitis and other inflammatory diseases of the central and peripheral nervous system; skull and brain injuries - emergency treatment and transportation; myasthenic crisis – emergency management; peripheral nervous system diseases and severe pain syndromes (including polyneuritis and discal hernia) - management and a medical specialists' report. Indications and contraindications for a spinal puncture. Liquor tests interpretation.

**Assessment:** W/O, year 4<sup>th</sup>

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**GENERAL MEDICINE (Module):** ECTS credits 3.2

<b>Horarium:</b>	Lectures	15	Week	15
	Practicals	15	Week	15

**Study period:** Year 4<sup>th</sup>, module teaching system. Duration - 5 days

**Contents:** Health care organization. Primary health care in the Republic of Bulgaria. Main duties of the General Practitioner in health care, prevention and treatment in general practice. Communication between the physician and the patient. Health management: the General Practitioner as an organizer and main executor of the tasks in the established practice.

**Assessment:** Ongoing assessment, year 4<sup>th</sup>

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**CLINICAL PATHOLOGY (Module):** ECTS credits 8

**Horarium:** Lectures - 45 hours  
Practicals - 60 hours

**Study period:** Year 4<sup>th</sup>, module teaching system. Duration - 4 weeks, in parallel with Internal Diseases.

**Contents:** Diseases of the digestive system, liver, gall bladder, and the pancreas, cardiovascular system, respiratory tract, hemopoetic system, lymphatic nodes, endocrine glands, urinary tract, male and female reproductive systems. Diseases related to gravidity and delivery. Diseases of the fetus. Drug related disorders. Diseases of the bones and muscles.

**Assessment:** W/O, year 4<sup>th</sup>

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**CLINICAL PHARMACOLOGY (Module):** ECTS credits 2.4

**Horarium:** Lectures - 30 hours  
Practicals - 30 hours

**Study period:** Year 5<sup>th</sup>, module teaching system. Duration - 2 weeks.

**Contents:** Pharmacokinetic approaches to drug dosage. Drug therapy monitoring. Clinical pharmacodynamics. Clinical chronopharmacology. Clinical pharmacokinetics. Drug administration in gravid and breast feeding women. Drug administration in elderly patients. The disease progress as a factor influencing drug action. Clinically significant drug interactions. Clinical and pharmacological approaches to vigilance treatment optimizing and pain treatment optimizing. Adverse drug reactions. Pharmacoepidemiology. Pharmacoeconomics.

**Minimum practical skills:** Drug treatment necessity assessment. Appropriate drug choice according to the individual characteristics of the particular patient. Personal drug list development and emlisting the chosen medicine. Preparing of the rationale regimen of the chosen drug. Effective communication techniques to promote patient cooperation and compliance with treatment. Assessment of the effect and the treatment duration.

**Assessment:** W/O, year 5<sup>th</sup>

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**OBSTETRICS AND GYNECOLOGY (Module):** ECTS credits 8.0

**Horarium:** Lectures - 60 hours  
Practicals - 150 hours

**Study period:** Year 5, module teaching system. Duration - 6 weeks.

**Contents:** Fertilization. Constitutional changes in pregnant women.

Normal delivery. Prematurely pregnancy interrupting. Abortion and premature birth. Hemorrhages during the fetus and placenta delivery. Fetus in jeopardy. Diabetes and pregnancy. Abnormal presentations of the fetus. Geminated pregnancy. Physiology and pathology in the new-born and shielded period. Delivery anaesthesia. Cesarean section. Physical examination in gynecology. Precanceroses and neoplasms of the vulva, vagina and cervix. Extrauterine pregnancy. Myoma of the uterus. Sterility. Childhood and adolescence gynecology. Family planning. Breast diseases. Endometrioses. Congenital diseases of the genital organs. Climacteric. Menopause.

**Minimum practical skills:**

**Obstetrics:** History taking and physical examination of the pregnant woman. Fetal sounds auscultation. Endovaginal examination. Basic skills in ultrasound examination. Conducting normal delivery. Participation in Cesarean section. Initial management of the newborn. Primary resuscitation of the newborn. Management of the woman in the early puerperium.

**Gynecology:** History taking and physical examination in gynecology. Vaginal examination using speculum. Bimanual palpation. Native preparation microscopy. Taking probe for cytological testing. Cytological and histological report analysis. Participation in experimental uterine curettage and rectouterine pouch puncture. Preoperative and postoperative management of the woman. Participation in abdominal and vaginal gynecological surgery.

**Assessment:** W/O, year 5<sup>th</sup>





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**DERMATOLOGY AND VENEROLOGY (Module):** ECTS credits 3.6

**Horarium:** Lectures - 45 hours  
Practicals - 45 hours

**Study period:** Year 5<sup>th</sup>, module teaching system. Duration - 3 weeks.

**Contents:** Physiology and functions of the skin. Treatment of the skin diseases. Skin diseases caused by external agents influence. Eczema. Allergic dermatoses. Papulose and erythematose-squamose dermatoses. Genodermatoses. Bullose dermatoses. Autoimmune connective tissue diseases. Vascular dermatoses. Skin neoplasms. Diseases of the skin appendices. Mycoses. Bacterial infections of the skin. Dermatoviroses. Venereal diseases. Syphilis. Gonorrhoea. AIDS.

**Assessment:** W/O, year 5<sup>th</sup>

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**PEDIATRICS (Module):** ECTS credits 8.4

**Horarium:** Lectures - 90 hours  
Practicals - 120 hours

**Study period:** Year 5<sup>th</sup>, module teaching system. Duration - 6 weeks.

**Contents:** Current clinical and prevention problems of pediatrics. Physiologic characteristics of the water – electrolyte balance in children. Physiology of immunity. Immune deficiency disorders in children. Genetic problems in pediatrics. Cytological diagnosis. Prenatal prevention of the congenital disorders. Neonatal pathological conditions. Jaundice in infants and children. Physiology and pathology of the puberty. Rickets and rickets-like conditions. Childhood pneumonopathies. Bronchial asthma. Congenital heart diseases. Myocarditis. Connective tissue disorders. Anemia in children. Reactive arthritis and spondylarthropathia. Hemorrhagic diatheses. Leukemia and malignant lymphoma. Oncological diseases in childhood. –Acute and chronic diarrhea in childhood. Infusion therapy. Chronic hepatitis and liver cirrhosis. Acute

glomerulonephritis. Hematuria in children. Chronic nephritis. Nephrosis. Endocrine disorders in children. Carbohydrate metabolism disorders. Diabetes. Convulsion disorders; coma in children. Heart failure in the newborn and infants.

**Minimum practical skills:** History taking and physical examination of the newborn, infants and children. Anthropometric measurements. Thyroid gland palpation. Blood pressure measurement in children. Sputum sampling. Peripheral blood count. Bone marrow sampling. General and sterile urine sampling and testing. Joint physical examination (edema, local temperature, motion capacity, circumference and goniometry). Venous blood sampling and intravenous drug application. Mantoux test performance and interpretation. Insertion and management of central and peripheral intravenous catheter. Oxygen mask setting and control. Urethral catheter insertion. Upper respiratory tract secretion aspiration. Lumbar puncture performance. ECG recording. Vital signs monitoring. Pulse therapy - conduction and monitoring. Genetic consultation recommending. Genealogical investigation. Physical examination in patients with large and small congenital abnormalities.

**Assessment:** W/O, year 5<sup>th</sup>

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**INTERNAL DISEASES (Module):** ECTS credits 21.6

**Horarium:** Lectures - 150 hours  
Practicals - 360 hours

**Study period:** Module teaching system during the fourth and fifth academic year. Duration -18 weeks, including preliminary examination at the end of each cycle.

**Contents:**

### **Cardiology**

Chronic congestive heart failure. Acute heart failure. Cardiogenic shock. Rhythm and conduction disturbances. Heart valve diseases. Atherosclerosis and ischemic heart disease. Myocardial infarction. Essential systemic hypertension. Secondary hypertension. Infectious endocarditis. Myocarditis and cardiomyopathies. Acute and chronic pericarditis.

### **Gastroenterology**

Instrumental examinations and laboratory tests in gastroenterology. Esophageal, stomach, and duodenal diseases. Chronic diseases of the liver. Diseases of the pancreas. Differential diagnosis of the jaundice. Diagnosis and treatment of the intestinal diseases. Diagnostic algorithm and management of gastrointestinal neoplasm.

### **Nephrology**

Acute glomerulonephritis. Chronic glomerulonephritis. Concomitant nephropathies. Pyelonephritis. Interstitial nephropathies. Acute renal failure. Chronic renal failure.

### **Pulmonology**

Chronic obstructive pulmonary disease (COPD). Treatment of the bronchial obstruction. Pneumonia. Pulmonary carcinoma. Pulmonary tuberculosis.

### **Endocrinology**

Diabetes mellitus. Function and diseases of the hypothalamus and the pituitary gland. Adrenal glands – function and diseases. Diseases of the thyroid gland.

### **Hematology**

Anemia. Leukemia. Lymphomas. Paraproteinemia. Hemorrhagic diathesis. Thromboembolism.

### **Allergology**

Basic theory of pathogenesis and treatment of allergic diseases. Bronchial asthma. Medicamentous allergy. Anaphylactic shock and serum disease. Treatment of the allergic diseases.

### **Rheumatology**

Rheumatoid arthritis. Collagenosis.

### **Toxicology**

Acute exogenous poisoning. Drug toxicity. Poisoning with industrial and home-made toxins.  
**Assessment:** W/O, year 5<sup>th</sup>

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**CLINICAL LABORATORY (Module):** ECTS credits 2.4

**Horarium:** Lectures - 30 hours Practicals - 30 hours

**Study period:** Year 5<sup>th</sup>, module teaching system. Duration – 2 weeks.

**Contents:** Hematologic laboratory tests of peripheral blood samples. Laboratory tests of the bone marrow. Cytochemical and cytometric techniques. Laboratory diagnosis of the red blood cell diseases. Laboratory diagnosis of leukemia and other diseases of the white blood cells.

Clinical and laboratory testing of blood clotting and fibrinolysis. Water balance and osmolality. Electrolyte and microelements testing. Protein detecting in biological fluids. Albuminuria. Laboratory testing of patients with renal diseases. Enzyme detecting in biological fluids. Laboratory determination of lipids and lipoproteins. Carbohydrate metabolism disturbances investigation. Hormone determination in biological fluids. Drug monitoring and toxicology. Laboratory diagnosis of malignant neoplasms, genetic and multifactorial diseases.

**Assessment:** Ongoing assessment, year 5<sup>th</sup>

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**CLINICAL IMMUNOLOGY (Module):** ECTS credits 1.2

**Horarium:** Lectures - 15 hours  
Practicals - 15 hours

**Study period:** Year 5<sup>th</sup>, module teaching system. Duration - 1 week

**Contents:** Immune deficiency diseases. Autoimmunity and autoimmune diseases. Immunologic aspects of renal and gastrointestinal diseases, hepatic and biliary immune-mediated diseases. Lymphoproliferative and hematologic diseases. Transplantation immunology. Immunology of neoplasm growth.

**Assessment:** Ongoing assessment, year 5<sup>th</sup>

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**SURGERY (Module):** ECTS credits 10.8

**Horarium:** Lectures - 90 hours  
Practicals - 180 hours  
Clinical attachment - 60 hours

**Study period:** Module teaching system during the fourth and fifth academic year. Duration - 8 weeks, including preliminary examination in the 4<sup>th</sup> and final examination in the 5<sup>th</sup> academic year.

**Contents:**

**Forth academic year:**

**Chest surgery** - Lung cysts and neoplasms. Diseases of the pleura. Mediastinal diseases.

Esophageal and diaphragm diseases. Chest injuries – blunt and opened.

**Cardiovascular surgery** - Acute chronic venous and arterial insufficiency. Surgery in congenital and acquired heart diseases.

**Fifth academic year:**



**Abdominal, neck, and breast surgery** - Multiple and combined injuries. Ileus. Acute and chronic appendicitis. Peritonitis. Acute pancreatitis. Congenital, traumatic, and inflammatory diseases and neoplasms of the neck. Thyroid gland diseases. Breast diseases. Ulcer diseases. Precanceroses and carcinoma of the stomach. Cholelithiasis. Cholecystitis. Echinococcus and abscess of the liver. Hepatic and extrahepatic biliary system neoplasms. Spleen diseases.

Pancreas neoplasms. Neoplasms of the bowel. Hemorrhoids. Fistula. Paraproctitis, dermoid cysts. Rectal carcinoma.

**Face surgery**

**Pediatric surgery** - Acute appendicitis, peritonitis, and intussusception in childhood. Acute purulent diseases of the lung and the pleura in childhood. Congenital diseases of the esophagus, small intestine and the bowel.

**Neurosurgery** - Injuries of the skull and the brain. Brain tumors. Injuries of the spinal cord and the periphery nerves.

**Assessment:** W/O, year 5<sup>th</sup>

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**NEUROSURGERY (Module):** ECTS credits 1.2

**Horarium:** Lectures - 10 hours  
Practicals - 20 hours

**Study period:** Module teaching system during the fifth academic year.

**Contents:**

**Neurosurgery** - Injuries of the skull and the brain. Brain tumors. Injuries of the spinal cord and the periphery nerves.

**Assessment:** W/O, year 5<sup>th</sup>

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**ORTHOPEDECS AND TRAUMATOLOGY (Module):** ECTS credits 3.6

**Horarium:** Lectures - 30 hours  
Practicals - 60 hours

**Study period:** Year 5<sup>th</sup>, module teaching system. Duration – 3 weeks.

**Contents:** Clinical examination in orthopedics and traumatology. Basic operative and non-operative curative techniques. Instruments in orthopedics and traumatology.

Aseptic necrosis. Congenital hip dislocation. Bone neoplasm. Degenerative disorders and inflammatory diseases of the bones and muscles. Curative techniques in patients with distortion, luxation, and fractures. Humeral, elbow, forearm and palmar fractures and luxations. Pelvic and coxofemoral fractures and luxations. Leg fractures and luxations. Knee injuries. Spinal column fracture and fracture-luxation.

**Minimum practical skill:** Examination of the orthopedic patient. Dressing. Stitches taking out. Plaster setting performing. Direct and indirect extension techniques application. Large joint puncture. Local corticosteroid application. Preoperative surgeon hands and operative field preparing. Participation in orthopedic surgery. Orthopedic devices application.

**Assessment:** W/O, year 5<sup>th</sup>

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**PSYCHIATRY (Module):** ECTS credits 3.6

**Horarium:** Lectures - 45 hours  
Practicals - 30 hours

**Study period:** Year 6<sup>th</sup>, module teaching system. Duration - 3 weeks.

**Contents:** The course is designed to acquaint students with the basic psychiatric procedures.

Therapeutic communication – the emphasis is on the confidence forming and susceptibility enhancing as prerequisites for interview or session performing.

Clinical skills – training in selected fields of the clinical psychiatric assessment (interview). Theoretical training – introduction to basic theory of psychiatry needed in daily clinical practice. Training programmes are based on the active participation of the students.

**Minimum practical skills:** Therapeutic communication. Preadmission examination. Following up. Psychological test performing. Case report. Therapeutic programme formulation. Individual session. Compulsion exerting. Team session. Case discussion. Supervision. Depression, anxiety, suicide intention, psychosis, relapse, delirium, dementia, and drug side effects assessment. Collaboration with psychologist.

**Assessment:** W/O, year 6<sup>th</sup>

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**UROLOGY (Module):** ECTS credits 2.4

**Horarium:** Lectures - 15 hours  
Practicals - 30 hours

**Study period:** Year 6<sup>th</sup>, module teaching system. Duration – 2 weeks.

**Contents:** Urogenital system abnormalities. Urolithiasis. Urogenital neoplasms. Prostate gland adenoma and carcinoma. Inflammatory diseases of the urogenital system. Urogenital tuberculosis. Andrologic problems in urology.

**Assessment:** Ongoing assessment, year 6<sup>th</sup>

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**ANESTHESIOLOGY AND REANIMATION (Module):** ECTS credits 3.6

**Horarium:** Lectures - 30 hours  
Practicals - 45 hours

**Clinical attachment - 22.5**

**Study period:** Year 6<sup>th</sup>, module teaching system. Duration – 3 weeks.

**Contents:** Types of anesthesia. General anesthesia. Inhalatory anesthesia. Equipment. Inhalatory anesthesia conduction. Muscle relaxants. Intravenous anesthesia. Neuroleptanalgesia. Total intravenous anesthesia. Clinical application of the contemporary anesthetics. Local anesthetics. Preoperative, operative and postoperative resuscitation. General response of the organism to an injury. Homeostasis. Infusion therapy. Definition of the terms water-electrolyte balance, protein balance, base-acid balance, and caloric balance. Enteral, parenteral and mixed feeding. Syncope, collapse and shock. Hypovolemia. Management of the shock. Hemotransfusion. Drug treatment. Acute respiratory disorders.

Methods of outpatient and hospital artificial respiration. Acute circulatory disorders. Apparent death. Anesthesia and intensive care in obstetrics and gynecology.

**Assessment:** Ongoing assessment, year 6<sup>th</sup>

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**PHYSIOTHERAPY AND REHABILITATION (Module):** ECTS credits 2.4

**Horarium:** Lectures - 15 hours  
Practicals - 30 hours

**Study period:** Year 6<sup>th</sup>, module teaching system. Duration – 2 weeks

**Contents:** Rehabilitation – character, classification, aims, equipment, and contingent. Galvanic treatment. Low frequency and low voltage current treatment. Medium frequency current treatment. Ultrasound. High frequency current. Light. Kinesiatrics. Application in preventive medicine. Natural physical factors – water therapy, balneotherapy, climatotherapy.

**Assessment:** Ongoing assessment, in year 6<sup>th</sup>

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**EPIDEMIOLOGY, INFECTIOUS DISEASES, MEDICAL PARASITOLOGY AND TROPICAL DISEASES (Module):** ECTS credits 7.2

**Horarium:** Epidemiology and infectious diseases  
Lectures - 60 hours  
Practicals - 60 hours

Medical Parasitology and Tropical Diseases

Lectures - 15 hours  
Practicals - 15 hours

**Study period:** Year 6<sup>th</sup>, module teaching system. Duration – 6 weeks.

**Epidemiology** - Theory of the epidemiological process. Epidemiology of the salmonellosis, abdominal typhus and paratyphus A, B and C; diphtheria; influenza and acute respiratory diseases; Eruptive infectious diseases; virus hepatitis, neuroinfections, AIDS, hospital infections; enterovirus infections; chlamydial infections.

**Infectious diseases** - Infection, infectious process and infectious diseases. Diagnosis and treatment of the infectious diseases. Diarrhea. Salmonellosis, abdominal typhus, paratyphus A,B and C. Diphtheria. Influenza and acute respiratory diseases. Virus hepatitis, Neuroinfections. AIDS. Arbovirus infections. Rickettsial diseases: Q-fever, Marseilles fever. Shigellosis and colibacillosis. Cholera. Clinical manifestations and treatment of the hospital infections. Tetanus, anthrax. Hemorrhagic fever. Lyme disease.

**Parasitology** - Parasitism. Parasite-host interaction. Epidemiology of parasitoses. Pathogenesis of the parasitoses. Contemporary diagnostic techniques, basic principles of therapy and drug-prevention of parasitoses. Malaria. Blood and intestinal protozoan infections. Tropical parasitoses. Helminthiases. **Tropical medicine** - Mycobacterial and spirochete tropical infections. Arbovirus tropical infections. Penetrating mycoses. Tropical rickettsial and chlamydial infections.

**Assessment:** W/O, year 6<sup>th</sup>



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**FORENSIC MEDICINE AND DEONTOLOGY (Module):** ECTS credits 3.6

**Horarium:** Lectures - 30 hours  
Practicals - 45 hours

**Study period:** Year 6<sup>th</sup>, module teaching system. Duration – 3 weeks.

**Contents:** Forensic medicine experts' report in patients with mechanical trauma; transport injuries. Vital and postmortal injuries. Forensic medicine corpse investigation. Forensic medicine personality identification. Sex, sexual manifestations and sexual crimes. Investigation in contested parenthood, mechanical asphyxia, and poisoning. Medical deontology. Experimental trial in humans. Euthanasia. Medical mistakes and accidents in medical practice.

**Minimum practical skills:** Forensic medicine experts' report drawing up using forensic medicine record data. A living person certification. Documentation issuing. Preparing of lung native preparation for fatty embolism testing. Histological test sample preparing. A living person and corpse blood sampling for alcohol testing, for chemical testing. Sample preparing for virusological, bacteriological, biological testing. Air embolism testing.

**Assessment:** W/O, year 6<sup>th</sup>

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**SUMMER PRACTICE**

**after the 2<sup>nd</sup> semester 15 calendar days**

**after the 4<sup>th</sup> semester 15 calendar days**

**after the 6<sup>th</sup> semester 15 calendar days**

**TOTAL HOURS OF PRACTICE**

**After the 1<sup>st</sup>, 2<sup>nd</sup> and 3<sup>rd</sup> year- 45 days, 8 hours per day - 360 hours**

**PRACTICE AFTER THE 2<sup>nd</sup> and 4<sup>th</sup> SEMESTER**

**Activities**

Sanitary treatment of a newly admitted patient – bathing, dressing, getting into a hospital. Hospital bed arranging. Special considerations of surgery, intensive care, and infant patient bed arranging. Patient's household linen changing. Care for in-patient's personal hygiene. Patient feeding. Patient and room preparation for doctor's round. Disinfectant solution preparing and usage. Dressing preparing for sterilization. Linen preparation. An in-patient transportation using a stretcher or sedan-chair. A motionless patient accompanying. Blood group determination. Participation in an on duty report and duty delivering.

**PRACTICE AFTER the 6<sup>th</sup> SEMESTER**

Temperature and pulse frequency measurement. An enema giving. Injections – intravenous infusion setting. Massage performing and compress applying. Secretion sampling, principles of sputum and feces sampling. Principles of blood sampling for microbiological testing Principles of stomach lavage performing. Blood pressure measurement. Formal medical documentation acquainting. Participation in scientific meetings. Plaster dressing and splinting. Assisting in surgery interventions.

## II. CLINICAL PRACTICE AND PRE-GRADUATE INTERNSHIP

### 4<sup>th</sup> and 5<sup>th</sup> year /module system/

92 weeks (5 working days per week) - 460 working days

460 working days (2 hours per day) - 920 hours (115 days)

6<sup>th</sup> year – pre-graduate internship

240 calendar days (8 hours per day) - 1920 hours

**TOTAL: CLINICAL PRACTICE AND PRE-GRADUATE INTERNSHIP - 2 840 hours**



## III. ALLOCATION OF PRE-GRADUATE INTERNSHIP (in calendar days)

Internal Diseases - 30 days

Surgery - 30 days

Obstetrics and Gynecology - 30 days

Pediatrics - 30 days

Hygiene, Infectious Diseases

Epidemiology and Social - 35 days

Medicine Emergency Medicine - 20 days

General Medicine Examination - 15 days

Sessions - 50 days

**TOTAL 240 days**

Clinical practice on a module system - 116 days

**TOTAL pre-graduate Internship  
and clinical practice**

**356 days**

Pre-graduation internship scored on three variables:

Clinical knowledge and skills – history collection and physical examination; diagnosis formulation (plan for diagnosis and diagnostic tests making; clinical diagnosis basing); patient therapeutic plan making.

Practical skills – medical manipulations, instrumental diagnostic and therapeutic procedures,



performing of different imaging diagnostic procedures and image analysis, risk assessment and ways for its diminishing. Each student must perform at least 4 different manipulations, chosen by the lecturer.

Theoretical knowledge – test examination including one or two clinical cases, situation problem and specific questions.



## **GRADUATION EXAMINATIONS (STATE CERTIFICATION EXAMINATION)**

Graduation examinations (including Internal Diseases, Surgery, Obstetrics and Gynecology, Pediatrics, and Hygiene, Epidemiology, Infection Diseases and Social Medicine) are to be passed at the end of the corresponding probation. Students who pass the state examinations are awarded a Master's degree and the qualification of "Master of Medicine (MMed)" with a licence to practise medicine.

**The elective courses/modules for the respective Academic Year are published on the official website of the Faculty of Medicine- Sofia – <http://medfac.mu-sofia.bg>**



## FACULTY OF DENTAL MEDICINE

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The Faculty of Dental Medicine was founded by Decree №32/June 24th, 1942 of His Majesty King Boris III. The Faculty of Dental Medicine is the first autonomous and accredited institution of higher education in Bulgaria providing training of dental medicine doctors, awarding Masters Degree.

From its start in 1942 until now, over 18 000 students were trained here and over 10 000 Bulgarian and 1000 international students from 64 countries in Europe, America, Asia, Australia and Africa have graduated the faculty.

The Faculty of Dental Medicine is renovated with 340 new dental units. There are four auditoriums, seminar halls, research library, pre-graduation training base, post-graduate students' dental surgeries, Center for continuing education in Dental Medicine, preclinical practice training rooms, clinical practice training rooms equipped with typodonts, dental technician laboratory, center for CAD/CAM technologies, Museum on Phylogenesis of Masticatory system, etc. There are a number of well functioning students' research circles and research projects.

The education plan and programmes are in accordance with the directives of the European Union. Currently, 136 highly qualified regular lecturers and teachers work at the Faculty of Dental Medicine, 61 of them with PdD degree, and 6 – with DSc.

The education of students in dental medicine is organized in three stages with duration of five years and six months as pre-graduate internship. During the first two years students receive medico-biological training. The clinical and medical training is realized from the second to the tenth semester and includes education in general medical and specialized dental medicine disciplines. The teaching is carried out by 8 departments. The prediploma internship includes Pediatric Dental Medicine, Conservative Dental Medicine, Oral and Maxillofacial Surgery, Prosthetic Dental Medicine, Periodontology and Orthodontics, and ends with state examinations. Students who pass them successfully are awarded the qualification of a Doctor in Dental Medicine and a Master's degree.

*In the first two years* the programme covers subjects such as Human Anatomy and Histology, Human Cytology and Embryology; Physiology, Physics; Chemistry; Biology; Dental and Biomaterials; Biophysics; Computer Science; Latin language, Foreign Language; Biochemistry; Microbiology; Pharmacology; Preclinical Pediatric Dental Medicine, Preclinical Conservative Dental Medicine, Preclinical Prosthetic Dental Medicine; Social Medicine and Medical Ethics, Medical Psychology, Disaster Medicine, Computer Sciences.

*In the third year* the subjects are: Pathophysiology; Pharmacology; Preclinical Prosthetic Dental Medicine; Clinical Prosthetic Dental Medicine; Preclinical Pediatric Dental Medicine; Clinical Pediatric Dental Medicine; Preclinical Conservative Dental Medicine; Preclinical Oral and Maxillofacial Surgery, General Surgery, Hygiene and Epidemiology.

*In the fourth year* the studied subjects are: Diagnostic Imaging; Oto-Rhino-Laryngology; General Pathology; Internal Diseases; Forensic Medicine, Clinical Prosthetic Dental Medicine; Clinical Conservative Dental Medicine; Orthodontics; Clinical Pediatric Dental Medicine; Clinical Oral a Maxillofacial Surgery, Clinical Dental Allergology; Pediatrics and Infectious Diseases, Obstetrics and Gynecology, Periodontology.

*In the fifth year* the subjects are: Clinical Conservative Dental Medicine; Physiotherapy; Oral and Maxillofacial Surgery; Dermatology and Venerology; Neurology and Psychiatry; Ophthalmology; Clinical Prosthetic Dental Medicine; Orthodontics; Clinical Pediatric Dental Medicine; Periodontology.

Students go through training in a number of other disciplines – Dental Physiotherapy, Allergology, Implant Dentistry, Gnathology and Occlusion, Prevention of Dental Diseases, Oral Pathology.

The Faculty carries out specialization in ten specialties: Pediatric Dental Medicine, Prosthodontics, Oral Surgery, Maxillofacial Surgery, Implant Dentistry, Orthodontics, Periodontology and Diseases of Oral Mucosa, Social Medicine and Public Dental Health, General Dentistry, Maxillofacial Radiology and Oral Imaging Diagnostics. The Faculty disposes of the largest library in the field of Dental Medicine in Bulgaria.

## DISCIPLINES

### CHEMISTRY: ECTS 4.6

<b>Horarium:</b>	Lectures	45	Weeks	15
	Practicals	30	Weeks	15
<b>Semester:</b>	1			

**Objectives:** Studying the general chemical principles, laws and reactions in relation to the student's future practice.

**Contents:** Inorganic chemistry: acid-base equilibrium. Electron transfer. Formation of complex compounds. Organic chemistry: Chemical structure – biological activity relationship (SAR). Chemical properties of the basic classes of organic compounds in the living organisms. Chemical properties of many drugs of importance.

**Assessment:** Ongoing assessment, Final examination - W/O, semester 1<sup>st</sup>

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### PHYSICS: ECTS credits 4.6

<b>Horarium:</b>	Lectures	45	Weeks	15
	Practicals	30	Weeks	15
<b>Semester:</b>	1			



**Objectives:** Studying the physical phenomena connected with medicine and stomatology.

**Contents:** Physical methods for diagnostics and treatment in medicine and stomatology. Physical phenomena and principles in functioning of the human organs and systems. Principles of human protection from hazardous physical factors. Basic physical concepts, quantities and units used in medicine and stomatology.

**Assessment:** Ongoing assessment; final examination - W/O, semester 1<sup>st</sup>

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**HUMAN BIOLOGY:** ECTS credits 5.8

<b>Horarium:</b>	Lectures	45	Weeks	30
	Practicals	60	Weeks	30

**Semesters:** 1 and 2

**Objectives:** Getting acquainted with the organization of the living systems and the cellular and molecular principles involved.

**Contents:** Material nature of life. Heredity and diversity. Living organisms as an integrated system. Immunological homeostasis. Gametogenesis. Ontogenesis. Biological evolution. Genetics of the population. Anthropogenesis. Ecology. Parasitology. Comparative anatomy.

**Assessment:** W/O in the 2<sup>nd</sup> semester

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**LATIN LANGUAGE:** ECTS credits 4.0

<b>Horarium:</b>	Practicals	60 hours per week	2 Weeks	30
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**Semesters:** 1 and 2

**Objectives:** General knowledge of the Latin language in the field of medicine.

**Contents:** Substantives and adjectives with their declension. Word formation, prefixes, suffixes and terms of Latin and Greek origin. Prescriptions - general principles, abbreviations. General principles in the clinical nomenclature and officinal forms.

**Assessment:** Ongoing assessment, in the 2<sup>nd</sup> semester

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**FOREIGN LANGUAGE (BULGARIAN FOR FOREIGN STUDENTS, ENGLISH INSTRUCTIONS):**

ECTS credits: 8.0

**Horarium:**

<b>Semesters 1,2</b>	Practicals	120	Weeks	30
<b>Semester 3,4</b>	Practicals	120	Weeks	30

**Objectives:** To provide knowledge to translate scientific medical literature; learn to make summaries and annotations in the foreign language. Learning medical and stomatological terminology.

**Contents:** The students learn the specific characteristics of the scientific text. Terms definition.

General linguistic functions, themes and thesis.

**Assessment:** Ongoing assessment in the 4<sup>th</sup> semester

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**COMPUTER SCIENCE:** ECTS credits 2.8

<b>Horarium:</b>	Practicals	30	Weeks	15
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**Semester:** 2

**Objectives:** Studying the modern means and methods for information processing.

**Contents:** Operation systems, text processing systems, data base systems, statistical software.

**Assessment:** W/O, 2<sup>nd</sup> semester

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### **HUMAN CYTOLOGY AND EMBRYOLOGY:** ECTS credits 4.0

#### **Horarium:**

<b>Semester: 1</b>	Lectures	30	Weeks	15
	Practicals	30	Weeks	15

**Objectives:** The students acquire knowledge about the structure of the cell and its parts.

**Contents:** Structure of the cell and its parts (external membrane, nucleus, cyto-center, cytoskeleton, cellular organelles). Epithelial tissue. Connective tissue. Blood. Muscle tissue.

Nervous tissue. General embryology.

**Assessment:** W/O exams, semester 1<sup>st</sup>

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### **HUMAN ANATOMY AND HISTOLOGY:** ECTS credits 14.8

#### **Horarium:**

<b>Semester 1</b>	Lectures	0		
	Practicals	15	Weeks	15
<b>Semester 2</b>	Lectures	45	Weeks	15
	Practicals	60	Weeks	15
<b>Semester 3</b>	Lectures	30	Weeks	15
	Practicals	90	Weeks	15

**Objectives:** The students acquire knowledge about the normal structure of the organs and systems of the human body.

**Contents: ANATOMY:** Skeletal bones and their connection. Muscles, blood vessels and nerves of the extremities. Muscles, vessels and nerves of the head. Muscles, blood vessels and nerves of the trunk. Viscera. Central nervous system and sensory organs. Topographic anatomy of head and neck.

**Assessment:** W/O, 3<sup>rd</sup> semester

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### **BIOCHEMISTRY:** ECTS credits 7.4

<b>Horarium:</b>	Lectures	60	Weeks	30
	Practicals	60	Weeks	30

**Semesters:** 2 and 3

**Objectives:** Gaining basic knowledge in biochemistry, molecular biology, and molecular pathology in order to achieve understanding of the human diseases, their diagnostics and treatment.

**Contents:** Biopolymers. Bioenergetics. Metabolism of carbohydrates, lipids, amino acids and nucleotides, and their interactions. Hormones and mechanism of action. Functional biochemistry: blood, liver, kidney, neural tissue, muscle tissue, bones, teeth. Biochemical basis of nutrition. Molecular biology and molecular pathology. Disturbances of the metabolism.

**Assessment:** W/O in the 3<sup>rd</sup> semester

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### **BIOPHYSICS:** ECTS credits 2.8

<b>Horarium:</b>	Lectures	15	Weeks	15
	Practicals	15	Weeks	15

**Semester:** 3

**Objectives:** General physical and physico-chemical principles in the biological systems based on precise quantitative methods. Gaining knowledge on the modern cellular biophysics' achievements, as well as of the theoretical principles of diagnostic and therapeutic methods in stomatology.

**Contents:** Thermodynamics of biological processes. Structure, dynamics and functioning of biological membranes. Transport of substances through biological membranes. Mechanisms of biopotentials. Passive electrical properties of cells and tissues and their utilization in the therapeutic and diagnostic practices. Free radicals in the living systems.

**Assessment:** W/O, semester 3<sup>rd</sup>

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## **HUMAN PHYSIOLOGY:** ECTS credits 7.6

### **Horarium:**

<b>Semester: 3</b>	Lectures	30	Weeks	15
	Practicals	45	Weeks	15
<b>Semester: 4</b>	Lectures	30	Weeks	15
	Practicals	45	Weeks	15

**Objectives:** Teaching the relationship between human organism and its interaction with the environment.

**Contents:** General principles of regulation in the human body. Homeostasis. Transport through cellular membranes. Physiology of excitable tissue. Synapses. Mediators. Physiology of muscles. Blood and lymph. Cardiovascular system. Respiration and gas exchange. Digestion. Function of the liver. Vitamins and microelements. Metabolism, energy and substances. Body temperature. Physiology of the skin. Function of kidneys. Fluid and acid-base balance. Endocrine systems. Reproductive and endocrine function of sexual glands. Vegetative nervous system. Sensomotor function of nervous system. Cortical system. Physiology of physical work. Characteristics of oral cavity's vascularity and teeth's mineralization. Physiological role of saliva. Characteristics of sensible functions in the facial maxillary area. Toothache.

**Assessment:** W/O, semester 4<sup>th</sup>

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## **MICROBIOLOGY:** ECTS credits 5.8

### **Horarium:**

<b>Semester: 3</b>	Lectures	30	Weeks	15
	Practicals	15	Weeks	15
<b>Semester: 4</b>	Lectures	30	Weeks	15
	Practicals	30	Weeks	15

**Objectives:** Studying the morphology, structure and physiology of microbes. Agents of infectious diseases and principles of microbiological diagnostics. Principles and means for the treatment of infectious diseases. Chemotherapy. Biospecimens. Infectious process and immunity. The meaning of normal microflora. Ethiological role of oral microflora.

**Contents:** General microbiology, infection and immunity, special microbiology.

**Assessment:** W/O, semester 4<sup>th</sup>

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## **SOCIAL MEDICINE AND MEDICAL ETHICS:** ECTS credits 3.4

### **Horarium:**

<b>Semester: 4</b>	Lectures	15	Weeks	15
	Practicals	30	Weeks	15

**Objectives:** To educate students, studying dental medicine, an integral social medical approach and attitude to the patient and to the problems of the public health care.

**Contents:** Applying social approach in respect to health and attitude to the patient as

well. Epidemiological methods applied in public dental medicine health study. Public health evaluation. Approaches and indicators used in dental medicine health studies. Moral and legal aspects of dental medicine practice. Health promotion. Emergency medical services.

**Assessment:** W/O, 4<sup>th</sup> semester

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**MEDICAL PSYCHOLOGY:** ECTS credits 2.8

Horarium:

Semester: 3	Lectures	15	Weeks	15
	Practicals	15	Weeks	15

Objectives:

Contents:

Assessment: W/O, 3<sup>rd</sup> semester

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**DISASTER MEDICINE:** ECTS credits: 2.8

Horarium:

Semester: 4	Lectures	15	Weeks	15
	Practicals	15	Weeks	15

**Objectives:** Theoretical and practical training for work under urgent conditions.

**Contents:** General characteristics of the disasters. Diagnostics and treatment of traumatic and radiation injuries. Intoxication with toxic substances. Frequent epidemic diseases in catastrophes. Organization, planning and management of health care in critical situations.

**Assessment:** W/O, 4<sup>th</sup> semester

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**PHARMACOLOGY:** ECTS credits 6.6

Horarium:

<b>Semester 4</b>	Lectures	30	Weeks	15
	Practicals	30	Weeks	15
<b>Semester 5</b>	Lectures	15	Weeks	15
	Practicals	30	Weeks	15

**Objectives:** Studying the pharmacological and toxicological effects of drugs, applied in dental medicine.

**Contents:** Main principles of general pharmacology. Drugs' effects on cholinergic and adrenergic mediators, applied in dental medicine. Drugs' effects on central nervous system; Drugs' effects on cardiovascular, respiratory and digestive systems. Local and general anesthetics applied in dental medicine. Pharmacology and toxicology of chemotherapeutics, applied in dental medicine. Principles of drug interactions in dental medicine.

**Assessment:** Practical and theoretical – W/O in the 5<sup>th</sup> semester

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**PATHOPHYSIOLOGY:** ECTS credits 4.3

Horarium:

<b>Semester: 5</b>	Lectures	45 Hours per week	3 Weeks	15
	Practicals	30 Hours per week	2 Weeks	15

**Objectives:** Studying the etiology and pathogenesis of diseases.

**Contents:** General etiology and pathogenesis. Pathological processes (inflammation, fever, metabolic disorders and hypoxia). General clinical syndromes of vital systems under structural-dynamic violations.

**Assessment:** W/O, 5<sup>th</sup> semester

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### **HYGIENE AND EPIDEMIOLOGY: ECTS credits 3.4**

#### **Horarium:**

<b>Semester: 5</b>	Lectures	30	Weeks	15
	Practicals	30	Weeks	15

**Objectives:** To develop professional knowledge and abilities for a prophylactic approach, professional behavior for carrying out the sanitary anti-epidemic activity.

**Contents:** The program is developed in accordance with the requirements of the general practitioner's qualification references. It is considered also with the normative documents for dental medicine prophylactics, children's education for oral hygiene, environment preservation, and hospital hygiene. The envisaged topics are in greatest extent in conformity with the dental medicine direction of training.

**Assessment:** W/O, 5<sup>th</sup> semester

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### **PATHOLOGICAL ANATOMY: ECTS credits 5.8**

#### **Horarium:**

<b>Semester: 6</b>	Lectures	30	Weeks	15
	Practicals	30	Weeks	15
<b>Semester: 7</b>	Lectures	30	Weeks	15
	Practicals	30	Weeks	15

**Objectives:** Teaching the structural lesions in diseases.

**Contents:** General pathology - morphologic manifestations of disturbances in metabolism. Blood circulation. Structural processes in inflammation. Compensatory and repair processes. Tumors. Clinical pathology - diseases of the oral cavity and the digestive system. Morphologic alterations in organs. Infectious diseases.

**Assessment:** W/O, 7<sup>th</sup> semester

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### **SURGERY incl. ANAESTHESIOLOGY AND EMERGENCY CONDITIONS: ECTS credits 4.3**

#### **Horarium:**

<b>Semester: 6</b>	Lectures	30	Weeks	15
	Practicals	45	Weeks	15

**Contents:** Antiseptics and aseptics. Principles of anesthesiology and resuscitation. Congenital diseases in the maxillofacial area. Traumatic diseases. Urgent diseases in surgery. Haemorrhage and blood transfusion. Occupational diseases in stomatology - panaritium, tendovaginitis.

**Assessment:** W/O, 6<sup>th</sup> semester

\*\*\*

### **OTO-RHINO-LARYNGOLOGY: ECTS credits 1.6**

#### **Horarium:**

<b>Semester: 7</b>	Lectures	15	Weeks	15
	Practicals	15	Weeks	15

**Objectives:** The course gives basic knowledge and practical skills necessary for the practicing stomatologist.

**Contents:** Ear, nose and throat anatomy and physiology. Etiology, symptomatology, examination and treatment of oto-rhino-laryngological diseases.

**Assessment:** W/O, 7<sup>th</sup> semester



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### **INTERNAL DISEASES:** ECTS credits 3.4

#### **Horarium:**

<b>Semester: 7</b>	Lectures	30	Weeks	15
	Practicals	15	Weeks	15
<b>Semester: 8</b>	Lectures	30	Weeks	15
	Practicals	15	Weeks	15

**Objectives:** The students are acquainted with socially important internal diseases.

**Contents:** The programme emphasizes on the relationship between the internal diseases and the pathology of the oral cavity and dentition.

**Assessment:** W/O, 8<sup>th</sup> semester

\*\*\*

### **PEDIATRIC AND INFECTIOUS DISEASES:** ECTS credits 3.4

#### **Horarium:**

<b>Semester: 8</b>	Lectures	30	Weeks	15
	Practicals	30	Weeks	15

**Objectives:** Acquainting the student with the infectious diseases.

**Contents:** Infection, infectious process and infectious diseases. AIDS. The course focuses on the wide dissemination of infectious diseases of great social importance.

**Assessment:** W/O, 8<sup>th</sup> semester

\*\*\*

### **FORENSIC MEDICINE:** ECTS credits 1.6

<b>Horarium:</b>	Lectures	15	Weeks	15
	Practicals	15	Weeks	15

**Semester: 8**

**Objectives:** Training of students in dental medicine of the basics of forensic medicine for the general practice in cases of legal dental medicine problems, identification and increase of their law-consciousness.

**Contents:** Correct evaluation of the physical injuries in maxillofacial area. Participation of dental medicine doctors in the identification of persons and dead bodies with unknown identity. Legal deontological problems in the dental medicine practice: relations between colleagues, dental medicine-nurse and dental medicine - patient. Criminal civil and administrative responsibilities of the dental medicine in his professional activity, according to the legislation of republic of Bulgaria

**Assessment:** W/O, 8<sup>th</sup> semester

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### **OBSTETRICS AND GYNECOLOGY:** ECTS credits 1.6

#### **Horarium:**

<b>Semester: 8</b>	Lectures	15	Weeks	15
	Practicals	15	Weeks	15

**Objectives:** The students acquire the necessary knowledge for the treatment of pregnant women and maternity patients.

**Contents:** Normal pregnancy. Development of the fertilized egg. Role of the placenta. Diagnosis of early and advanced pregnancy. Normal delivery. Morphologic and functional changes in the pregnant woman. Pregnancy - gingivitis, stomatitis, caries. Early pregnancy and dental medicine. Normal and pathologic puerperal period. Puerperal infections. Delivery

anesthesia. Effect of some drugs on the pregnant woman and the fetus. Premature interrupting of pregnancy. Premature birth. Fetus in jeopardy. Modern methods for diagnosis of the threatened fetus. Neonatal asphyxia and resuscitation. Contraception. The role of the doctor in dental medicine in female consultation.

**Assessment:** W/O, 8<sup>th</sup> semester



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**DERMATOLOGY AND VENEROLOGY:** ECTS credits 3.8

**Horarium:**

<b>Semester:</b> 9	Lectures 15	Weeks 15
	Practicals 30	Weeks 15

**Objectives:** Studying the skin, oral mucous and skin appendages diseases.

**Contents:** Structure of the skin. Infectious bullose dermatoses. Vascular dermatosis. Allergic dermatoses. Oral mucous diseases. Tumors of the skin and visible mucous. Sexually transmitted diseases.

**Assessment:** W/O, 9<sup>th</sup> semester

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**NEUROLOGY AND PSYCHIATRY:** ECTS credits 2.8

<b>Horarium:</b>	Lectures	15	Weeks	15
	Practicals	15	Weeks	15
<b>Semester:</b>	9			

**Objectives:** Acquiring the necessary knowledge on nervous diseases and psychiatry.

**Contents:** Clinical knowledge of the main symptoms, syndromes and diseases in neurology and psychiatry with respect to the attitude of the specialist under specific conditions. Neurological pathology in regions of the face. Oral cavity and teeth neuralgia and neuritis of trigeminal and glossopharyngeal nerves, atypical neuralgia in these regions. Neurological complications in mixed trauma of the face, the teeth and the head and therapeutic obligations of the dental medicine doctor.

**Assessment:** W/O, 9<sup>th</sup> semester

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**OPHTHALMOLOGY:** ECTS credits 2.8

<b>Horarium:</b>	Lectures	15	Weeks	15
	Practicals	15	Weeks	15
<b>Semester:</b>	9			

**Contents:** Anatomy and physiology of the visual analyzer and its relation to the anatomy of the dental structures. Methods of examination in ophthalmology, facilitating the doctor in the differential diagnosis. Diseases of the orbit, anterior and posterior eye segment in the dental practice.

**Assessment:** W/O, 9<sup>th</sup> semester

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**DENTAL MATERIALS:** ECTS credits 4.0

<b>Horarium:</b>	Lectures	30	Weeks	30
	Practicals	30	Weeks	30

**Semesters:** 1, 2

**Objectives:**

**Assessment:** W/O, 2<sup>nd</sup> semester

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**PRECLINICAL PROSTHETIC DENTAL MEDICINE:** ECTS credits 16.6; Year 1 -7.2; Year 2 – 9.4;

**Horarium:**

<b>Semester 1</b>	Lectures	15	Weeks	15
	Practicals	30	Weeks	15
<b>Semester 2</b>	Lectures	15	Weeks	15
	Practicals	60	Weeks	15
<b>Semester 3</b>	Lectures	30	Weeks	15
	Practicals	90	Weeks	15
<b>Semester 4</b>	Lectures	15	Weeks	15
	Practicals	60	Weeks	15

**Objectives:** Gaining theoretical knowledge and practical skills for the treatment of crown teeth and dental arch defects.

**Contents:** Dental materials. Pre-clinical and Clinical prosthetic dental medicine.

**Assessment:** W/O, 4<sup>th</sup> semester

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**CLINICAL PROSTHETIC DENTAL MEDICINE:** ECTS credits 32.9; Year 3 - 5.2; Year 4 - 6.2; Year 5 - 7.4; Year 6 – 14.1

**Horarium:**

<b>Semester 5</b>	Lectures	15	Weeks	15
	Practicals	30	Weeks	15
<b>Semester 6</b>	Lectures	15	Weeks	15
	Practicals	60	Weeks	15
<b>Semester 7</b>	Lectures	15	Weeks	15
	Practicals	60	Weeks	15
<b>Semester 8</b>	Lectures	15	Weeks	15
	Practicals	60	Weeks	15
<b>Semester 9</b>	Lectures	30	Weeks	15
	Practicals	60	Weeks	15
<b>Semester 10</b>	Lectures	15	Weeks	15
	Practicals	30	Weeks	15

**Objectives:** Gaining theoretical knowledge and practical skills for the treatment of crown teeth and dental arch defects.

**Contents:** Dental materials. Pre-clinical and Clinical prosthetic dental medicine.

**Assessment:** W/O, 10<sup>th</sup> semester

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**PRECLINICAL AND CLINICAL CONSERVATIVE DENTAL MEDICINE:** ECTS credits 37.4; Year 2 – 1.6; Year 3 – 7,6; Year 4 – 8,0; Year 5 – 9.2; Year 6 - 11.0

**Horarium:**

<b>Semester 4</b>	Lectures	15	Weeks	15
	Practicals	15	Weeks	15
<b>Semester 5</b>	Lectures	30	Weeks	15
	Practicals	60	Weeks	15
<b>Semester 6</b>	Lectures	15	Weeks	15
	Practicals	60	Weeks	15
<b>Semester 7</b>	Lectures	15	Weeks	15
	Practicals	90	Weeks	15
<b>Semester 8</b>	Lectures	15	Weeks	15
	Practicals	75	Weeks	15
<b>Semester 9</b>	Lectures	15	Weeks	15
	Practicals	75	Weeks	15
<b>Semester 10</b>	Lectures	15	Weeks	15
	Practicals	75	Weeks	15

**Objectives:** Diagnostics and treatment of the hard dental tissues, tooth pulp and periodontium.

**Contents:**

**A.** Preclinic of conservative dentistry - cavity preparation of dental amalgam, composite materials and inlays; filling materials - qualities and application; endodontics - anatomy of pulpal camera, endodontic cavity preparation, treatment of root canals; fillig canals: means and methods.

**B.** Clinical conservative dentistry – clinic, diagnostics and treatment of hard dental tissues diseases, treatment of tooth pulp and periodontium diseases.

**Assessment:** Practical and theoretical –written and oral examination, semesters 6<sup>th</sup> and 10<sup>th</sup>

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**PHYSIOTHERAPY (general and special):** ECTS credits 2.8

<b>Horarium:</b>	Lectures	15	Weeks	15
	Practicals	15	Weeks	15

**Semester:** 9

**Contents:**

**Assessment:** W/O, 9<sup>th</sup> semester

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**PRECLINICAL AND CLINICAL ORAL AND MAXILLOFACIAL SURGERY:** ECTS credits 38.0; Year 3 – 8,5; Year 4 – 6,2; Year 5 – 9,2; Year 6 – 14,1

**Horarium:**

<b>Semester 5</b>	Lectures	30	Weeks	15
	Practicals	60	Weeks	15
<b>Semester 6</b>	Lectures	30	Weeks	15
	Practicals	60	Weeks	15
<b>Semester 7</b>	Lectures	15	Weeks	15
	Practicals	60	Weeks	15
<b>Semester 8</b>	Lectures	15	Weeks	15
	Practicals	60	Weeks	15
<b>Semester 9</b>	Lectures	30	Weeks	15
	Practicals	60	Weeks	15
<b>Semester 10</b>	Lectures	30	Weeks	15
	Practicals	60	Weeks	15

**Objectives:** Learning the surgical methods for the treatment of surgical diseases in dental medicine.

**Contents:** Topographic anatomy and anesthesia in dental medicine surgery. Extraction of teeth. Periodontitis and jaw's cyst, abscesses and phlegmons in the facial-maxillary area. Osteomyelitis in the facial-maxillary area. Odontogenic sinusitis. Lymph nodes' diseases and specific inflammatory processes in the maxillary area. Diseases of salivary glands. Diseases of temporomandibular articulation and facial nerves. Trauma in the facial-maxillary area. Tumors of the oral cavity and the facial-maxillary area. Congenital and acquired defects of the labia and the palate. Dental, jaw and facial deformations.

**Assessment:** W/O, semesters 6<sup>th</sup> and 10<sup>th</sup>

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**PRECLINICAL PEDIATRIC DENTAL MEDICINE:** ECTS credits 3.2; Year 2 – 1,6; Year 3 – 1,6

**Horarium:**

<b>Semester: 4</b>	Lectures	15	Weeks	15
	Practicals	15	Weeks	15
<b>Semester: 5</b>	Lectures	15	Weeks	15
	Practicals	15	Weeks	15

**Contents:** Embryonic development, histogenesis, morphology and physiology of the tooth structures, gingiva and parodont. Definition of the permanent and deciduous tooth. Root resorption. Oral ecosystem - microflora and oral liquids (saliva, content of gingival sulcus).

**Assessment:** W/O, 5<sup>th</sup>

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**CLINICAL PEDIATRIC DENTAL MEDICINE:** ECTS credits 20.7; Year 3 – 2,1; Year 4 – 3,8; Year 5 – 6,8; Year 6 – 8,0

**Horarium:**

<b>Semester 6</b>	Lectures	15	Weeks	15
	Practicals	30	Weeks	15
<b>Semester 7, 8</b>	Lectures	30	Weeks	30
	Practicals	60	Weeks	30
<b>Semester 9</b>	Lectures	15	Weeks	15
	Practicals	30	Weeks	15
<b>Semester 10</b>	Lectures	15	Weeks	15
	Practicals	60	Weeks	15
<b>Semesters:</b>	6,7, 8,9 and 10			

**Objectives:** To acquaint the students with the pathology of the oral cavity in childhood. To build up abilities for correct diagnosis of the most common diseases of the teeth, gingiva and parodont and practical skills for their treatment. The students acquire practical skills on phantom models and only after that they work with up to 16 years old patients within the framework of three semesters. There is another semester of prophylactics to present the principal tendencies of dental prevention.

**Assessment:** W/O, semester 10<sup>th</sup>

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**DENTAL HYGIENE and PREVENTION:** ECTS credits 4.4; Year 3 – 1,6; Year 4 – 2,8

**Horarium:**

<b>Semester:</b>	6	Lectures	15	Weeks	15
		Practicals	15	Weeks	15

<b>Semester:</b>	7	Lectures	15	Weeks	15
		Practicals	15	Weeks	15

**Assessment:** W/O, 7<sup>th</sup> semester

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### **DENTAL PUBLIC HEALTH (DPH): ECTS credits 5.2**

#### **Horarium:**

<b>Semester:</b>	5	Lectures	30	Weeks	15
		Practicals	30	Weeks	15
<b>Semester:</b>	6	Lectures	15	Weeks	15
		Practicals	30	Weeks	15

**Objectives:** Creating basic knowledge about the essence, structure, governance, financing and legal regulation of dental health services and skills for organization and management of dental practice.

**Contents:** DPH course gives an opportunity for gaining theoretical knowledge and competence about:

Structure and organization of national healthcare system

**Assessment:** W/O, 6<sup>th</sup> semester

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### **ORAL PATHOLOGY: ECTS credits 1.6**

#### **Horarium:**

<b>Semester:</b>	6	Lectures	15	Weeks	15
		Practicals	15	Weeks	15

**Objectives:** Familiarization of future dental medicine doctor with damages of oral mucosa, periodontium and the teeth, associated with occupational risk factors. Prevention of occupational diseases and accidents at the work place.

**Contents:** Characteristics of the most common occupational diseases - intoxication with heavy metals; poisoning due to organic solvents; gas poisoning; damages due to noise and vibrations, dusts and allergens, etc.

**Assessment:** W/O, semester 6<sup>th</sup>

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### **DIAGNOSTICS IMAGING (general and special): ECTS credits 5.6; Year 3 – 2,8; Year 4 – 2,8**

#### **Horarium:**

<b>Semester:</b>	6	Lectures	30	Weeks	15
		Practicals	30	Weeks	15
<b>Semester:</b>	7	Lectures	15	Weeks	15
		Practicals	30	Weeks	15

**Objectives:** Studying the methods and techniques for X-ray examination and ITS application in practice.

**Contents:** Radiographs, methods and techniques of respiratory, cardiovascular, urogenital, digestive, and nervous system X-ray examination. Methods and techniques for examination of maxillofacial area, trauma, teeth diseases, parodont, periodontium. Traumatic, inflammatory and tumor diseases of temporomandibular articulations.

**Assessment:** W/O, the 7<sup>th</sup> semester

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**DENTAL ALLERGOLOGY:** ECTS credits 2.2

<b>Horarium:</b>	Lectures	15	Weeks	15
	Practicals	15	Weeks	15
<b>Semester:</b>	7			

**Objectives:** Mastering of theoretical and practical knowledge for applying complex focal diagnostics and clinical dental allergology in diagnosing clinically healthy and medical compromised patents for demonstrating the connection between oral and all-medical diseases in conformity with current European standards.

**Contents:** The “Dental clinical allergology” course gives an opportunity to acquire practical and theoretical knowledge and competency on special dental clinical allergology and complex focal diagnostics.

**Assessment:** W/O, 7<sup>th</sup> semester

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**ORTHODONTICS:** ECTS credits 21.0; Year 4 – 6,2; Year 5 – 6,8; Year 6 – 8,0

**Horarium:**

<b>Semester 7</b>	Lectures	30	Weeks	15
	Practicals	30	Weeks	15
<b>Semester 8</b>	Lectures	15	Weeks	15
	Practicals	30	Weeks	15
<b>Semester 9</b>	Lectures	15	Weeks	15
	Practicals	45	Weeks	15
<b>Semester 10</b>	Lectures	15	Weeks	15
	Practicals	60	Weeks	15
<b>Semesters:</b>	7, 8, 9 and 10			

**Objectives:** Prevention and treatment of dental maxillary deformations and anomalies.

**Contents:** Development of dental-maxillary system and facial skeleton. Etiology of dental maxillary deformations and anomalies. Methods for diagnostics. Prophylactics and treatment of dental-maxillary deformations and anomalies.

**Assessment:** W/O, semesters 10<sup>th</sup>

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**PARODONTOLOGY:** ECTS credits 15.4; Year 4 - 3.2; Year 5 - 7.4; Year 6 - 4.8

**Horarium:**

<b>Semesters 7</b>	Lectures	15	Weeks	15
	Practicals	15	Weeks	15
<b>Semester 8</b>	Lectures	15	Weeks	15
	Practicals	30	Weeks	15
<b>Semester 9</b>	Lectures	15	Weeks	15
	Practicals	45	Weeks	15
<b>Semester 10</b>	Lectures	30	Weeks	15
	Practicals	45	Weeks	15
<b>Semesters:</b>	7, 8, 9 and 10			

**Contents:** Instruments and instrumentation. Structural biology of periodontium and oral mucosa. Etiology and pathogenesis of periodontium and oral mucous diseases. Diagnostics of periodontium and oral mucous diseases. Treatment of periodontium and oral mucous diseases. Prophylactics of periodontium and oral mucous diseases.

**Assessment:** W/O, 10<sup>th</sup> semester

GRADUATION CEREMONY 2018/2019







## FACULTY OF PHARMACY

**Address:** 2 Dunav Str.  
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Historically, the Faculty of Pharmacy was founded in 1942 as a Department of Pharmacy at the Faculty of Natural Sciences and Mathematics, Sofia University. In 1951, it was transformed into a separate Pharmaceutical Faculty at the newly established Medical Academy. The Faculty of Pharmacy has become part of the newly founded Medical University – Sofia since 1995 and offers higher education in pharmacy. The Faculty of Pharmacy in Sofia celebrated its 75th Anniversary in 2017. It has six departments three of which teach pharmacy-oriented fundamental subjects (inorganic, analytical and organic chemistry, physical chemistry, botany and mathematics). Another departments offer the specific pharmaceutical subjects, such as Pharmaceutical technology and Biopharmacy, Pharmacognosy (Phytochemistry), Pharmaceutical Chemistry and Pharmaceutical Analysis, Pharmacology and Toxicology, Social Pharmacy. The medical subjects are taught by the corresponding departments at the Faculty of Medicine, Medical University – Sofia.



The education course is organized in three levels and lasts five years. The first level is aimed at securing fundamental training of future pharmacists. The second level is oriented towards gaining knowledge and acquiring skills specific for the pharmaceutical profession. The education is organized in three profiles – general, clinical and industrial, the choice being made after the sixth semester. Students of both majors study special pharmaceutical and medical subjects. The third level of the study course – practicum – takes place in the 10<sup>th</sup> semester in public or hospital pharmacies, which are established as training centers. The assessment of this practical work includes written and oral colloquia. For their graduation students in pharmacy are obliged to pass a state final certification examination or to prepare and defend a diploma thesis. The graduates are conferred a „Master“ degree and the qualification of „Pharmacist“.

*The first year* of the programme covers the subjects Mathematics; Biology; Physics and Biophysics; Latin language; Foreign Language; History of Pharmacy; Applied Mathematics; Anatomy and Physiology; Inorganic Chemistry.

*The second year* is dedicated to continuation of Anatomy and Physiology; the other subjects are Computer Techniques; Analytical Chemistry; Organic Chemistry; Microbiology; Pharmaceutical Botany; Physical Chemistry.

*In the third year* the curriculum includes Pharmaceutical Botany; Physical Chemistry; Pharmaceutical Chemistry; Pharmaceutical Technology and Biopharmacy, Part 1; Biochemistry; Clinical Chemistry; Hygiene and Ecology; Medical Techniques and Instruments; Pharmacognosy, Part 1; Pharmacology.

*In the fourth year* the studied subjects are Pharmaceutical Technology and Biopharmacy, Part 2; Pharmaceutical Analysis; Pharmacology; Social Pharmacy; Pharmacognosy; Pathonatomy and Pathophysiology; Toxicology; Pharmacognosy, Part 2; Medical Genetics; Clinical Medicine, Pharmacoeconomics and Pharmacotherapy.

The ninth semester covers the subjects Basics of Clinical Medicine; Pharmaceutical care, Biopharmacy and pharmacokinetics, Bromatology; Modern Requirements to the Production of Drugs.

The Faculty also offers instruction to extramural students and postgraduate education in five subjects: Pharmaceutical Technology and Biopharmacy; Drug Analysis; Medicinal Plants and Herbals; Clinical Pharmacy; Pharmacology; Hospital pharmacy; Organization and Economics of the pharmacy and distribution practice and Organization and Economics of the pharmaceutical manufacturing.

Location.

The Faculty building is located in the centre of the city of Sofia, 50 m away from the temple „St. Alexander Nevski“ and 150 m behind the building of the National Assembly, near the monument of Vassil Levski.

## DISCIPLINES

**MATHEMATICS:** ECTS credits 5.0

**Prerequisites:** Successful completion of secondary education.

<b>Horarium:</b>	Lectures	30	Weeks	15
	Practicals	30	Weeks	15

**Semester:** 1

**Contents:** Elements of linear algebra and analytical geometry, elements of the theory of numerical series and numerical functions of one or two variables, elements of differential and integral calculus, elements of the theory of ordinary differential equations.

**Objectives:** Gaining of knowledge of the basic fields of higher mathematics necessary for the understanding of the quantitative methods and models in physical chemistry, biochemistry and pharmacology, and of capability of unaided solution of some of the often encountered problems in pharmaceutical research.

**Assessment:** W/O, semester 1<sup>st</sup>



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**HISTORY OF PHARMACY:** ECTS credits 3.0

**Prerequisites:** None.

<b>Horarium:</b>	Lectures	30	Weeks	15
<b>Semester:</b>	1			

**Contents:** Development of the pharmaceutical knowledge and practice related to the development of society and cultural history of nations. The development of Bulgarian pharmacy is considered in the context of world pharmacy.

**Objectives:** To provoke respect to the pharmaceutical profession by acquainting the students with the contribution of various countries to the development of world pharmacy, as well as to elucidate the activities of famous old schools.

**Assessment:** W, semester 1

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### **MOLECULAR BIOLOGY: ECTS credits 5.0**

**Prerequisites:** Successfully passed entry exams on biology and chemistry.

<b>Horarium:</b>	Lectures	30	Weeks	15
	Practicals	30	Weeks	15

**Semester:** 2

**Contents:** Material basis of life. Organization of the living systems. Heredity and variety. The organism as a unified system. Immunological homeostasis. Sexual reproduction and individual development. Biological evolution and population genetics. Anthropogenesis. Ecology. Poisonous plants and animals with medical significance.

**Objectives:** Obtaining knowledge on the basic principles of organization and function of the living systems. Cellular and molecular bases of life. The human as a product of the biological and social evolution. Ecology and the role of humans in the biosphere.

**Assessment:** W/O, semester 2<sup>nd</sup>

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### **GENERAL AND INORGANIC CHEMISTRY: ECTS credits 10.0**

**Prerequisites:** Successfully passed competitive examination on chemistry.

**Horarium:**

<b>Semester 1</b>	Lectures	30	Weeks	15
	Practicals	45	Weeks	15
<b>Semester 2</b>	Lectures	15	Weeks	15
	Practicals	30	Weeks	15

**Contents:** The most important problems of the general theory as well as the systematic material of inorganic chemistry are included in the lecturing course. Particular attention is given to the macro-and microbiogenic elements and their substances which are of decisive importance for the existence and functioning of bio-systems. The laboratory exercises are preceded by a course of stoichiometric calculations. The practical training includes the solution of theoretical problems.

**Objectives:** Training in the basic manipulations in a chemical laboratory. Creation of a basis for the future education in all other chemical subjects.

**Assessment:** W/O, semester 2<sup>nd</sup>

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### **PHYSICS AND BIOPHYSICS: ECTS credits 7.0**

**Prerequisites:** Successfully passed examination on Higher Mathematics is recommended.

**Horarium:**

<b>Semester 1</b>	Lectures	30	Weeks	15
	Practicals	15	Weeks	15
<b>Semester 2</b>	Lectures	30	Weeks	15
	Practicals	15	Weeks	15

**Contents:** Structure and properties of liquids and solids. Optics - basics of refractometry, dioptrometry, photocolometry, spectrophotometry, nephelometry, polarimetry, microscopy. Spectroscopy - atomic, molecular, X-ray, mass, NMR, EPR, Moessbauer. Ionization radiations - X-rays, radioactivity, dosimetry. Rheology of simple liquids and heterogeneous systems, haemorheology. Thermodynamics and Biothermodynamics. Biological and man-made membranes - functions, types, chemical composition, structure. Free-radical lipid peroxidation in biomembranes. Transport of substances through porous and semipermeable membranes, facilitated diffusion, active transport. Electrical properties of cells and tissues - biopotentials: static and dynamic, surface electrical charge, electrical conductivity.

**Objectives:** Knowledge necessary for the study of Analytical Chemistry, Physical Chemistry, Organic Chemistry, Pharmaceutical Chemistry, Technology of Medicinal Substances, Processes and Apparatuses, Chemical-Pharmaceutical Technology. Skills acquired by laboratory training.

**Assessment:** W/O, semester 2<sup>nd</sup>

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**LATIN LANGUAGE:** ECTS credits 5.0

**Prerequisites:** None.

<b>Horarium:</b>	Seminars	60	Weeks	30
<b>Semesters:</b>	1 and 2			

**Contents:** Notion of the Latin verb and some verbal forms in pharmaceutical terminology. Nouns, adjectives and numerals and their use in the specialized pharmaceutical language. Word-building: prefixes, suffixes. Term elements of Latin and Greek origin by means of which the complex medical and pharmaceutical terms have been created and are created at present. General rules in chemical nomenclature and in the formation of the denomination of drugs. Basics of the botanical nomenclature. Basic terms in pharmacognosy. Prescription – principles in making out a prescription, specific formulae in Latin and generally accepted abbreviations.

**Objectives:** Formation of a stable terminological basis in the beginning of the education in pharmacy which would facilitate the gaining of knowledge on the other objects foreseen in the teaching program.

**Assessment:** W/O, semester 2<sup>nd</sup>

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**BULGARIAN LANGUAGE:** First academic year (for foreign students only): ECTS credits 4.0

**Prerequisites:** Training in a basic course of Bulgarian language and successfully passed examinations – oral and written.

<b>Horarium:</b>	Seminars	120	Weeks	30
<b>Semesters:</b>	1 and 2			

**Contents:** Texts from human anatomy and physiology, and biology, taught during the first academic year. Scientific-popular texts. Exercises on: basic phonetic rules in contemporary Bulgarian language. Lexicology – medical and pharmaceutical terminology. Functional-semantic structures building up the medical texts. Syntactic of the simple sentence.

Texts from human physiology, microbiology and botany, taught during the second academic year. Exercises on: syntax of the complex sentence. Structure of a scientific text. Functional semantic constructions typical of the Bulgarian medical text. Lexicology - medical and pharmaceutical terminology. Stylistics – text edition.

**Objectives:** Knowledge of the language necessary for the oral and written adequate communication in Bulgarian lingual medium - both in everyday life and in its academic aspects.

**Assessment:** W/O, semester 2<sup>nd</sup>

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**SPORTS:** ECTS credits 5.0

**Prerequisites:** None

**Horarium:**

<b>Semester 1</b>	Lectures	0	Weeks	15
	Practicals	30	Weeks	15
<b>Semester 2</b>	Lectures	0	Weeks	15
	Practicals	30	Weeks	15

**Contents:** To help students and their teachers to balance weekly the mental load and the emotions, related to sport activities. There are three forms of sport activity: standard term classes; competitive classes; additional courses on water and winter sports after the terms.

Term classes: aerobics, badminton, basketball, bodybuilding, volleyball, calanetics, swimming, skiing, tennis, table tennis, and football. Yearly the Department organizes sea and mountain courses during the holidays. The students can practice yachting, sculling, surfing, and swimming. The students can acquire skiing skills (at two different levels) and practice tourism.

**Objectives:** Maintaining good physical shape and mental health

**Assessment:** Engrossed (on the “yes” or “no” basis)

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**STATISTICAL METHODS IN PHARMACY:** ECTS credits 4.0

**Prerequisites:** Successfully passed examination in Mathematics.

<b>Horarium:</b>	Lectures	15	Weeks	15
	Practicals	30	Weeks	15

**Semester:** 2

**Contents:** Elements of combinatorics and classical probability theory - random experiments and events. Statistical, classical and geometrical probability. Basic formulae for the probability of a random event. Sequences of independent experiments. Random quantities and their numerical characteristics. Theorem of Chebishev, Bernouli’s law for big numbers and theorem of Liapunov. Elements of the mathematical statistics. Elements of the mathematical modeling.

**Objectives:** Knowledge of the basic sections of the probability theory, mathematical statistics and mathematical modeling that are necessary for the understanding of the quantitative methods and models of Physical Chemistry, Biochemistry, Biology, Medicine, Pharmacology and for the unaided solution of some of the problems often encountered in pharmaceutical research.

**Assessment:** W/O in two stages – practical and theoretical.

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**HUMAN ANATOMY:** ECTS credits 4.0

<b>Horarium:</b>	Lectures	30	Weeks	15
	Practicals	15	Weeks	15

**Objectives:** The students acquire knowledge about the normal structure of the organs and systems of the human body.

**Contents: ANATOMY:** Skeletal bones and their connection. Muscles, blood vessels and nerves of the extremities. Muscles, vessels and nerves of the head. Muscles, blood vessels and nerves of the trunk. Viscera. Central nervous system and sensory organs. Topographic anatomy of head and neck.

**Semesters:** 2

**Assessment:** W/O, semester 2<sup>nd</sup>

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**HUMAN PHYSIOLOGY:** ECTS credits 7.0

**Prerequisites:** None

**Horarium:**

<b>Semester 2</b>	Lectures	30	Weeks	15
	Practicals	0	Weeks	15
<b>Semester 3</b>	Lectures	30	Weeks	15
	Practicals	30	Weeks	15

**Contents:** Structure and function of cells, organs and systems building up the human organism. Mechanism, regulation and adaptation of physiological functions. Physiological methods for the investigation with applications in clinical and experimental practice.

**Objectives:** Understanding of the mechanism of action of medicinal substances.

**Assessment:** W/O, semester 3<sup>rd</sup>

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**PATHOANATOMY:** ECTS credits 3.0

**Prerequisites:** Successfully passed examinations on Anatomy and Physiology.

<b>Horarium:</b> Lectures	15	Weeks	15
Seminars	15	Weeks	15

**Semester:** 3

**Contents:** Processes of general pathoanatomy: necrosis and atrophy. Disorders in the metabolism of tissues and cells.. Disorders in the development of the organism (teratology). Drug injuries (drug disease), etc.

**Objectives:** Basic theoretical knowledge in the field of medicine in order to facilitate the understanding of other taught subjects.

**Assessment:** W/O, semester 3

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**INFORMATION TECHNOLOGIES:** ECTS credits 3.0

**Prerequisites:** None

<b>Horarium:</b> Practicals	30	Weeks	15
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**Semester:** 3

**Contents:** Lay-out and principle of action of contemporary personal computers and related operation systems. Contemporary text-processing, graphical, tabular, editing and communicative possibilities of computer systems. Practical usage of the basic Internet and e-mail services.

**Objectives:** Gaining of knowledge on the lay-out and principle of action of contemporary personal computers and related operation systems. Development of capabilities for the practical usage of contemporary computer systems and information technologies.

**Assessment:** W/O in two stages – practical and theoretical.

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**PATHOPHYSIOLOGY:** ECTS 5.0

**Prerequisites:** Successfully passed examinations on Anatomy and Physiology.

<b>Horarium:</b> Lectures	30	Weeks	15
Seminars	30	Weeks	15

**Semester:** 4

**Contents:** Processes of general pathology: disorders in circulation, forms of inflammation, regenerative growth, disorders in the development of the organism (teratology). Drug injuries (drug disease), etc.

**Objectives:** Basic theoretical knowledge in the field of medicine in order to facilitate the understanding of other taught subjects

**Assessment:** W/O, semester 4<sup>th</sup>

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**ANALYTICAL CHEMISTRY:** ECTS credits 15.0

**Prerequisites:** Successfully passed examination on Inorganic Chemistry.

**Horarium:**

<b>Semester 3</b>	Lectures	30	Weeks	15
	Practicals	60	Weeks	15
<b>Semester 4</b>	Lectures	30	Weeks	15
	Practicals	60	Weeks	15

**Contents:** Qualitative analysis of cations and anions. Basic parts in the quantitative titrimetric analysis: acid-base equilibria, slightly soluble substances, complexometric equilibria, redox equilibria. Instrumental methods of analysis - potentiometry, spectrophotometry, chromatography (thin-layer chromatography and high-efficiency liquid chromatography).

**Objectives:** Gaining knowledge on the basic principles and methods of chemical analysis

**Assessment:** W/O, semester 4<sup>th</sup>

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**ORGANIC CHEMISTRY: ECTS credits 15.0**

**Prerequisites:** Successfully passed examinations on Physics, Mathematics, as well as General and Inorganic Chemistry.

**Horarium:**

<b>Semester 3</b>	Lectures	30	Weeks	15
	Practicals	60	Weeks	15
<b>Semester 4</b>	Lectures	30	Weeks	15
	Practicals	60	Weeks	15

**Contents:** Nomenclature of organic compounds. Structure of substances from the quantum-mechanical point of view. Basics of stereochemistry. Relationship between structure and reactivity. Mechanisms of organic reactions. Spectral methods of analysis (infrared spectroscopy, nuclear magnetic resonance, mass spectroscopy, electron spectroscopy). Fatty and aromatic, saturated and unsaturated hydrocarbons. Halogen derivatives, hydroxyl derivatives, aldehydes and ketones, carboxylic acids and their functional derivatives. Fatty and aromatic amines. Heterocyclic compounds with three- to six-atom cycles and one or two heteroatoms - oxygen, nitrogen and sulfur. Purines and pteridines. Organic compounds with biological activity. Medicinal substances.

**Objectives:** Fundamental knowledge of organic chemistry necessary for the training in pharmaceutical chemistry, pharmacognosy, biochemistry, technology of drug forms, chemical-pharmaceutical technology and other specialized subjects.

**Assessment:** Written examination on three themes and a problem on multistage synthesis in the frames of four hours; each theme and the problem have a relative assessment value of 25%.

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**MICROBIOLOGY WITH VIROLOGY: ECTS credits 10.0**

**Prerequisites:** None

**Horarium:**

<b>Semester 3</b>	Lectures	30	Weeks	15
	Practicals	30	Weeks	15
<b>Semester 4</b>	Lectures	30	Weeks	15
	Practicals	30	Weeks	15

**Contents:** General microbiology, infection and immunity, special microbiology.

**Objectives:** Knowledge of the morphology, structure and physiology of microorganisms causing contagious diseases. Principles and means of the treatment of contagious diseases using chemotherapy and biopreparations. Contagious process and immunity of the organism.



Causes of various infections and principles of microbiological diagnostics as well as the significance of the normal human microflora. Knowledge of the significance and application of microbiology for the specialty "Pharmacy". Modern biotechnologies using microorganisms for the preparation of antibiotics and other contemporary medicines. Methods of microbiological analysis and control of medicines and biopreparations.

**Assessment:** Continuous assessment, written tests, colloquium, examination.

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**PHYSICAL CHEMISTRY WITH COLOID CHEMISTRY:** ECTS credits 7.0

**Prerequisites:** Successfully passed examinations on Pure Mathematics, Physics, and Inorganic Chemistry.

**Horarium:**

<b>Semester 4</b>	Lectures	30	Weeks	15
	Practicals	30	Weeks	15
<b>Semester 5</b>	Lectures	15	Weeks	15
	Practicals	15	Weeks	15

**Contents:** Chemical principles in the pharmaceutical science are studied. Thermodynamics. Solutions of electrolytes and nonelectrolytes. Solubility and distribution phenomena. Interfacial phenomena. Colloids and rheology. Kinetics – transition - state theory. Catalysis. Enzyme kinetics. Pharmacokinetics. Quantum-mechanical principles in description of the chemical structure. Drug-biomacromolecule interactions.

**Objectives:** The physical chemical principles applied to the physical pharmacy, pharmacokinetics and pharmacodynamics.

**Assessment:** W/O, semester 4<sup>th</sup>

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**PHARMACEUTICAL BOTANY:** ECTS credits 10.0

**Prerequisites:** None.

**Horarium:**

<b>Semester 4</b>	Lectures	30	Weeks	15
	Practicals	30	Weeks	15
<b>Semester 5</b>	Lectures	30	Weeks	15
	Practicals	30	Weeks	15

**Contents:** Anatomy of plants (cytology, histology, organography). Morphology. Physiology of plants, Phytogeography and ecology. Natural resources of medical plants. Methods of their effective use, protection and reproduction are studied together with their importance as sources of biologically active substances.

**Objectives:** Knowledge of the medical plants from the point of view of botany, in order to serve as a basis for the study of pharmacognosy.

**Assessment:** W/O, semester 5<sup>th</sup>

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**BIOCHEMISTRY:** ECTS credits 7.0

**Prerequisites:** Successfully passed examinations on Inorganic Chemistry, Analytical Chemistry and Organic Chemistry.

<b>Horarium:</b>	Lectures	45	Weeks	15
	Practicals	45	Weeks	15
<b>Semester:</b>	5			

**Contents:** Structure and function of proteins and nucleic acids. Application of knowledge on

polymers in the clinical practice. Enzymes. Clinical significance of enzymes. Antimetabolites. Bioenergetics. Citric acid cycle. Metabolism of carbohydrates. Metabolism of lipids. Metabolism of amino acids. Metabolism of nucleotides. Enzymopathies, related to metabolism. Integration and interrelations between metabolism of carbohydrates, lipids, amino acids and nucleotides. Metabolism of DNA, RNA and proteins. Carcinogenesis. Regulation of metabolism. Signal transduction. Hormones. Diabetes Mellitus. Biochemistry and functions of liver. Degradation and synthesis of porphyrins. Jaundices. Biochemistry of nutrition. Computer presentations are used at each lecture - Power Point illustrations and animations (molecular graphics) and other interactive programs.

This course is being now developed also for distance learning, appropriate for under- and post-graduates. The Web-based version of the course consists of lectures, interactive tests and simulations of clinical cases. Part of the course is available on the Internet: [http://medfac.mu-sofia.com/index.php?page\\_id=38](http://medfac.mu-sofia.com/index.php?page_id=38)

**Objectives:** As biochemistry is the study of the molecular basis of life, the goals of the unit are:

(i) to provide theoretical knowledge on the content, structure and functions of the cell components, on the chemical reactions and processes occurring in cells and their regulation, and to explain their significance for organisms in norm and in disease, giving in each category examples about the application of theory in the clinical practice;

(ii) to pass from passive teaching to active regular or distance problem-based learning via application of theory for solving interactive Web-based computer-simulated cases and to provide self-assessment of knowledge via tests. To assure practical instruction and training in basic laboratory biochemical methods and professional teamwork.

**Assessment:** W/O, semester 5<sup>th</sup>

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**MEDICAL DEVICES:** ECTS credits 3.0

**Prerequisites:** Stereometry studied in the secondary school.

**Horarium:** Practicals 30 Weeks 15

**Semester:** 5

**Contents:** Students get familiar with an international technical language as well as with its rules and application, adapted to the needs of students in pharmacy. During the practical exercises, elements of the construction of heat-exchangers used in pharmaceutical industry are drawn and sized. Computerized approaches are also taught.

**Objectives:** Knowledge of the rules of the Bulgarian State Standard and practical skills in technical drawing.

**Assessment:** W/O, 5<sup>th</sup> semester

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**PHARMACEUTICAL CHEMISTRY:** ECTS credits 18.0

**Prerequisites:** Successfully passed examination on Organic Chemistry.

**Horarium:**

<b>Semester 5</b>	Lectures	45	Weeks	15
	Seminars	30	Weeks	15
	Practicals	45	Weeks	15
<b>Semester 6</b>	Lectures	45	Weeks	15
	Seminars	30	Weeks	15
	Practicals	30	Weeks	15

**Semesters:** 5 and 6

**Contents:** Classical and modern medicinal substances are studied on the basis of a combined pharmacotherapeutic and chemical classification. Each part includes characteristics, structure,

chemical denomination, properties, methods of preparation, biotransformation, relationship between structure and activity. Possibilities are considered of alteration of properties, toxicity, etc. **Objectives:** In-depth knowledge of the items listed above.

**Assessment:** W/O, semester 6<sup>th</sup>

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## PHARMACEUTICAL TECHNOLOGY, Part 1: ECTS credits 17.0

**Prerequisites:** None

**Horarium:**

<b>Semester 5</b>	Lectures	30	Weeks	15
	Practicals	75	Weeks	15
<b>Semester 6</b>	Lectures	30	Weeks	15
	Practicals	75	Weeks	15

**Contents:** Conventional drug dosage forms - pulveres, liquida, unguenta, suppositoria, etc., pharmaceutical operations and pharmacopoeal characteristics.

**Objectives:** Providing the basic knowledge and practical skills in the preparation and characterization of conventional drug dosage forms.

**Assessment:** W/O, semester 6<sup>th</sup>

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## CLINICAL CHEMISTRY: ECTS credits 5.0

**Prerequisites:** None

<b>Horarium:</b>	Lectures	15	Weeks	15
	Practicals	45	Weeks	15

**Semester:** 6

**Contents:** Theoretical aspects of clinical chemistry. General problems concerning the materials used for investigation. Types of errors in laboratory diagnostics. Reference limits and values. Analytical reliability of the methods. Quality assurance in clinical laboratories. Basic knowledge on the methods used for the study of electrolytes, oligoelements, indices of the alkali-acidic state of blood, carbohydrates, proteins, enzymes, non-protein nitrogen-containing substances, lipids, hormones, drugs and drug monitoring.

**Objectives:** Skills for work in clinical laboratories as specialists in clinical chemistry.

**Assessment:** Oral examination, semester 6<sup>th</sup>

\*\*\*

## PHARMACOGNOSY, Part 1: ECTS credits 17.0

**Prerequisites:** Successfully passed examinations on Botany and Organic Chemistry.

**Horarium:**

<b>Semester 6</b>	Lectures	30	Weeks	15
	Practicals	75	Weeks	15
<b>Semester 7</b>	Lectures	30	Weeks	15
	Practicals	75	Weeks	15

**Contents:** The curative raw materials of animal and vegetal origin are studied using physical, chemical, physicochemical and biological methods.

**Objectives:** Identification, elucidation of the qualitative and quantitative content of biologically active compounds in drugs.

**Assessment:** W/O, semester 7<sup>th</sup>



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### **PHARMACOLOGY: ECTS credits 15.0**

**Prerequisites:** Successfully passed majority of the courses dealing with medical and biological subjects.

#### **Horarium:**

<b>Semester 6</b>	Lectures	30	Weeks	15
	Practicals	45	Weeks	15
<b>Semester 7</b>	Lectures	30	Weeks	15
	Practicals	75	Weeks	15

**Contents: Sixth semester.** Basic concepts of general pharmacology, necessary for the accumulation of fundamental information concerning the medicinal effect. Special pharmacology, in its parts on the central and autonomous neural systems is also started.

**Seventh semester.** Drugs affecting the cardio-vascular system, the cell-mediated systems, the endocrine system. The course also includes the study of the microbiological, pharmacodynamic, pharmacokinetic and healing aspects of the clinically applied antiinfectious drugs. Principles of chemotherapy for the selective toxicity with respect to bacterial, viral and fungal infectious causes are considered together with the chemotherapy of malignant tumors and chemoblastoses.

**Objectives:** On the basis of the already acquired knowledge on the essence of the physiological and pathophysiological processes in the organism, to focus on the medicinal effects of the various pharmacological remedies, with good knowledge of their pharmacodynamics, pharmacokinetics, therapeutic indications and undesired reactions.

**Assessment** W/O, semester 7<sup>th</sup>

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### **SOCIAL PHARMACY AND PHARMACEUTICAL LEGISLATION: ECTS credits 12.0**

**Prerequisites:** Successfully completed seventh semester; passed examinations on basic pharmaceutical subjects.

#### **Horarium:**

<b>Semester 6</b>	Lectures	30	Weeks	15
	Practicals	45	Weeks	15
<b>Semester 7</b>	Lectures	30	Weeks	15
	Practicals	45	Weeks	15

**Contents:** Possibility of harmonization of the problems of pharmaceutical legislation, management and marketing, and the good pharmaceutical practice in Bulgaria with those of the European countries.

**Objectives:** To create an overall concept on the stages from the investigation of drugs to their effective application to patients.

**Assessment:** W/O, semester 7<sup>th</sup>

\*\*\*

### **HYGIENE AND ECOLOGY: ECTS credits 4.0**

**Prerequisites:** Completed education in Organic Chemistry, Inorganic Chemistry, Quantitative Analysis, Anatomy, Physiology, Pathoanatomy, Pathophysiology, Biochemistry and Clinical Chemistry, Clinical Medicine and Pharmacotherapy.

<b>Horarium:</b>	Lectures	30	Weeks	15
	Seminars	15	Weeks	15

#### **Semester: 7**

**Contents:** Basic ecological problems of pollution, protection and control of atmospheric air, waters and soils. Effect on human health. Physiology of nutrition. Biological and chemical

safety of foods. Nutritional diseases. Hygienic requirements to the design and exploitation of pharmacies. Safety in the production of medicinal substances. Physical, chemical and biological factors of the working environment and related professional diseases with emphasize on the specific pathology in the cases of pharmacy personnel and workers in the chemical-pharmaceutical industry. Infection and epidemic processes. Antiepidemic measures. Ecological and antiepidemiological regularities of the infections of the respiratory system. Intestinal, transmittive and coating infections.

**Objectives:** Possibilities of participation in the system for the monitoring of environment, incl. Biomonitoring. Sanitary control in pharmacies. Participation in the development of prophylactic programs, and in antiepidemic activities.

**Assessment:** W/O, semester 7<sup>th</sup>

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## **PHARMACEUTICAL TECHNOLOGY, Part 2:** ECTS credits 18.0

**Prerequisites:** Successfully passed examination on Pharmaceutical Technology and Biopharmacy, Part 1.

### **Horarium:**

<b>Semester 7</b>	Lectures	30	Weeks	15
	Practicals	75	Weeks	15
<b>Semester 8</b>	Lectures	30	Weeks	15
	Practicals	90	Weeks	15

**Contents:** Classical and modern approaches to the development and characterization of drug dosage forms: solid - (granules, capsules, tablets), sterile - (Parenteralia, Ophthalmica) and phytotherapeutica. Modern requirements for effective and safe dosage forms.

**Objectives:** Basic theoretical and practical knowledge of the formulation, production and control of dosage forms.

**Assessment:** W/O, semester 8<sup>th</sup>

## **PHARMACEUTICAL ANALYSIS:** ECTS credits 18.0

**Prerequisites:** Successfully passed examinations on Analytical Chemistry.

### **Horarium:**

<b>Semester 7</b>	Lectures	30	Weeks	15
	Practicals	75	Weeks	15
<b>Semester 8</b>	Lectures	30	Weeks	15
	Practicals	90	Weeks	15

**Contents:** Possibilities of functional analysis and instrumental methods of analysis (spectroscopy in the UV, visible and IR spectral regions, chromatography, etc.) for the identification and assessment of the amount and purity of the medicinal substances are considered.

**Objectives:** To assure knowledge and skills in the quality control of medicinal substances.

**Assessment:** W/O, semester 8<sup>th</sup>

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## **PHARMACOECONOMY:** ECTS credits 6.0

<b>Horarium:</b>	Lectures	30	Weeks	15
	Seminars	45	Weeks	15

**Semester:** 8

**Contents:** It compares the value of one pharmaceutical drug to another. It is a sub-discipline of health economics. A pharmacoeconomic study evaluates the cost (expressed in monetary terms) and effect (expressed in terms of monetary value, efficacy or enhanced quality of life) of a pharmaceutical product. There are several types of pharmacoeconomic evaluation:

costminimization analysis, cost-benefit analysis, cost-effectiveness analysis and cost-utility analysis. Pharmacoeconomic studies serve to guide optimal healthcare resource allocation, in a standardized and scientifically grounded manner.

**Objectives:** Knowledge of the basic theoretical requirements and practical skills related to the teaching subject.

**Assessment:** W/O, semester 8<sup>th</sup>

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**TOXICOLOGY:** ECTS credits 7.0

**Prerequisites:** Basic knowledge in the fields of the medicobiological and pharmaceutical subjects, the respective examinations being successfully passed.

<b>Horarium:</b>	Lectures	30	Weeks	15
	Seminars	8	Weeks	2
	Practicals	52	Weeks	13

**Semester:** 8

**Contents:** General toxicology. Basic modern principles of medicinal toxicology, toxicokinetics and toxicodynamics. Mechanisms of toxic action. Undesired effects of drugs. Drug safety - monitoring of the undesired effects of drugs. Genetoxic, mutagenic, cancerogenic, teratogenic, immunotoxic action. Biotransformation – enzyme mechanisms. Cytochrome P450. Factors affecting toxicity (endogenous and exogenous). Toxicological aspects of medicinal interactions. Misuse of drugs, Drug dependence. Toxicomanias.

Special toxicology. Toxicological characterization of basic pharmacological groups. Mechanisms of the medicinal injuries of organs and systems. Injuries by nonmedicinal agents - alcohol and nicotine. Interaction with drugs. Toxic substances from the environment: pesticides, heavy metals, organic solvents, industrial and domestic gases, etc. Effect on the biotransformation processes. Toxicologic characteristics of medical plants and nutritive additives. Acute medicinal intoxications - modern antidotes, detoxicants.

**Assessment:** W/O, semester 8<sup>th</sup>

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**MEDICAL GENETICS:** ECTS credits 3,0

<b>Horarium:</b>	Lectures	15	Weeks	15
	Seminars	15	Weeks	15

**Semester:** 8

**Contents:** The etiology of inherited diseases, chromosome diseases and differential diagnosis with the teratogene effects of drugs and other exogenous factors in the etiology and pathogenesis of innate malformations are considered. Basic classes molecular diseases with emphasize on the pharmacogenetic defects, enzymopathies, defects in the connective tissue and the role of genetic factors in the oncogenesis as well as approaches to genetic prophylaxis and therapy, and principles of gene therapy also includes.

**Objectives:** Basic knowledge of the problems of inherited pathology.

**Assessment:** W/O semester 8<sup>th</sup>

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**PHARMACOTHERAPY:** ECTS credits 12,0

**Prerequisites:** Successfully passed majority of the courses dealing with medical and biological subjects and the examinations on Pharmacology and Toxicology.

**Horarium:**

<b>Semester 8</b>	Lectures	30	Weeks	15
	Practicals	45	Weeks	15
<b>Semester 9</b>	Lectures	30	Weeks	15
	Practicals	45	Weeks	15

**Contents:** The clinics and medical treatment of the following syndromes and diseases are considered: the infectious-inflammatory syndrome with lung localization, incl. bronchial asthma as well as the bronchospastic syndrome. Syndrome of cardiac insufficiency. Thromboembolic syndrome. Dislipidemias. Hypertonia; Syndrome of cardiac inhemia. Cardiac arrhythmia. Hyperacidic syndrome. Noninfectious-inflammatory syndrome. Malignant tumors and chemoblastoses. Hyperglycemia and other endocrine disorders. Dermatologic diseases. Cerebral-vascular disease. Undesired reactions caused by prolonged pharmacotherapy.

**Objectives:** To provide information on the clinics of various syndromes and diseases of internal medicine, on the mechanisms of the pathologic process and on the pharmacotherapeutical approaches to their effective healing.

**Assessment:** W/O, semester 9<sup>th</sup>

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### **BIOPHARMACEUTICS AND PHARMACOKINETICS:** ECTS credits 10.0

<b>Horarium:</b> Lectures	30	Weeks	15
Seminars	90	Weeks	15

**Semester:** 9

**Contents:** Drug delivery systems – development and characterization; stability and stabilization of drugs, methods of assessment of the drug stability and of prediction of the drug shelf-life. Methods for the biopharmaceutical study of dosage forms; in vitro release and dissolution - mathematical evaluation and modes of presentation of the results. Pharmaceutical and bio-equivalence of drug preparations.

**Objectives:** To provide knowledge on modern drug delivery systems; basic methods for the evaluation of drug stability and stabilization, biopharmaceutical characterization of drug dosage forms.

**Assessment:** W/O, semester 9<sup>th</sup>

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### **BROMATOLOGY:** ECTS credits 5.0

**Prerequisites:** Successfully passed examinations on Pharmaceutical Chemistry and Analytical Chemistry.

<b>Horarium:</b> Lectures	30	Weeks	15
Practicals	30	Weeks	15

**Semester:** 9

**Contents:** Composition of foods – proteins, fats, carbohydrates, vitamins, mineral salts, nutrient additives. Drug-food interactions on the level of resorption, distribution, metabolism, excretion. Food-poisonings of chemical and microbiological origins.

**Objectives:** To assure knowledge of the methods of food analysis and of the drug-food interactions.

**Assessment:** W/O, semester 9<sup>th</sup>

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### **PHARMACOGNOSY, Part 2:** ECTS credits 7.0

**Prerequisites:** Successfully passed examination on Pharmacognosy, Part 1.

<b>Horarium:</b> Lectures	30	Weeks	15
Seminars	12	Weeks	3
Practicals	48	Weeks	12

**Semester:** 9

**Contents:** Extraction of drugs from freely growing and cultivated medicinal plants - advantages and drawbacks. Standardization of drugs and standard documents. Methods of isolation, identification, qualitative and quantitative analysis of biologically active substances of vegetal origin. Types of phytopreparations and stages of their manufacturing. Phytopreparations from

various groups naturally occurring substances. Chemotaxonomy and significance for pharmacy.

**Objectives:** On the basis of the theoretical knowledge acquired from Pharmacognosy, Part 1, to provide the students with practical skills in this respect.

**Assessment:** W/O, semester 9<sup>th</sup>

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**PHARMACEUTICAL CARE:** ECTS credits 6.0

**Prerequisites:**

<b>Horarium:</b>	Lectures	30	Weeks	15
	Practicals	45	Weeks	15

**Semester:** 9

**Contents:** Scientific principles and international requirements at every stage of drug therapy for the purpose of achieving the elimination or reduction of a patient's symptomatology; arresting or slowing of a disease process; or preventing a disease or symptomatology. This process requires a review of patient's medication with reference to the doctor's diagnoses, laboratory tests and patient's information. It teaches good communication skills in order to gain a correct understanding of the relevance and impact of the various medications on the patient's pathology.

**Objectives:** Knowledge of the modern strategies in providing quality and safety at every stage of drug treatment.

**Assessment:** W/O, semester 9<sup>th</sup>





## FACULTY OF PUBLIC HEALTH



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The Faculty of Public Health is one of the four faculties in the structure of the Medical University - Sofia, the oldest and most authoritative academic organization in the field of medicine and healthcare in the Republic of Bulgaria. The Faculty of Public Health was established with the support of the Stability Pact and in partnership with leading institutions in the countries of the European Union and the World Health Organization with Decree of the Council of Ministers №160/20.06.2001. The founder of the Faculty of Public Health is Prof. Dr. Tzecomir Vodenitcharov, PhD, DSc. The strategy of the Faculty of Public Health is defined by modern ideas and movement in the European Health for All in the 21st Century, including:

- Public health, which is a primary issue not only for the health sector, but also for other sectors of public life and various civic organizations;
- Security of all people that healthcare is affordable, adequate and of good quality;
- Ensuring the basic right of every person to a good level of physical and mental health, including the right to adequate healthy food, the right to good housing conditions, the right to live and work in a safe living environment, the right to access to education and health information.

### **The mission of the Faculty of Public Health includes:**

- to create a new generation of health managers, prepared for the challenges of the dynamically emerging market of health services, entrepreneurship spirit and respecting the universal ethical principles of healthcare practice;
- to provide continuous training and methodical support to health policy makers and managers in the modernization of Bulgarian healthcare.
- to provide continuous training and methodical support to health policy makers and managers in the modernization of Bulgarian healthcare.
- to contribute responsibly and creatively to the development of a methodological basis for educational and research activities in the field of public health and health management;
- capacity building by high-level professionals in public health and health management to provide better access to appropriate, sustainable high-quality healthcare;

**The vision of the Faculty of Public Health** is undoubtedly related to the constant and stimulated interest in the problems of the public health and the satisfaction of the needs of the trainees, with an emphasis on the actuality and significance of the theoretical and practical applied knowledge.

**The strategic objective of the Faculty of Public Health** is to develop the science and practice of public health and management and to optimize the organization, coordination and control of all activities performed. The aim is to form health politicians, managers and specialists with high managerial competence, with a new type of organizational behavior and pedagogical professionalism in providing medical and health care in the conditions of a changing social, economic and health system. All the study programs proposed are in correlation with the European policy and are adapted to Bulgaria. They are in line with the priorities and directives of the Bologna Declaration on the Development of Higher Education in Europe. In the ranking of the scientific directions „Public health“ and „Health care“ Medical University - Sofia is the first in Bulgaria.

### **Erasmus + program**

Within the ERASMUS + Exchange Programs, the Faculty has concluded over 50 agreements with different universities for all majors in the following countries: Estonia, Greece, Spain, Italy, Latvia, Lithuania, Poland, Romania, Slovakia, Slovenia, Northern Macedonia, Turkey, Hungary, Finland, Croatia, Czech Republic. The Faculty of Public Health and the Medical College “Yordanka Filaretova”, with the assistance of the International Integration and Project Financing Department of the Medical University-Sofia, organize an annually event “International Erasmus Staff Week”. The purpose of the event is to expand international relations, establish new contacts and share the best teaching practices in the field of public health and medical care.

### **Structure of the Faculty of Public Health**

- Department of Health Policy and Management
- Department of Health Economics
- Department of Ethics and Law in Medicine
- Department of Social Medicine
- Department of Medical Pedagogy
- Department of Preventive Medicine
- Department of Occupational Medicine
- Department of Health Care
- Department of Health Technology Assessment
- Department of Physiotherapy
- Study department
- Postgraduate training department
- Accounting department

The Faculty of Public Health carries out training in two professional fields. We prepare leaders with new management style. Future managers are able to effectively manage outpatient and hospital care in the country. The Faculty of Public Health educates students in the following specialties and degrees:

#### **BACHELOR'S DEGREE**

- Public Health and Health Management
- Health Care Management
- Nursing
- Midwifery
- Physiotherapy
- Emergency Medical Aid

#### **MASTER'S DEGREE**

- Public Health and Health Management
- Health Care Management
- Occupational Health
- Clinical Medical Care
- Strategic Management in the Pharmaceutical Industry
- Clinical Trials Management
- Medical Cosmetics
- Medical Rehabilitation and Balneology

### ***MAJOR „PUBLIC HEALTH AND HEALTH MANAGEMENT” FOR BACHELOR'S EDUCATIONAL AND QUALIFICATION DEGREE - FULL-TIME STUDY***

The program aims to foster and develop students' practical skills like:

- Views on the role and essence of the health management
- Critical analysis of problems
- Understanding of the issues and priorities of the health system
- Orientation in the economical aspects
- Applying of economical approaches
- Identifying of ethical aspects and solving ethical dilemmas
- Planning and conducting epidemiological researches
- Knowledge about the main rules and legislation about the drug policy
- Knowledge about the rules of making medicines
- Marketing knowledge about drug policy
- Role, purpose and position of the health insurance in the health policy
- Knowledge about preventing strategies
- Applying the Models of Financing in the Health System

**Objectives:** The main objective of the discipline is to form modern views on the essence of the future profession of the students.

**Assessment:** Theoretical exams & Semester examination

#### **Major Curriculum**



**I semester**

Number	SUBJECTS	ECTS
1	Introduction to the major	7
2	Medical ecology and hygiene	6
3	Introduction to health management	8
4	Introduction to economic knowledge	8
5	Latin and Medical Terms	2

**II semester**

Number	SUBJECTS	ECTS
1	Social medicine	7
2	Social medicine	7
3	Economy of Healthcare	7
4	Medical ethics and deontology	7
5	Latin and Medical Terms	3

**III semester**

Number	SUBJECTS	ECTS
1	Communication skills and conflicts management	7
2	Organization of the medical care	4
3	Medical sociology	6
4	Epidemiology of non-infectious diseases	6
5	Financial management in Healthcare	4
6	Training inpatient practice with practical seminar	4

**IV semester**

Number	SUBJECTS	ECTS
1	Methods of health training and education	4
2	Organization of the emergency medical care	5
3	Drug policy	4
4	Management of information – document flow in medicine and healthcare	4
5	Management of information – document flow in medicine and healthcare	5
6	Training inpatient practice with practical terminal	4
7	Bioethics	4
8	Time management	4

**V semester**

Number	SUBJECTS	ECTS
1	Health Insurance	6
2	Health promotion	7
3	Strategic management in Healthcare	8
4	Evidence based medicine	6

5	Training practice in emergency aid with practical terminal	3
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### VI semester

Number	SUBJECTS	ECTS
1	Introduction to health management	7
2	Outpatient care organization	6
3	Informatics in healthcare	7
4	Marketing in healthcare	6
5	Training outpatient practice with practical seminar	4

### VII semester

Number	SUBJECTS	ECTS
1	Patients' rights	6
2	Fundamentals of occupational medicine	5
3	Problems related to ageing and old age	5
4	Labour and administrative law	5
5	Training outpatient practice with practical seminar	4
6	International health cooperation	6

### VIII semester

Number	SUBJECTS	ECTS
1	Health law	7
2	Sport	9



**MAJOR "NURSING"**  
**EDUCATIONAL AND QUALIFICATION**  
**DEGREE: BACHELOR**

**Total hours of theoretical and practical training, consultations, course assignments, semester and final state examinations – 5283 academic hours**

**Hours of theory – 2010 academic hours, including:**

- compulsory subjects + 2 Freely selectable – 1980 hours
- optional subjects – 30 hours



**Practical training – 3273 academic hours:**

- Training (clinical) practice - semester 1,2,3,4,5,6 – 1140 hours
- Pre-diploma (clinical) practice - 1600 astronomical hours (2133 academic h)

**Credits:**

- One credit corresponds to 30 h workload (auditorium and independent) .
- Credits from the course of study – 230.00
- Credits from final state examinations – 10.00
- Maximum number of credits – 240.00

**Major Curriculum**

**I semester**

Number	SUBJECTS	ECTS
1	Philosophy and introduction to nursing. Theoretical bases.	12
2	Nursing care for patients with somatic diseases	6
3	Human anatomy and clinical pathology	3
4	Human physiology and pathological physiology	3
5	Latin with Medical Terms	2
6	Medical psychology	2
7	Medical ethics and deontology	2
8	Sport	4
9	Clinical practice	51
10	Pre-graduation practice	47

**II semester**

Number	SUBJECTS	ECTS
1	Philosophy and introduction to nursing. Theoretical bases.	12
2	Nursing care for patients with somatic diseases	6
3	Microbiology, parasitology and virology	2
4	Pharmacology	3
5	Internal diseases	6
6	Health promotion	1
7	Computer Science	4
8	Sport	4
9	Clinical practice	51

**III semester**

Number	SUBJECTS	ECTS
1	Nursing care for patients with surgical diseases	5
2	Paediatric nursing	3
3	Nursing for resuscitation and intensive care	3
4	Image diagnostics in the nursing practice	1
5	Hygiene and ecology	2
6	Dietotherapy	1
7	Internal diseases	6
8	Geriatrics	1
9	Surgery	5
10	Anaesthesiology and intensive care	4
11	Paediatrics and Neonatology	3
12	Clinical practice	51

**IV semester**

Number	SUBJECTS	ECTS
1	Nursing for young mothers and newly-born babies	2
2	Nursing for ENT diseases	2
3	Nursing for patients with infectious diseases	3
4	Surgery	5
5	Infectious diseases and epidemiology	2
6	Obstetrics and gynaecology	2
7	Children pedagogy and children psychology	1
8	Children pedagogy and children psychology	2
9	Clinical practice	51

**V semester**

Number	SUBJECTS	ECTS
1	Nursing for patients with neurological diseases	3
2	Palliative nursing	2
3	Nursing for children and adults with disabilities	4
4	Medical devices in nursing	1
5	Medical genetics	1
6	Clinical laboratory, biochemistry and immunology	1
7	Nervous diseases and psychiatry	2
8	Eye diseases	1
9	ENT diseases	1
10	Skin and venereal diseases	1
11	Social and health law	2
12	Social medicine	2
13	Art therapy and art prophylaxis	2
14	Clinical practice	51

**VI semester**

Number	SUBJECTS	ECTS
1	Physical therapy and rehabilitation	1
2	Geriatrics	1
3	Principles and methods of training	3
	<b>Two optional subjects of:</b>	2
4	Art therapy and art prophylaxis	

5	Health education	
6	Alternative medicine	
7	Communicative training	
8	Clinical practice	51

#### VII semester

Number	SUBJECT	ECTS
1	Pre-graduation practice	47

#### VIII semester

Number	SUBJECT	ECTS
1	Pre-graduation practice	47

**MAJOR: MIDWIFERY**  
**EDUCATIONAL AND QUALIFICATION DEGREE: „BACHELOR”**

**Total hours of theoretical and practical training, consultations, course assignments, semester and final state examinations - 5298 academic hours**

**Hours of theory – 2025 academic hours, including:**

- compulsory subjects + 2 Freely selectable – 1995 hours
- optional subjects – 30 hours

**Practical training – 3273 academic hours:**

- Training (clinical) practice - semester 1,2,3,4,5,6 – 1140 hours
- Pre-diploma (clinical) practice - 1600 astronomic hours (2133 academic hours)

**Credits:**

- One credit corresponds to 30 h workload (auditorium and independent) .
- Credits from the course of study – 230.00
- Credits from final state examinations – 10.00
- Maximum number of credits – 240.00





## Major Curriculum

### I semester

Number	SUBJECTS	ECTS
1	Philosophy and introduction to nursing and midwifery. Theoretical bases	8
2	Anatomy and general clinical pathology of human	4
3	Human physiology and pathological physiology	4
4	Microbiology, parasitology and virology	2
5	Hygiene and ecology	1
6	Latin with Medical Terms	2
7	Medical psychology	2
8	Medical ethics and deontology	2
9	Sport	4
10	Clinical practice	51

### II semester

Number	SUBJECTS	ECTS
1	Philosophy and introduction to nursing and midwifery. Theoretical bases	8
2	Midwifery	20
3	Clinical laboratory and biochemistry	2
4	Medical devices in midwifery and gynaecology practice	1
5	Medical genetics	2
6	Dietotherapy	1
7	Computer Science	4
8	Sport	4
9	Clinical practice	51

### III semester

Number	SUBJECTS	ECTS
1	Special care for pregnant women with normal and pathological pregnancy	4
2	Special care for women in child-birth with normal and pathological delivery	6
3	Special care for pregnant women, women in child-birth and women with gynaecological diseases with somatic diseases	1
4	Special care for children in neonatology and paediatrics	4
5	Midwifery	20
6	Gynaecology	12
7	Neonatology	2
8	Pharmacology	3
9	Internal diseases	2
10	Principles and methods of training	1
11	Clinical practice	51

**IV semester**

Number	SUBJECTS	ECTS
1	Special care for pregnant women with normal and pathological pregnancy	4
2	Special care for women in child-birth with normal and pathological delivery	6
3	Special care for women with normal and pathological puerperium	4
4	Special care for children in neonatology and paediatrics	4
5	Midwifery	20
6	Gynaecology	12
7	Children's diseases	2
8	Image diagnostics in midwifery and gynaecology practice	1
9	Disaster medicine	2
10	Social and health law	2
11	Clinical practice	51

**V semester**

Number	SUBJECTS	ECTS
1	Special care for women with normal and pathological puerperium	4
2	Special care for pregnant women and women in child-birth in anaesthesiology and intensive therapy	2
3	Special care for pregnant women and women in child-birth with surgical diseases	2
4	Midwifery	20
5	Gynaecology	12
6	Physical therapy and rehabilitation	1
7	Surgery	2
8	Anaesthesiology, resuscitation and intensive care	2
9	Social and health law	2
	<b>Two optional subjects of</b>	
10	Operative midwifery technique	2
11	Ultrasound diagnostics in Obstetrics	2
12	Art therapy and art prophylaxis	2
13	Communicative training	2
14	Clinical practice	51

**VI semester**

Number	SUBJECTS	ECTS
1	Special care for women with gynaecological diseases	3
2	Special care for pregnant women, women in child-birth and women with gynaecological diseases with infectious and venereal diseases	1

3	Midwifery and nursing for women with oncologic diseases	2
4	Midwifery	20
5	Gynaecology	12
6	Infectious diseases and epidemiology	2
7	Skin and venereal diseases	1
8	Eye diseases	1
9	ENT diseases	1
10	Sexology and family planning	2
	<b>Two optional subjects of:</b>	2
11	Operative midwifery technique	
12	Ultrasound diagnostics in Obstetrics	
13	Art therapy and art prophylaxis	
14	Communicative training	
15	Clinical practice	51

### VII semester

Number	SUBJECT	ECTS
1	Pre-graduation practice	46

### VIII semester

Number	SUBJECT	ECTS
1	Pre-graduation practice	46



### MAJOR “MEDICAL AID” FOR EDUCATIONAL AND QUALIFICATION DEGREE „BACHELOR“

**Total hours of theoretical and practical training, consultations, course assignments, semester and final state examinations – 5384 academic hours**

**Hours of theory – 2250 academic hours, including:**

- compulsory subjects – 2190 hours
- freely selectable – 60 hours
- optional subjects – 30 hours

### Practical training – 3134 Practical training

- Training (clinical) practice - semester 1,2,3,4,5,6 – 1000 hours
- Pre-diploma (clinical) practice –1600 astronomic hours (2133 academic hours)

### Credits:

One credit corresponds to 15 h workload.  
Credits from the course of study – 230.00  
Credits from final state examinations – 10.00  
Maximum number of credits – 240.00

## Major Curriculum

### I semester

Number	SUBJECTS	ECTS
1	Biology	1
2	Human anatomy	6
3	Human physiology	6
4	Latin with Medical Terms	2
5	Microbiology, parasitology and virology	2
6	Medical ethics and deontology	2
7	Medical psychology	2
8	Communication skills	3
9	Sport	4
10	Training practice	37

### II semester

Number	SUBJECTS	ECTS
1	Human anatomy	6
2	Human physiology	6
3	Medical Physics and Equipment	3
4	Biochemistry	2
5	Clinical laboratory	2
6	Computer Science	2
7	Patient care and nursing equipment	2
8	Sport	4
9	Two optional subjects of:	4
10	Training practice	37

### III semester

Number	SUBJECTS	ECTS
1	Pharmacology	5
2	Physical therapy	1
3	Hygiene and Ecology	1
4	Pathoanatomy	2
5	Nutrition and Dietetics	1
6	Surgery	8
7	Internal diseases	24
8	<u>Primary Level Health Care (Instead of General Medicine)</u>	10
9	Social and health law	1
10	Medical insurance in emergency/ <u>disaster situations</u>	2
11	Training practice	37

### IV semester

Number	SUBJECTS	ECTS
1	Pharmacology	5
2	Pathophysiology	2
3	Surgery	8
4	Children's Diseases	4
5	Internal diseases	24

6	Eye diseases	1
7	ENT diseases	1
8	Skin and venereal diseases	1
9	Training practice	37

#### V semester

Number	SUBJECTS	ECTS
1	<u>Imaging Diagnostics</u>	2
2	Orthopedics and Traumatology	3
3	Neurological diseases	3
4	Psychiatry	2
5	Resuscitation and intensive care	5
6	Children's Diseases	4
7	Internal diseases	24
8	Oncology and palliative care	2
9	Emergency medical care	10
10	Training practice	37

#### VI semester

Number	SUBJECTS	ECTS
1	Urology	1
2	Obstetrics and Gynecology	5
3	Geriatrics	4
4	Infectious Diseases and Epidemiology	4
5	Internal diseases	24
6	Emergency medical care	10
7	Social medicine and health promotion	2
	<b>Two elective disciplines from</b>	4
8	Quality of Life for Patients with Chronic Diseases	
9	Reanimate care and intensive care	
10	Emergencies in pediatric diseases	
11	Doctor's assistant at general practitioner	
	<b><u>Elective/ Faculty subjects</u></b>	2
12	<u>Forensic Medicine - Practicals</u>	
13	Emergencies in major types of diseases	
14	Emergency help in case of a sudden change in the state of health of adults and children	
15	Emergencies in major types of diseases	
16	Clinical practice	37

#### VII semester

Number	SUBJECT	ECTS
1	Pre-graduation practice	46

#### VIII semester

Number	SUBJECT	ECTS
1	Pre-graduation practice	46

**MAJOR „PUBLIC HEALTH AND HEALTH MANAGEMENT”  
FOR EDUCATIONAL AND QUALIFICATION DEGREE „MASTER”**

**I semester**

Number	SUBJECTS	ECTS
1	Social medicine	3
2	Health management I- resource and activity management	3
3	Health management II – Principals of HTA	3
4	Epidemiology – risk management	3
5	Extreme situations - risk assessment	2
6	Health management III – Strategical marketing in the healthcare	3
7	Organizational behavior	3
8	Health economics	3
9	Medical Sociology	2
10	Modern Health Policy Technologies	2
11	Prevention of stress and professional exhaustion/ burn out syndrome	2

**II semester**

Number	SUBJECTS	ECTS
1	Bioethics	3
2	Financial Management, Financial Planning and Controlling in Healthcare	3
3	Health Promotion and Disease Prevention	3
4	Applied epidemiology - medicine and health policy based on evidence	3
5	Law in healthcare	3
6	Pharmacoeconomics	3
7	Ethics of Health Policy	3
8	Analytical modeling	2
9	Methodology and organization of the research work	2
10	<b>Elective/Faculty subjects</b> Communicative training	2
11	<b>Thesis Defence</b>	15

**MAJOR “ KINESITHERAPY”  
EDUCATIONAL AND QUALIFICATION DEGREE: „BACHELOR”**

**Major Curriculum**

**I semester**

Number	SUBJECTS	ECTS
1	Anatomy	8
2	Biochemistry	2
3	Latin with Medical Terms	2
4	Medical ethics and deontology	2

5	Medical psychology	2
6	Hygiene and Ecology	1
7	<u>First Aid Health Care</u>	1
8	Theory and Methodology of Physical Education and Sports Training	1
9	Sport	1
10	<u>Basic gymnastics</u>	2
11	Health and Safety at Work	2
12	<u>Medicine in disaster situation</u>	2
13	Specialized English, German, French languages	2

## II semester

Number	SUBJECTS	ECTS
1	Anatomy	8
2	Biomechanics and biophysics	4
3	Physiology	4
4	Massage	11
5	Natural, transformed physical factors and balneology	11
6	<u>Therapeutic bases and means of kinesitherapy</u>	6
7	<u>Kinesiological bases of kinesitherapy</u>	2
8	<u>General Methods for Functional Studies and Assessment in Kinesitherapy</u>	5
9	Specialized English, German, French languages	2
10	Clinical practice	52
11	/Summer clinical practice	16

## III semester

Number	SUBJECTS	ECTS
1	Pathophysiology	2
2	Massage	11
3	Natural, transformed physical factors and balneology	11
4	<u>Manual hand mobilization techniques of peripheral joints</u>	3
5	<u>Therapeutic bases and means of kinesitherapy</u>	6
6	General Methods for Functional Studies and Assessment in physiotherapy	5
7	Pathogenesis - Functional Analysis and Assessment	4
8	<u>Imaging Diagnostics</u>	2
9	Pharmacology	2
10	Thai massage	2
11	Aroma therapy	2
12	Clinical practice	52

## IV semester

Number	SUBJECTS	ECTS
1	Pathoanatomy	2
2	Physiotherapy in orthopedics and traumatology	7

3	Massage	11
4	Natural, transformed physical factors and balneology	11
5	Orthopedics and traumatology with orthotics and prosthetics	6
6	Internal diseases	5
7	Neurological diseases	6
8	Clinical practice	52
9	Summer clinical practice	16

#### V semester

Number	SUBJECTS	ECTS
1	Physiotherapy in orthopedics and traumatology	7
2	Physiotherapy in internal diseases	6
3	Kinesitherapy in neurological and mental diseases	8
4	Muscle techniques and mobilizations of peripheral nerves	2
5	Orthopedics and traumatology with orthotics and prosthetics	6
6	Neurological diseases	6
7	Clinical practice	52

#### VI semester

Number	SUBJECTS	ECTS
1	Physiotherapy in internal diseases	6
2	Kinesitherapy in neurological and mental diseases	8
3	Physiotherapy in surgery	3
4	Physiotherapy in Obstetrics and Gynecology	2
5	Pediatrics	2
6	Physical analgesia	2
7	Obstetrics and Gynecology	2
8	General Surgery	2
9	Rehabilitation of grip and gait	2
10	Clinical practice	52

#### VII semester

Number	SUBJECTS	ECTS
1	Physiotherapy in child diseases	3
2	Physiotherapy in geriatrics	1
3	Ergotherapy	2
4	Adapted physical activity	2
5	Social medicine, social rehabilitation and health promotion	2
6	Basics in Scientific Research	2
7	Social and health legislation	1
8	Clinical neurorehabilitation	2
9	Clinical cardiorehabilitation	2
10	Reflex Locomotion according Vojta	2



11	Clinical Onco Rehabilitation	2
12	Clinical practice	52

**VIII semester**

<b>Number</b>	<b>SUBJECT</b>	<b>ECTS</b>
1	Pre-graduation practice	20



## MEDICAL COLLEGE – SOFIA

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**Deputy Director:** Prof. Dr. Zaharina Savova, MD, PhD

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**Faculty Coordinator:** Prof. Dr. Antoniya Yanakieva,  
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The Medical College “J. Filaretova” is the oldest medical institution and largest medical education institution in Bulgaria for the education of medical specialists with college degree in the field of “health care”. Following the complete three year course of education, the successful graduates of the college are awarded the educational qualification entitled “professional bachelor in...”. The education at the Medical College is full-time.

The medical college educates its students by strictly following the latest educational plans and programs approved by the Bulgarian Ministry of Science and Education and the other countries in the European Union.

The educational process is carried out by leading specialists from the Medical University – Sofia – Professors, Assoc. Professors and Assistant Professors with Ph.D.

The practical education of the students is carried out in the most modern and prestigious hospitals, medical laboratories, facilities etc. in the Medical University – Sofia. There the students acquire, practice and refine the practical skills that they will need in their career.

All the specialties in the Medical College “J. Filaretova” are some of the most needed professions in the world. All countries in EU have a staggering need for our capable and well trained specialists. According to a recent study most of our specialties ranked near the top of the “100 recession proof jobs”.

The building of the college is an architectural and cultural landmark and was donated by the famous Bulgarian patriot J. Filaretova over 110 years ago. The college has many modern lecture halls, laboratories, and cabinets equipped with modern medical and AV technology, the college also has a computer room, library, sports saloon etc.

**Specialty “Medical Laboratory Assistant”** Duration of education: 3 years

The motto of this specialty is: “Our goal is accuracy”.

The Medical Laboratory Assistant is the principal performer of a wide spectrum of activities in specialized clinical, microbiological, histological, parasitological and other laboratories. He/she gets professional training, acquires skills and knowledge for independent work in the pre-analytical, analytical and post-analytical phases of the laboratory assays.

The Medical Laboratory Assistant participates in the diagnostic, curative, prophylactic and scientific activities in hospitals and scientific institutes.

In order to achieve the educational and qualification degree “Professional Bachelor”, The

Medical Laboratory Assistant has to master a certain knowledge and skills in solid list of Medical, Biochemical, Technical and Social Science and Practices.

The classes are lead in contemporary equipped educational laboratories with independent working places.

The tradition in education of Medical Laboratory Assistants in the Medical College – Sofia and the high level of training allows them to get successful professional realization. They are sought and preferred in the medical laboratory job sector.

The new graduates start work in prestigious medical, scientific and industrial clinical, hematological, microbiological, serological, histological, parasitological, genetic etc. laboratories.

**FULL – TIME/ ECTS credits: 183**

Total foall semesters	Horarium	Lectures	Practical	Semesters
			Exercises / pre-diploma training	
	3905	876	1985 / 1044	6

**Specialty “X-Ray Technician”**

Duration of education: 3 years

Being an X-ray technician is a profession of extremely high expectations for the personal qualities and the professional characteristics of the specialists. The X-ray technicians must be dynamic, versatile, independent and good team players. It no longer applies to simple old X-ray pictures, but includes knowledge of a huge number of methods that are invisible to the human eye (ultra sound, mammography, MRI, CT scan, etc.)

The profession of an X-ray technician has been completely transformed in the past few decades and the old stigmas related to its jeopardy have been alleviated by many modern innovations and mechanizations. Being one of the fastest developing areas in health care it is more and more heavily dependent on Information and Communication Technologies which makes it the perfect choice for people who want to combine their love for modern technology and health care. Today most of the diagnostic tasks in front of the Physicians are done by the X-ray technicians. In order to be competitive in their field the X-ray technicians must have solid knowledge in physics, anatomy, radiobiology. It is of vital importance for them to know the diagnostic process and treatment of various illnesses.

Our graduates can start work at:

- X–ray studios and X-ray wards at Diagnostic-consultant Centers, highly specialized hospitals, scientific institutes, dispensaries, sanatoria, resorts and many more, where they could use X-ray diagnostic sets for conventional investigation or contrast media investigations; DSA sets – for interventional radiology investigations, ultra sound sets, computer tomography sets, MRI sets, mammography sets, sets for post processing or saving images, X-ray sets used by dentists.

- Radiation therapy departments

- Nuclear medicine labs

- Radio-immunology labs

- Highly specialized labs where different methods are combined /EEG, EMG, etc./

- Radiobiology labs or studies where sources of radiation are used for diagnostic or treatment purposes

**FULL – TIME/ ECTS credits: 183**

Total for all semesters	Horarium	Lectures	Practical	Semesters
			Exercises / pre-diploma training	
	3780	917	968 / 1895	6

**Specialty “Dental technician”** Duration of education: 3 years

The specialty “dental technician” is a medico-technical specialty that is vital for orthodontic and prosthetic dental medicine. This is a profession for the artist at heart, and for the people that love creating beauty and a wonderful smile in others.

The dental technician is a highly qualified specialist that plans, develops and creates, using the most modern materials and technological methods different kinds of tooth prosthetic constructions, face and jaw prosthetics, orthodontic apparatuses etc., that have been ordered from the dental doctors (dentists).

During their education students learn many different disciplines that will broaden their horizon and also give them knowledge and skills to make them extremely competitive after graduation. Some of the students start working even before graduation in dental labs, using the most modern materials, instruments, tools available to the profession.

Thanks to the close contacts with the leading dental firms often the medical college organizes guest lecturers to make presentations of the innovations in the field. Those students that have interest can also do scientific work along with their lectures.

The graduated dental technicians can work mainly in dental technician labs in Bulgaria but also anywhere in the world.

**FULL – TIME/ ECTS credits: 183**

Total for all semesters	Horarium	Lectures	Practical	Semesters
			Exercises / pre-diploma training	
	3650	602	1013 / 2035	6

**Specialty “Physical Therapist”** Duration of education: 3 years

The Physical Therapist takes an active part in providing medical rehabilitation treatment during all stages of the treatment process.

The Physical Therapist works under the supervision of a Doctor of physical and rehabilitation medicine. The Physical Therapist develops and provides the rehabilitation program of each patient. The Physical Therapist is part of a multidisciplinary team of physicians, nurses, social workers, speech therapists, pedagogues, psychologists, occupational therapists.

The Physical Therapist should have a great amount of medical, social and special knowledge of kinesitherapy, massage, electrotherapy, hot- and cold-therapy, hydrotherapy, magnet-, ultra sound-and high-frequency therapy, aerosol therapy, spa therapy, occupational therapy.

The Physical Therapist who is graduated at the Medical College has competence to work in both state and private practices at specialized and general hospitals, medical centers, physical therapy departments, reflexotherapy and SPA centers, in the field of sport and professional injuries, social centers and special schools, resorts, sport clubs, home therapy etc.

**FULL – TIME/ ECTS credits: 183**

Total for all semesters	Horarium	Lectures	Practical	Semesters
			Exercises / pre-diploma training	
	4180	824	1251 / 2105	6

**Specialty “Assistant Pharmacist”** Duration of education: 3 years

The Assistant Pharmacist is an assistant to master pharmacists and takes active part in the medicine supplies and prescription drug production by delivering:

- assistance in the creation of pharmaceutical recipes and medicinal sheets;
- assistance in the preparation of injectable formulations;
- provides the medicine supplies to pharmaceutical and medical-prophylactic institutions;
- works in section “Drugs without prescriptions” in the reception department of pharmacy;
- participates as an analyst in the analysis of pharmaceuticals;
- is involved in the production of drugs and formulations in pharmaceutical factories. There

is an increased interest in this specialty largely due to the feasibility of development of private business. In cities with a population up to 5000 inhabitants assistant pharmacist has the right to open private pharmacies, manage it and also own a drugstore and work in it. Certified assistant pharmacists can work in pharmacies and hospital pharmacies, herbal pharmacies, pharmacy stores, control and analytical laboratories, research laboratories, pharmaceutical factories.

**FULL – TIME/ ECTS credits: 183**

Total for all semesters	Horarium	Lectures	Practical	Semesters
			Exercises / pre-diploma training	
	3900	1012	888 / 2000	6

**Specialty “Public health inspector“**

Duration of education: 3 years

The greatest leaps in longevity and quality of life are not due to better treatment but because of sanitary conditions and prophylactics. That is why our motto is: “It is far better to conduct prophylactics of a disease than treat it”. Public health care needs systematic monitoring of the factors of work, education, living, and surrounding environments in order to determine their effect on the health of the population.

In specialty “Inspector of Public Health” students conduct the following activities:

- Control of compliance with health requirements for sites of public-purpose products, goods and activities of importance to human health and factors of environment;
- Control of infectious diseases;
- Control on health status of people who have had contact with infected persons, contagious and suspected of suffering from infectious diseases, as well as other persons in epidemic indications;
- Promotion of health and integrated disease prevention;
- Laboratory control of the environment and analyzing and evaluating their impact on public health;
- Monitoring, evaluation and control of noise in urban areas and public buildings, contaminants in food and drinking water;

Our graduates can start work in the Regional Inspection for Protection of the Environment and Water, in departments of hospital hygiene, occupational health services, border control.

**FULL – TIME/ ECTS credits: 183**

Total for all semesters	Horarium	Lectures	Practical	Semesters
			Exercises / pre-diploma training	
	3730	1072	778 / 1880	6

**Specialty “Medical Aesthetician” (Medical cosmetics)**

Duration of education: 3 years

Medical Cosmetics is a contemporary, modern and attractive specialty. Our motto is “Beauty and health for all”. This is the first chance for quality higher education in the aesthetic medical care. In our college the students excel in the field of aesthetic cosmetics and beauty products.

The medical cosmetologist applies cosmetic care by him or her self according to the acquired professional skills and in collaboration with other medical and non-medical specialists. They also perform a myriad of tasks in the field of healthcare and cosmetic services.

Our graduates can start work in cosmetic studios, beauty centers, cosmetic medical centers; SPA-centers, fitness clubs, hotels, Dermatology Clinics/Offices, Clinics of Aesthetic Medicine, make-up in theater, cinema, television and others.

**FULL – TIME/ ECTS credits: 180**

Total for all semesters	Horarium	Lectures	Practical	Semesters
			Exercises / pre-diploma training	
	3035	859	862 / 1350	6

***Specialty “Massage therapist” with visual impairments***

Duration of education: 3 years

This specialty has been created only for persons with visual impairments diagnosed by an official medical commission.

Massages are part of the therapeutical program and also for health promotion.

Massage therapists with visual impairments graduated at Medical College are medical specialists. Massage therapists work under the supervision of a doctor of physical and rehabilitation medicine and take part of a multidisciplinary team of physicians, physical therapists, nurses, social workers, pedagogues, psychologists, occupational therapists.

Massage therapists should have high level of communication and professional skills and also great knowledge of massage, kinesitherapy, hot- and cold-therapy and parts of electrotherapy.

Massage therapists have competence to work at specialized and general hospitals, medical centers, physical therapy departments, reflexotherapy and SPA centers, departments of hydrotherapy and sport medicine, resorts, sport clubs, social centers etc.

**FULL – TIME/ ECTS credits: 183**

Total for all semesters	Horarium	Lectures	Practical	Semesters
			Exercises / pre-diploma training	
	3610	692	983 / 1935	6



## **SUBSIDIARY – VRATSA**

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The subsidiary is founded in 1951 as a school for doctor's assistants. The aim was to assure the needs for medical staff in the central, southern and northwestern parts of Bulgaria. It used to be a school for doctor's assistants for 10 years, then a new specialty was founded – nurse with general qualification in 1961. During the next years a lot of specialties emerged:

- In 1966 – Children's nurse
- In 1974 – Dentist's nurse
- In 1990 – Midwifery
- In 2004 – Medical cosmetics

In 1997 by Decree of the Ministry of Councils of the Republic of Bulgaria the school was transferred from the Ministry of Health to the structure of the Medical University – Sofia, where it was established as a Medical college until 2009.

On June 2<sup>nd</sup> 2009 by Decree of the National Assembly the college was reorganized as a Subsidiary-Vratsa to the Medical University – Sofia for students' education in the specialties "Nurse" and "Midwife" of the professional direction "Healthcare".

The transition to the Medical University – Sofia requires academic structure. That is why two Departments are formed:

- Medico-social science
- Healthcare

The education in all theoretical disciplines meets the legal requirements for a subsidiary – over 70% of the lectures are delivered by PhD or doctor’s degree lecturers from the Medical University

– Sofia.

The practical training is conducted at the accredited healthcare institutions, social and medico-social institutions as well.

The education in the two specialties – nurse and midwife lasts for 4 years and the students are awarded Bachelor’s degree in the professional direction “Healthcare”.

Post-graduate specializations are available, as follows:

- Social activities for nurse – 1 year for students with Bachelor’s degree in Nursing;
- Breastfeeding, balanced and healthy diet consultant - 1 year for graduated nurses, midwives and doctor’s assistants.

All successfully graduated students get a specialty-certificate.







## **THE STUDENT'S COUNCIL OF MEDICAL UNIVERSITY – SOFIA**

The functioning of the Student Councils as a compulsory structure in the Higher Education Institutions began before 1994. The idea behind their creation was to represent and express the opinion of the student community to the Higher Education Guidelines.

At the end of 1995, following some changes to the Higher Education Act, Student Councils were institutionalized as a compulsory unit at each university. The rights and obligations of the Council are now regulated by the Law on Higher Education. Under these powers, Student Councils are given a four-year term of office.

In March 2000, after successive amendments to the Law on Higher Education were made, a Constituent Assembly of the National Representation of Student Councils in the Republic of Bulgaria was held in Svishtov. The idea behind this organization was to unite student leaders and create partnerships between them. The main purpose of the National Representation of Students Councils is to promote the Councils as the main and significant partner of the University Guidelines in the country.

The Student's Council at the Medical University - Sofia was founded in 1997. In the spring of 1998 elections were held and the faculty councils of the representatives in the Faculty of Medicine and Pharmacy were established, then in the autumn of the same year they were established in other units of the Medical University - Sofia.

For its 20-year history, the Student Council has always strived to protect the students' interests, support and encourage them in their endeavors. Representatives of the Student's Council of the Medical University - Sofia are members of the governing bodies of the University and work to resolve student problems and cases.

The Student's Council of the Medical University - Sofia is the only legitimate representative of the student community at the University and consists of representatives of the students and PhD students at the General Assembly of the Medical University - Sofia.

The goals of the Council are related to the realization of the rights of student self-government; protecting the social interests of trainees at the Medical University; conducting cultural, sports, scientific, creative, inter-university and international activities.

## POWERS OF THE STUDENT COUNCIL

The Student's Council is a structure existing under the Law on Higher Education and funded by the budget of the Medical University – Sofia. The powers of the Student Council of the Medical University - Sofia are regulated in Art. 73 of the Law on Higher Education and the Regulations on the Structure and Activities of the Student Council, as follows:

1. Organize the election of its representatives in the governing and supervisory bodies of the higher education institution, as well as in the Board of Trustees;
2. Make proposals for the introduction of additional courses;
3. Make proposals for inviting external lecturers;
4. Organize the establishment of scientific specialized student communities and the publication of their works;
5. Establish and manage its organizational units as necessary;
6. Establish internal and international educational, cultural and postgraduate contacts between students;
7. Express an opinion and make proposals for the development of sports activities in the higher school;
8. Participate in the management of student hostels;
9. Participate in the organization of the educational process, the distribution of scholarships and student aids;
10. Participate with its representatives in the monitoring of the internal system for evaluation and maintenance of the quality of education and of the academic staff in the higher education institution, as well as in the development of questions for the study of student opinion.

The Student's Council of the Medical University of Sofia comprises of Faculty Councils of Representatives at each school, as well as of the Council of Representatives of the Medical College "Yordanka Filaretova" and Branch Vratsa.

The governing bodies of the Student's Council are:

- The President of the Student's Council, the General Assembly - it is the supreme governing body of the Student's Council, in which all student advisers participate, delegated by each faculty student's representation of the quota principle, consistent with quotas of representation in The Academic Council of the Medical University - Sofia in accordance with Article 35, paragraph 5 of the Regulations on the Structure and Activity of the Medical University - Sofia and the number of students in structural units and representatives to PhD students .
- The Executive Board of the Student's Council - it is elected by the General Assembly of the Student Council, and its members are distributed on a quota principle between basic units of the Medical University - Sofia. It directs the day-to-day activities of the Council .
- Supervisory Committee of the Student's Council - it is elected by the General Assembly and consists of five members. It oversees the overall activities of the Council.

The permanent committees of the Student's Council are:

1. **COMMITTEE ON SOCIAL AND LIFE MATTERS FOR STUDENTS:** It consists of five members. The main activity of the committee is the classification and placement of students in the dormitories of Medical University - Sofia. MU - Sofia has 8 residential entrances (in Studentski grad and Lozenets residential area) and about 3000 beds. The meetings are held once a week during the study period, the Commission also examines complaints and domestic cases among students. The committee works in close cooperation with the Dormitory Campus of the Medical University - Sofia.

2. **COMMITTEE ON SCHOOL ACTIVITIES:** The core priority in the work of the committee are questions related to the learning process and curricula. It aims at updating of the Rules of academic activities in the University. Another focus in the work of the Commission of school activities is optimization of educational practices. The Commission regularly examines the received student proposals for optimization of the learning process.

3. **COMMITTEE ON SCIENTIFIC ACTIVITIES:** The main activity of the committee is the creation and publication of the journal “ Praemedicus “, as well as the organization of International Biomedical Congress - Sofia. The magazine contains of scientific studies and publications of students, postgraduates and graduates of the Medical University - Sofia and other medical universities and faculties in Bulgaria. The magazine is issued twice a year. The committee carries out the selection of students for the financing of their participation in scientific forums of the Student Council .

4. **COMMITTEE ON INTERNATIONAL ACTIVITIES:** The main activity of the committee is the coordination of contacts of the Student Council at the Medical University - Sofia with other similar youth and professional organizations abroad. The committee works mainly towards the creation of possibilities for student exchange from/to European universities and the world.

5. **COMMITTEE ON CULTURAL ACTIVITIES:** The main activity of the committee is the organization of cultural and mass student events, such as visits to the theater , opera, ballet and other cultural events.

6. **SPORTS ACTIVITY COMMITTEE:** The committee manages the organization of mass sport events for students of the Medical University – Sofia, such as football, basketball, bowling and volleyball tournaments.

7. **COMMUNITY LIABILITY COMMITTEE:** The main activity of the committee is the coordination of the contacts of the Student Council at the Medical University - Sofia with other student and youth representations and organizations, with the media and the official institutions. The initiative of the committee is also the organization of charity campaigns and actions.

8. **COMMITTEE ON INFORMATION ACTIVITIES:** The main work of the committee is to maintain a page of the Student Council in the social network Facebook and the student website in current condition.





**IFMSA**  
International Federation of  
Medical Students' Associations

The Association of Medical Students in Bulgaria – Sofia (AMSB – Sofia) is a non-governmental organization which takes active part and has influence in the public health in Bulgaria. It is an organization with over 20 years of experience which represents students from the Medical University of Sofia.

Together with the other 5 Local Committees of AMSB, we take part in shaping youth and health policies in Bulgaria. Our members are ambitious, enterprising, qualified and responsible young people who are constantly occupied with different projects and programs connected with medical education, public and reproductive health and human rights. AMSB-Sofia is a member of the largest international students' association in the world, IFMSA – International Federation of Medical Students' Associations as well as the EMSA – European Medical Students Association, the Association of Medical Students in Bulgaria, the National Youngsters' Forum and many more.

The International Federation of Medical Students' Associations (IFMSA), founded in 1951, is one of the world's oldest and largest student-run organizations. It represents, connects and engages every day with medical students from 135 NMOs in 125 countries around the globe.

Their work is divided into four main global health areas: Public Health, Sexual and Reproductive Health and Rights, Medical Education and Human Rights and Peace. Each year, we organize over 13,000 clinical and research exchanges programs for our students to explore innovations in medicine, healthcare systems and healthcare delivery in other settings. IFMSA brings people together to exchange, discuss and initiate projects to create a healthier world. It trains its members to give them the skills and resources needed to be health leaders. It advocates for the pressing issues that matter to us to shape the world we want. And it does deliver: our projects, our campaigns and our activities positively impact the physicians-to-be, the communities they serve, as well as the health systems around the world in which they practice as a trainee and eventually a medical doctor.

IFMSA was created to impact the world and to empower its members in taking their vision and ideas, and making them a reality. IFMSA has inspired generations of medical students to develop the leadership abilities and skills to take on challenges and to improve the world around them in an early yet crucial period of their career. Engaging in IFMSA encourages both professional and personal collaborations irrespective of geographical, social, cultural, religious, racial, sexual and political differences. As a result, future doctors are becoming more culturally aware and sensitive physicians.

The IFMSA experience shows students that they are not merely passive subjects in a rapidly globalizing world but rather valuable individuals with a potentially powerful role to play in global health. IFMSA hence offers medical students a taste of the real and pressing health

issues worldwide, and help them learn that their idealistic goals can be achieved with readily attainable knowledge and commitment.

In IFMSA, the emphasis is placed on students returning to their local environments with new ideas and the skills to implement them. As the doctors of tomorrow and future leaders of health, we feel confident that our students will carry this spirit with them throughout their professional lives so that they positively impact the communities they serve.

**Objectives:**

- To expose medical students to humanitarian and global health issues, providing them with the opportunity to educate themselves and their peers;
- To facilitate partnerships between the medical student community and international organizations working on health, education, and medicine;
- To give medical students the opportunity to take part in clinical and research exchanges worldwide;
- To provide a network that links active medical students across the globe, including student leaders, project managers, and activists, so that they can learn from and be motivated by each other;
- To provide an international framework in which medical student projects can be initiated, developed and implemented;
- To empower and train medical students to take a role in bringing about the necessary changes to improve the health of all global citizens.





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**THE IMPACT OF THE ERASMUS+ GENERATION  
OF MEDICAL UNIVERSITY – SOFIA  
(SUCCESS STORIES)**

**SOFIA 2019**





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### Dear Students and Colleagues,

I am glad to present you the latest Medical University – Sofia collection of success Erasmus+ stories – *“Impact of Erasmus+ Generation of Medical University – Sofia”*. Erasmus+ is one of the most remarkable European Union programmes that gives to people the chance to study, train, volunteer or gain professional experience abroad. It promotes the international mobility of students and lecturers as equips them with enhanced learning opportunities, recognition of diplomas, strengthened language learning skills, it gives an opportunity to find jobs in the country and across the continent.

Medical University – Sofia provides top standard education for its learners who are given an opportunity to benefit from international studies and traineeships, allowing them to enrich their knowledge and practical skills in European and global dimension. We strictly respect all principles of the Erasmus+ Charter for Higher Education in our international study programmes, traineeships and professional development schemes. All activities

of the University undertaken with Erasmus+ Programme are in the terms of credits (ECTS) and are administered by our Erasmus+ Office. Our data collection and follow-up assessment are the last step of a dynamic and unforgettable process of sharing experiences and strong positive feelings. The results of the Erasmus+ Mobility are of diverse nature and consist of both concrete (tangible) results, as well as, of skills and personal experiences that both project organizers and participants to the activities have acquired (intangible results). The personal experiences are highly valuable not only because one can hear the real facts, but because everyone can learn about the context and emotions involved in the situations. The incoming and outgoing learners, as well as, the incoming and outgoing lecturers have **an amazing Erasmus+ story** which provides an opportunity for You, the potential future participant, to learn useful information at first hand.

We kindly asked the participants to tell their authentic stories and their different points of view added value of our collective book in which the authors are the learners and the lecturers themselves. A total number of **308 learners** and **168 staff** have benefited from motilities for studies, training courses or teaching positions only for the last two years. The impact of mobility on learners implies development of individual potential (learning abilities and employability) and acquisition of professional skills. The impact of mobility on lecturers reveals further understanding of foreign systems and acquisition of professional and linguistic skills. Sharing success stories, lessons learned and outcomes involve spreading the word about education in Medical University – Sofia as part of the Erasmus+ Programme. The publication of the success stories can help to maximize the effect of these activities in the course of the coming years. Let the stories inspire and encourage you to becoming your best self, taking cues from them and becoming the next Erasmus+ Generation!

**PROF. DR. VICTOR ZLATKOV, MD**  
**RECTOR OF MEDICAL UNIVERSITY – SOFIA**



## From Medical University – Sofia to the Erasmus+ Generation

### A general overview of the Impact of Erasmus+

The impact of an Erasmus+ study period abroad for mobile students and teaching assignments of Erasmus+ lecturers on professional development is the focus of this Book. Student and staff mobility has been growing in scale and significance alongside the developments in the Bologna Process and the integration of the European Higher Education Area (EHEA) over the last years. Impact assessment is the process of examining the effect of Erasmus+ activity on individuals, organizations and society. The effects could be positive or negative, intentional or accidental, short or long-term. The last document for the European Commission “*Study on the impact of Erasmus+ Higher Education Strategic Partnerships and Knowledge Alliances at local, national and European levels on key Higher Education policy priorities*” was published on 17.05.2019 year and summarizes the key findings on the impact of Erasmus+ Programme. Mentioned above key findings on systemic level impacts includes:

- an increase in the quality, relevance, innovativeness and accessibility of European higher education;
- the Higher Education Strategic Partnerships were found to be highly relevant in addressing the objectives defined in the EU Higher Education Modernization Agenda and the Communication on Opening Up Education, paving the way in implementing the European Education Area;
- the study has identified that Higher Education Strategic Partnerships strongly contribute to realizing the European Education Area goals and enable more active knowledge and innovation transfer, especially among project partners;
- more than 90% of HEIs have indicated that Strategic Partnerships improve quality and relevance of higher education curricula/learning and teaching;
- four in five HEIs feel better equipped to tackle skills mismatches in the labor market by fostering interdisciplinary, facilitating better ICT integration, as well as strongly supporting development and application of innovative pedagogies;
- over 40% of projects develop tools and approaches for innovative teaching, which, combined with better ICT integration, contributes to an improved workforce in higher education institutions, higher numbers of university graduates with improved digital competences, better higher education accessibility to students from disadvantaged socio-economic backgrounds, etc<sup>1</sup>.

The motivation of universities to engage in Higher Education Strategic Partnerships was found to be similar and driven by proven positive outcomes of these transnational cooperation projects, i.e. strengthened university profiles and recognition in their fields; reputation improvement resulting from the increased employability of students, strengthened professional profiles of teaching staff and increased institutional capacity for innovation. On the individual level, the Higher Education Strategic Partnerships strongly contribute to the improvement of skills and competences of students, teaching staff involved in project activities:

- according to 82% of HEIs, students involved in Higher Education Strategic Partnership projects improved their social, civic and intercultural competences, and also enhanced their transversal skills, such as digital and entrepreneurial skills, creativity and teamwork;

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<sup>1</sup> EU publications, Study on the impact of Erasmus+ higher education partnerships and knowledge alliances at local, national and European levels on key higher education policy priorities, Final report - Study, file:///C:/Users/MKasnakova/Downloads/NC0219324ENN.en.pdf

- a third of projects of Higher Education Strategic Partnerships, at least to some extent, led to the creation of spin-offs and start-ups, directly contributing to the emergence of entrepreneurs;
- in more than 60% of projects, the teaching staff involved in Higher Education Strategic Partnerships advanced their pedagogical skills and competences through increased participation in innovative blended mobility formats, by learning about new and innovative ICT-facilitated teaching methods, being exposed to the benefits of working in international teams, etc.
- knowledge Alliances had a high impact on the development of skills needed for better labor market outcomes, such as transversal, innovation, and entrepreneurial skills.
- soft/transversal skills development in Knowledge Alliances are perceived to make graduates and staff more successful on the labor market, as well as to contribute to their increased ‘resilience’, by equipping them with skills applicable across professions and future fields.

The temporary study abroad has a positive impact on personal and academic development, but also is conducive to transition to employment and career development. Though the impact has been declining, study abroad remains an important experience for the professional career. Erasmus+ teaching assignments often do not last longer than a few days. Nevertheless, mobile teachers report a positive impact on their career.

Since its launch in 1987, the Programme has had a huge impact on European higher education. The Erasmus+ Programme was introduced as the European Unions’ flagship education and training programme and the Erasmus+ is celebrated as an important motor for European integration for which the Erasmus+ generation is named as synonym. It is an overall conclusion that Erasmus+ is a well-known, successful EU brand that generates many forms of European added value which go beyond the legal requirements. Erasmus+ plays a key role in building up learning mobility abroad and has a positive effect on participants’ attitudes towards the EU at all.

**Erasmus+ certainly is seen as a European success story!** ‘The Programme is a cornerstone of the construction of the new European awareness and identity. Every time someone goes on an Erasmus+ to discover another culture, integrate into another culture, learn a language and form new relationships with the people around directly, and also indirectly.

**Let’s Go Further ☺**



## The multiple objectives of the Erasmus+ Programme

The Erasmus+ Programme is designed to support Programme Countries' efforts to efficiently use the potential of Europe's talent and social assets in a lifelong learning perspective, linking support to formal, non-formal and informal learning throughout the education, training and youth fields. The Programme also enhances the opportunities for cooperation and mobility with Partner Countries, notably in the fields of higher education and youth<sup>2</sup>. The Erasmus+ Programme Key action 1 – “Mobility of individuals” supports mobility of learners and staff, including opportunities for students, trainees and young people, as well as for professors, teachers, trainers, youth workers, staff of education institutions and civil society organizations to undertake a learning and/or professional experience in another country.

Erasmus+ supports EU transparency and recognition tools for skills and qualifications – in particular Europass, Youthpass, the European Qualifications Framework (EQF), the European Credit Transfer and Accumulation System (ECTS), the European Credit System for Vocational Education and Training (ECVET), the European Quality Assurance Reference Framework (EQAVET), the European Quality Assurance Register (EQAR), the European Association for Quality Assurance in Higher Education (ENQA) – as well as EU-wide networks in the field of education and training supporting these tools, in particular the National Academic Recognition Information Centre (NARIC), Euroguidance networks, the National Europass Centers and the EQF National Coordination Points. A common purpose of these tools is to ensure that **skills and qualifications can be more easily recognized** and are better understood, within and across national borders, in all sub-systems of education and training as well as in the labour market, no matter whether these were acquired through formal education and training or through other learning experiences (e.g. work experience; volunteering, online learning).

Dissemination and exploitation of results (such as the personal success stories) are crucial areas of the Erasmus+ project lifecycle. They give participating organizations the opportunity to communicate and share outcomes and deliverables, thus extending the impact of their projects, improving their sustainability and justifying the European added value of Erasmus+. In order to successfully disseminate and exploit project results, the Medical University - Sofia publishes this Impact book ensuring that others can easily access what has been developed and produced. We strongly believe that the open access to the Erasmus+ project outputs could support learning, teaching, training, and youth work. This document is freely available for the public under an open license. The materials should be easily accessible and retrievable without cost or limitations, and the open license must allow the public to use, reuse, adapt and share the resource.

The participants in the Erasmus+ projects of the Medical university - Sofia have shared their experience and uploaded photos presenting their results in an informal and dynamic way as their success stories will be of benefit to all of you!

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<sup>2</sup> Erasmus+ Programme Guide Version 2 (2019): 15/01/2019, [https://ec.europa.eu/programmes/erasmus-plus/resources/documents/erasmus-programme-guide-2019\\_en](https://ec.europa.eu/programmes/erasmus-plus/resources/documents/erasmus-programme-guide-2019_en)



## **Effects of mobility on the skills and employability of students and the internationalization of the Medical University – Sofia**

The mobility of students and lectures under the Erasmus+ Programme bring positive and long-lasting effects on the Medical University – Sofia, as well as on the departments in which such activities are framed.

As regards students, trainees, apprentices and young people, the mobility activities produce the following outcomes:

- improved learning performance;
- enhanced employability and improved career prospects;
- increased sense of initiative and entrepreneurship;
- increased self-empowerment and self-esteem;
- improved foreign language competences;
- enhanced intercultural awareness;
- more active participation in society;
- better awareness of the European project and the EU values;
- increased motivation for taking part in future (formal/non-formal) education or training after the mobility period abroad.

As regards staff, youth workers and professionals involved in education, training and youth, the mobility activities produce the following outcomes:

- improved competences, linked to their professional profiles (teaching, training, youth work, etc.);
- broader understanding of practices, policies and systems in education, training or youth work across countries;
- increased capacity to trigger changes in terms of modernization and international opening within their educational organizations;
- greater understanding of interconnections between formal and non-formal education, vocational training and the labour market respectively;
- better quality of their work and activities in favor of students, trainees, apprentices, pupils, adult learners, young people and volunteers;
- greater understanding and responsiveness to social, linguistic and cultural diversity;
- increased ability to address the needs of the disadvantaged;
- increased support for and promotion of mobility activities for learners;
- increased opportunities for professional and career development;
- improved foreign language competences;
- increased motivation and satisfaction in their daily work.

The Erasmus+ mobility has a strong impact on the modernization and internationalization of the Medical University – Sofia, as it fosters quality improvements, innovation excellence and internationalization at the level of education and training.

## **An unforgettable experience in another country – Your Success stories!**



This Impact Book presents the expectations, perceptions and experiences of students and lecturers involved in Erasmus+ Programmes. Results showed that becoming more independent, gaining another perspective on the way things are at home, and interacting with people from different origins were important factors for the learners. Studying abroad is an enriching learning experience because of the active engagement of learners with other people in the new environment. Experience abroad can also be challenging to students, particularly when it comes to dealing with new situations in the host culture. Nearly everyone who has taken a part in some Erasmus+ programme says that their experience has encouraged them to be more open-minded and open to different countries and cultures.

Moving abroad for Erasmus+ is meant to be a challenge, but a fun challenge. Challenge yourself to visit a million cliché landmarks, meet tons of people, and successfully find your way home in your new city after a night of partying. So we've compiled X success stories from our Erasmus+ students and lecturers so that everyone can maximize the good times and minimize any "doh!" moments in his/her future experience.

Numerous Medical University - Sofia's students and lecturers each year use the benefits of the University's participation in the EU Erasmus+ Programme for international mobility – to study one semester at a number of European higher education institutions or to teaching in successful universities beyond the frame of the European Union where they gain professional experience and have fun. **New generation has to build bridges between the nations of Europe!**

**We show you some of their impressions!**



Prof. Irena Kostova, PhD, DSc.  
Faculty of Pharmacy  
Department of Chemistry  
Outgoing Lecturer

**PROF. IRENA KOSTOVA, PhD, DSc.:**

“THE COLLABORATION WITH THE EUROPEAN UNIVERSITIES SHOULD BE EXTENDED IN ORDER TO DISSEMINATE AND EXPLOIT FURTHER EXPERIENCE/ RESULTS OF THE TEACHING”

Erasmus+ Period: 27/05/2019 – 31/05/2019

Prof. Irena Kostova, PhD, DSc, maintains intensive fruitful collaboration with reputed scientists and many research groups from Romania, Slovakia, Italy, Austria, Spain and etc. She has promoted and organized signing of bilateral agreements of MU – Sofia under the egis of Erasmus+ Programme with the following European Universities: Sapienza-University of Rome, Italy; P. J. Safarik University, Kosice, Slovak Republic; Medizinische Universität Wien, Austria; Università degli Studi di Firenze, Italy; University of Medicine and Pharmacy „Gr.T.Popa“ Iasi, Romania; Complutense University of Madrid, Spain, where she has delivered lectures during the last years. The lectures were presented to students, specializing post-graduate fellows and teachers and were followed up by exhaustive discussions. Beyond the formal agenda some additional meetings and contacts were accomplished with researchers from different departments and faculties. Apart from the teaching program the lectures were also focused upon various projects supported by Grants from the National Science Fund which attracted much interest and the successive discussions conditioned some possibilities for future academic and research bilateral projects.

Many joint scientific papers in high ranking journals have been published under the collaboration and the mutual research work with the above universities. The research interests of the scientific group of Prof. Saso from Sapienza University of Rome, ITALY are in the field of antioxidant activity, joint papers [Martin J, Mladěnka P, Saso L, Kostova I. Redox Rep 2016;21(2):84-9.; Valcheva-Traykova M, Saso L, Kostova I. Curr Top Med Chem 2014;14(22):2508-19.; Kostova I, Saso L. Curr Med Chem 2013;20(36):4609-32.; Kostova I, Bhatia S, Grigorov P, Balkansky S, Parmar VS, Prasad AK, Saso L. Curr Med Chem 2011;18(25):3929-51.].

The research group of Prof. Mojzis from P. J. Safarik University, Kosice, Slovakia investigates antitumor activity, joint papers [Mojzis J., L. Varinska, G. Mojziso, I. Kostova, L. Mirossay. Pharmacol. Res., 57(4), 259-265, 2008.; Kostova I., J. Mojzis. Fut. HIV Ther., 1(3), 315-329, 2007.; Kostova I., S. Balkansky, J. Mojzis. Int. J. Curr. Chem., 1(4), 271-280, 2010.; Kostova I., P. Grigorov, J. Mojzis. Int. J. Curr. Chem., 1(4), 291-298, 2010.]. Irena Kostova was a Member of Jury in PhD Students' Works of the 1st International Student Medical Congress (ISMCK'09) Košice, Slovakia.

The scientific group of Prof. Palafox from Complutense University of Madrid, Spain is very strong in the field of theoretical ab initio and DFT investigations, including geometry optimization, conformational and vibrational analysis etc., joint papers [Palafox MA, Rastogi VK, Kumar H, Kostova I, Vats JK. Spectrosc Lett 2011;44(4):300-6.; Kumar V, Panikar Y, Palafox MA, Vats JK, Kostova I, Lang K, Rastogi VK. Indian J Pure Appl Phys 2010;48(2):85-94.; Rastogi VK, Alcolea Palafox M, Guerrero-Martínez A, Tardajos G, Vats JK, Kostova I, Schlucker S, Kiefer W. J Mol Struct THEOCHEM 2010;940(1-3):29-44.; Rastogi VK, Singhal S, Kumar AP, Rao GR, Palafox MA, Kostova I. Indian J Pure Appl Phys 2009;47(12):844-51.].

**The collaboration with the above mentioned European Universities should be extended in order to disseminate and exploit further the experience/results of the teaching and scientific work and to share the experience and knowledge, which is important for the future mutual contacts and bilateral projects.**



With over 700 years of history, over 112,000 students, 4000 teachers and 2000 employees, technicians and librarians, in addition to 2000 administrative staff in university hospitals, Sapienza is the first university in Europe. The University mission is to contribute to the development of a knowledge society through research, excellence, quality education and international cooperation.

## RECEIVING UNIVERSITI



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Assoc. Prof. Nina Belova, MD, PhD  
Faculty of Medicine  
Department of Physiology  
Outgoing lecturer

**ASSOC. PROF. NINA BELOVA, MD, PHD:**

“THE ERASMUS+ MOBILITY GIVES US THE CHANCE TO KEEP AND UPGRADE OUR RELATIONS WITH VARIOUS EUROPEAN UNIVERSITIES, TO TEST AND IMPROVE OUR TEACHING CAPACITY, TO EXCHANGE IDEAS CONCERNING EDUCATION, TO BENEFIT FROM THE DIFFERENT EDUCATIONAL PROGRAMMES, AND LAST BUT NOT LEAST TO ENCOUNTER DIVERSE CULTURES AND MAKE FRIENDS.”

**Erasmus+ Period: 18/04/2018 – 20/04/2018**

Erasmus+ Programme, starting 2014, currently combines all the EU's outlines for education and training, youth and sport. The Erasmus+ Programme has a 30-year-old history at the Medical University of Sofia. A large number of student as well as staff mobility has been carried out during this period.

I would like to share my personal experience as **I sincerely think this Programme provides excellent options not only for the students but also for the University staff.** The Erasmus+ mobility gives us the chance to keep and upgrade our relations with various European universities, to test and improve our teaching capacity, to exchange ideas concerning education, to benefit from the different educational programs, and last but not least to encounter diverse cultures and make friends. Naturally, these contacts help our research contacts as well and are a basis for future scientific cooperation.

I had a mobility for teaching in Slovakia in 2018. I visited the Medical Faculty of the Bratislava Comenius University located in Martin. I would like to point out that although Martin is a comparatively small town it played a significant role in Slovak history. The Matica Slovenska (an analogue of our Academy of Sciences) was established in Martin. Currently here is based the Slovak National Library.

The Medical Faculty at Martin has a perfect infrastructure, it comprises a Centre of Excellence built with European funding. Martin is preferred site for study not only by Slovak students but also by numerous International students mostly from Scandinavian countries. I had previous long-term scientific contacts with the colleagues from the Physiology Department. This made my visit easy, I gave lectures in front of the Medical International students and I had a presentation for the seminar with the colleagues from the Physiology Department. I had both professional and personal contacts with the former head of the Department Prof. Dr. Kamil Javorla, the current Head Prof. Dr. A. Chalkovska and many other colleagues. I visited the student and the scientific laboratories and I was impressed by the scientific equipment. In addition to the professional benefit this mobility broadened my views and knowledge of the culture and history of Slovakia.



Comenius University in Bratislava is a modern European university which in 2019 is celebrating its 100th anniversary. It is the only Slovak university to be regularly ranked in the international rankings of the best universities in the world. With thirteen faculties, it offers the widest selection of study programmes (over 800) at three levels, and several of these study programmes are the only ones of their kind offered in Slovakia. There is a wide range of areas of human knowledge to choose from when studying, be it in medicine, the humanities and social sciences, the natural sciences, mathematics, theology, and much more.

Comenius University is a research institution that runs hundreds of domestic and international research projects. As a result, many of the students engage in important research during their studies and can actively participate in projects, grants, and professional internships (including abroad).

Every year Comenius University sends the highest number of students abroad out of all Slovak universities, and it receives the most international students, including from such places as Germany, Norway, Greece, Iran, Austria, and Iceland.

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D-r. Nadejda Kostova –Kamburova  
Medical College, MU – Sofia  
Department of Dental Technology  
Outgoing Lecturer

**D-R. NADEJDA KOSTOVA-KAMBUROVA:**

“THE 5TH ERASMUS+ JOINT INTERNATIONAL WEEK IN TALLINN WAS INTENSIVE AND FILLED WITH A NUMBER OF LECTURERS, PRESENTATIONS, SIMULATIONS AND WITH MANY VISITS TO NUMEROUS STUDY LABORATORIES!”

Erasmus+ International Week Meeting Period:  
**05/11/2018 – 09/11/2018**

I participated in the Fifth Joint International Week of TTK UAS, Estonian Academy of Security Sciences and Tallinn Health Care College, in Tallinn, Estonia, with lecturers and administrative staff from educational institutions from the following countries: Poland, Lithuania, Czech Republic, Turkey, Slovakia, Germany, Greece, Ukraine, Russia, Spain, Herzegovina, Romania, Hungary, Latvia, Sweden, Bulgaria and Pakistan.

The Fifth Erasmus+ Joint International Week in Tallinn was intensive and filled with a number of lectures, presentations, simulations and introductory visits to numerous study laboratories and study rooms at most faculties, departments and / or specialties of the host institutions: TTK University of Applied Sciences, TTK University of Applied Sciences Tallinn Health Care College and the Estonian Academy of Secure Sciences. The Programme has provided multiple opportunities for internationalization, exchange of information and contacts between all actors and deepening current or creating potential future partnerships.

I have participated in detailed tours and simulation presentations in the laboratories of Robotics, Rail Construction, Architectural Engineering, Civil and Environmental Engineering, Industrial Engineering and Mechanical and Manufacturing Engineering. The teaching laboratories at the Tallinn University of Applied Sciences were equipped with state-of-the-art apparatus, machinery and equipment in accordance with the latest scientific and technological progress. Of particular interest was the Building Informational Modeling (BIM) software. After a spontaneously breaking ice break game by Roisin Russ in order to get to know the delegates, we visited the E-Estonia Showroom, where we were presented in detail the national electronic administrative system of Estonia, as well as the benefits of e-citizenship in the Republic of Estonia. The day ended with a formal dinner and a cultural program.



**Our participation in The Fifth Erasmus+ Joint International Week with the theme “Prevention, Risk, Responsibility” enriched our experience in the field of student and teaching mobility, student motivation to participate in the Erasmus+ Programme and we acquired new skills in working with international students and lecturers. What we saw motivates us to participate actively in future projects of the Medical University - Sofia, to implement some of the observed approaches in the teaching methodology of our students, gave us the confidence to include in our teaching arsenal some of the methods and means we have not used so far and to actively we assist in the introduction of innovative work and teaching techniques.**



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**Fifth Joint International Week of TTK UAS,  
Estonian Academy of Security Sciences  
and Tallinn Health Care College**

Period: 05 – 09 November 2018

The theme of the week is “Prevention. Risks.  
Responsibility”

<https://www.ttkk.ee/en/event/international-week-2018>





D-r. Cvetelina Georgieva  
Faculty of Dental Medicine  
Department of Conservative  
Dental Medicine  
Outgoing lecturer

**D-R. CVETELINA GEORGIEVA:**

“I ENJOYED A LOT MY STAY IN NIJMEGEN AND DEFINITELY I WOULD VISIT IT AGAIN!”

Erasmus+ Period: **06/05/2019 – 10/05/2019**



My journey in Nijmegen started at 5th of May.

Nijmegen is the oldest city in Netherlands, close to the German border. To get there I took a train from the airport and after one hour and half I found myself in this charming town. My first impression of the people was that they are very kind and responsive. I was staying in a cozy little hotel - Rozenhof, 30 minutes walk away from the University. Most people in Nijmegen prefer to ride a bike, most likely because of the small distances in the city or for some other reason, but this contributed to the relatively clean air in the city.

During my stay in Radboud University, I accompanied Damyanov DMD and Plashokova DMD who are assistants prosthetic dental medicine and periodontology, respectively, during their practical exercises with students from pre-clinical and clinical courses. I attended two pre-clinical student exams also. I gave two lectures about Lasers in Endodontics and Photoactivated disinfection in Endodontics, in front of students and teachers. I was also able to exchange experience with colleagues from my and other specialties. Damyanov DMD and Plashokova DMD showed me the city center and some of the sights in it. City full of cozy little streets, restaurants and shops. Everywhere you can feel the atmosphere and history of the town. It was the season of asparagus at this time of year and so we enjoyed these delicious vegetables prepared in different ways. One thing I didn't know about the city was that during World War II, much of the city was destroyed by the bombing of Allied aircraft by mistake because of its proximity to Germany. The destroyed buildings have not been restored to their previous style, and so there are new buildings among the old buildings, that remind of that moment.

**I enjoyed a lot my stay in Nijmegen and I would visit it again definitely!**



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Radboud University Nijmegen  
Radboudumc



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Savena Borisova, PhD  
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Outgoing Lecturer

**SAVENA BORISOVA, PhD:**

“ERASMUS+ IS MY PROFESSIONAL HAPPINESS SINCE 1999 YEAR. IT HAS OPENED LOTS OF OPPORTUNITY FOR MY CAREER DEVELOPMENT AS A PROJECT MANAGER AND TEACHING STAFF”

Erasmus+ Period: 23/06/2019 – 27/06/2019

Erasmus+ Programme has impacted my life the last twenty years.

Erasmus+ is my professional happiness since 1999. It has opened lots of opportunities for my career development as a project manager and teaching staff.

The synergy between Erasmus+ and the other educational programmes lead me to the Salzburg Seminar in 2001, where we discussed the Museums in 21st century in a working group with the Directors of British museum and Cairo National museum, Chief editor of New York Times, the President of Getty Grant Foundation, USA, Directors of Uffizi Museum and Palace Vecchio in Florence. The participation in this event inspired me for the development of my PhD theses.

According successful Erasmus+ project, since 2004, I am a National Correspondent at the European Museum Forum under the auspice of the Queen of Belgium, on a voluntary base. During one of the yearly meetings of the National Correspondents, we attended a dinner at the Mirror Hall of the King' Palace in Brussels.

Erasmus sent me to the People Network -Soul for Europe, initiative of the European Union, Berlin, 2008 and became a member of the Cultural Diplomacy Community.

Due to Erasmus+ I was a coordinator of the National Bologna Projects for 4 years; a National Contact Point for TEMPUS and ERASMUS MUNDUS Programs and the International Credit Mobility; participated in lots of projects and being an External Project Evaluator.

As an Erasmus+ teaching staff, I gave lectures at the Universities of Florence & Bologna; Darting college of Arts, UK; Braganza, Portugal; Ioannina, Greece and recently at Just University, Jordan.

**All the gained knowledge, experience and skills I applied at Medical University-Sofia, thus the personnel impact transferred into institutional one.** With the support of the Head of IRO – Prof. Dr. R. Girchev and the Rector – Prof. V. Zlatkov and Faculty Coordinators, we succeed to increase the Erasmus+ mobility from 21 p/y to 100 p/y. The first Erasmus+ mobility projects with partner countries were introduced with Japan, South Africa, Jordan, Morocco; Guides and info brochures were issued; rules for accreditation and administration were developed.

I keep alive all the Erasmus+ friendships made throughout Europe and outside and feel lucky, my experience is always recognized & appreciated nationally and internationally.



Jordan University of Science and Technology (JUST) is a comprehensive, state-supported university located on the outskirts of Irbid, in northern Jordan, 70km north Amman, the capital city of Jordan. JUST was established in 1986 as an autonomous national institute of higher education with the main objective of producing outstanding professionals in specializations that match the needs of Jordan and the region.

Jordan University of Science and Technology (JUST) is a distinguished academic and research institution, dedicated to providing students with an engaging learning environment and a supportive campus culture.

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D-r. Yordan Yordanov  
Faculty of Pharmacy  
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### D-R. YORDAN YORDANOV:

“THE TRUST, RESPONSIBILITY AND OPEN-MINDNESS OF THE PROFESSORS INSPIRED MY CREATIVITY AND SCIENTIFIC CURIOSITY”

Erasmus+ Period: 16/01/2017 – 28/09/2017



Through the prism of the most diverse and bright memories from my Erasmus+ periods, one certain impression crystallizes: it strongly influenced my way of thinking and I am content.

At the moment of my arrival in Siena in 2014 year, I was already thinking over my student experience, preparing for my upcoming graduation and looking for the new goals that would give me sense after I graduate. So, in any qualitatively new experience I saw a promise for advantageous insights. Although my expectation for a familiar mindset with Italians, who are a southern people like us, the accumulation of small, nuanced differences in their behavior gave me an unfamiliar feeling. Furthermore, the international student environment allowed mostly universal values to be shared and I looked towards some of my thinking patterns through a different lens. Such insights bring about a feeling of liberty, consolidate one's personality and reject prejudice though that's hardly ever painless. Although a modern city, Siena is small and very traditional. It allowed me to immerse in its atmosphere, I even started communicating predominantly in Italian. My experience in the university labs was great. I was autonomous in executing my experiments for the first time. The trust, responsibility and open-mindedness of the professors inspired my creativity and scientific curiosity. The friendly spirit of mutual help between thesis, PhD and post-doc researchers made me cozy and confident. Some of my new friends suggested trying for PhD. It was the first time I considered this option seriously, although I made my decision a while later. After three years, as a PhD student, I did an Erasmus+ traineeship. It was again in Siena due to the perfect relationships with the team in the receiving institution and the uninterrupted exchange of ideas between them and my mentor and advisor since I was a pharmacy student – prof. Virginia Tzankova.

My second time in Siena was different. I managed to feel part of the city. I perfected my language skills and had amazing conversations with plenty of people, among whom I found good friends. The campus's canteens or "mensa" was the most social place in the campus – a place, where you understand the Italian culture of enjoying good food and living in the present. I understood the differences between the cultures and mindsets of many Italian regions. My roommates from India, China and Togo also gave me an insight in their so different and distant cultures. And last, but not least - in the university, under the guidance of prof. Valoti and prof. Frosini I managed to form a new and better perception on experimental work. I understood the sometimes counter-intuitive dynamics of the scientific process which took away much of the stress, typical for it.

**In conclusion, I gained a broader personal and professional perspective and became one of the millions of participants in the Erasmus+ Programme for the past three decades!**



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Anna Valerieva, MD, PhD,  
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Outgoing Student

**ANNA VALERIEVA, MD, PhD:**

“THE TRAINEESHIP IN THE UNIVERSITY OF MILANO PLAYED AN OUTSTANDING ROLE IN MY PROFESSIONAL DEVELOPMENT”

Erasmus+ Period: **01/09/2017 – 01/07/2019**

As a young specialist and researcher the ultimate career goal to achieve for me is to make a difference in the lives of the patients suffering allergies, angioedema and hyper permeability disorders. This is why I wanted to be a PhD student in Allergy and Immunopathology and have the chance to better investigate the mechanisms of paroxysmal permeability and allergic reactions in different diseases. I am certainly positive that the Erasmus+ Programme plays a crucial role in the scientific exchange, opportunities, and education of young specialists and researchers in Europe.

Personally, in my case **the Erasmus+ Programme gave me the precious chance to be part of a multicultural environment, study and work on different exciting research projects, and establish a wide international working network for both present and future scientific collaboration.**

As a young researcher I truly believe that the traineeship **at the University of Milano** played an outstanding role in my professional development. Working as a member of an excellent team gave me valuable ideas as to complete my PhD project, and successfully defend my PhD thesis. The ongoing projects and future research ideas will help to further develop common research ideas and enrich international collaboration of our Department.

As a personal experience, living and working in Italy gave me precious lessons for life, taught me how to establish new friendships, challenged me, and enlightened my curiosity for a different culture.

I do believe that my excellent experience as being part of the Erasmus+ Programme helps me in my current work with patients, students, and my colleagues. I highly recommend other PhD students to take this opportunity and become part of the big European Erasmus+ family!



The University of Milan is one of Italy's younger university institutions. It was founded in 1924 thanks to the tenacious efforts of doctor and gynaecologist Luigi Mangiagalli, who in creating La Statale, realised his long-held dream of building a university for Lombardy's regional capital. Indeed, up until that point, it was the University of Pavia, founded in the fourteenth century and the main education centre in northern Italy, that housed the traditional university faculties. Over the centuries, however, the numerous educational institutions and schools of excellence which sprang up in Milan would later be incorporated under the University of Milan.

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UNIVERSITÀ  
DEGLI STUDI  
DI MILANO

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Albena Teofilova  
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Outgoing Student

### ALBENA TEOFILOVA:

“I WANT ONLY TO THANK THE ORGANIZERS OF ERASMUS+ PROGRAMME – THEY MAKE MY DREAMS COME TRUE – I AM LEARNING AND I AM TEACHING AND I AM INSPIRED BY THIS TRAVEL!”

Erasmus+ Period: **01/07/2019 – 25/09/2019**

Zdravo, kako si?

Before I started my big adventure in North Macedonia because of Erasmus+ Programme. I used to associate Macedonian doctors with Milcho Manchevski's movie “Shadows” – it is about a physician, who is the son of a famous and influential doctor. He survived a death situation, because he has to fulfill his mission on the earth - to bury the bones of several people, which his mother had used as a student to take the anatomy midterm. She used the bones, because they belonged to people buried outside the cemetery – aliens and suicidals. The movie was filled with mysteries, but the main message was clear - everyone has to fulfill his own mission.

This idea I have seen embodied in Strumica. In Eli Medica, in the office of my mentor - Dr. Georgi Yanev, a physician - specialist in the field of occupational medicine. It is the first time I have worked with such a warm and concerned people.

Zdravo, kako si? (“How are you?”) are the first words, which you hear when you enter the clinic. Then they offer you coffee, water, drinks. The atmosphere is extremely good – you have only to sing and work. I have visited with Dr. Georgi Yanev some enterprises where we implement some prophylactic medical examinations to employees: EKG, blood pressure, audiometric testing, spirometry and auscultation.

At the Adient Strumica Company, for example, we explained and trained workers how to react in an emergency when a colleague is injured and they have to help him before the emergency team arrives. We showed them how to use the materials available in the emergency bag. These skills are required not only in the workplace but also at school, on the road.... “It's not what happens to you, but how you react to it that matters”. After the field training we returned to Eli Medica, where I filled out the documents from the preventive examinations, I wrote one set for the worker, one for the company and one for the records of Eli Medica. The Eli Medica's archive should be very organized – you have to find everything quickly and easily. It is no coincidence that Eli Medica has earned the trust of patients and has units in Shtip, Gevgelija and Skopje. Eli Medica takes care not only of the patients, but also of its staff - at 8 o'clock is coffee time, and at 9.30 everyone pre-orders lunch. In my spare time I had to visit a dentist and have to admit that I was delighted with his attitude, attention and concern. I had also the opportunity to visit Dojran Lake - a place where I have seen all the Macedonians – I am just joking... maybe the Dojran Lake is not the most beautiful lake in the world - but is a cure for joint diseases.

The Macedonians – they do care about their health - they are not frivolous and are very responsible - they know that they are living, fulfilling a mission. Possibly I have been also influenced by

their attitudes, and now I am reporting on my Erasmus+ mission - I assisted and helped during the preventive examinations, I filled out workers' documents. I checked any information three times. So next year I am invited too. Of course, **this makes me very happy and I have only to thank the organizers of Erasmus+ Programme – they make my dreams come true – I am learning and I am teaching and I am inspired by this travel.** I am looking forward to coming back to Bulgaria and to asking – “Zdravo, kako si?” - let us teach you what to do when a colleague of yours has been in an accident and you need to help him. Instantly, without a moment's delay. Even before the ambulance arrived.



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Detcka Klinika*

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Blagoslava Georgieva  
Faculty of Pharmacy  
Outgoing student

### BLAGOSLAVA GEORGIEVA:

“I WOULD LIKE TO THANK FOR THIS LIFE- ALTERING EXPERIENCE I RECEIVED THROUGH ERASMUS+ PROGRAMME”

Erasmus+ Period: 04/04/2017 – 28/07/2017

### **First I want to thank for the opportunity I received through the Erasmus+ Programme to change my life!**

My name is Blagoslava Georgieva and I was part of the Erasmus+ Programme in Heidelberg from the 4 April – to 30 July 2017. I studied pharmacy at the Medical University Sofia in Bulgaria and my exchange university was located in Germany at the University Heidelberg.

I have loved being a part of the DKFZ – team (German Cancer Research Center). My supervisor was professor Martin Berger. In the lab, I was able to learn a lot from the specialists in their area of expertise. I had the possibility to see interesting analyzes, new techniques and learn about the future techniques in science. I was trained by Shariq Ansari, Doaa Ali, Marineta Kovacheva and other people which was part of the team. Every time when I need help and support they was next to me and teach me how to do. They became not only my teachers, I'm happy to say that this people was like a family for me and now we have a strong friendship. During this time, we made a lot of activities after work like picnics/barbeque next to the river and bicycle trips to other close cities.

I had a lot of impressions in Germany and I'm now open-minded for a new things and possibilities in my life. It was also a good possibility to discover new cultures and find out similarities between me and other people from whole world.

The Erasmus+ student organization organized events during the whole program time where all students can find immediately new friends.

In Heidelberg my colleague Maria Nikolova was always next to me. We became close friends very quickly and discover Europe together in many trips to Switzerland and France and around Germany. During these four months we joined a language course in German which was really useful for us to integrate more easily with Germans and on events. In the Erasmus+ Programme I have improved not only my medical skills furthermore also my language and communication skills in English and German. I had often the opportunity to show my Bulgarian culture and to tell about our traditions on a special European culture event and in the normal life, because the people was really interested about and ask me often topics about Bulgaria.

I get many impressions which I will never forget and I can speak only for myself, but everybody should take the chance to learn more about other countries and cultures, because this will change you in a positive way for your whole life.



Heidelberg College was founded in 1850 by members of the German Reformed Church who named it after the Heidelberg Catechism of 1563. Heidelberg University is a community of learning that promotes and nurtures intellectual, personal and professional development, leading to a life of purpose with distinction. The University will be a welcoming, student-centered institution where in-class and out-of-class learning is seamless and continuous. Both the undergraduate and graduate curriculums will effectively integrate liberal arts and professional preparation across disciplines to prepare the students to be global citizens who think critically, communicate effectively, and serve thoughtfully.

## RECEIVING UNIVERSITI



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Valya Ilieva  
Subsidiary “Prof. Dr. Ivan Mitev” – Vratsa  
Outgoing Student

### VALYA ILIEVA:

“ITALIAN MEDICAL STAFF IS A BIG POSITIVE EXAMPLE FOR THE WORLD!!!”

Erasmus+ Period: **01/07/2019 – 02/09/2019**

I am Valya Ilieva, a Bulgarian student studying Midwifery. I have been in Italy for 2 months in a hospital for further training as part of the Erasmus+ student mobility Programme. This Programme helps to expand the training program in the fields of “Maternity” and “Pregnancy”.

Italian medical professionals are well-trained theoretically and practically, with close relations between patients and hospital staff. They all work together as a very well-functioning machine. Patient for Italian medics is something sacred! The patient is greeted with a smile, he is thoroughly listened to and the patient’s attitude is objective, regardless of race, religion or social status. Midwives, professors, doctors, students, assistant staff - all are ready to help a patient in need. Patients and their relatives respond to this humanity and, as a result, there is genuine joy in staff eyes.

As a first-time student coming to an unfamiliar and new environment, in a foreign country with a different spoken language than my native Bulgarian, and with no Italian known, I was greeted with warm and kind feelings that gave me the confidence that I could be Good professional. I could always count on their professional explanation for things I didn’t know or saw for the first time. My employees showed me different practices, after which I was able to practice the new learned methodology in a relaxed environment without any anxiety. I was aided in learning without the feeling that my ignorance engages someone and leads to someone’s loss of personal time. My colleagues were happy that they could do something useful for me.

At the end of my studies in Italy, I really feel completely satisfied because I realize that I have significantly improved my theoretical and practical training. This result is a reality thanks to the skill and availability of these medical and midwifery staff, and I owe all my gratitude to them.

**Italian medical staff is a BIG positive example for the world!!!**



The University of Bologna is a research university in Bologna, Italy. Founded in 1088 by an organised guild of students (hence studiorum), it is the oldest university in the world, as well as one of the leading academic institutions in Italy and Europe. It is one of the most prestigious Italian universities, commonly ranking in the first places of national rankings.

The university's emblem carries the motto Alma mater studiorum ("nourishing mother of studies") and the date A.D. 1088, and it has about 86,500 students in its 11 departments. It has campuses in Ravenna, Forlì, Cesena and Rimini and a branch center abroad in Buenos Aires, Argentina.

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Vestiyana Mihova  
Medical College, MU – Sofia  
Outgoing student

**VALYA ILIEVA:**

“ITALIAN MEDICAL STAFF IS A BIG POSITIVE EXAMPLE FOR THE WORLD!!!”

Erasmus+ Period: **01/07/2019 – 02/09/2019**



From my point of view, Erasmus+ mobility is a major step forward in my personal and professional development. The Erasmus+ challenge provoked me to step out of my comfortable comfort zone, this experience made me to be more independent person, to be bolder, to touch other amazing cultures. My life in Tallinn, Estonia, was filled with many different emotions, new pleasant acquaintances, many interesting adventures, and overall I was able to enrich my knowledge a lot.

I was practically in one of the best laboratories in the country Estonia. The lab was equipped with new advanced techniques that I learned to handle, and the personnel showed me new methods of work. I refined my knowledge from what I had already learned and this was a very useful experience.

My local colleagues were very kind, very patient, tried to explain everything to me, and I could always use their help when needed. Some of them took me around

the city and the surrounding area so that I could touch their culture.

**I made friends with many of the other Erasmus+ students in Tallinn. We traveled with them, saw many places, created unforgettable memories!**

Erasmus+ Programme is a great adventure from which you return with a rich professional experience, with positive emotions, valuable experiences and true lifelong friendships.



Cluj School of Public Health (C-SPH) is an innovative research focused program with full English educational track in public health – BA, MPH, PhD in Cluj, Romania. This is the only Public Health program taught completely in English in the entire Central and Eastern Europe.



Cluj School of Public Health is formed from the Department of Public Health (educational wing) and the Center for Health Policy and Public Health (research wing), within the College of Political, Administrative and Communication Sciences of Babes-Bolyai University – the biggest and highest ranked university from Romania.



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Cluj-Napoca  
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Gergana Dikova  
Faculty of Medicine  
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**GERGANA DIKOVA:**

“LIFE ABROAD CHANGED ME AND NOW I’M AN OPEN-MINDED PERSON, INDEPENDENT AND CONFIDENT!”

Erasmus+ Period: 23/07/2018 – 29/09/2018



Joining the Erasmus+ Programme was one of the best decisions of my life. Life abroad changed me, I am now more open, independent and confident.

I have always been fascinated by the French culture, language, environment, food and people’s behavior.

At first, I was extremely skeptical about going to Angers-France, but I have to admit that going there has been the best decision I have ever made.

Angers is a medium-sized French city which is the capital of the “Maine-et-Loire département” in the northwestern region of Pays de la Loire. It offers a mixture of historically rich street-scapes and typical French night-life.

The Faculty of Medicine of Angers started its educational activities in 1433 and it is one of the oldest in France. The medical programme at University of Angers offers a range of teaching approaches, from traditional theoretical classes to innovative and hands-on experience. At University Hospital of Angers, leading experts, professionally selected specialized team and medical apparatuses of the newest generation guarantee high quality of education for the medical students.

My advice for future Erasmus+ participants is to make sure you are readier than ever to study in French because it requires a very high level of language ability, especially for medical traineeship.

**Erasmus+ Programme gives you, new perspective, loads of enthusiasm and willpower!**



The University of Angers is an institution of higher education in the town of Angers in western France. It began as the School of Angers in the 11th century and became a university in 1337. In 1432, the Faculties of Medicine, Arts, and Theology were added to the Faculty of Law. The university was closed in 1793 during the French Revolution, and in 1971 a predecessor was established with little ties to the past institutions.

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université  
angers

### University of Angers

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Gergana Bogdanova  
Faculty of Dental Medicine  
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### GERGANA BOGDANOVA:

“I LEARNED WHAT CANNOT BE LEARNED IF YOU JUST STAY IN YOUR COMFORT ZONE AT HOME”

Erasmus+ Period: **05/02/2019 – 05/04/2019**

“Colourful” - this is the word most people use to describe Naples. It is a city of contrasts. At one moment you walk down a street with untended buildings and at the next you are left stunned by a spectacular view of the sea, embraced by the gentle violet arms of Vesuvius. The city is so full of remarkable buildings, large museums and cultural heritage and at the same time so vivacious, you could feel its pulsing life, running through the narrow streets. And Naples will surprise you at every corner.

Before going on my Erasmus+ traineeship I had a lot of doubts if I would enjoy it, if it would be a contribution to my education, if I could get along with the people there, if I would survive on my own. I never expected it to be so easy, natural and satisfactory to deal with all that through the communication with people so positive and hospital like only Neapolitans can be. Almost everybody I met was more than nice and helped me with everything they could. That made struggling with everyday issues effortless. Even in the academic environment of the university all the professors and students were very friendly and eager to help me get the most of each day I spent there. Their warm, Mediterranean temper can always bring the smile to your face and even if you are expecting it they can always surprise you with another charming gesture. I am profoundly grateful to the professors and the dean of the university for letting me explore different approaches and especially for adjusting the program to my interests and skills. And of course, I am thankful for teaching me the most important lesson - your day cannot go right without a nice, strong Italian coffee in “Napoli, where coffee is a cult”.

But it wasn't just the locals who made my stay unforgettable. I met with students from many other countries with different experiences. This is one of the best features of the Erasmus+ Programme. The thing in common between everyone I met was that they were very positive and curious to find out as much as possible about other cultures. It is good to know there are organizations, taking care for events where you can spend a wonderful time, getting to know both other Erasmus+ students and the most attractive sites nearby. But for me the greatest pleasure was unraveling the city's most beautiful corners unexpectedly. Feeling the magic of the morning sun, sitting on the stairs of “Piazza Bellini” under the sound of jazz music from the Conservatory or walking by the sea under the stars, watching the hundred lights gathered around the coast... Dancing next to Castell dell'Ovo or eating ice cream on via Toledo, you will not be left without a pocket, full of amazing memories. And the pizza! I may need a whole paragraph to describe what cannot be described - the Neapolitan Margherita. You simply cannot go wrong wherever you buy it from, especially if it is shared with a friend.

“What did you learn?” is the question everybody is asking me. **I learned what cannot be learned if you just stay in your comfort zone at home. I learned the importance of communication with people and having a positive attitude towards new ideas, places and approaches. Having a different perspective is one of the most precious opportunities the Erasmus+ Programme can offer to you!** It could literally give your life a new direction and clarity of what you want and how you can achieve it. For me it was a great inspiration both for my professional and personal development. Most importantly it is a wonderful reminder that “Non scholae, sed vitae discimus.”.



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Diana Dimitrova  
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Outgoing Student

**DIANA DIMITROVA:**

“IT IS SAID THAT HOME IS NOT THE PLACE THAT YOU ARE LIVING IN, BUT THE PLACE WHERE YOUR HEART IS, SO FOR ME PAMPLONA IS MY SECOND HOME!”

Erasmus+ Period: 04/03/2019 - 03/06/2019

People have said to me that the Erasmus+ Programme is amazing adventure and worthy of living experience! If you want to know about mine, continue reading.

How everything started, I was wondering if going abroad for 3 months to do my diploma thesis will be a good idea, and mostly I didn't know the main language of the country that I wanted to visit. Probably, now is the moment to share with you which destination was the one that I have chosen, it was – Spain, Pamplona. However, I decided to take the chance and to test myself if I am able to survive abroad, completely alone.

I had never heard anything about Pamplona that's why I was not sure what to expect from this city. Surprisingly, when the plane landed, the only people that were at the airport were the ones from my plane, imagine how small was the city that I was going to (at least it seemed to be for me), therefore the first thought that crossed my mind was that maybe the only thing that I will do there is to work and travel a little bit, but guess what, it was not only that.

The first new thing that I had to cope with was the university and all the new stuff that I had to handle there. I won't lie to you, in the beginning it was hard for me to understand the Spanish-English accent that all the people had and sometimes I was only smiling if I didn't get the idea that they were trying to explain to me. The second thing that I had to get used to was the new equipment and the way of teaching, which was pretty different from Bulgarian's one. One of the first things that I learned there was that I have to do everything alone, to cope with the problems of my project, to think more and to solve the problems by myself. The truth is that it was scary but worthy, because now I can say that working in a lab is not easy, but it is really interesting, focusing, mind-taking and also super fun and exciting.

After my first days with not pretty clear understanding of Spanish-English (which I adored afterwards) I got used to it and this problem disappeared on its own. As you can see from the photos I met some new friends, I didn't know it then, but they were going to become my friends for lifetime. Of course, we were not only working, we were going out almost every night, after the day in the lab, to enjoy Pamplona and to discover it. One of the first things that we had the chance to find out was the really famous *juevintxo* night (every Thursday) when you can buy the world famous “pinchos”, what is that, see the picture below.

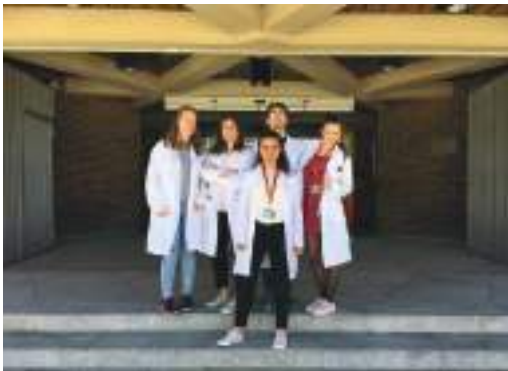
Soon after the beginning of my Erasmus+ I met other friends from all over the world, mostly Italians but also Hungarian, Egyptians and German people. As a typical exchange student we were travelling almost every weekend so we visited amazing places for example: Las Bardenas (the desert), mountain San Cristobal, Costa Vasca and many cities like San Sebastian, Barcelona, Vitoria and believe me all of them were magical.

As I said in the beginning, it was not only working and travelling it was a way bigger picture. Who knows why, maybe because of that all of us were foreign students or because we just liked each other a lot or because all of us were a little bit crazy and strange (in a good way), but we became true friends and we shared everything from the homemade food to the happy and sometimes hard moments that all of us had experienced there. So I found not only new people, but I found simple, crazy, goodhearted, intelligent and amazing friends.

It is said that home is not the place that you are leaving in, but the place where your heart is, for me Pamplona was my second home.

I don't know how convincing I am now for going abroad and studying there, but if you are still not sure, if it is not enough for you, I hope that the following sentence will be "Nothing ventured, nothing gained". Do something new, be brave and follow your heart.

**P.S. With love to my Erasmus+ kindergarten family!**

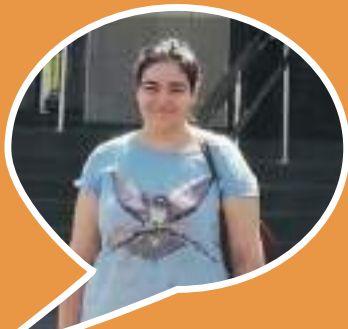


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Maria Maneva  
Faculty of Public Health  
Outgoing Student

### MARIA MANEVA:

“WE EXCHANGED RESEARCH IDEAS WITH MANY OF THE LEADING SEREARCHS IN THE HIROSHINA UNIVERSITY”

Erasmus+ Period: 27/06/2017 - 28/08/2017

I'm very satisfied with my Erasmus+ mobility Programme. **I was able to enrich my professional experience, practice physiotherapy in wonderful conditions, guided by caring professionals who we were eager to show me new techniques and build my confidence in the working field!**

I was able to visit great places in the receiving country, meet many new people and get in touch with different cultures. I had the opportunity to practice my English speaking skills and improve my rhetoric.

The Szpitalstaszow places great emphasis on the professional development of its staff, raising qualifications, and expanding the panel of services provided. Persons wishing to start a specialization (it provides an attractive addition to residency) and sub-specialization have to take additional courses. It has a multimedia training room, with the possibility of lectures, presentations, training sessions, etc.

As an accredited hospital, which has been at the forefront of the CMJ ranking for years, the Szpitalstaszow involved in many projects such as drug conciliation projects, project for Safe Hospital, project for Safe Patient, and in any Adverse Events. The hospital encourage their employees to engage in future projects.

The construction of the new hospital building begun in mid-1971 and it was completed. The hospital building was commissioned in April 1975 year. In April 1995, the 20th anniversary of the operation of the district hospital was solemnly celebrated. On this occasion, the hospital was named after Stefan Niewirowicz. The hospital has been an independent unit since 1998 and operates under the name Independent public health care departments in Staszow.



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Maria Nikolova  
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### MARIA NIKOLOVA:

“ERASMUS+ PROGRAMME IS NOT ONLY ABOUT STUDING AND WORKING, IT GIVES YOU THE CHANCE TO MEET NEW PEOPLE AND CREATE A LOT OF CONTACTS IN EUROPE AND OUTSIDE EUROPE!”

Erasmus+ Period: 01/09/2017 – 01/07/2019

My name is Maria Nikolova and I was studying Pharmacy at the Medical University - Sofia, Bulgaria. I would like to share my Erasmus+ story, which definitely changed my point of view about the world around me.

I had the honor to live four months in Heidelberg, Germany and work together with specialists in DKFZ. The supervisor of my internship was Prof. Martin Berger, who was always supporting my work, by giving me good advices and helping with every student issue I had. Furthermore, I had the opportunity to be trained by Shariq Ansari and Doaa Ali, who is a big professional at toxicology and pharmacology science.

I spent my Erasmus+ Programme together with my colleague and good friend Blagoslava Georgieva. We had the chance to see from the inside how people are creating science and we realized how hard is this job and how much dedication is necessary for every project to be done. DKFZ is a good example, how different nations are combining their knowledge and successfully work together for one main mission. It was surprising for me, to see supportive and I definitely felt like being a part of a big family.

**Erasmus+ Programme is not only about studying and working, it gives you the chance to meet new people and create a lot of contacts in Europe and outside Europe. It helped me develop my language and social skills. Now, I feel more confident in every initiative, which I start in my life!**

Erasmus+ is a model of international cooperation and good example how people are working together successfully. This experience made me think about how important I am as a European citizen and how I can match the big European family. I would say, that I definitely feel like being a part of this colorful puzzle and I wish to develop myself in this environment. It's inspiring for me to share my traditions and realize that people everywhere are the same, despite the language barriers or the difference of religions. Every travel and every new friend gave me a new point of view about the surrounding world and motivated me to be also inspirational to other people.

I am happy to say that during this experience I found one of my best friends – Blagoslava. We were together in every adventure during our stay in Heidelberg. We found our friendship abroad and created deep connection between us later on. Because of that, I want to share with you one of my favorite photo with Blagoslava and say thank you to every lovely person whom I met during this journey.



Heidelberg is a student-centered university in Tiffin, Ohio. Since their founding in 1850, they've remained a welcoming, enthusiastic community dedicated to helping their students live rich and fulfilling lives, personally and professionally. The University effectively integrate liberal arts and professional preparation across disciplines to prepare our students to be global citizens who communicate effectively, think critically and serve thoughtfully.

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Nadya Kostova  
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**NADYA KOSTOVA:**

“DURING MY INTERNSHIP AT THE DENTAL LAB, I FEEL GREAT! THE PEOPLE ARE VERY FRIENDLY AND HELPFUL!”

Erasmus+ Period: **05/07/2019 – 06/09/2019**

Spain is famous around the world for Flamenco music and dance, bullfights, fantastic beaches, and lots of sunshine. But what people sometimes forget is that Spain has been one of the cultural centers of Europe for thousands of years. Passionate, sophisticated and devoted to living the good life, Spain is both a stereotype come to life and a country more diverse than you ever imagined.

And some interesting facts about Spain:

- Fiestas and Traditions. Best known among Spain's folkloristic traditions are certainly Flamenco and bullfights. You will find bullfights indeed throughout the country, the most popular event perhaps being the “Running of Bulls” during the Sanfermines in Pamplona. But bullfights are part and parcel of any Fiesta;
- Paella. Originating in Valencia, paella is a rice dish prepared with seafood. Of all the foods in Spain, this is the most popular. In this dish, savory yellow rice is combined with tomatoes, onions, peas, shellfish, squid, clams;
- The national animal of the Spain is Bull;
- Having Pomegranate as an official flower, the national flower of Spain is the Red carnation, which is not only beautiful and long lasting flower, but also sends send a message i.e. when you receive a Red Carnation Bouquet, it means, my heart aches for you and when you receive White Carnations, the sender is saying I am still available;
- Plus, ultra (English: Further beyond) is a Latin phrase and the national motto of Spain. It is taken from the personal motto of Charles V (24 February 1500 – 21 September 1558), Holy Roman Emperor and King of Spain (as Charles I), and is a reversal of the original phrase Non terrae plus ultra (“No land further beyond”).

I would also like to do something like a short description (guide) of Madrid, which I hope is useful for those who want to visit this wonderful city. Madrid is a city that's predominantly sunny. The weather is rather dry so it can get quite fresh in the winter and extremely hot in the summer. You will eat the best „tapas“ of your life. Spain is all about food, and where else than the capital will you find some of the best „tapas“?! A tapa (Spanish pronunciation: [ˈtapa]) is an appetizer or snack in Spanish cuisine and translates to small portion of any kind of Spanish cuisine. Tapa may be cold (such as mixed olives and cheese) or hot (such as chopitos, which are battered, fried baby squid). Madrid is very fashionable and trendy, so you will find it hard to resist going shopping as there are so many options for everyone's taste. Plaza Mayor: in the historic heart of the city, a huge square with a uniquely Spanish style of architecture. An interesting fact: the square has been the setting for bullfights and for coronations.

Puerta del Sol: the square that most symbolizes life in Madrid. It marks kilometre zero, the point all Spain's road distances are measured from, as it was once the starting point for all roads to the provinces. There 's also the statue of the Bear and the Strawberry Tree - This statue is the symbol of the capital of Spain. Originally Madrid was called Ursa, a Latin bear translation, and the reason for this was that in the past the area was inhabited by many bears that inhabited nearby forests. In the forest at that time there were many madrone trees bearing fruit resembling strawberries, therefore, gathering information it can be concluded that the name of the tree used as a symbol of Madrid actually derives from the Madron tree.

Royal Palace: see how the Kings and Queens of Spain lived until quite recently. This may be the royal palace with the largest and best preserved collection in Europe, with its original furniture, decoration and other treasures in over 3,000 rooms. In my opinion, the Royal Palace of Madrid is the most impressive monument of the capital. It's so majestic from the outside and the inside is even more beautiful with its stunning frescoes and luxurious decor. You can also walk around the lovely Sabatini Gardens which used to be where the royal stables were.

El Retiro Park: one of the largest and nicest city parks in Europe. A place to relax and enjoy the beauty. At the weekends it's a great place to go with kids and enjoy musicians, mimes, puppet theatres, or boating on its central lake. Retiro Park is the main park of the city where everyone goes for a picnic on the hot summer days. It's a lovely park to walk around in. And it is also home to the beautiful Palacio de Cristal, which is open for exhibitions. The Puerta de Alcalá entrance is one of the prettiest ones.

Three unmissable art galleries: even if you're not an art fan, the Prado is one of the most important museums in the world and well worth a visit. If you prefer modern and contemporary art, you should visit the Reina Sofia. And of course, the one of the world's most famous private collections.

In general, I find that things are a lot cheaper in Madrid than other European cities. Travel, accommodation, restaurants and bars are all more affordable than let's say Paris or London. If you're looking for an affordable, budget destination then Madrid is perfect!





**I loved the time I spent in this wonderful and lovely city, and I tend to go back regularly to visit my friends and to enjoy the places I used to go to. It always brings back lovely memories of the good time!** The Spaniards are friendly, kind and active, ¡really active! Especially if compared to the majority of Europeans. They like to live with friends to drink, enjoy the good weather, good food and parties. The Spaniards like to go out to dancing, but not all dance flamenco. Spaniards like the traditional Spanish food, but they don't eat paella every day. They are cheerful, hospitable and very funny. And of course, my most important impression and the reason I'm here is the dental laboratory.

During my internship at the dental lab, I feel great. The people are very friendly and helpful. They have accepted me very well and help me learn many new things.

The laboratory is very large with many modern and new devices and machines, so I can see the construction of various prosthetic structures.

Certainly, these two months of practice are extremely rewarding, time spent in the work environment and a good opportunity to expand skills.

Gaining experience that would be beneficial for each participant in the Erasmus+ Programme. And ... yes, that's right - Erasmus+ experience is one of those adventures, which can't be forgotten! Highly recommend to anyone!

Best regards from Madrid 😊😊😊



Korfu Dental is a laboratory established at the beginning of the year 1995, and these almost 20 years of professional experience in Spain, Madrid. The laboratory provides services to leading professionals nationally and internationally. Their facilities are equipped with the latest CAD-CAM technology devices: DENTSPLY DEGUSA CERCON, STRAUMANN, Itero, PHIBO, 3SHAPE, DENTAL WINGS, EXOCAD, SUM 3D, ARCHIMEDES.

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Polina Georgieva  
Faculty of Public Health  
Outgoing student

#### POLINA GEORGIEVA:

“THANKS TO THE ERASMUS+ PROGRAMME I AM EXPERIENCING A LOT OF PRICELESS MOMENTS, SUCH AS HELPING MY PATIENT TO TURN HER BAD HABITS INTO POSITIVE ONES BY TEACHING MY TIP FOR A SELF-DISCIPLINE!”

Erasmus+ Period: 01/07/2019 – 20/08/2019

My name is Polina Georgieva, I finished my third year as a nursing student in the Medical University of Sofia and I was looking forward doing my traineeship with Erasmus + Programme in Romania, Cluj-Napoca this summer.

I would like to share some tip during my work in the Chirurgie Clinic, Intensive Care Unit which I find important for the medical specialists, who will read about my success story. I am up to my ears in my work. I was taking care for a 70 years old patient, Cosmina, who has Depression; Imbalance Diabetes, type 2; Hypertension; Cardiopathy; HCV; Gastritis, Gastric polyps; Anemia. Because of her Depression, she used to eat haotic, unbalanced diet, which caused her gastric problems. On a regular basis she used to eat lots of unhealthy meals and when she came for threatment in the Intensive care unit, her blood sugar level was enormously high.

The beginning of eating problems can be linked to a stressful event or trauma. Eating problems can begin because you experience a mental health problem such as depression, anxiety, bipolar disorder or body dysmorphic disorder. They can be linked to feelings of low self-esteem, worthlessness or powerlessness. As a medical nursing student I would suggest to my patient Cosmina and to those people with physical diseases, caused by mental health problems to be self-disciplined. Self-discipline can help protect the health in many ways. If it is absent, there is lack of self-control, lack of the ability to set limits, and the inability to control harmful habits. However, when present, it protects the health, and helps avoid doing things that could harm the health. Smoking, overeating, eating junk and unhealthy food, laziness, procrastination and other negative habits harm your health. However, you can overcome these habits, and build positive habits, when you possess the skill of self- discipline. People with high self-discipline are happier than those without. Self-discipline can be your key to happiness.

So, if you are seeking ways to become happier, and if you are open to improving just about every aspect of your life in the process, it appears that there is no faster way to do both, than through the practise of self- discipline. Success starts with self- discipline.

**Thanks to the Erasmus+ Programme I am experiencing a lot of priceless moments, such as helping my patient to turn her bad habits into positive ones by teaching my tip for a self-discipline!**

My name is Rositsa Markova and I am fourth year student in Public Health and Health management in the Faculty of Public Health, Medical University – Sofia. This year I had the opportunity to make a summer internship in the Cluj School of Public Health throughout the Erasmus+ Programme.

The city of Cluj–Napoca is located in the north-west part of Romania and it was under Hungarian influence for a long time. This influence is visible throughout the beautiful architecture of the



The Cluj School of Public Health is an innovative research focused program with a full English educational track in public health (all public health courses are delivered in English). The Cluj School of Public Health, at Babes Bolyai University (Romania's leading and largest university), is based in the city of Cluj-Napoca, Romania, a multicultural environment with a long-standing tradition as a leading academic center.

The Cluj School of Public Health offers twelve-week summer internship opportunities annually for students from the various partner Schools of Public Health, including the University at Albany School of Public Health. Participating students gain valuable professional experience that allows them to apply knowledge and theory learned in the classroom to key global health challenges while living and working abroad. Cluj School of Public Health Global Health Interns work closely with dedicated and supportive advisers who have extensive experience in developing and implementing research projects.

The Cluj School of Public Health Internship Program placements are designed to support the School's ongoing research/implementation projects. Internship placements focus on a broad range of topics/concentration areas, including Health Policy and Management, Social and Behavioral Health, Environmental Health, Maternal and Child Health, and Violence and Injury Prevention. There are also opportunities for Summer Interns to work with Cluj School of Public Health faculty and researchers to develop a customized placement that matches their academic background and interests.

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Rositsa Markova  
Faculty of Public Health  
Outgoing student

**ROSITSA MARKOVA:**

“I WOULD RECOMMEND TO EVERY STUDENT TO TAKE THE CHANCE AND PARTICIPATE IN THE ERASMUS+ PROGRAMME, BECAUSE THERE IS A HUGE WORLD OUT THERE TO BE DISCOVERED!”

Erasmus+ Period: 04/06/2019 – 06/06/2019

My name is Rositsa Markova and I am fourth year student in Public Health and Health management in the Faculty of Public Health, Medical University – Sofia. This year I had the opportunity to make a summer internship in the Cluj School of Public Health throughout the Erasmus+ Programme.

The city of Cluj–Napoca is located in the north-west part of Romania and it was under Hungarian influence for a long time. This influence is visible throughout the beautiful architecture of the town, the many museums and mixed population. Also, Cluj is a city which hosts a lot of musical and food festivals and events. I lived in the Student’s city which reminded me a lot of the one in Sofia, so I didn’t experience a culture shock during my stay there. Fortunately, I made a lot of friends with who had time to travel every weekend to discover beautiful cities in Romania such as Sibiu, Brasov, Alba Iulia and etc.

Regarding my job, I was working 4 hours a day at the Cluj School of Public Health and I had different tasks to do. I could say that the school is working under an innovative and modern American-like model of education. There were also a lot of students who were working on different projects. I find it very interesting that they give them the opportunity to work before graduating their bachelor degrees. My main task was an European project, funded by the Erasmus+ Programme under the title “DIYPES – Do it yourself physical education and sport!”. It was my first time working with an European project and it was really interesting. This project was about motivating high school students to participate in their physical education and sport hours at high school, because of the high obesity levels in Europe. So I developed special video and presentation to encourage them and I created guidelines for the teachers and project participants. It was a great experience for me and with the help of my mentor to whom I am very grateful, I learned many things which I will use one day in my future career.

**I would recommend to every student to take the chance and participate in the Erasmus+ Programme, because there is a huge world out there to be discovered!**



## RECEIVING UNIVERSITI



Cluj School of Public Health  
Cluj Napoca  
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Stefka Stoichkova  
Faculty of Medicine  
Outgoing student

### STEFKA STOICHKOVA:

“I ADVISE ALL OF YOU WHO ARE WONDERING WHAT IT’S LIKE, NOT TO HESITATE BUT TO GO HEAD ON INTO THIS ADVENTURE!”

Erasmus+ Period: 27/09/2018 – 02/02/2018

Hello, my name is Stefka, I’m 23-years-old and recently I personally took part in the process of taking a history from a patient, examined patients’ physical statuses, diagnosed and planned the proper treatment for 3 patients. At first glance, all these actions may not seem complicated, but I had the opportunity to do them in Spanish. I could barely say my favorite color in Spanish a year ago, and now on my locker you can find Manual de Protocolos en Urgencias Pediátricas. Oh, and let’s not forget that I also participated in a PCR simulation, saw a broken femur and made 4 successful lumbar punctures (ok, that last one was on a dummy but everybody has to start from somewhere). At the moment I’m spending the last two summer’s months doing an internship in the paediatric department of Hospital Gregorio Marañón in Madrid. Nobody offered me or made me do it, I chose it and, although, I have to wake up every morning at 6.15 am through all 5 working days every week, it’s a decision I would make again. If you’re expecting a story about lots of parties and drinking or of some movie-like adventure, you could skip my story definitely. This is the story of how important role the Erasmus+ Programme has played in my growth and development into the person Stefka which I am today.

The first time I went on an Erasmus+ exchange Programme was in my 4th year when I spent the winter semester in Ljubljana, Slovenia. I was the only candidate for this location, but it was the perfect place – a beautiful capital with a large university full of young people. Immediately I regretted that I didn’t sign up for the whole year. You see, Slovenia has such a great social system – public bikes, sport facilities, big libraries with all the books you need that you can carry home, THE BONI (a system that provides students with free meals in 500 locations around the city. It might seem a bit overrated but believe me there’s nothing that helps more with socializing with other students). But I forget about how beautiful Slovenia is (inexplicably!) and the whole personnel in the University how attentive were toward me. This Programme gave me, for the first time in my life, the opportunity to be myself! You learn how to make friends from all kinds of places; how to do shopping with a limited budget; how to communicate with personal and patients with a different socio-cultural background; how to rent a car and drive it through the narrowest and most beautiful mountain road; how not to burn the house down while cooking; how to apply for documents for residency; how to turn yourself into the perfect machine for scanning the best deals for bus and plane tickets around Europe; how to do a one-week-long trip around Italy, visiting the oldest anatomical theatre and trying the best gelato; how to make and respect schedules for the bathroom and the washing machine and don’t be mad about it; how to celebrate your birthday and Christmas with the people you just met 2 months ago; how to overgrow your social awkwardness by going to all kinds of events (yoga in the park, vegan night with shared food, Portuguese classes, board game night, beer pong, swing dance classes, debate

club, mountain hiking, music jams); how to hitchhike with that girl you met just yesterday from Ljubljana to Zagreb having the craziest trip together and form a lasting friendship; how to start a love relationship; how to end a love relationship. You shouldn't focus on the artificial photos of people with perfect teeth from different nationalities having fun in the park or getting crazy at a party. Don't get me wrong, you definitely have those moments too, but the beauty of Erasmus+ is that it puts you in a totally new and different, sometimes even uncomfortable environment and it really changes you and gives you a greater perspective on life!

Currently, I'm doing a second Erasmus+ interchange. This time it's an internship in a hospital, I'm part of the team and I have a responsibility toward them. I decided to go on this adventure because as I'm approaching the end of my medical studies it's time to make the BIG DECISION – what do I want to specialize and where? First question is easy – paediatrics (it magically made its way into my heart). The second question is the hard part. Spain has been last years on the top of the best medical practices in Europe. I chose the opportunity to be in a Spanish hospital with 5 centuries of tradition and experience, from which I learn about the functioning of the healthcare system, about individual work and professionalism, gaining medical knowledge and research knowhow. I'm still not definitely decided whether I want to stay in Bulgaria or want to move to Spain, but I know that I want to develop lessons learned so far and I will not stop to develop myself as a doctor and person. I think this is a good end to my story. Not so much of a story, but a confession. Needn't to say I advise all of you who are wondering what it's like, not to hesitate but to go head on into this adventure no matter if it's in a metropolitan capital or a city smaller than your original one, it's worth it.

P.S. Finally, I would just like to mention one last thing that Erasmus+ Programme gave me – it helped me bring back my trust in the Bulgarian administrative body. Thank you to the staff at the International Erasmus+ Office of the Medical University - Sofia. You are really very open to help and very positive!



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Silviya Ivanova  
Faculty of Public Health  
Outgoing Student

### SILVIYA IVANOVA:

“WE HAD THE OPPORTUNITY TO GAIN THIS GREAT EXPERIENCE AND PRACTICE UNDER THE USEFYLL SUPERVISION OF OUR MENTOR”

Erasmus+ Period: 22/02/2019 – 22/05/2019

My name is Silviya Ivanova and I am student in the fourth year in Medical University of Sofia, specialty Health management. **My Erasmus+ internship lasted three amazing months and it was in Medical university of Warsaw, Poland!**

The first assigned task was practice in the Neonatology department of The Autonomous Public Children’s Clinic Hospital of the Medical University of Warsaw. Together with my two colleagues from the University in Valencia who were specializing as nurses, we had the opportunity to gain this great experience and practice under the useful supervision of our mentor Emil. We spent some of our internship in the intense care unit where we prepared the medicine, took care of the patients as feeding, changing, placing feeding tube and marking the accomplished activities in the relevant documents. The rest of the time, we had the possibility to witness how the specialists take blood samples from a head of a newborn, birth with C-section, puncture of the spine of a newborn and a lot more. This practice was not directly connected with my specialty; however, it gave me a very precious overview regarding the Polish healthcare system from the professionals working in the hospital.

The main part of my internship was creating a literature review, using the method of systematic approach on the topic ‘Hepatitis B and C: Seroprevalence, knowledge, practice and associated factors among medicine and health science students’. It was a consistent and continuing work and my mentor was Ms. Joanna Gotlib PhD head of Division of the Faculty of Health Sciences at Medical University of Warsaw.

I devoted few weeks to investigate and collect enough knowledge about the genre ‘literature review’ and I read a couple of researches made on the topic ‘Hepatitis B and C. I picked up this topic having in mind my sphere of friends who are medical or health science students therefore I felt personally engaged and chose this social group. While looking for all the necessary information this work needed, I had the chance to meet some of the PhD students and to spend some time in the administration of the faculty.

In my free time I managed to travel to other polish cities and in Norway, Lithuania and Latvia together with my new international friends, I attended Polish classes and had great fun and experience.

Finally, yet importantly, I wish to thank Medical university of Sofia for providing me with this opportunity and supporting me all the way through and especially my Erasmus+ Coordinator prof. Antoniya Yanakieva, PhD.



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WARSZAWSKI  
UNIWERSYTET  
MEDYCZNY

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Tanya Suradzhieva  
Faculty of Medicine  
Outgoing student

### TANYA SURADZHIEVA:

“IT WAS SUCH A GOOD LESSON AND ADVENTURE FOR ME! I SAW HOW PEOPLE LIVE, HOW STUDENTS STUDY OUTSIDE MY HOME COUNTRY, MADE A LOT OF FRIENDS AND IMPROVED MY SKILLS!”

Erasmus+ Period: 15/01/2019 – 15/06/2019



My name is Tanya Suradzhieva and I'm 5th year medical student at Medical University Sofia. During the second semester (spring/summer) I took part in Erasmus+ Project Programme at Acibadem Mehmet Ali Aydinlar University, Istanbul, Turkey. I want to share with you some of my impressions and experiences.

First of all, I'm glad that I had the opportunity. Thank you to all the staff from both universities (MU and ACU), who helped me made it happen. **It was such a good lesson and adventure for me. I saw how people live, how students study outside my home country; made a lot of friends; improved my skills - about medicine, life, languages!**

For ACU can say that is one very good university. Their program is not so different of ours. The campus and the hospitals are modern, new and fancy. All the professors, doctors were very kind to me. There was no moment in which I felt bad or not to the place I belong. The students helped me for everything I asked them. The coordinators also – so kind and polite. I can say only positive things for my Erasmus+ Project. About the city – Istanbul is my favourite city and I recommend to everybody to visit it.

I'm sharing some photos and you will see how amazing is. One more time thanks to everybody!



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Nikolaos Pelagidis  
Faculty of Pharmacy  
Outgoing Student

**NIKOLAOS PELAGIDIS:**

“IT EXPANDS YOUR SPIRITUAL HORIZONS AND COMPLETES YOU AS A CHARACTER AND PERSON”

Erasmus+ Period: 05/04/2017 – 14/02/2017

The Medical Faculty of the Heinrich-Heine-University evolved out of the former Academy of Applied Medicine, which was established in 1907. It soon achieved international recognition when leading practitioners pioneeringly integrated basic research and clinical practice. Today, the Faculty of Medicine comprises 31 institutes, 30 clinics, and two central facilities (an animal experiment facility and a biomedical research center). Moreover, the Faculty of Medicine fosters close cooperation with several associate institutes.

The Faculty of Medicine adheres to the integrated approach to teaching and research. Thus, medical students will be introduced to both applied clinical research and current issues of medical practice. Since 1991, the supplementary degree program in Health Sciences and Social Medicine has been complementing the faculty’s traditional course offerings. The faculty’s current and prospective fields of research in the Medical and Natural Science disciplines are: Hepatology, Cardial and Vascular Diseases, Environmental Medicine, Gerontology, Neuro and Behavioral Sciences as well as Infection Biology.

**It was an amazing experience everyone should try. It expands your spiritual horizons and completes you as a character, all the people you meet and the connections you make can last forever!**



**FERNANDO ROSATTI:**

“THE ERASMUS+ LIFE IS ALSO A WAY TO APPROACH DIFFERENTLY TO YOUR LIFE, TO BECOME MORE SELF-CONFIDENT AND INDEPENDENT”

Erasmus+ Period: 15/01/2018 – 30/07/2018



Fernando Rosatti  
Faculty of Medicine  
Incoming student  
Universita degli Studi della  
Campania/Italy

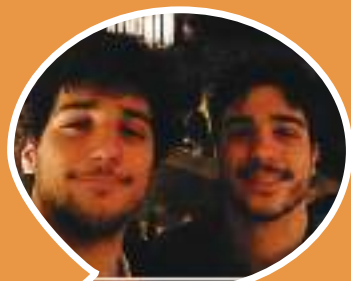
This year is my last year of university before graduation and I planned to spend this special period of my life in a foreign country. Speaking with a friend , Marco, I finally decide to come here in Bulgaria ,after being convinced about the beauty of the country and the university.

**This is not my first experience abroad , but probably it has been one of the most special!**

Being here in Bulgaria has been a continuous discovery under every point of view, from the academic to the personal one. The university is very modern and functional and courses are usually well organized, but I really appreciate most of all the availability of professors with whom I spent a lot of nice moments. I also appreciate the idea of having a lot of practical activities ,that I think can complete the preparation of a good medical student.

But living here in Bulgaria also means visiting new places and discovery new habits ,foods ,persons. I met a lot of young doctors and students, not only Erasmus+ students but also Bulgarian students that were really welcoming with us. There is a very well organized program for Erasmus+ students that gives to you the chance to live this experience while you are having fun with other students just like you.

At last , but not least , the Erasmus+ life is also a way to approach differently to your life ,to become more self-confident and independent in your daily life, sharing your spaces and your best moments with your Erasmus+ travel friends!



Marco Piergentili  
Faculty of Medicine  
Incoming student  
Universita degli Studi  
della Campania/Italy

### MARCO PIERGENTILI:

“WE EXCHANGED RESEARCH IDEAS WITH MANY OF THE LEADING SEREARCHS IN THE HIROSHINA UNIVERSITY”

Erasmus+ Period: 15/09/2016 – 15/02/2017 &  
15/09/2017 – 30/01/2018

Erasmus+ is not just a period of time living abroad, out of your own country, but it is much more, it is an amazing world made of people from all Europe, true friends and strong relationships, experiences, travels, emotions, memories, lot of fun and so on. It Is just something that marks your heart forever.

In my life I have been travelling a lot doing different experiences around the world but my Erasmus+ in Sofia at the Medical University meant one of the most formative and intense moments of my life, professionally and personally. Professionally, you can face another system of teaching, in my case the Bulgarian one, doing more practice, challenging yourself and studying in another language. I found in the Medical University of Sofia, a high level of education, with very qualified Professors and a modern and functional University in where most of the departments are located in the same area.

In my experience, feeling at home was easy, **I met a group of friends in the University that literally helped me from every point of view, in understanding the way of study, how the University works and as well in ‘not feeling stranger. ‘But as well, I found in the Erasmus+ office people always smiling and ready to help me. From the human point of view, what can I say... I discover a new culture, a new country!** I had the possibility to travel inside and outside Bulgaria: Pernik, Plovdiv, Munich, Madrid, Toledo, London, Amsterdam, Belgrad, Belogradchick, Bansko. I had the chance to meet people from all Europe, interacting with them, making true friendships and discovering new habits and costums; I made really importants friends that are now part of my life and met a very special person who is now my girlfriend.

**ROBERTA ONDA:**

“ERASMUS+ PROGRAMME HAS GIVEN ME THE OPPORTUNITY TO LIVE OVERSEAS INDEPENDENTLY FOR THE FIRST TIME”

Erasmus+ Period: 15/09/2017 – 30/01/2019



Roberta Onda  
Faculty of Medicine  
Incoming student  
Universita degli Studi della  
Campania/Italy“

**Erasmus+ has given me the opportunity to live overseas independently for the first time!**

The experience of the Erasmus+ is not only a college moment or a moment in which the student begins to assume responsibilities, but also an opportunity to learn to live with different cultures and the most beautiful thing is that it creates a sense of community among students from different countries. I managed to break down conventional barriers that I carried inside myself, because Erasmus+ helps you in this, throw down those stereotypes with which society teaches us to live, opens your mind, teaches you that there is no irreconcilable difference between people of different nationality unless the foreign language obviously; but this latter aspect is good thing, in fact as much as one tries to study, foreign languages are learned on the territory, with daily practice and day after day it becomes easier to express and acquire fluency that books will never give.

Personally this experience has enriched me from two basic points of view:

- Academic: I knew a university system very different from the Italian one and I was immediately set up. In the Medical University of Sofia, they give a lot of importance to practice, in fact each exam consists of both practical and theoretical evidence, and I find it very interesting and very formative because it has allowed me to know what kind of doctor I want to be in the future.
- Personal: I can say that I grew up working on myself and in my relationship with others. About myself I became independent and I understood the value of the little everyday things. I met so many people with whom I compared my way of life, some are passing, others become friends that I'm going to not miss.

In conclusion I'm really happy to have done this experience and I recommend to everyone to do it because after you will face the life with a different spirit and when you recall Erasmus+ you will smile heartily.



D-r. Zehra Gok Metin  
Incoming Student  
Hacettepe University Turkey

#### D-R. ZEHRA GOK METIN:

“I HAVE ALSO REINFORCED MY COOPERATION WORK WITH THE PARTNER INSTITUTION AND INCREASED MY SOCIAL, LINGUISTIC AND CULTURAL COMPETENCES”

Erasmus+ Period: 16/10/2017 – 20/10/2017



I was invited to the Medical University – Sofia in the eve of the 30th anniversary of Erasmus+ Programme. This was my first experience as a lecturer at academic level, so I have successfully extended my professional network and built up new contacts.

During that week numerous European partners attended the program and made presentations to give more detailed information on their institutions. Thus, I had the opportunity to discuss further projects and possibilities for cooperation.

I have also reinforced my cooperation work with the partner institution and increased my social, linguistic and cultural competences. I have also increased my job satisfaction and improved my foreign language skills. I have also improved my IT competences in the use of information and communication technology tools (e.g. computer, internet, virtual collaboration platforms, software, ICT devices, etc.)

I have enhanced my organizational/management/leadership skills. As a nursing professional, during my hospital visits in Sofia, I observed basic nursing interventions, patient population, inpatient – outpatient clinics and have an insight what was the level of the current healthcare services in Bulgaria.

Moreover, I met nursing and midwifery department staff of the Medical University – Sofia and we shared our experiences on current nursing education and observed their applications during clinical skill laboratory.

There was another organization focusing on ethical issues and good clinical practices, so I could participate to this event and listened to all professional’s talks to gain a perspective on how research/clinical studies are conducted in Sofia and what are the most prominent challenges faced by Bulgarian colleagues.

Beside all these professional gains, I had the chance to discover Sofia’s history, art, lifestyle and traditional cuisine.





Assoc. Prof. Dimitrina Zheleva-Dimitrova, PhD  
Department of Pharmacognosy  
Pharmaceutical Botany  
Faculty of Pharmacy  
Outgoing Lecturer

### ASSOC. PROF. DIMITRINA ZHELEVA – DIMITROVA:

“SOUTH AFRICANS ARE POLITE, CHARMING, CURIOUS AND HARD-WORKING PEOPLE”

Erasmus+ Period: 19/08/2019 – 23/08/2019



### I dreamed of Africa!

My passion on Africa and African medicinal plants started four years ago with an in-dept research on some Sudanese plant species. Then I realized that up to 80 % of the population in Africa still relies on medicinal plants as the principal source of medicines for their health. It was found that plants growing under extreme conditions produce more bioactive substances.

I am Associate Professor in the Department of Pharmacognosy and Pharmaceutical Botany, Faculty of Pharmacy, Medical University-Sofia, and I work on phytochemistry of medicinal plants. Thanks to the Erasmus+ Programme, I had the opportunity to make a dream of mine comes true. I visited Africa and continue with African plants research.

At the end of August, we visited the College of Health Sciences in the University of KwaZulu-Natal, (UKZN) Durban. Durban is the third most populous city in South Africa after Johannesburg and Cape Town, located on the east coast of South Africa, and one of the biggest cities on the Indian Ocean coast of the African continent. The mix of Zulu, Indian and European cultures in the city makes it a unique urban environment in which to live and work. College of Health Sciences is one of the four Colleges that form the UKZN, consist of four Schools and 2400 students. Pharmaceutical science is one of the eight discipline in the School of Health Sciences and was the object of our Erasmus+ Programme. This school has managed to place itself in a leading position in terms of undergraduate and postgraduate students. A great numbers of high-technology equipped laboratories with numerous working young people admired us. South Africans are polite, charming, curious and hard-working people.

Full of amazing and exotic plant species, South Africa is the third most biodiverse country with a great opportunity for bioprospecting of plant compounds for novel pharmaceuticals remains. My dream to work on phytochemistry of this unexplored source of natural compounds and to try to help the African people in their fight against different infectious diseases, starts to fulfill.

**Thank to all my new Bulgarian and African friends! I hope this collaboration continue and see my amazing Africa again!**



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D-r Nikolay Ishkitiev, DDS,  
PhD,  
Faculty of Medicine  
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Chemistry and Biochemistry  
Outgoing Lecturer

**D-R NICOLAY ISHKITIEV, DDS, PhD:**

“WE EXCHANGED RESEARCH IDEAS WITH  
MANY OF THE LEADING RESEARCHERS  
IN THE HIROSHINA UNIVERSITY”

Erasmus+ Period: **03/07/2017 - 07/07/2017**



**My Erasmus+ experience in Hiroshima gave me exceptional opportunity to see how one of the leading universities in Japan works, as well as a chance to personally experience Japan!**

From academic point of view Erasmus+ exchange gave me insight of the Japanese approach towards personal dentistry and medicine – I visited the biomaterials science laboratory, molecular and cellular biology laboratory, metabolic engineering laboratory as well as the hospital complex, including dental hospital, cardiovascular hospital, etc. We exchanged research ideas with many of the leading researchers in the Hiroshima University, like prof. Koichi Kato, prof. Isao Hirata, prof. Katsumi Fujimoto, prof. Chisa Shukunami, etc. We planned on future collaboration. My stay in Japan extended my professional network and reinforced the cooperation between Sofia University – Sofia and Hiroshima University.

From personal point of view, I have increased my job satisfaction and have improved my foreign language skills. Although I have been in Hiroshima before, Ms. Hitomi Ogawa organized our stay perfectly and managed to show us Hiroshima in such a way, that we fell in love with it as we increased our cultural competences. Overall, during our stay in Japan I made new friends, exchanged ideas with some of the leading Japanese scientists in my area of research, experienced Japanese hospitality, Japanese cuisine and Japanese cultural heritage.

From September 2018 to January 2019, as a continuation of Erasmus+ exchange Programme, to our university came three students from Hiroshima University – Hikari Sakamoto, Chika Shigemoto and Nao Yamada. They were attached to our laboratory and with their eagerness to learn and to acquire new knowledge were a valuable addition to our team. They managed to accomplish three scientific projects which they presented back in Hiroshima.

I am sure Erasmus+ Programme helped me increase my career opportunities by giving me a chance to improve my teaching skills, to compare my research methods with leading laboratories in the world, to learn applications of new technologies in my research and to build up new contacts, extending my professional network.



## RECEIVING UNIVERSITY



HIROSHIMA UNIVERSITY

### HIROSHIMA UNIVERSITY

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Dr. Nikolay Apostolov, PhD  
Faculty of Dental Medicine  
Department of Prosthetic  
Dentistry  
Outgoing Lecturer

**DR. NIKOLAY APOSTOLOV, PhD:**

“MY ERASMUS+ EXPERIENCE GAVE ME A GREAT CHANCE TO SEE HOW ONE OF THE BEST MEDICAL UNIVERSITIES IN JAPAN WORKS”

Erasmus+ Period: **01/07/2017 – 08/07/2017**



My Erasmus+ experience gave me a great chance to see how one of the best medical universities at Japan works. I saw the working process in the Departments of Prosthetic dentistry, Orthodontics and Dental Physiology. I also saw the University hospital, the process of treatment and prevention on patients. I had great appointments with the Dean of the University and lots of Medical and Dental medicine teachers. I had a lecture about the dental adhesives, subject of my dissertation. Before my mission in Japan I had an article about the denture adhesives which was the most read publication in Research Gate, Prosthetic dentistry. The lecture was approved by my Japanese colleagues and we had a great discussion after that. After my arrival in Bulgaria I wrote a material about Erasmus+ in the newspaper of FDM-Sofia and an article in Infodent magazine about the denture adhesives.

From personal point of view, it was a great experience to see the historical city of Hiroshima, the Japanese culture and traditions. The meeting between me, my Bulgarian colleagues Prof. Gyrcetchev and d-r Ishkitiev and the association Bulgaria-Hiroshima was another great moment.

**I am sure Erasmus+ Programme helped me improve my teaching skills, compare me researches with one of the leading laboratories in Japan, and build up new contacts with great lecturers and colleagues!**



Since its establishment, as a higher education institution Hiroshima University has contributed to Japanese education by committing itself to the universal mission to: (1) cultivate talented human resources who can contribute to society, and (2) promote top-class science research which serves the development of humankind.

While witnessing social, political and economic changes, Hiroshima University has always responded to the mandate of the public by committing itself to implement reforms and by showing the direction of its future vision in a timely manner.

The Hiroshima University's long-term vision—10 to 15 Years from Now, as a signpost for Hiroshima University, indicating the process of development as a higher education institution.

## RECEIVING UNIVERSITI



### HIROSHIMA UNIVERSITY

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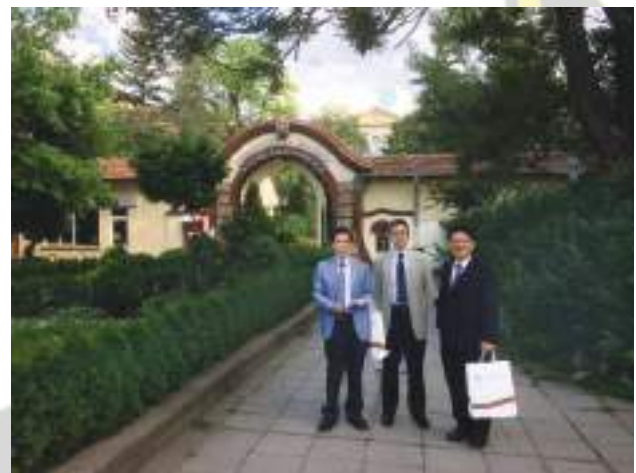


Prof. Norio Sakai  
Incoming Lecturer  
Department of Molecular and  
Pharmacological Neuroscience  
Hiroshima University

**PROF. NORIO SAKAI:**

“I HAVE LEARNED THE ACTUAL SITUATION OF MEDICINE IN FOREIGN COUNTRIES ESPECIALLY IN EUROPE”

Erasmus+ Period: 15/05/2017 – 19/05/2017



In my receiving country Bulgaria, at the receiving Medical University – Sofia, I have reinforced or extended my professional network or built up new contacts. I have reinforced the cooperation with the partner institution/organization, as well, and I have learned from good practices abroad.

My Erasmus+ experience helped me to increase my social, linguistic and/or cultural competences. I have had a good opportunity to present my own research achievement. It was especially important to me to get to know with Bulgarian educational system in foreign countries especially in Europe.

**Thanks to the Erasmus+ Programme and staff mobility, I have learned the actual situation of medicine in foreign countries especially in a European country like Bulgaria!**

**PROF. TAIJIRO SUEDA:**

“CONGRATULATION FOR 30th ANNIVERSARY  
OF ERASMUS+ PROGRAMME”

Erasmus+ Period: 15/05/2017 – 19/05/2017



Prof. Taijiro Sueda  
Department of Cardio  
Incoming Lecturer  
Cardiovascular Surgery  
Hiroshima University



I celebrate the 30th anniversary of Erasmus+ Programme cordially. My relationship between Bulgaria and Japan began from 2008. I received a young Bulgarian cardiac surgeon as a graduate school student supported by the Japanese ministry for education and science. He stayed in Hiroshima University for 4 years and 6 months and performed gene analysis which occurred acute aortic dissection. He got his title of PhD by this work. His name is Dr. Zehcho Naychov and works in the department of cardiovascular surgery in Sofia University now. I belonged to the Hiroshima-Bulgarian association from his stay to now.

I have been to Sofia twice. The first visit to Sofia was 2011-year m. May after the Congress of the European Society for Cardiovascular Surgery which was held in Dubrovnik. The second visit to Sophia was from 14 to 20 May 2017 with support of Erasmus+ Programme. Prof. Sakaguchi (virology) and Prof. Sakai (pharmacology) also attended this program. During this stay, we discussed the following plan of the next Erasmus+ Programme between Sophia Medical University and Hiroshima University 15 May 2017. I presented my paper 16 May, entitled “Surgical therapy for atrial fibrillation”, which included etiology of atrial fibrillation, pharmacological and catheter treatment of atrial fibrillation. I devised a new surgical procedure for atrial fibrillation, which gave a lot of suggestion to resolve the real mechanism of atrial fibrillation. Then, I presented my procedure with basic concept and procedural aspects.

**Our visit was successful and continued to send 3 medical students supported by Erasmus+ Programme from October 2017 for 3 months.** One Bulgarian student also will come to the Hiroshima University from January 2018, and two from April in the same year. I hope this Erasmus+ program continues in future. Again, congratulation for 30th anniversary of Erasmus+ Programme!



Prof. Takemasa Sakaguchi, M.D.,  
Ph.D.,  
Incoming Lecturer  
Hiroshima University Japan

**PROF. TAKEMASA SAKAGUCHI:**

“WE HAD AN OPPORTUNITY TO TALK  
WITH BRILLIANT AND ACTIVE STUDENTS”

Erasmus+ Period: 15/05/2017 – 19/05/2017



Academic exchanges by the Erasmus+ Programme between Medical University – Sofia and Hiroshima University have started in this commemorative year. Three professors of Hiroshima University, Dr. Sueda, Dr. Sakai and I, visited Medical University – Sofia in May 2017 and gave lectures in a long-standing auditorium that had a stone dissecting table in the center. Our lectures were also honored as a part of the lecture series, 2017 International Workshop, for the 100-year celebration of Medical University – Sofia. In this occasion, we visited a pharmacology laboratory and a biochemistry laboratory that were equipped with cutting-edge analytical machines. We also attended a scene of medical student education in one of the university hospitals. We had an opportunity to talk with brilliant and active students.

The medical education system in Medical University - Sofia, which may be common to other EU member states, is different from ours. Students concentrate on one subject for a period of several weeks, and students have lectures and clinical clerkship alternately. The learning unit is called a “cycle”. This system was new for us.

Before being dispatched to Sofia, I must confess that the location of Bulgaria was somewhat obscure for me. However, after staying in Sofia, I was fascinated by Bulgaria. I could experience the European atmosphere and I enjoyed delicious Bulgarian food and wine. I was overwhelmed by the solemnity of Alexander Nevski Memorial Church and Rila Monastery of the Greek Orthodox as well as many other churches and remains. After coming back to Japan, I became member of the Hiroshima-Bulgaria Association, which is a historic private exchange organization, and started to work for friendship between Hiroshima and Bulgaria.

Three staff teachers, Prof. Girchev, Dr. Ishkitiev and Dr. Apostolov, came to Hiroshima from Sofia in July 2017. We have just sent three excellent students from Hiroshima to Sofia who are taking “cycles” at the Medical University – Sofia. One medical student and two dental students from Sofia will be coming to Hiroshima. The medical student will arrive first in January 2018. We are now preparing to accept the student. **These efforts will bring rich fruits to the EU and Japan. I am happy to be involved in the staff and student mobility Programme of the Erasmus+, and I sincerely hope for further development of our mutual relationship!**







D-r. Rasku Tuija  
Incoming Lecturer  
Nursing and Paramedicine, MHS  
Hiroshima University Japan

**D-R. RASKU TUIJA:**

“I GOT IDEAS TO START SMALL PROJECTS WITH MY STUDENTS AFTER GETTING BACK HOME”

Erasmus+ Period: 09/02/2018 – 15/02/2018

**The time in Sofia was a great professional and personal experience!**

As a doctoral researcher, this opportunity gave me new aspects and contacts for my future research. I got ideas to start small projects with my students after getting back home. For me, it was crucial to exchange opinions with creative people who bring new approaches from different cultures. As my projects are based on international network this exchange allowed academically valuable discussions.

In addition to this valuable insight for me and my university, I gained new partners to work with and we managed to collaborate at high level. The stakeholders' different backgrounds and experiences make the week and opportunities very colorful. This kind of experience is not a one-way exchange. As a result of this program, our cooperation will continue with the student and teacher motilities, as well as with international project planning. It is always refreshing to hear practices and processes from other universities and what is going on in universities from other cultural environment. At the same time, we learnt that the problems or ideas that we are trying to solve are same almost everywhere. To work together was fun. During the exchange we have already made plans for two new cooperation projects from which one is going to have results next autumn during our international week in Tampere, Finland. As I also work as an international coordinator these short time visits and face-to-face work make the process a bit easier. Every time you come back home you carry some new ideas with good spirits and see your own campus and duties in different colors.

As a personal experience the time I have spent in Sofia gave me new members to my professional network and new opportunities for the future. The cooperation has started one year ago and was reinforced, so we got more practical tools for future development. This along with many other Erasmus + exchanges will have a long-lasting impact on my life and help me understand better the new European identity from the West coast to the Eastern line.

**ZLATKO KOSTADINOV:**

“THEY TREAT ME SO KINDLY THERE.  
I WAS AMAZED WITH THE HOSPITAL  
AND THE FACILITIES”

Erasmus+ Period: 17/04/2019 – 17/07/2019



Zlatko Kostadinov  
Faculty of Medicine  
Outgoing Student



Hello, everybody!

My name is Zlatko Kostadinov. I am 5th grade medical student from Medical University of Sofia, Bulgaria. I had the opportunity to visit Japan on exchange via “Erasmus+ exchange Programme”. I am so glad that I choose Japan because it is a great country and I had once in a lifetime experience there! For Bulgarian people, Japan is famous for being very traditional, cultural and organized country. We think of Japanese people as very hardworking, strict, always following the rules. Most of these came to be true. But they also are amazing people and know how to have fun. In Japan, Bulgaria is very famous for YOGURT. I was surprised how popular is our milk there. They even have a brand for yogurt called “Bulgaria”. The second most popular thing is our famous, and maybe only one Bulgarian sumo wrestler Kotooshu. Usually when I say to some Japanese that I am from Bulgaria, their reaction was “oooo Yogurtoo”.

So let’s focus on my stay in Japan. I arrived in Hiroshima after 20 hours’ flight and changed 3 planes. Actually we are 2 Bulgarians coming to Japan and we were flying together on this day. Our accommodation is International House; it is just next to Hiroshima Station. It is a great place for foreign students and will definitely recommend it. Even on the first day here I came to know that bicycle is very useful here, so after 2 days I already bought one – second hand for only 6 000 yen. And the University Hospital is just 10 minutes by bicycle from my place.

My first department was Hematology. I stayed there for 2 weeks. They treat me so kindly there. I saw many patients with leukemia, lymphomas. I witnessed stem cell transplantation. And as a first department, I was amazed with the hospital and the facilities. I also visited the ICU and SICU early in the first week because this is my main interest. In Bulgaria I am working part-time

as a ICU nurse and I want to compare between my country and here. There are not so many different things apart from the fact that there are many more nurses here, which is great.

Second department was Gastroenterologic and Transplant Surgery. It was a long journey there. I stayed for 1 month. I met many new people. We went out a lot and it was fun. I was able to attend pancreas transplantation, kidney transplantation and other very interesting cases – liver resections, bower resections, gastectomies. As long as this is University Hospital, they don't perform routine procedures such as hernias and appendectomy, so most of the cases are complicated. I also saw robotic surgery used for rectal cancer. Most of the surgeries were laparoscopic. Professor Ohdan is running the department and he is a great professional in his work either as a surgeon and immunologist. After that I was part of Endocrinology department. 2 weeks there. I met very nice and interesting people. Many patients with diabetes, we were discussing treatment options. I also attend Adrenal Vein Sampling, tried to do Thyroid echo. It was good but not so interesting for me though, as I am not so interested in Internal medicine. They brought me to try some traditional Japanese dishes. The time passed very quickly.

On to the next one – Urology. Great people, amazing professional. I was there for 2 weeks and learned a lot about this specialty. Of course I experienced robotic and laparoscopic surgeries as long as many diagnostic procedures such as cystoscopy, MRI fusion prostate biopsy and others. Had a great time there. And finally and maybe most wanted department for me – Anesthesiology (Masuika). I stayed there for 2 weeks, my last 2 weeks in Japan. Even before being officially in this department I had already met some of the stuff there – Dr.Niinai, Dr.Urabe, Dr. Kikuchi and others. I was really interested in their work and what are they doing. I observed many epidural and spinal anesthetics. I watched placing CVP, SGC, arterial line, intubations although I am part of this procedures in my hospital in Bulgaria but still good experience for me. I learned about the drugs and doses and about PCA. I was surprised how many regional blocks they are doing here. It was new for me and I learned a lot. People in this department are GREAT. I was fascinated. I mean they are so kind, friendly, funny, open-minded, and a real professional. Some of them even invited me to meet their families. It was amazing and I even made friends here.





In the end I want to give my special thanks to some of the doctors in Masuika – Dr. Urabe, Dr. Myoshi, Dr. Niinai, Dr. Kikuchi, Dr. Saeki, Dr. Kamiya.

**THANK YOU VERY MUCH!** I hope I can meet some of you in Bulgaria – You are all invited!

And also I want to thank Professor Takahashi and the whole Cardiovascular department for being so nice and treating me very kindly and friendly!

RECEIVING UNIVERSITI



HIROSHIMA UNIVERSITY

HIROSHIMA UNIVERSITY

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Natsuki Cho  
Incoming Student  
Faculty of Medicine  
Hiroshima University Japan

### NATSUKI CHO:

“I HAVE STARTED ACCEPTING MYSELF AS A CITIZEN OF THE WORLD, AND PART OF THE YOUNG SCIENTIST WORLDWIDE”

Erasmus+ Period: 05/10/2017 – 21/01/2018



Academic point of view: First of all, the Programme gives me a lot of opportunities to use Microscopic control of pure *Lactobacillus* cultures. The English course helped me improve my English skills. Though I couldn't understand exactly what the teachers were saying in English at first, but now I can manage to make out most of their words. This enables me to enjoy interacting with foreigners more than before. In addition, there are various people from different countries, and I'm glad to make friends with them. Moreover, the educational system regarding medical studies in Bulgaria is quite different from that in Japan, which let me broaden my horizon. In Japan we have clinical training from our 5th year of studies while the medical students in Bulgaria have both theoretical part and practice in parallel. I have found it's interesting to know similarities and differences between our country and Bulgaria. Last but not least, training in the hospitals seems to be more practical than that in Japan. The patients are very cooperative with us and they teach me a lot of things with their bodies.

Personnel experience: On my days off, I took some trips to Italy, France, Plovdiv, Belovo, and so on. Italy and France are the countries which I have always wanted to visit, so these experiences were exciting a lot. Since European countries are quite far from Japan, my stay in Bulgaria was really a good chance for me to travel to some of them. In addition, people in Bulgaria and from other countries are free-spirited and DIGNIFIED; therefore, **I have started accepting myself as a citizen of the world, and part of the young scientists worldwide. I believe this experience was quite advantageous and useful to me and will lead to further successful achievements in the near future!**

**SUGIYAMA KENICHIRO:**

“AT THE MU – SOFIA THE CLINICAL PRACTICE AND LECTURES ARE COMBINED TOGETHER, SO I WAS ABLE TO USE BOTH TEXTBOOKS AND EXPERIENCE FROM BEDSIDE TEACHING AT THE SAME TIME”

Erasmus+ Period: 05/10/2017 – 04/01/2018



Sugiyama Kenichiro  
Incoming Student  
Faculty of Medicine  
Hiroshima University Japan

Academic point of view: **Erasmus+ mobility Programme was the first student exchange program that I attended and it has been a great experience!** At the Medical University – Sofia the clinical practice and lectures are combined together, so I was able to use both textbooks and experience from bedside teaching at the same time. The practice was done in small groups, which made each study very intensive and valuable. In Japan, clinical practices are done after we finish all the lectures and tests, so the clinical practice was something very fresh and also satisfying. Being able to practice and communicate with real patients is special and it was a precious experience which could only be gained through this mobility program.

In addition, from this program I learned the difference in the medical systems and the situation of the medical aspect of the country. Learning different techniques, different medical systems and understanding the local medical situations could only be done through experiencing and learning in that country. I believe the study and the experience through this mobility program will be a big advantage for me.

Personal experience: Comparing to Japan, students at the Medical University – Sofia are diverse in nationality. I had many opportunities to discuss about medical problems, economics, culture and other topics with the students. It gave me a greater understanding of other countries and I also learned the perspective of how Japan looked in other peoples ‘eyes. It was great to know how my country is seen from the outside. As a studying group I have learned how to be more active instead of being passive. Studying in a different environment made me more flexible, self-confident, provoked me think in a different prospective.

Another important moment is that every program included in this cycle is done in English. There are many students from different countries such as Italy, Germany, Greece, etc., and everyone can communicate with each other using English as a common language. By communicating and discussing with different people from different countries, I could understand not only the medical skills, but also the different culture and standards.

Personal experience: For me, this Erasmus+ Programme was the best opportunity to enhance my personal experience.

First of all, I have bettered my English communicating skills. In the modern society, the use of an international language becomes more and more important for us and our communication. Since I haven't use English in my country, it was hard at first to tell other people what I want to advocate during the discussion. But in a few months, I was gradually able to give my opinion using English. This was a great progress for me.

Secondly, it is about "activeness". During the classes, I found out that many people have confidence about what they know and think, whether it is correct or not. I learned that it is important to make clear statements and stay at firm positions for the successful communication. The Erasmus+ Programme gave me the chance to become more self-confident in stating my opinion before others.

