Medical University -Pleven

Curriculum
Specialty Medicine

Faculty of Medicine

2012/2013

This Informational Package was developed by the Department of Advertisement and Innovation in education of the Faculty of Medicine, Medical University – Pleven.

CONTENT

I. Identity	5
II. History and development	5
III. Evaluation and accreditation	5
IV. Mission of the university	6
V. Structure	7
VI. Management	8
VII. International activities	9
VIII. Academic Staff	10
IX. Specialties	10
X. Business card of Faculty “Medicine”	11
XI. Undergraduate studies – MD program “Medicine”	11
XII. The academic year	12
XIII. Teaching and assessment methods	12
XIV. MD program in English	13
XV. Postgraduate specialization in “Medicine”	13
XVI. Curriculum	15
XVII. Clinical attachments	19
XVIII. Full time pre-graduation practice after fifth year	19
XIX. Individual course units	20
XX. Syllabus of Faculty of Medicine (FM)	46

I. IDENTITY

Medical University – Pleven is a state regulated, self-governed, accredited specialized university, offering high quality education in the fields of Medicine, Public health and Health care.

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II. HISTORY AND DEVELOPMENT

The Medical University - Pleven was founded in 1974 as a faculty of the Sofia Medical University expanding the size and reputation of the City Hospital, founded in 1865. Nowadays, the Medical University of Pleven (MU – Pleven) is a separate higher medical school with its own curricula developed under the requirements of the Ministry of Education and Science (MES). Combining traditions of the past with the modern changes the Medical University of Pleven incorporates educational and therapeutic facilities, contemporary pre-clinical base, University Hospital with more than 1000 beds with clinics in all major medical fields, as well as a large number of specialized clinics and research units with modern diagnostic and therapeutic equipment. These are efficiently used to treat patients, train students, trainee doctors, post-graduates and for research work.

The Medical University of Pleven is an authoritative state higher educational institution in Bulgaria. It has proved to be one of the leading institutions for education in Medicine in Bulgaria. University enjoys social confidence because of the high quality of professional and scientific education of its teaching staff and its graduates. It is a preferable educational center for specialists in the field of Medicine, Medical Rehabilitation and Health Care in Northern Bulgaria.

III. EVALUATION AND ACCREDITATION

The undergraduate and graduate programs of the University are accredited and recognized by the Ministry of Education and Science. In accordance with the law of higher education in Bulgaria, accreditation is given by the National Evaluation and Accreditation Agency at the Council of Ministers, certifying that the curricula and the quality of the training process meet the standards set by the state and the law.

The National Evaluation and Accreditation Agency is a statutory body for evaluation, accreditation and monitoring of the quality in higher education institutions and scientific organizations aiming at the enhancement of their teaching and research, as well as of their development as scientific, cultural, and innovative organizations. The Agency monitors the ability of institutions, their main units and branches to provide good quality of education and scientific research through an internal quality assurance system.

NEAA is full member of European Association for Quality Assurance in Higher Education – ENQA.

NEAA is full member of European Quality Assurance Register for Higher Education – EQAR.

- By the **Resolution № 794 by the Council of Ministers of the Peoples' Republic of Bulgaria** the Medical University – Pleven was established in 1974 as a branch of the Medical Academy of Sofia. In 1987 it was re-established as an independent Higher Medical Institute.

- By the Resolution by the Accreditation council of the National Evaluation and Accreditation Agency (NEAA), **Protocol №27 of December 17, 1998**, the Higher Medical Institute – Pleven was granted by a **regular accreditation for educational qualification degree Master in Medicine.**

- **With the protocol №7 of February 19, 2004** NEAA a positive evaluation was granted by the agency to the "Project for transforming The Higher Medical Institute – Pleven into a **"Medical University"** and with Resolution by the National Assembly of the Republic of Bulgaria of September 10, 2004 the Higher Medical Institute – Pleven was transformed into a Medical University – Pleven with two faculties: Medicine and Public Health.

- By the Resolution of the Accreditation council of NEAA, **Protocol №22 of July 12, 2007**, the Medical University – Pleven was granted the **accreditation** of the **program** for educational qualification degree **Master in Medicine** with the **highest evaluation mark "very good**" for a period of six years.

- By the Resolution of the Accreditation council of NEAA, **Protocol № 8 of February 28, 2008**, a positive evaluation was awarded to the "Project for opening a Health Care faculty" for education in **Nursing and Midwifery with educational qualification degree Bachelor.**

- By the Resolution of the **Fortieth National Assembly of October 16, 2008**, on the grounds of Article 86, paragraph 1 of the Bulgarian Constitution and Article 9, paragraph 2, section 1 of the Higher Education Act, a **new faculty "Health Care"** was established within the structure of the Medical University – Pleven. (State Journal, issue 92, 2008).

IV. MISSION OF THE UNIVERSITY

The mission of the Medical University – Pleven is to improve and support the people's health through education and scientific research and serve the society as listed below:

- **to provide** university and post-graduation education for students, PhD students and post-graduate students in medicine, public health and health care in accordance with the highest national and international standards;
- **to conduct** fundamental and applied scientific research supporting the medical practice;
- **to carry out** activities that guarantee highly qualified and highly specialized medical and health assistance for the people and all-round support from the academic community for solving the social health problems and accomplishing the goals of the health reform in Bulgaria.

The activity of the medical University – Pleven is organized in:

- **Public oriented goals –** the Medical University – Pleven is accomplishing its mission to improve and support the public health by servicing society, which is realized through providing an accessible, highly qualified and highly specialized medicinal, diagnostic, consultative and preventive assistance and expert-methodical support.
- **The educational goals** during that period shall be focused on reaching the higher quality of the university medical education and the active incorporation with the unified European community for higher education. They are oriented towards the training of competitive experts with higher education for the national and international labour markets, as well as PhD students and post-graduate students in the fields of medicine, public health and health care, who are ready to manage the public health needs and to improve the people's health.
- **The scientific research goals** are oriented towards introducing the results from fundamental and modern applied scientific projects in medicine and public health in order to extend the scope of the health care and to improve its quality.
- **The goals regarding the European integration and the International cooperation** are oriented towards active inclusion of the Medical University – Pleven in the European community for higher education through participation in international educational and scientific projects and programs, experience exchange with academic, scientific and cultural institutions, attraction of foreign students and other activities of mutual advantage.

The tradition of medical education of foreign student's, as well as global trends of internalization of medicine inspirited MU – Pleven to start a program entirely in English.

V. STRUCTURE

The Medical University - Pleven is a state regulated university performing educational activities on the base of granted state property and yearly state subsidy. The University has its own independent budget and the income part of this budget consists of subsidy from the government; donations, inheritance, sponsorship; University's own incomes from revenues from scientific, consultative and medical activities, revenues from fees, student's education, post -graduate education as well as other educational activities.

The Medical University - Pleven has the following basic units: Faculty of Medicine, Faculty of Public Health, Faculty of Health care, Department of Language and Specialized Training, Medical College of Pleven and University Hospital.

The University has all theoretic, pre-clinical and clinical departments required for the higher medical education. Highly qualified lecturers are employed, with comprehensive academic experience. The course of instruction is carried out in 24 departments.

The structural units are Departments, Sectors, Centres, Laboratories, Libraries, Publishing Center and other relatively differentiated units working within the structure of the University.

Subsidiary sections are the Chancellor's office, Department of Education, Scientific Department, Deans and Directors of Colleges, inclusive their departments and offices.

The Faculty of Medicine offers a Master's Degree Program in Medicine and PhD Program in almost all preclinical and clinical disciplines.

The Faculty of Public Health offers Master's Degree and Bachelor's Degree Programs in health service organization and health management and Bachelor's Degree Program in ergotherapy and rehabilitation.

The Faculty of Health Care offers Bachelor's degree programme in Nursing and Midwifery.

The Department of language and specialized training was established to meet the need of improvement of the language skills of students and teachers in view of joining of Bulgaria with the European Union and advancement of the academic mobility and international cooperation in education and science.

The Medical College in Pleven trains other medical specialists: clinical laboratory assistants, X-ray laboratory assistants, social workers and pharmacy assistants.

The University Hospital (more than 1000 beds) is near the Campus of the University and has all major clinics.

VI. MANAGEMENT

The policy of the University is directed by its **General Assembly** and the **Academic Council**.

The General Assembly is the supreme body for governing and managing the University. It consists of representatives from the academic staff (at least 70% of the total number of the members of the Assembly), teachers without academic degree plus administration officers (15%) and representatives of post graduate and undergraduate students (15%).

The Academic Council manages all teaching and research activities of the Medical University - Pleven. It consists of 45 members and presently includes 31 professors, 7 chief assistants and 7 students elected by the General Assembly.

The Medical University - Pleven is headed by the **Rector**, elected among the members of the Academic Council. The Rector represents the University and is liable to the Academic Council and the General Assembly. A consultative body for assisting the Rector in solving current problems in the management of the University is **the Rector's Council**. Mandatory members of the Rector's Council are the Vice Rectors of Education and of Scientific Research, the Deans of Faculties, the Financial Director, the Economic Director and the Personnel Director.

The main authorities of the two faculties are the General Assembly, the Faculty Council and the Dean. According to the regulations of the Law for Higher Education and the Regulations for the Education Activities of MU – Pleven they are with 4-years mandate.

The Faculty Council (FC) governs and controls the activities of the Faculty. The FC consists of 25 members including representatives of the academic staff, undergraduate and postgraduate students. Not less than 70 % (19) of the FC's members have academic rank.

The Dean of each faculty has an academic rank and is ballot for mandate of 4 years by the General Assembly of the Faculty. The Dean and the Vice dean are members of the Rector's Council as a consultative authority, facilitating the Rector's activities.

The Dean's activities are helped by an **Educational Methodic Council**, which is a consultative authority on educational subject matters. It consists of teachers and students.

In Each Faculty there is a **Students' Affairs Office** subordinate to the Dean and the Vice dean.

The Students' Affairs Office works independently on the specific educational subject matters of the faculty. It keeps strict accounting and documentation for the educational process; prepares, monitors and controls the examination documentation, keeps the personal files of the

students, works out transcripts of records, certificates, diplomas with the supplements, educational time-tables and examination schedules for the specialties taught in the faculty.

The aim of this office is to offer assistance to students during their studies at the University: providing suitable accommodation, collaboration with departments etc.

The Students' Council is a control authority for defense of the interests of students of all the specialties and is an officially accepted form of connection between the students and the governing bodies of the university at all levels.

VII. INTERNATIONAL ACTIVITIES

In order to improve teaching and research, our University has established numerous contacts with medical schools in Bulgaria and other European countries. Contacts with European countries have been established by some departments of the Medical University - Pleven, working on international projects. The curricula of the Department of Social Medicine and the Department of General Medicine have been developed under Tempus and Phare programs. The Departments of Microbiology, General Medicine, Anatomy, Biochemistry, Medical Genetics and Social Medicine participate in European Community Program for Lifelong Learning (Erasmus, Leonardo da Vinci), the 6th Framework Program, as well as in programs of the World Health Organization and Dreyfus Health Foundation.

The teaching staff policy involves visits of professors in compulsory courses as well as in delivering lectures on current topics in medicine. Guest-professors from European Universities deliver short courses of lectures at the University in the framework of various international projects.

The Medical University – Pleven has been part of the Socrates/Erasmus Program since the 1999 – 2000 academic year, as Bulgaria became a full member of the Socrates/Erasmus program in April 1999. Formal basis for the activities of the university in the framework of Socrates/Erasmus Program is the Institutional Contract signed between the Medical University - Pleven and the Commission of the European Communities.

In 2007 the university has applied for participation in the renovated Lifelong Learning Program of the EC and was awarded an Extended Charter, which gives the opportunity to students to participate not only in student mobility for the purposes of studying, but also for student placements in enterprises, hospitals, laboratories, training centers, research centers etc.

Partners of the Medical University – Pleven on the basis of Bilateral Agreements for student and teaching staff mobility now are Université libre de Bruxelles (ULB), Belgium; The Medical Faculty of Masaryk University in Brno, Czech Republic; the Medical Faculty of Vilnius University, Lithuania; Marmara University – Istanbul, Turkey; Second University of Naples, Italy; Istanbul Medical Faculty – Istanbul, Turkey. There are signed agreements with Brugmann Hospital – Brussels, Belgium and Santariskiu clinic of Vilnius University Hospital – Lithuania for realization of student placements.

MU – Pleven has developed a credit system for its curricula for participation in bilateral agreements for student/faculty exchange under the Socrates/Erasmus Program. The credit system was developed within the framework of the European Credit Transfer System (ECTS), and has been introduced at our university starting from 2000.

VIII. ACADEMIC STAFF

The academic staff of Medical University - Pleven includes 84 full professors and 216 assistant professors. Most of them are members of national and international scientific, medical societies and authors of many research studies. Of the senior teaching staff, 18% have a doctor's degree in medical science, and 82% have a Ph. D. degree in medicine.

Short statistics. 7743 students from 42 countries have graduated from Medical University of Pleven:

- 5041 Master of "Medicine"
- 648 Bachelor and 228 Master of "Management of Health Care"
- 92 Master of "Health care"
- 113 Bachelor of "Medical Rahabitation and Ergotherapy"
- 761 specialists and Bachelor of "Nursing"
- 195 specialists and Bachelor of "Midwifery"
- 225 specialists and professional Bachelor of "Laboratory Assistant"
- 140 specialists and professional Bachelor of "X-ray Laboratory Assistant"
- 134 specialists and professional Bachelor of "Social Worker"
- 166 rehabilitators with degree "specialist" and "Professional Bachelor"

Around 800 young physicians including graduates from abroad are taking postgraduate courses in specialized clinics of the University's Hospital.

IX. SPECIALITIES

1. **Medicine** - Educational Degree: Master, Professional qualification "Physician"

2. **Management of Health Care** - Educational Degree: Master, Professional qualification "Manager of health care"

3. **Medical Rehabilitation and Ergotherapy** - Educational Degree: Master, Professional qualification "Manager, Ergotherapist"

4. **Health care** – Educational degree - Bachelor, qualification "Health care"

5. **Medical Rehabilitation and Occupational Therapy** - Educational Degree: Bachelor, Professional qualification "Ergotherapist"

6. **Nursing** - Educational Degree: Bachelor, Professional qualification "Nurse"

7. **Midwifery** - Educational Degree: Bachelor, Professional qualification "Midwife"

8. **Laboratory Assistant** - Educational Degree: Professional Bachelor, Professional qualification "Laboratory Assistant"

9. **X-ray Laboratory Assistant** - Educational Degree: Professional Bachelor, Professional qualification "X-ray Laboratory Assistant"

10. **Pharmacy assistant** - Educational Degree: Professional Bachelor, Professional qualification "Pharmacy assistant"

11. **Social Worker** - Educational Degree: Professional Bachelor, Professional qualification "Social Worker"

X. FACULTY OF MEDICINE

BUSINESS CARD OF FACULTY „MEDICINE"
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RECTOR: Prof. Slavcho Tomov, MD, PhD, DSc

Dean of Faculty of Medicine: Prof. Asparuh Asparuhov, MD, PhD, DSc

Vice–Dean of the Faculty of Medicine: Assoc.Prof.Angelina Stoyanova, MD, PhD

The Faculty of Medicine is a basic unit of the University which educates students in the following educational qualification degrees:

- Master's degree in **Medicine** with a professional qualification **Physician**.

XI. UNDERGRADUATE STUDIES – MD PROGRAM "MEDICINE"

Duration of study is 6 years. The study **programme includes** 3 stages:
1. **Pre-clinical studies** - 2 years 1940 hrs (990 hrs + 950 hrs)
2. **Clinical studies** - 3 years 3190 hrs (1010 hrs + 1140 hrs + 1040 hrs)
3. **Clinical practice** (rotations) - 1 year (1440 hrs)
4. **Clinical attachments** after 3rd and 4th year (300 hrs)
Total: 6870 hours.

The training in Medicine at Pleven Medical University is in accordance with the state requirements. It is offered as a full-time course only: lectures, seminars, practical exercises and pre-graduation clinical practice.

Medical students have also compulsory summer clinical practice after 3rd and 4th year (22 working days every year). The clinical practice is carried out in the University Hospital. Pre-graduation clinical practice is meant to provide the trainee doctors with highly qualified knowledge in the field of medicine and further developing their practical skills, thus enabling them to enter the medical profession and be ready to approach problems such as organization, prophylactics, diagnosing, treatment, etc. in their future practice. Pre-graduation clinical practice is conducted at the University Hospital.

The entire course of instruction includes 10 semesters of theoretical and clinical training and 10 months of pre-graduate clinical practice in the following disciplines: internal diseases, surgery, obstetrics and gynecology, pediatrics, hygiene and infectious diseases including epidemiology, parasitology and tropical diseases.

After successful completion of the entire course of study and successfully passing the State Final Examinations, students are awarded a diploma of completed higher medical education with educational qualification – Master's degree in the Specialty of Medicine and professional qualification "Physician" (Doctor of Medicine) with rights of General Practitioner.

The University has also a specially developed program for study of foreign languages during medical education. Every student has the opportunity to study English, French or German.

For international students Medical University - Pleven offers also a course of instruction in the specialty of Medicine in Bulgarian language which lasts 12 semesters. During the first two semesters, international students take an intensive course in Bulgarian language, including a ground course in the terminology of biology, physics and chemistry.

Medical University - Pleven provides also preparatory courses in English or Bulgarian languages with duration of one year. The students, who pass successfully the examinations at the end of year, are admitted to the six-year training course in Medicine.

XII. THE ACADEMIC YEAR

The academic year consists of two semesters (autumn and spring), with 15 weeks duration and two one-week vacations for Christmas and Easter. Each semester ends with a regular and secondary examination sessions.

There are two intakes of students per year. The academic year for Bulgarian students starts in the middle of September and ends in June the following year while the academic year for international students starts in the middle of February and ends in December each year.

The **State final examinations** are held after full time clinical practice in the following disciplines: Internal Diseases, Obstetrics and Gynecology, Surgery and Oncology, Pediatrics, Epidemiology and Infectious Diseases, Hygiene and Social Medicine.

The program and curriculum are renewed continuously by special Commission for Methodology and Education, which discusses new tendencies in medical education in other universities and regularly proposes changes in the curriculum to the Academic Council. The courses in all subjects are regularly updated to meet new requirements in medical education.

Problem-based learning (PBL) is integrated into traditional medical teaching. It is designed so as to meet both European and USA standards.

XIII. TEACHING AND ASSESSMENT METHODS

Methods of training are based on tradition and experience, combined with innovatory approaches. The programme includes theory, practical and laboratory exercises, seminars and clinical attachments. Traditional methods are improved owing to the problem-based learning (PBL), which has recently been introduced and the use of contemporary audio-visual resources. Lectures are delivered to large groups of students. Seminars, practicals and laboratory exercises are performed with small groups of 6 to 10 students. Lecturers at the MU - Pleven have high qualification and wide academic experience.

The modern training methods applied at the university are: small group tutorials, individual guiding and consulting, supervised self-training, etc. The students may join extracurricular optional courses and scientific circles functioning at the departments.

Current monitoring of the small groups (maximum 8 students) and assessment of the students' knowledge in each subject is done by assistant professors, who are responsible for the students' group instruction during the semester. Examinations are conducted in all required subjects of instruction after each semester within the examination session, which lasts 45 days. Final assessment of knowledge acquired by the students after accomplishment of their full course of

study is given by the State Examination Board at a comprehensive theoretical and practical examination.

Grades for courses are based upon final examinations, mid-term examinations, other tests, assignments, projects, class attendance and participation. Faculty members inform students of their grading policy at the beginning of each semester.

Examinations are held at the end of each semester. Exams in the disciplines that are studied more than one semester are held at the end of the course. Students are allowed to take their examination during one regular, followed by one supplementary examinations session and a liquidation session. The State examination board gives final assessment of the knowledge acquired by the students after accomplishment of their full course in Medicine through comprehensive theoretical and practical examinations.

Methods of assessment include oral examination, written examination, multiple choice test, practical examination and continuous assessment depending on the subject. Students are evaluated on a scale from 2 to 6. Grade (Mark): excellent (6); very good (5); good (4); satisfactory (3); poor (2).

XIV. MD PROGRAM IN ENGLISH

The course of education in Medicine in English medium for international English speaking students was introduced successfully in 1997. The basic language of instruction throughout the course is English. All lectures, seminars and practical exercises are conducted in English language by extremely competent instructors. Students in this program study Bulgarian language in parallel with the instruction in Medicine in English during the first three years of study. Contacts with patients after second year as well as the clinical practice at the University Hospital are in Bulgarian language.

XV. POSTGRADUATE SPECIALIZATION IN "MEDICINE"

The graduates in Medicine can obtain a qualification of "Doctor, specialist in..." after an additional training in the corresponding specialty. These are three- to five-year courses and can be taken by graduates of higher medical schools in Bulgaria and abroad. The working language is Bulgarian, and applicants who have not graduated from a Bulgarian medical higher school are offered an intensive course in Bulgarian at the University, which takes six to eight months and is planned to suit both parties. Successful applicants are then allowed to follow the program designed by the respective tutor.

Post-graduate specializations are held at MU - Pleven in the following basic medical specialties:

Specialty	Duration of study (yrs)
I. Specialities on predominant therapeutic lines	
Anaesthesiology and intensive care	4
Internal medicine	5
Gastroenterology	4
Paediatrics	4
Endocrinology and metabolic diseases	4
Infectious diseases	4
Cardiology	4

Clinical allergology	3
Clinical haematology	4
Dermatology and venerology	4
Neurology	4
Nephrology	4
General Medicine	3
Pneumology and phthisiology	4
Psychiatry	4
Emergency medicine	5
Transfusion haematology	4
Physical and rehabilitation medicine	4
II. Specialties on predominant surgical lines	
Obsterics and Gynecology	4
Neurosurgery	5
Orthopaedics and traumatology	5
Ophthalmology	4
Urology	5
Otorhinolaryngology	4
Surgery	5
III. Specialties on predominant clinicodiagnostic lines	
Biochemistry	4
Clinical immunology	4
Clinical laboratory	4
Microbiology	4
Image diagnostic	4
IV. Specialties on other lines	
Environmental sanitation	4
General and clinical pathology	4
Social medicine and health management	4
Occupation medicine	4
Pharmacology	4
V. Specialties on predominant therapeutic lines	
Medical oncology	5
Medical parasitology	3
Neonatology	4
VI. Specialties on predominant clinicodiagnostic lines	
Epidemiology of infectious diseases	3
Pathophysiology	3
Forensic medicine	3
VII. Specialties on other lines	
General hygiene	3
Hygiene of children and youth	3
Nutrition and dietics	3

XVI. CURRICULUM

CURRICULUM FIRST YEAR

Course	C/O/ EO	Theory (hrs)	Practicals (hrs)	Total hours	Semester	Examination	Credits
Cytology, Histology & Embryology	C	60	30	90	1st	W + O + P	6
Anatomy	C	45	165	210	1st and 2nd	*	9
Biology	C	45	60	105	1st and 2nd	W + O + MC	7
Medical Physics	C	45	45	90	1st	W	6
Chemistry	C	45	45	90	1st	W + O	6
Latin Language	C		60	60	1st and 2nd	W + O	4.5
Biophysics	C	30	30	60	2nd	W	6
Physiology	C	30	60	90	2nd	*	4
Biochemistry	C	45	45	90	2nd	*	4
Medical Informatics	O	15	30	45	1st	W + MC	1.5
Medical Psychology	O	15	15	30	1st	O	1.5
Foreign Language	O	-	60	60	1st and 2nd	W + O	2.5
Bulgarian Language	C	-	120/180	120/180	1st and 2nd	W + O	*
Physical Education	EO	-	60	60	1st and 2nd	*	2
						Total	60

*Examination for the second year

C = Compulsory
O = Optional
EO = Extra optional

MC = Multiple Choice test
P = Practical examination
OE = Oral examination
W = Written examination

CURRICULUM SECOND YEAR

Course	C/O/ EO	Theory (hrs)	Practicals (hrs)	Total hours	Semester	Examination	Credits
Anatomy	C	45	60	105	3rd	W + O + P	7
Biochemistry	C	45	45	90	3rd	W + O + MC	6.5
Physiology	C	45	60	105	3rd	O + MC	7
General Medicine	C	5	15	20	3rd	*	1
Social Medicine	C	30	60	90	3rd and 4th	W + MC	6.5
Medical Ethics	C	15	15	30	4th	W + MC	2.5
General Pathoanatomy	C	15	15	30	4th	*	3
Pathophysiology	C	15	30	45	4th	*	2
Propaedeutics of Internal Diseases	C	45	90	135	4th	*	6
General & Operative Surgery	C	30	45	75	4th	*	3.5
Microbiology	C	60	75	135	3rd and 4th	P + W + MC	10.5
Foreign Language	O	-	60	60	3rd and 4th	O + W	2.5
Bulgarian Language	O	-	105/180	105/180	3rd and 4th	O + W	*
Physical Education	EO	-	60	60	3rd and 4th	*	2
Medical Statistics	O	15	15	30	4th	W	1.5
Communication skills	O	15	15	30	4th	W	1.5
						Total	60+3

*Examination for the third year

C = Compulsory
O = Optional
EO = Extra optional

MC = Multiple Choice test
P = Practical examination
OE = Oral examination
W = Written examination

CURRICULUM THIRD YEAR

Course	C/O/ EO	Theory (hrs)	Practicals (hrs)	Total hours	Semester	Examination	Credits
General Medicine	C	5	15	20	6th	*	1
Medical Genetics	C	30	30	60	5th	O + W + MC	4
General Pathoanatomy	C	15	30	45	5th	W+O+P+MC	3
Clinical Pathoanatomy	C	30	30	60	6th	*	3
Pathophysiology	C	30	30	60	5th	W + O	4
Propaedeutics of Internal Diseases	C	30	75	105	5th	W + O	6.5
General & Operative Surgery	C	30	60	90	5th	W + O + P	5.5
Disaster Medicine	C	30	15	45	6th	W + O	2.5
Hygiene, Ecology & Professional Diseases	C	75	75	150	5th and 6th	W + O	9
X-Ray & Radiology	C	45	60	105	5th and 6th	W + O + MC	6
Obstetrics&Gynaecology	C	15	45	60	6th	*	3
IDT:ClinicalLaboratory	C	30	30	60	6th	W + O	3.5
Pharmacology	C	30	45	75	6th	*	3
Ophthalmology	C	45	30	75	6th	O + P	4
Bulgarian Language	O	-	168	168	5th and 6th	W + MC	*
Physical Education	EO		60	60	5th	*	2
						Total	60

*Examination for the fourth year;

C = Compulsory
O = Optional
EO = Extra optional

MC = Multiple Choice test
P = Practical examination
OE = Oral examination
W = Written examination

IDT = Internal diseases & therapy, clinical laboratory & immunology

FOURTH YEAR

Course	C/O/ EO	Theory (hrs)	Practicals (hrs)	Total hours	Semester	Examination	Credits
Clinical Pathoanatomy	C	15	30	45	7th	W+O+P MC	3
Pharmacology	C	30	45	75	7th	W + O	4.5
Otorhinolaryngology	C	45	45	90	7th	P + O + W	5
Neurology	C	60	60	120	7th and 8th	W + O + P	5.5
Anaesthesiology	C	30	30	60	8th	W + O + P	3
Orthopaedics & Traumatology	C	30	60	90	8th	O	5
Surgical Diseases & Oncology	C	60	120	180	7th and 8th	*	8
IDT - Pulmology	C	30	60	90	7th	W + O	5
IDT - Cardiology	C	45	90	135	7th and 8th	W+ O + MC	7
IDT - Endocrinology	C	15	45	60	8th	W + O + C	3
Obstetrics&Gynaecology	C	60	90	150	7th and 8th	W + P + O	7
Dermatology&Venerology	C	15	30	45	8th	*	2
Physical Education	EO	-	60	60	7th and 8th	P	2
Allergology	O	4	5	9	10th	MC	1
						Total	60 + 1

*Examination for the fourth year; IDT = Internal diseases & therapy, clinical laboratory & immunology

FIFTH YEAR

Course	C/O/ EO	Theory (hrs)	Practicals (hrs)	Total hours	Semester	Examination	Credits
General Medicine	C	5	15	20	9th	W +O + P + MC	1
Clinical Pharmacology	C	15	15	30	10th	W + O	2
Surgical Diseases & Oncology	C	30	60	90	9th	W + O	5.5
Dermatology & Venerology	C	15	30	45	9th	W + O + P	3
Neurosurgery	O	8	8	16	9th	O + P	1
Psychiatry	C	30	45	75	10th	W + O	4.5
IDT - Gastroenterology	C	30	60	90	9th	O + W	5.5
IDT - Nephrology	C	15	45	60	10th	W + O + P	3.5
IDT – General & clinical immunology	C	15	30	45	10th	W + MC	2.5
IDT – General & clinical haematology	C	15	45	60	10th	W + O	3.5
Urology	C	15	30	45	9th	W + O	3
Physiotherapy	C	15	30	45	9th	W + O	3
Paediatrics	C	60	150	210	9th and 10th	W + O	10.5
Forensic Medicine	C	30	45	75	9th and 10th	W + O	4.5

EIDMPTM	C	60	90	150	9th and 10th	W + O	7
Toxicology	O	10	10	20	10th	O + P	1
						Total	60+1

IDT = Internal diseases & therapy, clinical laboratory & immunology, EIDMPTM = Epidemiology, infectious diseases, medical parasitology & tropical medicine; EO = Extra optional MC = Multiple Choice test OE = Oral examination, C = Compulsory ; O = Optional ; P = Practical examination W = Written examination

XVII. CLINICAL ATTACHMENTS

SUBJECT	Duration	Semester	Credits
Internal Diseases, Surgery	4 weeks	after third year	5
Obstetrics & Gynaecology, Endocrinology, Pulmology, Neurology	4 weeks	after fourth year	5

XVIII. FULL TIME PRE-GRADUATION PRACTICE AFTER FIFTH YEAR

Internal Diseases	12 weeks - 360 hours		15
Surgery & Oncology	10 weeks - 300 hours		12
Obstetrics & Gynaecology	7 weeks– 210 hours		9
Epidemiology, Infectious Diseases, Hygiene, Social Medicine	7 weeks - 210 hours		9
Paediatrics	6 weeks– 180 hours		7
Emergency & Intensive Care	3 weeks– 90 hours		4
Optional clinical attachment	3 weeks– 90 hours		4
		Total	60

State final examinations are held after full time clinical rotations in the following disciplines: Internal Diseases, Obstetrics & Gynaecology, Surgery & Oncology, Paediatrics, Epidemiology & Infectious Diseases, Hygiene & Social Medicine.

The curriculum and programme at the MU - Pleven are discussed and approved by the Academic Council. Each year the programme is prepared by the Department of Education and approved by the Vice-Rector of Education. The contents of the teaching programmes and their cohesion between different Departments are discussed at Department meetings. Each Department proposes changes in the programme for the subjects it teaches on the basis of general tendencies and changes in other universities. The courses in all subjects are regularly updated to meet new requirements in medical education.

The programme and curriculum are renewed continuously by special Commission for Methodology and Education, which discusses new tendencies in medical education in other universities and regularly proposes changes in the curriculum to the Academic Council.

Problem-based learning (PBL) is integrated into traditional medical teaching.

Methods of assessment include oral examination, written examination, multiple choice test, practical examination and continuous assessment depending on the subject.

Students are evaluated on a scale from 2 to 6.

Grading scale	
Mark	**Grade**
6	excellent
5	very good
4	good
3	satisfactory
2	poor

XIX. INDIVIDUAL COURSE UNITS

FM 01	**Cytology, Histology and Embryology**
Compulsory	Teacher: Prof. E. Ivanov
Credits: 6	Prerequisites: secondary education
Theory	Total 60 hours Semester 1
Practicals and seminars	Total 30 hours Semester 1
Contents:	Morphology and molecular Biology of the cell – Histomorphology of the fourth basic tissues - epithelial, connective, muscular, nervous.General Embryology – hystogenesis, organogenesis, teratogenes and malformations.
Objectives:	Study of Functional Morphology of the cell and tissues. Molecular-biological aspects of morphofunctional interrelations. Patterns in the developments of human embryo: ovulation, fertilization, implantation, placentation, development of the germ layers and their derivatives. Teratogenic factors.
Methods:	Lectures, seminars, computer presentations, practicals and self education.
Assessment:	Tests, colloquiums, practical and oral examination.

FM 02	**Medical Physics**
Compulsory	Teacher: Prof. P. Bochev, Prof. M. Alexandrova
Credits: 6	Prerequisites: secondary education
Theory	Total 45 hours Semester 1
Practicals and seminars	Total 45 hours Semester 1
Contents:	Brief theory and some important medical applications from selected areas of applied physics: Molecular physics, Thermodynamics, Hydrodynamics, Waves, Acoustic, Electricity, Magnetism, Electro-magnetic fields and waves, Optics, Atomic physics, Nuclear physics.
Objectives:	Study of physical laws which control biological processes; Introduction to physical methods and medical devices and instruments based on them for prophylactics, diagnosis, therapy, biostimulation and control; Study of the influence of some ecological physical factors on the human organism.
Methods:	Lectures, practicals and seminars.
Assessment:	Written examination.

FM 03	**Chemistry**
Compulsory	Teachers: Prof. M. Angelova, Prof. A. Stoyanova, Prof. S. Boyadziev
Credits: 6	Prerequisites: secondary education
Theory	Total 45 hours Semester 1
Practicals and seminars	Total 45 hours Semester 1
Contents:	Mutual influence of the atoms in the molecule. Principles of reactivity of molecules. Methods for analysis. Structure and properties of: mono-, poly- and hetero functional derivatives of hydrocarbons. Important heterocyclic compounds. Biopolymers and their monomers. Lipids and low-molecular bioregulators.
Objectives:	Principles of reactivity. Structure and properties of biologically important compounds.
Methods:	Lectures and practicals.
Assessment:	Written and oral examination.

FM 04	**Biology (Molecular Biology and Immunology)**
Compulsory	Teacher: Prof. M. Atanasova
Credits: 7 (3 + 4)	Prerequisites: secondary education
Theory	Total 45 hours Semester 1 + 2
Practicals and seminars	Total 60 hours Semester 1 + 2
Contents:	Gene structure and replication in prokaryotes. Gene structure and replication in eukaryotic cells. Regulation of gene expression in eukaryotes. Immunology. Elements of innate and acquired immunity. Immunogens and antigens. Antibody structure. Biological properties of immunoglobulins. The genetic basis of antibody structure. Antigen-antibody interaction. Biology of the B lymphocyte. Biology of the T lymphocyte. Activation of T and B cells by antigen. Transfusion immunology.
Objectives:	Basic knowledge of gene structure, replication transcription and translation. Basic knowledge of the immune system, innate and acquired immunity. Molecular mechanisms of the immune response.
Methods:	Lectures, practicals and seminars.
Assessment:	Oral examination and multiple choice test.

FM 05	**Latin Language**
Compulsory	Teacher: S. Miteva, M. Tzvetanov
Credits: 4.5 (1.5 + 3)	Prerequisites:
Practicals and seminars	Total 60 hours Semester 1 + 2
Contents:	Phonetics – Latin alphabet and pronunciation. Stress. Morphology – Declension types of nouns and adjectives. Word formation – Latin and Greek affixes and combining forms in medical terminology. Prescriptions – structure of the medical prescript, medicinal forms, nomenclature and abbreviations.
Objectives:	Acquiring of terminological and grammatical skills pertaining to Latin terminology in anatomy, clinical medicine and pharmacology.
Methods:	Seminars.
Assessment:	Current tests, written and oral examination.

FM 06	**Anatomy**
Compulsory	Teacher: Prof. E. Ivanov
Credits: 16 (2 + 7 + 7)	Prerequisites: secondary education
Theory	Total 90 hours Semester 1 + 2 + 3
Practicals and seminars	Total 225 hours Semester 1 + 2 + 3
Optional module	"Topographic and imaging anatomy" Total 30 hours Semester 3
Contents:	Osteology, Arthrology and Myology. Skeletal system (bones, joints, and muscles of the body). Macro-microscopic anatomy of internal organs and cardio-vascular system. Neuromorphology (central, peripheral, autonomic and vegetative nerve system and sense organs) Topographic anatomy of human body. Imaging anatomy: X-ray anatomy, CT-images, MRI-images, and PET-images.
Objectives:	Systematic learning of human anatomy and dissection techniques during dissections of joints, extremities, trunk, head and neck, brain and sense organs. Definition of knowledge and skills obligatory for the students after the anatomical courses.
Methods:	Lectures, seminars, computer presentations, practicals and self education.
Assessment:	Tests, colloquiums, practical and oral examination.

FM 07	**Biophysics**
Compulsory	Teacher: Prof. P. Bochev, Prof. M. Alexandrova
Credits: 6	Prerequisites: Biology, Chemistry and Physics
Theory	Total 30 hours Semester 2
Practicals and seminars	Total 30 hours Semester 2
Contents:	Molecular biophysics, cellular biophysics, biophysics of cell membranes, biophysics of complex biosystems, pathological biophysics
Objectives:	Study of biological processes, structures and functions at molecular and cellular level using physical principles, methods and techniques
Methods:	Lectures, practicals and seminars.
Assessment:	Written examination.

FM 08	**Sport**
Extra optional	Teacher: Prof. A. Atanasov
Credits: 8	Prerequisites:
Practicals and seminars	Total 240 hours Semester 1 + 2 + 3 + 4 + 5 + 6 + 7 + 8
Assessment:	Practical examination.

FM 09	**Physiology**
Compulsory	Teacher: Prof. H. Hristov, Prof. D. Filipova
Credits: 11 (4 + 7)	Prerequisites: Anatomy, Biology, Biophysics
Theory	Total 75 hours Semester 2 + 3
Practicals and seminars	Total 120 hours Semester 2 + 3
Contents:	Live processes in human organism at cellular, organ, systemic and organism levels. Regulation mechanisms of the functions of the different systems and the organism as a whole. Clinical abnormality of main functions of physiological systems.
Objectives:	To acquire knowledge of normal functions of the different organs and systems in the organism and methods for their investigation.
Methods:	Lectures, practicals and seminars.
Assessment:	Practical examination, oral examination and multiple choice test.

FM 10	**Biochemistry**	
Compulsory	Teacher: Prof. R. Komsa-Penkova	
Credits: 10.5 (4 + 6.5)	Prerequisites: Chemistry and Biology	
Theory	Total 90 hours	Semester 2 + 3
Practicals and seminars	Total 90 hours	Semester 2 + 3
Contents:	Structure and features of macromolecules. Enzyme features. Basics of biochemical energetics. Metabolism: carbohydrates, lipids and aminoacids pathways. Mechanisms of allosteric and hormonal regulation of metabolism; Regulation of transcription and translation; Specificity of processes in different organs and tissues: liver, kidney, blood cells, muscles, nervous and connective tissue.	
Objectives:	Study of metabolism and basic principles of its regulation.	
Methods:	Lectures, practicals and seminars.	
Assessment:	Oral, written examination and multiple choice test.	

FM 11	**Social Medicine**	
Compulsory	Teacher: Prof. A. Velkova	
Credits: 6.5 (2.5 + 4)	Prerequisites:	
Theory	Total 30 hours	Semester 3 + 4
Practicals and seminars	Total 60 hours	Semester 3 + 4
Contents:	Social medicine as a science. Social determinants of health and disease. Public health – definition and basic indicators. Sociological, epidemiological and demographic approaches to public health assessment. Morbidity related indicators. Health system as a social system – definition and WHO approach to health systems' assessment. Typology, basic characteristics and priorities of health systems. International health collaboration – WHO, HFA strategy. Health care reform in Bulgaria and contemporary health care legislation. Basic characteristics of the main health care subsystems - primary health care and hospital care. Medico-social problems and health care for mothers, children and elderly people. Health promotion and health education.	
Objectives:	Study of public health as a complex system and of healthcare system as a whole.	
Methods:	Lectures, practicals and seminars.	
Assessment:	Written examination, including multiple choice test and essay.	

FM 12	**Medical Ethics**
Compulsory	Teacher: Prof. G. Grancharova, Prof. S. Yankulovska
Credits: 2.5	Prerequisites:
Theory	Total 15 hours Semester 4
Practicals and seminars	Total 15 hours Semester 4
Contents:	Basic concepts of medical ethics. Value formation and value conflicts. Principles of medical ethics. Codes of ethics. Confidentiality in medical practice. Models of doctor-patient relationship. Informed consent. Patients' rights. Confidentiality. Ethical problems of reproduction behavior and new reproductive technologies. Ethical problems at the end of life. Hospice care. Ethical aspects of euthanasia and physician-assisted suicide. Ethical problems of organ and tissue donation and transplantation. Ethical problems of experimentation including human beings. Ethical problems in health policy and allocation of health resources – approaches to justice and reducing of inequity in health.
Objectives:	To introduce the students to the ethical problems in medical profession and to solving ethics dilemmas in medical practice.
Methods:	Lectures and seminars.
Assessment:	Written examination, including multiple choice test, essay and case analysis.

FM 13	**Microbiology**
Compulsory	Teacher: Prof. M. Sredkova
Credits: 10.5 (3.5 + 7)	Prerequisites: Chemistry, Physics, Biophysics, Biology, Anatomy
Theory	Total 60 hours Semester 3 + 4
Practicals and seminars	Total 75 hours Semester 3 + 4
Contents:	Basic bacteriology. Bacterial structure. Bacterial metabolism. Bacterial genetics. Antimicrobial drugs. Bacterial vaccines. Sterilization and disinfections. Immunology: Pathogenesis of bacterial infection. Host defence. Antigen-antibody reactions. Clinical bacteriology and mycology: Basic characteristic of pathogenic bacteria and fungi. Pathogenesis and clinical findings. Laboratory diagnosis. Treatment. Prevention. Virology: Structure of viruses. Replication. Classification. Laboratory diagnosis. Viral vaccines. Antiviral drugs. Clinical virology.
Objectives:	Understanding of those aspects of medical microbiology, which are of particular significance to medical training.
Methods:	Lectures and practicals.
Assessment:	Practical, written examination and multiple choice test.

FM 14	**Medical Genetics**	
Compulsory	Teacher: Prof. M. Simeonova	
Credits: 4	Prerequisites: Biology, Cytology, Biochemistry	
Theory	Total 30 hours	Semester 5
Practicals and seminars	Total 30 hours	Semester 5
Contents:	Genetics in medicine. Classification, prevalence and total burden of genetic diseases. Methods for studding genetic disorders. Patterns of inheritance. Chromosomal disorders. Single gene disorders. Immunogenetics. Genetics of common diseases. Genetics of cancer. Dysmorphology and teratogenesis. Genetic assessment and counselling. Population screening. Prenatal diagnosis.	
Objectives:	Study of scientific basis and clinical applications of medical genetics.	
Methods:	Lectures and practicals.	
Assessment:	Test , oral and written examination.	

FM 15	**Pathophysiology**	
Compulsory	Teacher: Prof. A. Dimitrova	
Credits: 6 (2 + 4)	Prerequisites: Biochemistry, Anatomy, Physiology,	
Theory	Total 45 hours	Semester 4 + 5
Practicals and seminars	Total 60 hours	Semester 4 + 5
Contents:	General principles of the disease process. Common ethiology and common pathogenesis. Pathologic effects of environmental factors. The role of the immunologic reactivity in the development of pathologic processes. Stereotype pathologic processes: disorders in peripheral blood supply, metabolism, water electrolyte balance, hypoxia, inflammation, fever, neoplasia. Special pathologic physiology of the body systems.	
Objectives:	Study of the ethiology and pathogenesis of the development of pathologic processes.	
Methods:	Lectures and practicals.	
Assessment:	Oral examination.	

FM 16	**General Pathoanatomy**
Compulsory	Teachers: Prof. S. Popovska, Prof. E. Marinov
Credits: 6	Prerequisites: Cytology, Embryology, Anatomy, Biochemistry, Physiology, Microbiology
Theory	Total 45 hours Semester 4 + 5
Practicals and seminars	Total 60 hours Semester 4 + 5
Contents:	General Pathology: Morphological description of basic types of processes and lesions as reversible and irrereversible cell injury, cellular adaptation, hemodynamic disorders, inflammation and healing, regeneration, morphology of the immune system and immunopathology, etiology, pathogenesis and morphology of neoplasia, developmental defects.
Objectives:	The study includes structural changes observed by naked eye refereed as gross or macroscopic changes; the changes detected by light microscopy and electron microscopy, supported by numerous special staining methods, including histochemical and immunologic techniques to arrive at the most accurate diagnosis together with the progress, complication and the outcome of different lesions and diseases.
Methods:	Lectures, practicals, seminars and test.
Assessment:	Test , oral and written examination.

FM 17	**Clinical Pathoanatomy**
Compulsory	Teachers: Prof. S. Popovska, Prof. E. Marinov
Credits: 6	Prerequisites: Cytology, Embryology, Anatomy, Biochemistry, Physiology, Microbiology
Theory	Total 45 hours Semester 6 + 7
Practicals and seminars	Total 60 hours Semester 6 + 7
Contents:	Systemic Pathology: On the base of the morphologic changes in different organs and systems to relate the causes and mechanisms of diseases to different etiologic factors, natural history, the clinical manifestation, complications and outcome.
Objectives:	The study includes structural changes observed by naked eye refereed as gross or macroscopic changes; the changes detected by light microscopy and electron microscopy, supported by numerous special staining methods, including histochemical and immunologic techniques to arrive at the most accurate diagnosis together with the progress, complication and the outcome of different lesions and diseases.
Methods:	Lectures, practicals, seminars and test.
Assessment:	Test, oral and practical examination.

FM 18	**General and Operative Surgery**
Compulsory	Teacher: Prof. L. Kovachev
Credits: 9	Prerequisites: Anatomy, Biology, Physiology
Theory	Total 60 hours Semester 4 + 5
Practicals and seminars	Total 105 hours Semester 4 + 5
Contents:	Principles of antisepsis, asepsis and surgical skill. Basic knowledge about congenital diseases, inflammation, trauma, oncology and some degenerative diseases treated by surgery. Their symptoms, diagnosis and treatment. The place and interrelations of surgery with other medical disciplines.
Objectives:	Study of principles and basic pathological processes that are subject to surgery.
Methods:	Lectures and practicals.
Assessment:	Oral and practical examination.

FM 19	**Propaedeutics of Internal Diseases**
Compulsory	Teacher: Prof. I. Tzinlikov
Credits: 12.5	Prerequisites: Anatomy, Biochemistry, Physiology
Theory	Total 75 hours Semester 4 + 5
Practicals and seminars	Total 165 hours Semester 4 + 5
Contents:	Techniques of diagnosis, recording of the patient medical history, interaction between doctor and patient in reaching of the diagnosis, physical examination of vital signs, the skin, the head, the breast and the limbs, the central and peripheral nervous system, the circulation, the bones and the articulations, the respiratory system, the haematopoietic system, the urinary and genital systems, the digestive system. Important clinical syndromes.
Objectives:	Description and explanation of the sings and symptoms of major medical diseases and introduction to their differential diagnosis.
Methods:	Lectures and practicals.
Assessment:	Oral examination.

FM 20	**Hygiene, Medical Ecology and Professional Diseases**	
Compulsory	Teacher: Prof. M. Stoynovska	
Credits: 9	Prerequisites:	
Theory	Total 75 hours	Semester 5 + 6
Practicals and seminars	Total 75 hours	Semester 5 + 6
Contents:	Municipal hygiene; nutritional hygiene; occupational hygiene; personal hygiene; radiation hygiene; children and youth hygiene; occupational diseases.	
Objectives:	To teach and develop preventive approaches to health problems of individuals and society, and to contribute to the full realization of the physician.	
Methods:	Lectures, practicals and seminars.	
Assessment:	Oral examination.	

FM 21	**X-Ray and Radiology**	
Compulsory	Teachers: Prof. N. Totsev, Prof. M. Donchev	
Credits: 6	Prerequisites: complete preclinical education	
Theory	Total 45 hours	Semester 5 + 6
Practicals and seminars	Total 60 hours	Semester 5 + 6
Contents:	Methods of Imaging Diagnostic: X - rays, Echography, Computer tomography, MRT. Methods of diagnostics in nuclear medicine. Basic principles of modern radiotherapy.	
Objectives:	Study and practical application of Imaging Diagnostic Theoretical teaching and practical experience in nuclear medicine and radiotherapy.	
Methods:	Lectures and practicals.	
Assessment:	Oral examination and multiple choice test.	

FM 22	**Disaster Medicine**	
Compulsory	Teachers: Prof. V. Shopova	
Credits: 2.5	Prerequisites:	
Theory	Total 30 hours	Semester 6
Practicals and seminars	Total 15 hours	Semester 6
Contents:	Medical aspects of the natural and technological disasters. Specific pathology in disaster situation (traumatic, chemical and radiation injuries) – clinical picture, diagnosis and treatment. Management of medical assistance of the victims in a disaster situation – pre-hospital care, advanced medical post, triage, and hospital disaster procedures. Risk analysis and prevention. Planning and organization of the medical means.	
Objectives:	Education and training of the medical students for management of medical assistance in disaster situation.	
Methods:	Lectures and practical exercises.	
Assessment:	Written test and oral examination.	

FM 23	**Pharmacology**	
Compulsory	Teacher: Prof. R. Marev	
Credits: 7.5	Prerequisites: Chemistry, Biochemistry, Physiology, Microbiology	
Theory	Total 60 hours	Semester 6 + 7
Practicals and seminars	Total 90 hours	Semester 6 + 7
Contents:	General Pharmacology: Pharmacodynamics – dependence of drug action and effects on chemical nature of drugs, environmental factors and human body. Pharmacokinetics – basic pharmacokinetics: drug passage across membranes, absorption, distribution, biotransformation, elimination. Special pharmacology: Drugs acting on CNS, ANS, cardio-vascular system, blood, gastrointestinal tract, respiratory system; antimicrobaial drugs; agents affecting endocrine function; vitamins.	
Objectives:	Study of drugs pharmacodynamics and pharmacokinetics.	
Methods:	Lectures, practicals and seminars.	
Assessment:	Oral examination.	

FM 24	**Otorhinolaryngology**	
Compulsory	Teachers: Prof. I. Stoyanov, Prof. A. Valkov	
Credits: 5	Prerequisites: complete preclinical education	
Theory	Total 45 hours	Semester 7
Practicals and seminars	Total 45 hours	Semester 7
Contents:	Anatomy, physiology, methods of investigation and clinical aspects of the diseases of: ear; nose and paranasal sinuses; mouth and pharynx; larynx; trachea and bronchi; oesophagus; neck; salivary glands	
Objectives:	Acquiring basic knowledge and practical skills necessary for diagnosis and therapy of the common otorhinolaryngology diseases.	
Methods:	Lectures, practicals and seminars.	
Assessment:	Practical and theoretical examination, written and oral examination.	

FM 25	**Ophthalmology**	
Compulsory	Teacher: Prof. Ch. Balabanov	
Credits: 4	Prerequisites: preclinical disciplines	
Theory	Total 45 hours	Semester 6
Practicals and seminars	Total 30 hours	Semester 6
Contents:	Anatomy and physiology of the visual system. Methods of investigation. Diseases of the eye and its adnexae. Treatment - conservative and surgical. Prevention of blindness.	
Objectives:	Diagnosis and treatment of the diseases of the eye and its adnexae.	
Methods:	Lectures and practicals.	
Assessment:	Practical and oral examination.	

FM 26	**Obstetrics and Gynaecology**
Compulsory	Teachers: Prof. G. Gorchev, Prof. S. Tantchev, Prof. S. Bozhinova, Prof. J. Popov, Prof. S. Tomov
Credits: 10	Prerequisites: all preclinical disciplines
Theory	Total 75 hours Semester 6 + 7 + 8
Practicals and seminars	Total 135 hours Semester 6 + 7 + 8
Contents:	Anatomy and physiology of female sex organs, normal and pathological obstetrics, surgery in obstetrics, newborn physiology and pathology, gynaecology symptoms and signs, gynaecological endocrinology, inflammatory and static diseases of female sex organs, oncogynaecology, surgery in gynaecology, health care provider consultations, sterility, anti conception.
Objectives:	Studying the basics of obstetrics and gynaecology, evaluating clinical signs and symptoms, diagnostic procedures, medical treatment and prophylactics in obstetrics and gynaecology.
Methods:	Lectures, practicals and seminars.
Assessment:	Practical and oral examination.

FM 27	**Neurology**
Compulsory	Teachers: Prof. B. Stamenov, Prof. P. Georgiev, Prof. F. Filipov
Credits: 5.5	Prerequisites: Anatomy and physiology
Theory	Total 60 hours Semester 7 + 8
Practicals and seminars	Total 60 hours Semester 7 + 8
Contents:	Functional anatomy and physiology of the nervous system. Symptoms and syndromes of central and peripheral nervous system disorders. Methods of neurological examination. Basic knowledge of neurophysiology, neuroimaging and CSF examinations. Neurological diseases and injuries (ethiology, pathogenesis, clinical manifestations, diagnosis, treatment).
Objectives:	Theoretical knowledge of neurological diseases and practical ability for examination and diagnostics of patients.
Methods:	Lectures and practicals.
Assessment:	Practical and oral examination.

FM 28	**Orthopaedics and Traumatology**	
Compulsory	Teachers: Prof. E. Baltov, Prof. A. Asparuhov	
Credits: 5	Prerequisites: complete preclinical education	
Theory	Total 30 hours	Semester 8
Practicals and seminars	Total 60 hours	Semester 8
Contents:	Clinic picture and therapy of the orthopaedic diseases and traumatic injuries. Practical qualification of students for examination and diagnostics of muscle and skeletal pathology.	
Objectives:	Enable the doctors to cope adequately with urgent and chronic cases.	
Methods:	Lectures and practicals.	
Assessment:	Oral examination.	

FM 29	**Anaesthesiology**	
Compulsory	Teacher: Prof. R. Radev	
Credits: 3	Prerequisites: complete preclinical education	
Theory	Total 30 hours	Semester 8
Practicals and seminars	Total 30 hours	Semester 8
Contents:	Preparing for anaesthesia; basic principles in anaesthesia practise. Anaesthesia techniques and equipment. Basic principles of intensive care.	
Objectives:	Bases of anaesthesiology.	
Methods:	Lectures and practicals.	
Assessment:	Practical and oral examination.	

FM 30	**Internal Diseases and Therapy – Clinical Laboratory**	
Compulsory	Teachers: Prof. V. Ivanov, Prof. A. Ruseva	
Credits: 3.5	Prerequisites:	
Theory	Total 30 hours	Semester 6
Practicals and seminars	Total 30 hours	Semester 6
Contents:	Diagnostic haematology. Clinical chemistry. Electrolytes and oligoelements. Acid base balance. Tumour markers. Coagulation and fibrinolysis	
Objectives:	Examination of analytes in biologic fluids. Interpretation of the laboratory information.	
Methods:	Lectures and practicals.	
Assessment:	Current assessment.	

FM 31	**Internal Diseases and Therapy - Pulmology**
Compulsory	Teacher: Prof. Y. Ivanov
Credits: 5	Prerequisites: Propaedeutics of internal diseases
Theory	Total 30 hours Semester 7
Practicals and seminars	Total 60 hours Semester 7
Contents:	Diagnostic and therapeutical approach to patients with respiratory disorders. Clinical examinations in pulmology chronic bronchitis. Pulmonary emphysema. Chronic occupational diseases. Pneumonia, abscess of the lung. Pulmonary thromboembolism. Pleurisy. Tuberculosis. Pulmonary carcinoma. Bronchial asthma. Pulmonary fibrosis. Ventilatory failure
Objectives:	Theoretical and practical training for acquiring special qualities in examination of patients with pulmonary diseases, making of preliminary diagnosis; Preparing of plan for differential diagnosis, plan for desired and reasonable examinations, therapeutical approach according to approved principles in agreement with novelties and current tendencies in pulmology.
Methods:	Lectures, practicals, clinical laboratory, functional diagnostics and seminars.
Assessment:	Oral examination and current assessment.

FM 32	**Internal Diseases and Therapy – Endocrinology**
Compulsory	Teacher: Prof. G. Rayanova
Credits: 3	Prerequisites:
Theory	Total 15 hours Semester 8
Practicals and seminars	Total 45 hours Semester 8
Contents:	Diagnostic and therapeutic approach to patients with endocrinology disease. Diabetes. Endemic and sporadic goiter. Hyperthyroidism. Thyroids. Hyperparathyroidism. Hypoparathyroidism. Hyperglucocorticism. Hypocorticism. Hypothalamic-hypophysaric diseases. Osteoporosis. Obesity and metabolic syndrome.
Objectives:	Theoretic and practical training in specific features of examination of patients with endocrine diseases, preliminary diagnosis, preparation of differential diagnostic plan, plan for purposeful and reasoned examinations, therapeutic approach in accordance with the approved principles and tendencies in the endocrinology.
Methods:	Lectures, practical exercises, exercises in clinical laboratory and functional diagnostics and seminars.
Assessment:	Oral examination and tests.

FM 33	**Internal Diseases and Therapy - Cardiology**
Compulsory	Teachers: Prof. S. Tisheva, Prof. M. Tsekova
Credits: 7	Prerequisites: Propaedeutics of internal diseases
Theory	Total 45 hours Semester 7 + 8
Practicals and seminars	Total 90 hours Semester 7 + 8
Contents:	Cardiology: Diagnostic and therapeutical approach to patients with heart disease. Invasive and noninvasive clinical examinations in cardiology. Heart failure. Ischemic heart disease. Myocardial and pericardial diseases. Congenital heart diseases. Valvular heart diseases. Arterial Hypertension. Endocarditis. Arrhythmias. Cor pulmonale. Emergency in cardiology. Collagenosis. Prophylaxis and rehabilitation of heart disease. Rheumatology: Colagenosis. Rheumatoid arthritis, reactive arthritis, degenerative joint disease. Podagra.
Objectives:	Theoretical and practical training for acquiring special qualities in examination of cardiac patients, making of preliminary diagnosis. Preparing of plan for differential diagnosis, plan for desired and reasonable examinations, therapeutical approach according to approved principles and current tendencies in cardiology and rheumatology, treatment in an outpatient's department, preventive cardiology.
Methods:	Lectures, practicals, clinical laboratory, functional diagnostics and seminars.
Assessment:	Oral examination, tests and current assessment.

FM 34	**Internal Diseases and Therapy - Gastroenterology**
Compulsory	Teachers: Prof. I. Marinova, Prof. I. Lalev
Credits: 5.5	Prerequisites: Pathoanatomy, Pathobiochemistry, Pathophysiology, Propaedeutics of internal disease
Theory	Total 30 hours Semester 9
Practicals and seminars	Total 60 hours Semester 9
Contents:	Semiology: Diseases of the stomach intestines, gall bladder, liver and pancreas. Clinical, diagnostic, prognostic and therapeutic aspects.
Objectives:	Students education in the field of gastroenterological clinics, diagnostics ant treatment
Methods:	Lectures and practicals.
Assessment:	Current assessment, oral and written examination.

FM 35	**Internal Diseases and Therapy - Nephrology**	
Compulsory	Teacher: Prof. V. Todorov	
Credits: 3.5	Prerequisites: Complete preclinical education	
Theory	Total 15 hours	Semester 10
Practicals and seminars	Total 45 hours	Semester 10
Contents:	Complete clinical characteristic (ethiology, pathogenesis, pathologoanatomy, clinical picture, diagnosis and treatment) of: parenchimal diseases of the kidney-glomerulopathies and tubulointerstitial nephritis, acute and chronic renal failure and their management. Pharmacological and dialysis methods; renal transplantation	
Objectives:	Study clinical presentation diagnosis and treatment of renal diseases.	
Methods:	Lectures and practicals.	
Assessment:	Oral and practical examination.	

FM 36	**Internal Diseases and Therapy – General and Clinical Haematology**	
Compulsory	Teacher: Prof. N. Tsvetkov	
Credits: 3.5	Prerequisites:	
Theory	Total 15 hours	Semester 10
Practicals and seminars	Total 45 hours	Semester 10
Contents:	Aetiology, pathogenesis, pathology, citomorphology, genetics, diagnosis, differential diagnosis and therapy of the congenital and acquired anemia, bone marrow aplasia, myelodisplastic syndromes, blast leucosis, myeloproliferative diseases, malignant leucosis, haemorrhagic diatheses.	
Objectives:	Acquiring basic knowledge on haematological diseases and practical skills for their diagnostics.	
Methods:	Lectures and practicals.	
Assessment:	Oral examination and current assessment.	

FM 37	**Internal Diseases and Therapy – General and Clinical Immunology**
Compulsory	Teachers: Prof. Ts. Lukanov, Prof. E. Konova, Prof. R. Rusev
Credits: 2.5	Prerequisites: General immunology
Theory	Total 15 hours Semester 10
Practicals and seminars	Total 30 hours Semester 10
Contents:	Basic Immunology; Immunodeficiencies; Mechanisms of immune mediated reactions – IgE mediated hypersensitivity, autobody mediated reactions, immune-complex mediated reactions, cell mediated reactions; Autoimmunity - mechanisms, diseases, diagnosis and treatment; Reproductive Immunology; Immunological laboratory tests; Immunological therapy.
Objectives:	Study of diagnosis of immuno-mediated diseases and novel immunomodulating therapy.
Methods:	Lectures, practicals and seminars.
Assessment:	Written examination and multiple choice.

FM 38	**Surgical Diseases**
Compulsory	Teachers: Prof. B. Ninov, Prof. T. Deliysky, Prof. D. Stoykov
Credits: 13.5	Prerequisites: complete preclinical education
Theory	Total 90 hours Semester 7 +8 + 9
Practicals and seminars	Total 180 hours Semester 7 +8 + 9
Contents:	Clinical picture and diagnostics of the surgery diseases. Practical qualification of students for examination the surgical patient. General principles of treatment and prognosis of surgical diseases. Epidemiology, diagnosis, prevention, treatment and prognosis of oncology diseases.
Objectives:	Acquiring basic knowledge and practical skills in examining the surgical patient. Surgical and medical aspects of cancerology.
Methods:	Lectures and practicals.
Assessment:	Oral examination.

FM 39	**Dermatology and Venerology**	
Compulsory	Teacher: Prof. D. Gospodinov	
Credits: 5	Prerequisites:	
Theory	Total 30 hours	Semester 8 + 9
Practicals and seminars	Total 60 hours	Semester 8 + 9
Contents:	Embryology, morphology and physiology of the skin and its appendages. Basic knowledge about skin rash and its microscopic appearance, knowledge about the basic skin biological processes, keratinocytes, pigment formation, carcinogenesis. Information about the most common infections diseases, allergic dermatoses, professional dermatoses, connective tissue and autoimmune diseases, nonesthetic dermatoses, carcinomas and malignant diseases, genodermatoses, vascular dermatoses and venereal diseases. Knowledge about skin's specific features, systemic, local and physical therapy in dermatology. Prophylactics of the dermatoses. Systemic diseases and their influence on skin and its appendages.	
Objectives:	Knowledge about skin diseases at General practitioner level.	
Methods:	Lectures, practicals and seminars.	
Assessment:	Oral and practical examination.	

FM 40	**Urology**	
Compulsory	Teacher: Prof. S. Stratev	
Credits: 3	Prerequisites: Propaedeutics of surgical diseases	
Theory	Total 15 hours	Semester 9
Practicals and seminars	Total 30 hours	Semester 9
Contents:	Kidney - abnormalities, calculoses, inflammatory, tumors, trauma. Urinary bladder: inflammatory, tumors, trauma. Prostate's pathology –prostatitis, adenoma, carcinoma. Diseases of scrotum and external genitals.	
Objectives:	Acquiring basis theoretical and practical knowledge in urology, necessary to medical practice.	
Methods:	Lectures and practicals.	
Assessment:	Oral examination.	

FM 41	**Physiotherapy**	
Compulsory	Teacher: Prof. I. Koleva	
Credits: 3	Prerequisites:	
Theory	Total 15 hours	Semester 9
Practicals and seminars	Total 30 hours	Semester 9
Contents:	Electro light therapy. Aerosol therapy. Balneotherapy. Water and heat treatment. Kinesitherapy – active and passive. Rehabilitation.	
Objectives:	Studying the natural and proformic physiatric factors and their application in treatment and prophylactics.	
Methods:	Lectures and practicals.	
Assessment:	Oral examination.	

FM 42	**General Medicine**	
Compulsory	Teacher: Prof. M. Goranov	
Credits: 3	Prerequisites: Psychology	
Theory	Total 15 hours	Semester 3 + 6 + 9
Practicals and seminars	Total 45 hours	Semester 3 + 6 + 9
Contents:	Primary health cares, oriented to personality, family and community. Strategies for definition and solution of health problem: biological, psychological, social.	
Objectives:	Formation of holistic approach to the patient; basic skills in verbal and non-verbal communication with the patient; work in team; self-criticism, self-control, self-assessment, professional ethics and behaviour.	
Methods:	Lectures, practicals and seminars.	
Assessment:	Multiple choice test, practical and oral examination.	

FM 43	**Forensic Medicine**
Compulsory	Teacher: Prof. P. Lisaev
Credits: 4.5	Prerequisites: complete preclinical and clinical education
Theory	Total 30 hours Semester 9 + 10
Practicals and seminars	Total 45 hours Semester 9 + 10
Contents:	Medical expertise. Tanatology. Expertise of the kind of death – violent and sudden. Sex, sexual violence. Serology. Deontology and medical law. Doctor's obligations. Rights of the patient. Informed consent. Medical negligence.
Objectives:	Acquiring basic knowledge in medical expertises, obligations and responsibility of the doctors.
Methods:	Lectures and practicals.
Assessment:	Oral examination.

FM 44	**Paediatrics**
Compulsory	Teachers: Prof. V. Nedkova, Prof. Ch. Petrova, Prof. B. Shentov
Credits: 11	Prerequisites: complete preclinical education
Theory	Total 60 hours Semester 9 + 10
Practicals and seminars	Total 150 hours Semester 9 + 10
Contents:	Physiology and pathology of children periods: newborn, infant and preschool and school periods. Specific techniques in examination, diagnostics and treatment in paediatrics. Psychosocial problems of children periods.
Objectives:	Study of children physiology and pathology.
Methods:	Lectures, practicals and seminars.
Assessment:	Oral examination.

FM 45	**Epidemiology, Infectious Diseases, Medical Parasitology and Tropical Medicine**
Compulsory	Teachers: Prof. Ts. Doichinova, Prof. M. Daskalova, Prof. G. Gancheva
Credits: 7.5	Prerequisites: complete preclinical education
Theory	Total 60 hours Semester 9 + 10
Practicals and seminars	Total 90 hours Semester 9 + 10
Contents:	Infectious diseases - aetiology, pathogenesis, clinical manifestations and treatment. Epidemiology - general epidemiology and principles of epidemic process, special epidemiology including all infectious diseases. Parasitology - etiology, pathogenesis, clinical manifestations and treatment of parasitic and tropical diseases.
Objectives:	Presentation of infectious diseases, problems of epidemiology and parasitic and tropical diseases.
Methods:	Lectures, practicals and seminars.
Assessment:	Practical and oral examination.

FM 46	**Psychiatry**
Compulsory	Teachers: Prof. R. Stoychev, Prof. M. Aleksandrova, Prof. R. Gaydarova
Credits: 4.5	Prerequisites:
Theory	Total 30 hours Semester 10
Practicals and seminars	Total 45 hours Semester 10
Contents:	Basic notions and trends in psychiatry. Classification of mental disorders. General psychopathology; basic symptoms and syndromes. Clinical psychiatry: schizophrenia and affective disorders. Epilepsy. Organic psychoses. Neurotic disorders. Substance abuse. Child psychiatry and gerontopsychiatry. Forensic and social psychiatry. Treatment of mental disorders.
Objectives:	Acquirement of basic theoretical knowledge and practical skills for diagnosing and treatment of mental disorders.
Methods:	Lectures, practicals and colloquiums.
Assessment:	Oral examination.

FM 47	**Clinical Pharmacology**
Compulsory	Teacher: Prof. R. Marev
Credits: 2	Prerequisites: Pharmacology, Internal diseases, Paediatrics, Infectious diseases
Theory	Total 15 hours Semester 10
Practicals and seminars	Total 15 hours Semester 10
Contents:	Parameters of clinical pharmacokinetics and their application for designing a rational drug regimen. Special aspects of drug therapy in paediatrics; geriatrics; pregnancy and breast-feeding; in patients with heart, renal and hepatic failure. Rational approaches in drug therapy with analgesics; antimicrobials; corticosteroids; antihypertensive and antianginal drugs; antiasthmatic drugs.
Objectives:	By learning the basic parameters of clinical pharmacokinetics to help future doctor in designing a scientific-based drug therapy.
Methods:	Lectures and practicals.
Assessment:	Oral examination.

FM 48	**Neurosurgery**
Compulsory	Teachers: Prof. Yordan Panov
Credit: 1	Prerequisites: neurology
Theory	Total 8 hours Semester 9
Practicals and seminars	Total 8 hours Semester 9
Contents:	Symptoms and syndromes of neurosurgical disorders. Methods of neurosurgical examination. Basic knowledge of neuroimaging: CT, MRI and CSF examinations. Neurosurgical diseases and injuries (ethiology, pathogenesis, clinical manifestations, diagnosis, treatment).
Objectives:	Theoretical knowledge of neurosurgical diseases and practical ability for examination and diagnostics of patients.
Methods:	Lectures and practicals.
Assessment:	Practical and oral examination.

FM 49	**Medical Statistics**
Optional	Teachers: Prof. P. Hristova
Credits: 1.5	Prerequisites:
Theory	Total 15 hours Semester 1
Practicals and seminars	Total 15 hours Semester 1
Contents:	Descriptive statistics – populations and samples, types of measurement scales, numerical measures and graphical presentation of central tendency and dispersion, types of distributions, normal curve, percentiles, standard scores, confidence intervals. Inferential statistics and hypothesis testing – parametric vs. nonparametric tests, sample size. Analysing relationships – correlation and regression. Linear regression – method of least squares. Analysing differences among groups – chi-square, paired and unpaired t-tests, one-way analysis of variance.
Objectives:	To introduce medical students to the basic statistics and methods used in scientific research and medical scientific publications.
Methods:	Lectures and practicals.
Assessment:	Written examination and multiple choice test.

FM 50	**Foreign languages: English / German / French**
Optional	Teachers: English: Y. Tzvetanova, M. Varbanov German: D. Petrova (part-time) French: M. Todorova
Credits: 5 (1.5+1+1.5+1)	Prerequisites: foreign language learned at high school
Theory	Total 120 hours Semester 1 + 2 + 3 + 4
Practicals and seminars	Teaching is oriented to basic medical vocabulary and word building in the field of pre-clinical and clinical medicine, as well as specific grammar material relevant to communication in medicine. Special attention is paid to building skills to present and discuss medical texts.
Contents:	Building sufficient reading, writing, listening and speaking skills.
Objectives:	Seminars.
Assessment:	Current, written and oral examination.

FM 51	**Bulgarian language for international students**
Compulsary	Teachers: M. Naydova, A. Beneva, V. Kirilova, L. Vlahova
Credits: 1-2	Prerequisites:
Theory	Total 510 hours Semester 1 + 2 + 3 + 4 + 5 +6 for international students who have participated in preliminary training Total 120 hours Semester 1 + 2 for ethnic Bulgarians and Macedonians
Practicals and seminars	Study of Bulgarian language in three levels – beginners, intermediate and advanced.
Contents:	Creating communicative and terminological skills for the study of medicine.
Objectives:	Seminars and practicals.
Assessment:	Current tests, oral and written examination.

FM 52	**Bulgarian language for international students before the beginning of medical training (Preparation course)**
Compulsory	Teachers: M. Naydova, A. Beneva, V. Kirilova, L. Vlahova
Credits: 39	Prerequisites:
Theory	Total 650 hours Semester 1 + 2
Practicals and seminars	Study of Bulgarian language in three levels – beginners, medium advanced and advanced.
Contents:	Creating communicative and terminological skills for the study of medicine.
Objectives:	Seminars and practicals.
Assessment:	Current tests, oral and written examination.

FM 53	**Medical Psychology**
Optional	Teachers: Prof. R. Stoychev, Prof. M. Aleksandrova, Prof. R. Gaydarova
Credits: 1.5	Prerequisites:
Theory	Total 15 hours Semester 1
Practicals and seminars	Total 15 hours Semester 1
Contents:	Temperament, character, personality and their relevance to medical practice. The personality of the doctor and health worker. Features of doctor-patient relationship. Iatrogeny. Psychological features of age groups. Adaptation and desadaptation: nature, importance, types, criteria for norms and deviations. Psychosomatic problems. Psychotherapy- principles, types, techniques. Psychohygiene and psychoprophylactic.
Objectives:	Acquiring basic theoretical knowledge and practical skills relevant to medical practice, psychosomatic dependence, psychotherapy and psychohygiene.
Methods:	Lectures, practicals and seminars.
Assessment:	Oral examination.

FM 54	**Communication Skills**
Optional	Teachers: Prof. M. Goranov
Credits: 1	Prerequisites:
Theory	Total 15 hours Semester 1
Practicals and seminars	Total 15 hours Semester 1
Contents:	Temperament, character, personality and their relevance to medical practice. The personality of the doctor and health worker. Features of doctor-patient relationship. Iatrogeny. Psychological features of age groups. Adaptation and desadaptation: nature, importance, types, criteria for norms and deviations. Psychosomatic problems. Psychotherapy- principles, types, techniques. Psychohygiene and psychoprophylactic.
Objectives:	Acquiring basic theoretical knowledge and practical skills relevant to medical practice, psychosomatic dependence, psychotherapy and psychohygiene.
Methods:	Lectures, practicals and seminars.
Assessment:	Oral examination.

FM 55	**Allergology**
Optional	Teachers: D-r V. Tsvetkova, PhD; D-r L. Terziev, PhD - allergists
Credits: 1	Prerequisites: Internal diseases or Pediatrics
Theory	Total 4 hours Semester 10
Practicals and seminars	Total 5 hours Semester 10
Contents:	Allergic diseases of upper airways: Allergic Rhinitis and Bronchial Asthma and Systemic allergic diseases: Food and Drug Allergy, Urticaria and Angioedema, Anaphylactic shock, Insect sting Allergy. Skin tests for allergy diagnosis. Lung function testing. Food and drug provocation tests.
Objectives:	Aim to learn basic allergic diseases, mechanisms of pathological reactions, dealing with emergency and master the specific treatment with immunotherapy.
Methods:	Lectures and Practice
Assessment:	Current assessment, Tests

FM 56	**Toxicology**
Optional	Teachers: Assoc.Prof. Doctor Evgenia Barzashka PhD.
Credits: 1	Prerequisites: Internal Diseases and Paediatrics
Theory	Total 10 hours Semester 10
Practicals and seminars	Total 10 hours Semester 10
Contents:	Basic methods for diagnoses and treatment of acute poisoning and toxic allergic reactions of old people and children.
Objectives:	Assimilation of theoretical and practical knowledge of the university students when dealing with conditions that have been caused by acute poisoning and toxic allergic reactions
Methods:	Lectures and practical tasks
Assessment:	Practical and oral examinations

FM 57	**Medical Informatics**	
Optional	Teachers: Ass. Prof. K. Statev	
Credits: 1.5	Prerequisites:	
Theory	Total 15 hours	Semester 1
Practicals and seminars	Total 15 hours	Semester 1
Contents:	Introduction to medical informatics.	
Objectives:	Acquiring knowledge on the basics of personal computers, tendencies in the development of hardware and software, operating systems, file structure, office applications and their practical implementation for processing medical and other information.	
Methods:	Practical exercises and course work.	
Assessment:	Practical task and multiple choice test.	

XX. SYLLABUS OF FACULTY OF MEDICINE (FM)
FM 01 SYLLABUS of Cytology, General Histology and General Embryology

№	**Cytology, General Histology and General Embryology: LECTURES - 1 semester**	**hours**
1.	Introduction in Anatomy. Historical review. Anatomical nomenclature. Norm and variants.	2
2.	Osteology-types of bone, structure, development and growing of the bones.	2
3.	Cytology, general histology and general embryology - object, purposes and their place in the morphologic discipline.	2
4.	External cell morphology and chemical composition.	2
5.	Plasma membrane.	2
6.	Membrane limited cell components: Endoplasmic reticulum, mitochondria.	2
7.	Membrane limited cell components: Golgi apparatus and its products.	2
8.	The cell nucleus - structure of the interfase nucleus.	2
9.	The cell nucleus - genetical cell apparatus.	2
10.	Nonmembrane limited cell components: ribosomes.	2
11.	Nonmembrane limited cell organelles: cytoskeleton; cell inclusions.	2
12.	Cytophysiology - cell metabolism, membrane transport, cell signaling, cell reactivity and movement.	2
13.	Cytophysiology - cell cycle, amitosis, mitosis, endomitosis, meiosis.	2
14.	Cytophysiology - cell differentiation, growth, aging and cell death.	2
15.	General hystology - introduction. Tissues, classification. Epithelial tissue – 1. Covering epithelium.	2
16.	Epithelial tissue – 2. Glandular epithelium.	2
17.	Connective tissue - 1. Origin, general characteristic and classification.	2
18.	Connective tissue - 2. Connective tissue with special properties- cartilaginous tissue and bone tissue.	2
19.	Syndesmology- types of interosseous connection, joints - principal structure.	2
20.	Types of joints. Mechanic of the joints.	2

21.	Blood and lymph.	2
22.	Hematopoesis.	2
23.	Muscle tissue.	2
24.	Nerve tissue -1. Origin, general characteristics and classification. Nerve cells, neuroglial.	2
25.	Nerve tissue-2. Nerve fibers.	2
26.	Embryology - introduction. Male and female sex cells, gametogenesis, ovulation, fertilization.	2
27.	Cleavage, blastogenesis, implantation.	2
28.	Gastrulation.	2
29.	Germ layers: amnion and chorion Embryonic circulation. Twins.	2
30.	Teratology.	2
	Total	**60**

№	**Cytology, General Histology and General Embryology: PRACTICAL EXERCISES - 1 semester**	**hours**
1.	Light and electron microscope. Arrangement of permanent hystological slides. External cell morphology.	2
2.	Internal cell morphology: cell membrane, endoplasmic reticulum, ribosomes.	2
3.	Internal cell morphology: mitochondria, lysosomes, Golgi apparatus.	2
4.	Internal cell morphology: nucleus, cytocenter.	2
5.	Internal cell morphology: specialized cytoplasmic structures and cytoplasmic inclusions.	2
6.	Seminar – cytology.	2
7.	Epithelial tissue: surface epithelium.	2
8.	Glandular epithelium.	2
9.	Connective tissue – embryonal connective tissue, loose and dense connective tissue.	2
10.	Supporting connective tissue: cartilage and bone connective tissue. Blood.	2
11.	Muscle Tissue: smooth, skeletal and cardiac muscle tissue.	2
12.	Nerve Tissue – neurons and neuroglia.	2
13.	Nerve Tissue – nerves, receptors and synapses.	2
14.	Seminar – histology.	2
15.	Embryology.	2
	Total	**30**

FM 02 SYLLABUS of Medical Physics

№	**Medical Physics: LECTURES - 1 semester**	**hours**
1.	Medical physics. Measurement and the scientific method of investigation The role of the experiment. Measurement. Accuracy and significant digits. Scientific notation. The conversion of units.	3
2.	Fluid statics and dynamics.The states of matter. The definition of pressure. Pressure in liquids. Distribution of pressure in a static liquid. Transmission of pressure: Pascal's principle. Clinical applications of Pascal's principle. Buoyant	3

	force and Archimedes principle. Pressure in flowing fluids.	
3.	Pressure and the circulatory system.Types of pumps. The heart as a force pump. The circulatory system. The energy supplied by the heart. The variations of the blood pressure. The measurement of blood pressure.	3
4.	Molecular phenomena related to biological processes.The kinetic energy of molecules. Diffusion. Osmosis. Dialysis. Transport across living membranes. Cohesion and adhesion. Surface tension and respiration. Capillary action. Viscosity. Adsorption and adsorption.	3
5.	Internal energy, heat, and temperature. Internal energy. The distinction between internal energy and temperature. Temperature scales. Heat and the first law of thermodynamics. Thermal expansion. Methods for temperature measurement. Internal energy and specific heat. Heat of combustion: the dietary calorie. The mechanical equivalent of heat.	3
6.	The effects of heat.Changes of phase. Applications of phase changes. 3 Evaporation and vapor pressure. Relative humidity. Heat transfer. Physiological applications of heat transfer.	
7.	Introduction to electricity and magnetism.The electrical nature of matter. The behavior of electric charges. The flow of electric charge. Electric fields and voltages. Cathode ray tubes. The oscilloscope. Magnets and magnetic fields. Electromagnets. The interaction between electricity and magnetism.	3
8.	Electrical and electronic instruments. Sensing elements for physiological measurements. Amplifiers. Display devices. The defibrillator. Electrocautery and electrosurgery.	3
9.	Bioelectricity. The living cell as an electric source. The electrocardiogram. The electroencephalogram. Other bioelectric measurements. The electronic pacemaker.	3
10.	Elasticity and wave motion. Elasticity. Periodic motion and resonance. Traveling waves. Wave properties of sound and light. Energy in waves. Interference and standing waves. The Doppler effect. Ultrasonic sound.	3
11.	The physics of hearing. The mechanism of the ear. The range and sensitivity of human hearing. The decibel scale. The distinction between loudness and intensity. Hearing tests. The measurement of environmental sound.	3
12.	The physics of vision. Refraction and lenses. Image formation by the eye. 3 Common vision defects. Simple optical instruments. Color vision.	
13.	Light and modern physics – part 1.The electromagnetic spectrum. The quantum theory of light. Matter waves: The electron microscope. Quantum theory of the atom. The interaction of electromagnetic waves with matter.	3
14.	Light and modern physics – part 2. Clinical applications of electromagnetic waves. Medical imaging with CT and NMR scans. The laser and its applications.	3
15.	Nuclear radiation. A scale model of the atom. The nature of the nucleus. The three basic types of radioactivity. Radioactive decay and half-life. Medical radioisotopes. The detection of radiation. Effects of ionizing radiation on biologic material. Measurement of radiation exposure. Radiation therapy. Nuclear energy.	3
	Total	**45**

№	**Medical Physics:** **PRACTICAL EXERCISES - 1 semester**	**hours**
1.	Measurements and units of measure.	2
2.	Errors: classification, accuracy, grounding in theory of errors.	2

3.	Total magnification of compound microscope. Magnification of objective and eye-piece.	2
4.	Measuring microobjects by light microscope.	2
5.	Determination of average diameter, average area and diameter distribution of erythrocytes (application of statistical concept).	2
6.	Evaluation of liquids dynamic viscosity.	2
7.	Evaluation of liquids surface tension.	2
8.	Pressure. Air pressure. Blood pressure. Air humidity.	2
9.	Determination of lens power of spherical lens.	2
10.	Measurement of concentration of biological liquids and pharmaceutical preparations by refractometer.	2
11.	Measurement of concentration of optically active liquids by polarimeter.	2
12.	Electrocardiography (ECG).	2
13.	Measurements with electric instruments.	2
14.	Graduation of semiconductor hermometer.	2
15.	Graduating thermoelement.	2
16.	V-A characteristic of crystal diode.	2
17.	Measuring current-voltage characteristics of Biologically Active Point (BAP).	2
18.	Determination of an actual auditory threshold of hearing.	2
19.	Light measurements: comparison of the intensity of two light sources and determination of the integral sensitivity of photocell.	2
20.	Measurements with electron oscilloscope.	2
21.	Measuring the dependence of impedance of human skin upon the frequency of electric current.	2
22.	Revision.	1
23.	Colloquium.	2
	Total	**45**

FM 03 SYLLABUS of Chemistry

№	**Chemistry:** **LECTURES - 1 semester**	**hours**
1.	Chemical bond and mutual influence of the atoms in the molecules. 1. Chemical bonding. Valence bond theory. Molecular orbital theory. 2. 2. Noncovalent interactions - nature, types, importance. 3. Hydrogen bond - nature, types, importance. 4. Coordination compounds - definition, composition, stability, isomerism, structure of coordination compounds. 5. Chelate compounds. Biological and medical importance. 6. Conjugated systems with open and cyclic chains. Aromaticity of arenes, nonbenzenes and heterocyclic compounds. 7. 7. Inductive and mesomeric effects. Electronic effects of the substituents. Importance for properties of the molecules.	 3 2 1 2 1
2.	Spatial structure of the molecules. 8. Isomerism. Types of isomerism. Tautomerism. 9. Conformation. Geometrical isomerism. 10. Optical isomerism.	
3.	Principles of a reactivity of molecules.	

	11. Criteria for predicting the direction of occurring of chemical reactions. Equilibrium constant, entropy and free energy.	2
	12. The relationship between free energy and equilibrium constant. Exergonic, endergonic and anergonic processes. Coupled processes. Compounds with energy - rich bonds.	2
	13. Chemical kinetics. Molecularity and order of reactions. Rate equations.	1
	14. Temperature dependence of reaction rate - activation energy, the Arrhenius equation.	1
	15. Oxidation - reduction reactions. Some definitions. Types of redox reactions.	1 1
	16. Criteria for predicting the direction of redox reactions - the Nernst equation. Velocity of oxidation - reduction reactions. Redox catalysts. Biological oxidation.	2
	17. Acids and bases according to the theories of Arrhenius, Bronsted - Lowry and Lewis. General concept.	1
	18. Autoionization of water, ion product of water, pH, methods to measure pH.	1
	19. Strength of acids and bases - pK_a and pK_b. The Henderson - Hasselbalch equation.	1
	20. Buffers.	
	Test: Questions 1 - 7 and 17 - 20	1
4.	Methods for chemical analysis of biomaterials.	
	21. Analytical chemistry. Qualitative analysis. Chemical reactions for identification of some cations and anions with biological importance. Application in diagnostic and in medico - biological researches. Examples.	
	22. Concentration of solutions, methods of expression and calculation. Clinical importance.	
	23. Quantitative analysis. Chemical methods of analysis. Volumetric (titrimetric) analysis - principles, glassware, indicators, solutions, clinical importance.	
	24. Acid - base volumetric analysis. Importance.	
	25. Redox titrations. Potassium permanganate titrations (Permanganatometry). Importance.	
	26. Complexometric titrations. Complexonometry.	
	27. Photometric analysis - principles and position in clinical laboratory and biochemistry.	
5.	Hydrocarbons, mono- and polyfunctional derivatives of the hydrocarbons.	
	28. Classification and nomenclature of organic compounds. Hydrocarbons and halogen derivatives of hydrocarbons with medico-biological importance.	1
	29. Oxygen-, sulfur- and nitrogen containing mono- and polyfunctional derivatives of hydrocarbons - characteristics; main representatives with medico-biological importance.	1
	30. Oxygen-, sulfur- and nitrogen containing mono- and polyfunctional derivatives of hydrocarbons - characteristic chemical reactions with medico-biological importance.	
	31. Carbonyl compounds. Classification. Main representatives from aldehydes, ketones, quinones, and carboxylic acids.	

	32. Structure and reactivity of the carbonyl group. Characteristic chemical reactions with medico-biological importance for aldehydes, ketones, and quinones. 33. Carbonyl compounds. Characteristic chemical reactions for carboxylic acids. 34. Characteristics of the functional derivatives of carboxylic acids. Main chemical properties.	
6.	Heterofunctional derivatives of the hydro-carbons. Main metabolites and some important drug substances. 35. Characteristic of the heterofunctional derivatives of hydrocarbons. Aminoalcohols, aminophenols and their derivatives with medico-biological importance. 36. Hydroxycarboxylic acids - characteristics, classification, isomerism, properties, representatives. 37. Aldehyde and keto acids - characteristics, classification, isomerism, properties, representatives. 38. Derivatives of benzene as drugs.	 1 2 1 1
7.	Biological important heterocyclic compounds. 39. Heterocyclic compounds - definition, classification and characterization. Five-membered heterocycles with one heteroatom. Pyrrole, indole and their derivatives. 40. Natural pyrrole pigments. Mioglobin, hemoglobin and bilirubin. 41. Five-membered heterocycles with two heteroatoms - pyrazole and imidazole. Analgesic and other their derivatives. 42. Six-membered heretocycles with one heteroatom - group of pyridine. 43. Six- and seven-membered heterocycles with two heteroatoms - pyrimidine, diazepine and their derivatives. 44. Bicyclic heterocyclic compounds - purine, pteridine and their derivatives.	 1 1 1 1 1
8.	Biopolymers and their monomers. 45. Amino acids - characteristics, classification. Standard α-amino acids. Isomerism, physical properties. 46. Amphoteric and chemical properties of amino acids. Peptides. 47. Carbohydrates - characteristics, classification. Monosaccharides - structure, isomerism, physical properties. 48. Monosaccharides - chemical properties, representatives. 49. Disaccharides - types, properties, representatives. 50. Polysaccharides - types, representatives and main important properties. 51. Heteropolysaccharides.	 1 1 1 1 1 1 1
9.	Lipids and low-molecular bioregulators. 52. Characteristic of lipids. Classification of lipids. Simple lipids. Fats - structure and properties. 53. Complex lipids. Phosphoglycerides, sphingolipids, and glycolipids - types, structure, properties, representatives. 54. Terpenes and carotenoids - types, structure, properties, representatives. 55. Steroids - structure, conformation, representatives.	 1 1 1
	Test: Questions 28 - 34	1
	Total	**46**

№	**Chemistry:** **PRACTICAL EXERCISES - 1 semester**	**hours**
1.	Qualitative analysis – cations, anions. Concrements.	3
2.	Solutions. Concentration of solutions.	3
3.	Ion product of water. pH.	3
4.	Buffer solutions.	3
5.	Volumetric (titrimetric) analysis. Acid-base titrations - strong base versus strong acid.	3
6.	Acid - base titrations - strong acid versus strong base.	3
7.	Complexometric titrations. Complexonometry.	3
8.	Redox titrations. Potassium permanganate titrations (Permanganatometry). Importance.	3
9.	Photometric analysis - principles and position in clinical laboratory and biochemistry. Test – general chemistry.	3
10.	Hydrocarbons. Mono- and polyfunctional derivatives of hydrocarbons.	3
11.	Carboxylic acids. Functional derivatives of carboxylic acids. Hydroxy-, aldehyde- and keto-carboxylic acids.	3
12.	Term test.	3
13.	Heterocyclic compounds.	3
14.	Amino acids. Peptides.	3
15.	Carbohydrates. Monosaccharides. Di- and polysaccharides.	3
	Total	**45**

FM 04 SYLLABUS of Biology (Molecular Biology and Immunology)

№	**Biology:** **LECTURES - 1 and 2 semester**	**hours**
1.	General parasitology.	2
2.	NA – structure and function.	2
3.	DNA – replication.	2
4.	DNA – repair, recombination.	2
5.	Organization of genetic material in prokaryotes and eukaryotes.	2
6.	RNA – transcription and maturation.	2
7.	Control of transcription. Operons. Compound control.	2
8.	Translation – molecular mechanisms, genetic control.	2
9.	Mutagenic factors.	2
10.	Gene mutations.	2
11.	Chromosome mutations.	2
12.	Immune system. Innate immunity.	3
13.	Antigens.	2
14.	Alloantigens in man.	2
15.	Antibodies – structure and function.	2
16.	Biological properties of immunoglobulin classes.	2
17.	Genetic basis of antibody synthesis.	2
18.	Ontogeny of B- and T-cells.	2
19.	Structure of TcR and BcR	2
20.	MHC. Transplantation immunology.	2
21.	Immune response against endogenous and exogenous antigens.	2

22.	Control of immune response.	3
	Total	**45**

№	**Biology:** **PRACTICAL EXERCISES - 1 semester**	**hours**
1.	Light microscope. Parts. Magnification, definition, resolution, depth of focus. Objective lenses and the oil immersion objective. How to use the light microscope. Microscopic slides observation.	2
2.	Flagellata. Type Sarcomastigophora, Subtype Mastigophora, (Flagellata) – Microscopic slides: Genus Trypanosoma, g. Lamblia, g. Trichomonas, g. Leishmania.	2
3.	Sarcodina. Type Sarcomastigophora. Subtype Sarcodina. Microscopic slides: Entamoeba histolytica, Entamoeba coli; Type Ciliophora - Balantidium coli; Type Sporozoa - Toxoplasma gondii.	2
4.	Sporozoa. Type Sporozoa (Apicomplexa) - Microscopic slides: Plasmodium vivax, Pl. malariae, Pl. falciparum.	2
5.	Cestoda. Type Plathelminthes, Class Cestoda - Microscopic slides: Taenia saginata, Taenia solium, Dyphillobothrium latum, Hymenolepis nana, Echinococcus granulosus.	2
6.	Trematoda. Type Plathelminthes, Class Trematoda – Microscopic slides: Fasciola Hepatica, Dicrocoelium dendriticum, Opistorchis felineus, g. Shistosoma.	2
7.	Nematoda. Type Nemathelminthes. Class Nematoda - Microscopic slides: Ascaris lumbricoides, Trichinella spiralis, Trichocephalus trichiurus, Enterobius vermicularis.	2
8.	Arthropoda. Type Arthropoda. Class Arachnida - Microscopic slides and formaldehide preserved preparations: order Scorpiones, order Araneina, order Acarina.	2
9.	Insecta. Type Arthropoda. Class Insecta - Microscopic slides: order Anoplura, order Siphonaptera, order Diptera, order Orthoptera.	2
10.	Parasitology – colloquium - test (multiple choices) and recognition of 2 microscopic slides.	2
11.	Mitosis. Preparation of microscopic slides of mouse bone marrow cells. Observation of the phases of mitosis in mice.	2
12.	Meiosis. Preparation of microscopic slides of mouse testes. Observation of the extended prophase I – stages, and other meiotic stages.	2
13.	Karyotype. Define reciprocal, balanced, and Robertsonian translocation, and understand the risks to offspring of translocation carriers. Nomenclature used to describe chromosomes and karyotypes.	2
14.	Human karyotype. Basic anatomy of human chromosomes. Understand the techniques used to visualize chromosomes, including FISH. Chromosomal basis for sex determination Basis for and consequences of X-inactivation (Lyonization).Observation of metaphase chromosomes in human bone marrow cells.	2
15.	Mendel's lows. Monohybrid and dihybrid crosses.Calculating genetic ratious.Understand the difference between Mendelian and multifactorial/polygenic traits.	2
	Total	**30**

№	**Biology:** **PRACTICAL EXERCISES - 2 semester**	**hours**
1.	Gene mutations Main classifications of gene mutations. Molecular diseases. Human pathology examples. Observation of blood smears in glucose-6-phosphate dehydrogenase deficiency and beta-thalasemia.	2
2.	Chromosome mutations: Main types – structural and numerical. Chromosomal disorders. Euploid, aneuploid, trisomy, monosomy. Consequences of meiotic nondisjunction. Major phenotypic features of X-chromosome aneuploidy Chromosomal basis for Down syndrome – observation of metaphase plates in Down syndrome.	2
3.	Molecular Biology – revision – main topics from molecular biology part in the synopsis for general biology exam.	2
4.	Molecular Biology – test examination.	2
5.	Innate immunity: Elements of innate immunity - organs, cells, phagocytosis, inflammation. Preparation and observation of phagocytosis in mice peritoneal macrophages with sheep erythrocytes.	2
6.	Immunological reactions – agglutination. Laboratory tests based on agglutination. Titer, prozone, Zeta-potential. The Coombs test.	2
7.	Immunological reactions – precipitation. Reaction in solutions. Reacrions in gelsLaboratory tests based on precipitation.	2
8.	Cell-mediated immunity. Cells, mediators of CMI. DTH. Demonstration of DTH in guinea pig.	2
9.	Complement. The complement system. The classical complement pathway. The altenative and lectin complement pathways. The complement fixation test.	2
10.	Immunoassay. Direct binding immunoassays. Solid-phase immunoassay. ELISA tests.	2
11.	Immunofluorescence. Direct immunophluorescence. Indirect immunophluorescence. FACS analysis.	2
12.	Transfusion immunology. ABO/H system. Lewis group. Rh antigens. Blood groups determination.	2
13.	Immunology – revision.	2
14.	Immunology – test examination.	2
15.	Population genetics: Hardy Weinberg equilibrium and how to apply it to determine allele frequencies and heterozygote carrier frequencies. Understand and be able to define: mutation rate, selection, founder effect, genetic drift, polymorphism. Human pedigree analysis.	2
	Total	**30**

FM 05 SYLLABUS of Latin Language

№	**Latin Language:** **PRACTICAL EXERCISES - 2 semester**	**hours**
1.	Information on the requirements of the Latin course. Importance of Latin for the study of medicine. The Latin alphabet. Pronunciation and spelling rules.	2
2.	Reading exercises.	2
3.	Morphology. The noun: categories: gender, number, case.	2
4.	1st declension nouns.	2
5.	Revision - oral. 2nd declension nouns.	2

6.	Revision - oral. 1st and 2nd declension adjectives.	2
7.	Revision - written test. 3rd declension- consonant stems.	2
8.	Revision – oral. 3rd declension: stems on vowel (i).	2
9.	Revision – oral. Mixed stems.	2
10.	Revision - oral. 3rd declension adjectives. Present active and past passive participles.	2
11.	Revision - oral. 4th declension nouns.	2
12.	Revision - oral. 5th declension nouns.	2
13.	Degrees of comparison.	2
14.	Written colloquial test.	2
15.	Evaluation of the results of tests. Consolidation in morphology: anatomical and clinical terminology.	2
	Total	**30**

№	**Latin Language:** **PRACTICAL EXERCISES - 4 semester**	**hours**
1.	Wordformation. Latin prefixes.	2
2.	Greek prefixes.	2
3.	Latin and Greek suffixes by nouns and adjectives.	2
4.	Building a Medical Vocabulary. Body Structure.	2
5.	The Blood and Other Body Fluids.	2
6.	The Lymphatic System.	2
7.	The Respiratory System. Computer Test.	2
8.	The Digestive System.	2
9.	The Urinary System.	2
10.	The Reproductive System.	2
11.	The Integumentary System.	2
12.	Greek combining forms of the term- consolidation. Written Test.	2
13.	Evaluation of the results of tests, credits. Medicinal Prescriptions: Kinds of medicinal prescriptions and their structure. Medicinal forms.	2
14.	Chemical nomenclature. Translation of prescriptions from English into Latin.	2
15.	Translation of prescriptions from English into Latin. Greek elements in prescriptions.	2
	Total	**30**

FM 06 SYLLABUS of Anatomy

№	**Anatomy:** **PRACTICAL EXERCISES - 1 semester**	**hours**
1.	Parts of the Skeleton. Bones of vertebral column.	3
2.	Bones of the chest. Bones of the shoulder girdle.	3
3.	Bones of the upper limb.	3
4.	Pelvic bones and bones of the lower limb.	3
5.	Skull: os occipitale, os sphenoidale, os frontale.	3
6.	Skull: os parietale, os ethmoidale, os temporale.	3
7.	Facial bones.	3
8.	Skull – overview.	3
9.	Seminar – osteology. Test and practical exam.	3
10.	Joints of the vertebral column.	3

11.	Joints of the chest.	3
12.	Joints of the upper limb.	3
13.	Pelvic joints.	3
14.	Joints of the lower limb.	3
15.	Seminar – syndesmology. Test and practical exam.	3
	Total	**45**

№	**Anatomy:** **LECTURES - 2 semester**	**hours**
1.	Topographic anatomy of the head.	2
2.	Topographic anatomy of the head.	2
3.	Topographic anatomy of the neck.	2
4.	Topographic anatomy of the pelvis.	2
5.	Topographic anatomy of the pelvis.	2
6.	Topographic anatomy of the upper limb.	2
7.	Topographic anatomy of the lower limb.	2
	Total	**14**

№	**Anatomy:** **LECTURES - 2 semester**	**hours**
1.	Development of the nervous system – phylogenesis and ontogenesis. Principles of organization. Spinal cord.	2
2.	Spinal cord – internal structure of the gray and white matter.	2
3.	Spinal nerves formation.	2
4.	General overview of the brain stem, development, anomalies. Brain stem. Medulla oblongata.	2
5.	Pons.	2
6.	Cerebellum.	2
7.	Midbrain.	2
8.	Diencephalon – parts: thalamus, epithalamus, metathalamus.	2
9.	Diencephalon – hypothalamus, subthalamus.	2
10.	Telencephalon – general overview, development, anomalies. Cerebral hemispheria.	2
11.	Telencephalon – localization of the functions. Rhinencephalon. Limbic system.	2
12.	Basal ganglia. White matter of the hemisphere - internal capsule. Lateral ventricle. Meninges. Blood supply of brain.	2
13.	Functional systems in C N S. Major Sensory Pathways (ascending tracts).	2
14.	Functional systems in C N S. Major Motor Pathways (descending tracts).	2
15.	Cranial nerves – I-VII.	2
16.	Cranial nerves VIII-XII.	2
17.	Autonomic nervous system.	2
18.	Ganglia and plexuses of ANS.	2
19.	Sense organs - classification. Organ of the visus.	2
20.	Auditory and vestibular organ.	2
21.	Olfactory and gustatory organs.	2
22.	Skin.	3
	Total	**45**

№	**Anatomy:** **PRACTICAL EXERCISES - 2 semester**	**hours**
1.	Scull and telencephalon.	3
2.	Telencephalon.	2
3.	Telencephalon.	3
4.	Diencephalon.	2
5.	Mesencephalon and cerebellum.	3
6.	Pons, medulla oblongata.	2
7.	Spinal cord.	3
8.	Colloquium – brain. Test and practical exam.	2
	Total	**20**

№	**Anatomy:** **PRACTICAL EXERCISES - 2 semester**	**hours**
1.	Topographic anatomy of the head. Mimic and masticatory muscles.	3
2.	Topographic anatomy of the orbit. II, III, IV and VI cranial nerves.	2
3.	Eye and visual sensory system.	3
4.	Fossa pterygopalatina. V and VII cranial nerves.	2
5.	Branches of the external carotid artery. IX, X, XI and XII Cranial nerves.	3
6.	Ear and hearing and equilibral sensory system.	3
	Total	**16**

№	**Anatomy:** **PRACTICAL EXERCISES - 2 semester**	**hours**
1.	The Upper Limb: regions, superficial veins, nerves.The Lower Limb: regions, superficial veins, nerves.	3
2.	The Upper Limb: regio axillaries. The Lower Limb: regio glutea.	2
3.	The Upper Limb: regio brachii anterior.The Lower Limb: regio femoris anterior.	3
4.	The Upper Limb: regio brachii posterior.The Lower Limb: regio femoralis anterior.	2
5.	The Upper Limb: regio cubiti. The Lower Limb: regio femoris posterior.	3
6.	The Upper Limb: regio antebrachii anterior. The Lower Limb: regio poplitea.	2
7.	The Upper Limb: regio antebrachii posterior. The Lower Limb: regio cruris anterior.	3
8.	The Upper Limb: regio antebrachii posterior. The Lower Limb: regio cruris posterior.	2
9.	The Upper Limb: regio carpi.The Lower Limb: regio cruris posterior.	3
10.	The Upper Limb: dorsum manus.The Lower Limb: dorsum pedis.	2
11.	The Upper Limb: palma manus.The Lower Limb: planta pedis.	3
12.	Studding the other limp.	2
13.	Studding the other limp.	3
14.	Studding the other limp.	2
15.	Studding the other limp.	3
16	Colloquium on upper and lower limbs. Test and practical exam.	**2**
	Total	**40**

№	**Anatomy:** **LECTURES - 3 semester**	**hours**

1.	Digestive system – I: general overview, oral cavity, teeth, tongue, major salivary glands.	2
2.	Digestive system – II: pharynx, oesophagus, stomach.	2
3.	Digestive system – III: small and large intestine.	2
4.	Digestive system – IV: liver, gall bladder, extrahepatic biliary ducts, exocrine pancreas.	2
5.	Respiratory system – I: general overview, external nose, nasal cavity, paranasal sinuses.	2
6.	Respiratory system – II: larynx, trachea.	2
7.	Respiratory system – III: bronchi, lungs, pleura.	2
8.	Cardiovascular system – II: heart –macro- and microscopic structure.	2
9.	Cardiovascular system – II: heart – coronary system, inervation, pericardium.	2
10.	Cardiovascular system – III: blood vessels – general features, arterial and venous wall structure.	2
11.	Hemopoetic organs – bone marrow, thymus, lymph nodes, spleen, palatine tonsils. Lymphatic vessels.	2
12.	Urinary system I: general overview. Kidney.	2
13.	Urinary system II: excretory ducts – ureter, urinary bladder, urethra.	2
14.	Male reproductive system.	2
15.	Female reproductive system.	2
16.	Topographic anatomy of the neck.	2
17.	Mediastinum.	2
18.	Peritoneum.	2
19.	Anterior abdominal wall. Inguinal canal. Retroperitoneal space.	2
20.	Pelvis. Perineum.	2
21.	Endocrine system – I: morpho-functional organization. Hypophysis, pineal body, thyroid gland, parathyroid glands.	2
22.	Endocrine system – II: suprarenal gland, paraganglia, endocrine pancreas and gastro-entero-pancreatic system.	3
	Total	**45**

№	**Anatomy:** **PRACTICAL EXERCISES - 3 semester**	**hours**
1.	Digestive system – I: oral cavity, salivary glands, pharynx, and oesophagus.	3
2.	Digestive system – II: stomach, small and large intestine.	3
3.	Digestive system – III: liver, gall bladder, pancreas.	3
4.	Colloquium - Digestive system.	3
5.	Respiratory system – I: external nose, paranasal sinuses, and larynx.	3
6.	Respiratory system – II: trachea, bronchi, lung.	3
7.	Cardiovascular system.	3
8.	Hemopoetic organs.	3
9.	Colloquium – cardiovascular, respiratory system and hemopoetic organs.	3
10.	Urinary system.	3
11.	Male reproductive system.	3
12.	Female reproductive system.	3
13.	Endocrine glands.	3
14.	Colloquium – urinary, female and male reproductive systems and endocrine glands.	3

15.	Nervous system.	3
	Total	**45**

№	**Anatomy:** **PRACTICAL EXERCISES - 3 semester**	**hours**
1.	Back: topographic regions of the back, superficial nerves and musles.	5
2.	Back: muscles of the medial and lateral rows, trigonum suboccipitale, the vertebral canal and its contents.	5
3.	Neck: fegions, pl. cervicalis, superficial venes, fasciae. Chest: Preparation of the Mammary gland. Abdomen: Inguinal region.	5
4.	Neck: antetior regions. Chest: proper muscle, vessels and nerves. Abdomen: vagina of rectus abdominal musle.	5
5.	Neck: Trigonum caroticum, Trigonum submandibulare.Chest: fossa axilaris Abdomen: Opening of the Abdominal cavity and studing the visceral situs.	5
6.	Neck: lateral region.Chest: anterior mediastinum. Abdomen: peritoneal formations in superior part of abdomimal cavity.	5
7.	Neck: Trigonum colli laterale, musle of neck. Chest: middle mediastinum. Abdomen: Topographic anatomy of the Peritoneal cavity.	5
8.	Neck: branches of suclavian a. and v. Chest: superior mediastinum. Abdomen: Topographic anatomy of the Peritoneal cavity.	5
9.	Neck: the deep fascia of neck, cervical parts of truncus sympathicus. Chest: the posterior mediastinam. Abdomen: the retroperitoneal space.	5
10.	Neck: the deep musle of neck. Chest: the posterior mediastinam. Abdomen: pl. lumbalis, abdominal aorta.	5
11.	Neck: Taking out the cervical viscera of one cadaver. Chest: the posterior wall of chest. Abdomen: the posterior wall of the peritoneal cavity.	5
12.	Abdomen: of the vessels and nerves in the pelvis minor.	5
13.	Abdomen: peritoneal and subperitoneal spases in pelvic minor.	5
14.	Perineum: Muscles and fasciae.	5
15.	Colloquium- Trunk.	5
	Total	**75**

FM 07 SYLLABUS of Biophysics

№	**Biophysics:** **LECTURES - 2 semester**	**hours**
1.	Nature and subject of Biophysics. Sub-areas of Biophysics. Medical Biophysics. Brief view of the history and development of Biophysics.	2
2.	Molecular structure of biological systems. Intramolecular bonds: covalent bonds, molecular orbitals, ionic bonds, coordinative bonds, metalloorganic complexes, hydrogen bonds.	2
3.	Thermodynamics. Subject of thermodynamics. Basic thermodynamic terms: thermodynamic system, surrounding, homogenous and heterogeneous system, thermodynamic variables, intensive and extensive variables, variables of state, conjugate variables, equation of state, thermodynamic state, thermodynamic equilibrium, thermal, chemical and mechanical equilibrium, thermodynamic process, reversible and irreversible thermodynamic processes, dissipative structures.	2
4.	Equilibrium thermodynamics. First law of thermodynamics – definitions.	2

	Mathematical formulation of the first law. Gibbs fundamental equation. Second law of thermodynamics. Entropy as a parameter of phenomenological thermodynamics. Klausius inequality. Irreversibility of real processes.	
5.	Order and probability. Thermodynamic probability and entropy. Entropy as a kind of measure of disorder. Boltzmann equation of entropy. Information and entropy. Statistical definition of entropy. Impossibility and absolute certainty. Shannon relation of information content. Negentropy. Semantic and syntactic information. Maxwell's demon. Threshold value of information, required to control the processes of living systems.	2
6.	Thermodynamic potentials. Internal energy. Enthalpy. Helmholtz free energy. 2 Gibbs free energy. Chemical and electrochemical potentials - physical meaning. Chemical, osmotic and electrical work.	
7.	Non-equilibrium thermodynamics. Linear non-equilibrium thermodynamics. 2 Definition and basic terms. Force and motion. Phenomenological coefficients. Conjugated fluxes. Dissipative function. Entropy and stability. Stationary state. Prigogine principle of minimum entropy production. Time hierarchy of stationary states.	
8.	Biological structures: general aspects. Dynamic and static systems. Primary, secondary, tertiary and quaternary structure of biological macromolecules. Equilibrium and non-equilibrium structures.	2
9.	Cells –m chemical composition. Cell membranes – the main biological functions of plasma and organelle membranes. Chemical composition of membranes. Membrane lipids: the supporting structure. Phospholipids, glycolipids and cholesterol. Membrane proteins – categories. Protein functions. Membrane dynamics. Cholesterol effects on membrane fluidity. Ultrastructure and molecular structure of cell membranes. Lipid bilayer – unit membrane. Membrane functions. The "fluid-mosaic" model of Singer and Nicolson.	2
10.	Transport of matter across cell membranes - classification. Classification on the basis of transport mechanism, energy supply, number of transported species and direction of their translocation, trans-membrane potential changes. Passive transport. Free diffusion of non-charged and charged particles. Fick's law. Free diffusion of charged particles. Nernst-Planck molar flux equation. Simple diffusion through membranes. Permeability. Transport of water through membranes. Filtration and osmosis. Facilitated diffusion. Transport by carrier proteins. Saturability and specificity - important characteristics of the membrane transport systems. Transport by channels and pores. Three examples of pores important for cellular physiology. Ionophores.	2
11.	Primary active transport. Sodium-potassium ATP-ase. Putative structure of sodium-potassium pump. Calcium ATP-ase. Putative structure of calcium pump. Basic steps of ion transport processes. Secondary (ion gradient-driven) active transport. Lactose permease requires a proton gradient. Putative mechanism of lactose transport in E. coli.	2
12.	Model potentials. Diffusion potential. Generation of diffusion potential. The Henderson equation. Time dependence of diffusion potential. Membrane (equilibrium) potential. Generation of membrane potential. The Nernst equation. Donnan potential. The Gibbs-Donnan equilibrium. Approach to electrical and chemical equilibrium. Gibbs-Donnan equation. Osmotic consequences of the Gibbs-Donnan equilibrium.	2
13.	Generation of resting membrane potential. The Goldman and Thomas equations.	2

	Factors contributing to the resting potential.	
14.	Generation of action potential. Voltage-gated channels. Saltatory conduction.	2
15.	Free radical processes. Sources of free radical generation in human body. Lipid peroxidation. Basic stages. Mechanism of lipid peroxidation. Antioxidant defence system. Enzymic and nonenzymic antioxidants. Lipid peroxidation and toxicology. Oxidative stress contribution to atherosclerosis and nervous system injury.	2
	Total	**30**

№	**Biophysics:** **PRACTICAL EXERCISES - 2 semester**	**hours**
1.	Determination of solution concentrations by absorption spectrophotometry.	2
2.	Acid-fast stability of erytrocytes.	2
3.	Electrophoretic division of proteins.	2
4.	Artificial membranes. Hemosomes.	2
5.	Production of superoxide during copper ions-erythrocyte membranes interaction.	2
6.	Microscopic method for determining electrokinetic potential.	2
7.	Investigation of the kinetics of hydrolytic breakdown of sucrose.	2
8.	Test – part I.	2
9.	Lipid peroxidation: a radical chain reaction. Measurement of malonedialdehyde concentration.	2
10.	Membrane lipids. Qualitative analysis by thin-layer chromatography.	2
11.	Transport across membranes. Osmosis.	2
12.	Transport of urea across semi-permeable membrane. Biophysical basis of hemodyalysis.	2
13.	Division of materials and determination of their molecular weights by gel-chromatography.	2
14.	Determining diffusion potential in a model system.	2
15.	Test – part II.	2
	Total	**30**

FM 08 SYLLABUS of Sport

№	**Sport:** **PRACTICAL EXERCISES - 1 and 2 semester**	**hours**
1.	Sport. Educational aim and objectives.	2
2.	Sport. Physical properties. Educational means and methods.	2
3.	Basic gymnastics. Tasks, resources. Classification. Starting positions and movements of the human body.	2
4.	Basic gymnastics. Complexes.	2
5.	Athletics. Sprint running. Low start.	2
6.	Athletics. Jump out. Method of execution.	2
7.	Basketball. Basic knowledge of the game. Actions with and without ball. Dribbling.	2
8.	Basketball. Dribbling. Refinement. Rules.	2
9.	Basketball. Shooting- static position. Rules.	2
10.	Basketball. Shooting directly in front of the basket. Rules.	2
11.	Volleyball. Basic knowledge of the game. Actions with and without ball.	2
12.	Volleyball. Filing and taking the ball with both hands on top. Rules.	2

13.	Volleyball. Filing and taking the ball with both hands underneath.Rules.	2
14.	Volleyball. Technique players. Refinement.	2
15.	Football. Basic knowledge of the game. Technique players. Rules.	2
16.	Football. Hit by foot. Rules.	2
17.	Football. Stopping the ball. Hit the head. Improvement hit the head.	2
18.	Badminton. Basic knowledge of the game. Submission Rules.	2
19.	Badminton. Hit. Submission – improvement. Rules.	2
20.	Aerobic gymnastics. Basic knowledge of the game. Means. Exercises for warming. Complexes.	2
21.	Tennis. Basic knowledge of the game. Skills exercise.	2
22.	Tennis. Forehand. Rules.	2
23.	Tennis. Backhand. Forehand – improvement. Rules.	2
24.	Tennis. Backhand. Forehand – improvement. Refinement.	2
25.	Table tennis. Basic knowledge of the game. Skills exercise. Forehand and backhand. Rules.	4
26.	Table tennis. Palms flat and reverse kick and a straight diagonal.Rules.	4
27.	Bodybuilding. Methodology and organization methods. Exercises- dumbbells, dumbbell, barbell and Gladiator.	4
28.	Bodybuilding. Dynamic (isotonic) exercises. Static (isometric) exercises.	2
29.	Monitoring, evaluation, technical skills.	4
	Total	**60**

№	**Sport:** **PRACTICAL EXERCISES - 3 and 4 semester**	**hours**
1.	Formation of motor skills and habits.	2
2.	States of the body in physical exercises and sports.	2
3.	Basic gymnastics. Exercises general impact and appliances.	2
4.	Basic gymnastics. Exercises in pairs.	2
5.	Athletics. Running middle distance.	2
6.	Athletics. High start. Technique of high start.	2
7.	Basketball. Shooting in the basket with both hands underneath. Improvement actions with and without ball.	2
8.	Basketball. Harp-shooting.	2
9.	Basketball. Shooting with rebound.	2
10.	Basketball. Throws.	2
11.	Volleyball. Lower front kick. Improvement of the species feeds.	2
12.	Volleyball. Upper front kick. Improvement of the species feeds.	2
13.	Volleyball. Meeting of the kick. Improvement of the initial hit.	2
14.	Volleyball. Improvement of the front kick.	2
15.	Volleyball. Proving the technical elements studied.	2
16.	Football. Improvement of the kicks and head.	2
17.	Football. Fake movements. Steal the ball.	2
18.	Football. Static situations. Improvement of the kicks with foot and head.	2
19.	Badminton. Hit – Improvement.	2
20.	Badminton. Short supply. High and distant shot hit the top.	2
21.	Aerobic gymnastics. Structure of aerobic activity. Exercises for various muscle groups.	2
22.	Tennis. Initial shock.	2

23.	Tennis. Return of the kick (Retur).	2
24.	Tennis. Strikes from the air (Volleys).	2
25.	Tennis. Hit over the head.	2
26.	Table tennis. Palms and otherwise offensive strikes. Kick – Improvement.	4
27.	Table tennis. Hands and reverse shocks.	4
28.	Bodybuilding. Complexes for strength training.	4
29.	Monitoring, evaluation, technical skills.	4
	Total	**60**

FM 09 SYLLABUS of Physiology

№	**Physiology:** **LECTURES - 2 semester**	**hours**
1.	Introduction to Physiology. Principles of control and regulation in the human body. Homeostasis. Function of the cell membrane. Transport through the cell membrane - passive and active transport. Transport through cellular sheets.	2
2.	Excitable tissues. Resting membrane potential. Nerve action potentials. Propagation of the action potential.	2
3.	Mechanisms of cell-to-cell signaling. Synaptic transmission. Functional anatomy. Chemical transmission of synaptic activity. Chemical substances-synaptic transmitters.	2
4.	Skeletal muscle. Physiological anatomy of skeletal muscle. Mechanism of muscle contraction. Motor unit. Characteristics of whole skeletal muscle contraction. Length –tension and force – velocity curve.	2
5.	Energy of muscle contraction. Smooth muscle. Types of smooth muscle. Morphology and function.	2
6.	Blood components. Functional role of plasma proteins. Blood components. Red blood cells, hemoglobin. Hemopoesis.	2
7.	Resistance of the body to infection. Leukocytes. Hemostasis and blood coagulation.	2
8.	CVS - cardiac muscle, morphology and function. Electrical activity of the heart. Electrocardiogram (ECG).	2
9.	Cardiac cycle. Function of the valves. Work output of the heart. Heart sounds. Intrinsic and extrinsic regulation of myocardial performance.	2
10.	The circulation. Physical characteristics of the circulation. Dynamic of blood pressure, flow and resistance. Microcirculation. Veins and their functions.	2
11.	Neuronal regulation of the circulation. Rapid control of the arterial pressure. Long-term regulation of arterial pressure. Circulation through special regions.	2
12.	Respiration. Pulmonary ventilation. Pleural and alveolar pressure. Compliance of the lungs. Surfactant. Lung volumes and capacities. Alveolar ventilation.	2
13.	Physical principles of gas exchange. Gas exchange through respiratory membrane. Gas transport between the lungs and tissues.	2
14.	Regulation of respiration. Control of breathing - central organization of breathing, chemoreceptor control of breathing, chemical control of breathing. Effects of high altitude and sea diving physiology.	2
15.	General principle of gastrointestinal tract. Neuronal and hormonal control of functions, blood flow.	2
	Total	**30**

№	**Physiology:** **PRACTICAL EXERCISES - 2 semester**	**hours**
1.	White blood cells.	4
2.	Red blood cells. Hemoglobin. Hematocrit. Hematological indices.	4
3.	Blood groups. Hemostasis and blood coagulation.	4
4.	Colloquium: Blood.	4
5.	Skeletal muscles.	4
6.	Colloquium: Cellular physiology. Muscles.	4
7.	Structure of the heart in relation to function. Effect of temperature on the sinus venosus. Stanius ligatures.	4
8.	Extrasystoles. Cardiac control.	4
9.	ECG- recording.	4
10.	ECG – analysis.	4
11.	Heart sounds. Pulse. Arterial pressure.	4
12.	Colloquium: Cardiovascular system.	4
13.	Respiration. Lung volumes and capacities. Pulmonary ventilation.	4
14.	Control of breathing. Gas exchange.	4
15.	Seminar: Respiratory system.	4
	Total	**120**

№	**Physiology:** **LECTURES - 3 semester**	**hours**
1.	Transport and mixing of food in the gastrointestinal tract. Secretory function of the alimentary tract. Secretion of saliva, gastric secretion. Pancreatic secretion. Liver and bilary system. Intestinal secretion.	3
2.	Digestion and absorption of carbohydrate, proteins and fats in the gastrointestinal tract. Absorption of water, ions and vitamins. Functions of the liver. Physiology of gastrointestinal disorders.	3
3.	Whole body metabolism. Role of the hormones of the thyroid, pancreatic, adrenal glands and pituitary in the regulation of the whole body metabolism. Temperature regulation.	3
4.	The kidney. Functional anatomy. Renal circulation. Clearance. Tubular processing of glomerular filtration. Urine concentration and dilution. Micturition.	3
5.	Control of body fluid osmolality and volume. Role of the hormones of the thyroid, pancreatic, adrenal glands and pituitary in the regulation of the body fluid osmolality and volume. Regulation of acid-base balance.	3
6.	Endocrine physiology – general principles. Mechanism of hormonal action. The pituitary hormones and their control by the hypothalamus. The adrenocortical hormones.	3
7.	The thyroid metabolic hormones. The hormones of the pancreatic islets.	3
8.	Reproductive and hormonal functions of the male.	3
9.	Reproductive and hormonal functions of the female.	3
10.	Sensory physiology – general principles. General organization. The vestibular system.	3
11.	The visual and the auditory systems.	3
12.	Motor control – general principles. Motor function of spinal cord. The cord reflexes. Cortical and brainstem control of motor function. Motor control by	3

	cerebellum and basal ganglia.	
13.	The autonomic nervous system. The adrenal medulla.	3
14.	.Hypothalamus. Activating-driving systems of the brain. States of brain activity sleep. The electroencephalogram.	3
15.	The limbic system. Higher functions of the nervous system. Learning, memory, speech.	3
	Total	**45**

№	**Physiology:** **PRACTICAL EXERCISES - 3 semester**	**hours**
1.	Metabolic Rate. Basal metabolic rate. Dietary balances.	4
2.	Colloquium: Digestive System**.**	4
3.	Clearance.	4
4.	Acid- Base balance.	4
5.	Colloquium: The body fluids and kidneys.	4
6.	Endocrine system.	4
7.	Colloquium: Endocrine system.	4
8.	Reflex function of the Nervous system.	4
9.	Somatic sensations. The auditory system. The chemical sense of taste.	4
10.	The visual system.	4
11.	Colloquium: The special senses**.**	4
12.	The autonomic nervous system. EEG.	4
13.	Seminar: Nervous system.	4
14.	Changes in the organism during exercises.	4
15.	Revision.	4
	Total	**120**

FM 10 SYLLABUS of Biochemistry

№	**Biochemistry:** **LECTURES - 2 semester**	**hours**
1.	Composition and Structure of Proteins. Levels of Protein Structure. Biologically Active Peptides.	2
2.	Protein Folding. Properties and Functions of Proteins.	2
3.	Nucleotide - Structure and Function: Nucleic Acid Components, Energy-Rich Compounds, Redox Systems and Coenzymes. Nucleic acids DNA- synthesis, Structure and Function. RNA-types, Synthesis, Structure and Function.	2
4.	Enzymes: General Properties. Enzyme Specificity. Nomenclature and Classification. Isozymes. Mechanism of Enzymatic Action. Mechanisms of Regulation of Enzyme Activity. Control of Metabolic Pathways. Examples of Enzyme Regulation: Glycogen Phosphorylase and Glycogen Synthase, Zymogens.	2
5.	The Kinetics of Enzyme Catalysis: Competitive and Non-competitive Inhibition. Examples of Enzyme Inhibitors as Drugs.	2
6.	Determination of Enzyme Activity. Clinical Importance of Enzymes. Examples of Enzymes in Diagnosis of Certain Diseases: Myocardial infarction, Hepatitis, Acute Pancreatitis, Parotitis.	2
7.	Overview of Intermediary Metabolism. Metabolic Pathways: Catabolic and	2

	Anabolic Processes. The High Energy Bond. The Role of ATP. Mitochondrial Oxidation. Structure of Electron Transfer Chain. The Coupling of Processes of Oxidation and Phosphorylation. Regulation of Electron Transfer Chain: Inhibitors, Uncoupling agents. Thermogenesis.	
8.	Dietary Carbohydrates. Digestion and Absorption of Carbohydrates. Glucose Transport.	2
9.	Glucose Metabolism. Glycolysis under Anaerobic Conditions.	2
10.	Oxidative Decarboxylation of Pyruvate. Pyruvate Dehydrogenase Complex. Regulation. Energetic and Metabolic Balance. Citric Acid Cycle. Regulation. Energetic and Metabolic Balance. Relationship with other metabolic pathways.	2
11.	Aerobic Glycolysis. Relationship with Citric Acid Cycle and Electron Transfer Chain Respiratory. Glycerophosphate Shuttle and Malate Shuttle to transport reducing equivalents to mitochondria. Gluconeogenesis Pathway. Intertissue Relationships: The Lactic Acid (Cori) Cycle. Regulation of Glycolysis and Gluconeogenesis Pathways. Organ Specificity.	2
12.	The Pentose Phosphate Pathway. Biological Role of Ribose 5-phospate and NADPH.	2
13.	Metabolism of Galactose and Fructose. Enzyme Deficiency. Hexosamines. Regulation of Carbohydrate Metabolism. Control of Blood Glucose Level in Different Conditions: Well Fed State, Fasting, Prolonged Starvation.	2
14.	Metabolism of Glycogen. Regulation of Glycogen Metabolism. Glycogen Storage Diseases.	2
15.	Classification of Lipids. Digestion and Absorption of Lipids. Synthesis of Chylomicrons. Lipid Transport in Serum: Triacylglycerol Transport by Lipoproteins.	2
16.	Lipid Transport in Serum: Cholesterol Transport by Lipoproteins. Metabolism of Triacylglycerols. Regulation of Lipolysis and Lipogenesis in Various Organs. Glycerol Metabolism.	2
17.	β-Oxidation of Fatty Acids with an Even Number of Carbon Atoms. Regulation.	2
18.	Oxidation of Fatty Acids with an Odd Number of Carbon Atoms. α- and ω-Oxidation of Fatty Acids. Role of vitamine B12.	2
19.	Ketogenesis and Ketolysis. Intertissue Relationships in Ketone Body Metabolism. Ketoacidosis.	2
20.	Biosynthesis of Fatty Acids. Regulation.	2
21.	Metabolism of Phosphoacylglycerols. Role of Lecithin and Phosphatidylinositol 4,5-bisphosphate. Regulation.	2
22.	Metabolism of Sphingolipids: Sphingophospholipids and Glycolipids. Sphingolipidoses.	2
	Total	**44**

№	**Biochemistry:** **PRACTICAL EXERCISES - 2 semester**	**hours**
1.	Biopolymers-Revision. Amino acids-classification. Peptide bond. Biologically active peptides. Primary structure of the proteins. Conformation of the protein molecules. The chemical nature of enzymes. Coenzyme - structure and function. Active site. Specifity of enzyme action. Mechanisms of action. Classification of	3

	the enzymes. Inhibition and activation of enzymes. 1. Quantitative determination of proteins by Biuret reaction.	
2.	Enzymes I – Kinetics. Initial rate-influence of enzyme concentration. Effect of substrate concentration on the velocity of an enzyme-catalyzed reaction. The Michaelis-Menteh equation- model the effect of substrate concentration. Regulation of Activities. 1. Quantitative determination of Km of urease.	3
3.	Enzymes II- Diagnostic significance. Regulation of enzyme Activities. Diagnostic significance of the enzymes. 1. Determination of alpha-amylase in blood serum.	3
4.	Nucleic acids. Nucleic acids. The chemical nature and structure of DNA. The chemical nature of RNA. The human genome. 1. Isolation of DNA.	3
5.	Nucleic acids. Mechanisms for regulating gene expression in eukaryotic cells. Use of recombinant DNA techniques in medicine. 1. PCR-demonstration in patients with cystic fibrosis.	3
6.	Biopolymers and enzymes. Written test and oral exam.	3
7.	Bioenergetics. The role of ATP. Biologic oxidation. Biomedical importance. The respiratory chain. Oxidative phosphorylation. The chemiosmotic theory. 1. Determination of Creatine phosphokinase (CPK) in serum by UV test.	3
8.	The Metabolism of Carbohydrates I. Digestion. Absorption of monosacharides. Glycolysis under aerobic and anaerobic conditions. The oxidative decarboxilation of Pyruvate. 1. Determination of lactate dehydrogemase activity in serum.	3
9.	The Metabolism of Carbohydrates II. The Citric Acid Cycle. Biomedical importance, regulation. Gluconeogenesis. The lactic acid (Cori) cycle and glucose-alanine cycle. The Pentose phosphate pathway and other pathways of hexose. Metabolism. 1. Quantitative determination of patient's glucose by gluco - test.	3
10.	Metabolism of carbohydrate – III. Metabolism of glycogen. Regulation. Gluconeogenesis. Control of the blood glucose. Biomedical importance. Diabetes mellitus. 1. Glucose tolerance test- Construction of glucose tolerance curve.	3
11.	Metabolism of lipids –I. Digestion and absorption. Lipid transport and storage. Lipoproteins. 1. Determination of the total lipid concentration in serum by a phosphovanillin method.	3
12.	Bioenergetics. Metabolism of carbohydrates. Written test and oral exam.	3
13.	Metabolism of lipids – II. Metabolism of acylglycerols. Glycerol metabolism. Oxidation of fatty acids with an even and an odd number of carbon atoms. 1. Quantitative determination of triacylglycerols in serum.	3
14.	Metabolism of lipids – III. Synthesis of fatty acids. Metabolism of ketone bodies, Phosphoacylglycerols and Sphingolipids Sphingolipidoses. 1. Quantitative determination of phosphoacylglycerols in serum.	3
15.	Metabolism of lipids – IV. Revision of lipid metabolism.	3
	Total	**45**

№	**Biochemistry:** **LECTURES - 3 semester**	**hours**
1.	Cholesterol Synthesis. Main Metabolites. Regulation. Conversion of Cholesterol	2

	to Specialised Products: Bile Acids. Cholesterol Excretion. Clinical Aspects of Cholesterol Metabolism.	
2.	Conversion of Cholesterol to Specialised Products: Steroid Hormones and Calcitriol. Synthesis and Function. Synthesis of Eicosanoids: Prostaglandins, Prostacyclines, Leukotrienes, Lipoxines and Tromboxanes. Main Regulatory Enzymes. Therapeutic Uses of Enzyme Inhibitors - COX.	2
3.	Digestion of Proteins. Absorption of Amino Acids. Overview of Metabolism of Amino Acids. Nitrogen Balance. Transamination Reactions. Role of Vitamin B6. The Important Aminotransferases.	2
4.	Oxidative Deamination of Amino Acids. The Role of Glutamate.	2
5.	Fate of Amino Acid Nitrogen.Biosynthesis of Urea. Other Ways of Detoxification of Ammonia: Reductive Amination, Biosynthesis of Glutamine, The Role of Renal Glutaminase. Decarboxylation of Amino Acids. Biosynthesis of Physiologically Active Amines, Their Importance and Degradation. Polyamines.	2
6.	Catabolism of Carbon Skeletons of Amino Acids. Glucogenic and Ketogenic Amino Acids. Essential and Nonessential Amino Acids. Biosynthesis of Nonessential Amino Acids. Tetrahydrofolate as a Carrier of "C_1"-One-Carbon-Units. Inhibitors of Folate Reductase as Drugs.	2
7.	Metabolism of Phenylalanine and Tyrosine. Inherited Enzyme Defects - Phenylketonuria and Alkaptonuria. Conversion of Amino Acids to Specialised Products: Synthesis and Degradation of Catecholamines (Dopamine, Epinephrine and Norepinephrine). Conversion of Amino Acids to Specialised Products: Synthesis and Degradation Melanins and Thyroid Hormones.	2
8.	Metabolism of Tryptophan. Synthesis of NAD and Other Biologically Active Compounds.	2
9.	Metabolism of S-Containing Amino Acids: Cysteine and Methionine. Enzyme Defects.	2
10.	Amino Acid Metabolism in Liver, Gut and Kidney. Amino Acid Metabolism in Muscle and CNS.	2
11.	Metabolic Disturbance in Diabetes Mellitus. Biosynthesis and Degradation of Purines. Enzyme Defects. Biosynthesis and Degradation of Pyrimidines.	2
12.	Hormones. Structure and Function.Classification. Mechanism of Hormone Action. Second Messengers: cAMP.	2
13.	Mechanism of Hormone Action. Second Messengers: DAG and Inositol triphosphate. Mechanism of Action of Hormones with Intracellular Receptors. Steroid and Thyroid Hormones, Calcitriol.	2
14.	Mechanism of Action of Insulin and Growth Factors. Hormonal Regulation of Metabolism in the Fed and Fasting State.	2
15.	Biosynthesis of Porphyrin. Porphyrias. Degradation of Haemoglobin. Metabolism of Bile Pigments. Jaundice.	2
16.	Haemoglobin: Structure, Function and Types. Haemoglobin Genes.	2
17.	Iron Metabolism. Regulation.	2
18.	Metabolism in Erythrocytes (RBC). Metabolism in Leukocytes (WBC) and Platelets.	2
19.	Biochemistry of Liver. Biotransformation Processes. The Role of Cytochrome P 450.	2
20.	Metabolism in Nerve Tissue. Neurotransmitters: Acetylcholine, Dopamine, GABA.	2

21.	Metabolism in Renal Cortex and Medulla: Glycolysis, Gluconeogenesis, Renal Glutaminase, Buffers. Metabolism in Muscle Tissue. Bioenergetics of Muscle Contraction in Various Types of Fibers. Metabolism of Creatine.	2
22.	Biochemistry of Connective Tissue Proteins: Collagens. Structure of Glycosaminoglycans.	2
23.	Eukaryotic Genome – Structure and Function. Methods of DNA Analysis. Nutrigenomics. Gene Modulation. Gene Polymorphism.	2
	Total	**46**

№	**Biochemistry:** **PRACTICAL EXERCISES - 3 semester**	**hours**
1.	Metabolism of Lipids-V. Cholesterol synthesis. Regulation. Transport. Clinical aspects. The main derivatives. 1. Quantification of total cholesterol and cholesterol fractions in serum. 2. Thin layer chromatography of serum lipids.	3
2.	Metabolism of Lipids-VI. Overview of Glycerophospholipids and sphingolipids. Eicosanoids. 1. Isolation and characterization of phosphatidylcholine (Lecithin). 2. Clinical case	3
3.	Metabolism of Lipids. Written test and oral exam.	3
4.	Metabolism of Amino acids - I. Transamination, deamination. Enzymes and coenzymes. Clinical aspects. The role of glutamate. Decarboxilation. Monoamino oxidase (MAO). Essential and nonessential aminoacids. 1. Determination of transaminase activities in scrum. 2. Enzyme constellation in Myocardial infarction.	3
5.	Metabolism of Amino acids - II. The Urea cycle. Tetrahydrofolate-carrier of activated. One-carbon units. Glucogenic and ketogenic amino acids. 1. Determination of urea in serum. 2. Determination of gama-glutamyltranspeptidase activity in serum.	3
6.	Metabolism of Amino acids – III. Conversion of amino acids to specialized products. Metabolism of Cysteine (PAPS) and Methionine (SAM), Phenylalanine and Tyrosine. Catecholamines, Thyroid hormones, Melanins. 1. Determination of Leucinaminopeptidase activity in scrum.	3
7.	MetabolismofNucleotides.MetabolismofPurine&Pyrimidine Nucleotides.Metabolic disorders: Gout and Lesch-Nyhan Syndrome. 1. Quantification of Uric acid in serum. 2. CIinical case.	3
8.	Metabolism of Amino acids. Written test and oral exam.	3
9.	Blood Biochemistry - I. Porphyrins and Bile pigments. The porphyrias. Jaundice. Urobilinogens and Bilirubins in urine as clinical indicator. 1. Indication of total bilirubin in serum. 2. Demonstration of bilirubin and urobilinogen in urine.	3
10.	Blood Biochemistry -II.Hemoglobin: Structure, Function, Bohr effect, Molecular pathology of Hb. Metabolism of Iron. 1. Quantification of iron in serum. 2. Clinical case.	3
11.	Blood Biochemistry - III. Metabolism of Red, White blood cells and platelets. Plasma proteins. 1. Clinical case.	3

12.	Hormones. Classification. Mechanism of action. The role of second messenger, intracellular receptor. Insulin and Growth factors. 1. Quantification of Epinephrine in urine. 2. Demonstration of protein and steroid hormones.	3
13.	Blood Biochemistry. Hormones. Written test and oral exam.	3
14.	Biochemistry of the tissues-I. The role of the Liver in metabolism. Excretory function. Biotransformation processes. 1. Demonstration of sulfate esters with PAPS -origin in urine. 2. Clinical case.	3
15.	Biochemistry of the tissues-II. Muscle tissue. The major proteins. ATP sources. 1. Quantification of creatinin in scrum. 2. Demonsfration of creatinin in urine.	3
	Total	**45**

FM 11 SYLLABUS of Social Medicine

№	**Social Medicine:** **LECTURES - 3 semester**	**hours**
1.	Demographic approaches to health assessment. Fertility and total mortality related indicators. Definitions, assessment and world trends.	2
2.	Demographic approaches to health assessment. Infant mortality and under-5 mortality rate. Life expectancy. Definitions, assessment and world trends.	2
3.	Health care system as a social system – definition, objectives, evolution, reforms. WHO approach to health systems assessment?	2
4.	Typology of health systems. Priorities of health policy in developed and developing countries.	2
5.	Primary health care. WHO strategy for primary health care.	2
6.	Health problems of mothers and children. WHO initiatives.	2
7.	Hospital care - current situation and future development.	2
8.	International health collaboration. WHO. Other specialised UN agencies. WHO strategy “Health for all in the 21 century”.	2
	Total	**16**

№	**Social Medicine:** **PRACTICAL EXERCISES - 3 semester**	**hours**
1.	Social determinants of health and disease.	
2.	Sociological approaches to investigation: Sources and methods of collecting data. Questionnaire design - question and questionnaire formats, construction of questionnaire. Self-administered questionnaire.	2
3.	Sociological approaches to investigation: Interview - types, methods of conducting, the interview process, ways of recording information, analysis of interview data.	2
4.	Sociological approaches to investigation. Observation - types, observer roles, approaches to conducting.	2
5.	Test on sociology. Epidemiology: Basic concepts - risk, risk factor, ratio, rate, proportion, population at risk. Measuring disease frequency - prevalence, incidence rate, cumulative incidence.	2
6.	Epidemiology: Comparing disease occurrence. Absolute comparison - risk	2

	difference, attributable fraction, population attributable risk. Relative comparison - relative risk and odds ratio.	
7.	Epidemiology: Types of studies in epidemiology. Descriptive studies. Ecological studies. Cross-sectional studies. Potential errors in epidemiological studies. Systematic error - types of bias, confounding.	2
8.	Epidemiology: Cohort and Case-control studies - types, design, conducting, potential errors.	2
9.	Colloquium on epidemiology.	2
10.	Morbidity - basic measures. Systems of morbidity registration. ICD-9, ICD-10.	2
11.	International trends and leading causes of communicable and non-communicable morbidity. Major risk factors of non-communicable diseases. Life-style risk factors.	2
12.	Test on morbidity. Health promotion. Methods of health education.	2
13.	Prevention - levels and strategies. Screening.	2
14.	Presentation of educational materials developed by the students.	2
15.	Sociological and epidemiological approaches in Public health – overview.	2
	Total	**30**

№	**Social Medicine:** **LECTURES - 4 semester**	**hours**
1.	Social medicine as a science – subject matter, objectives, methods. Social determinants of health and disease.	2
2.	Sociology as applied to medicine and health care system. Sociologic approaches to medical research. Sources and methods of collecting data. Questionnaire design. Self-administered questionnaire. Interview. Observation.	2
3.	Epidemiology – definition and scope of epidemiology. Basic concepts in epidemiology. Measuring disease frequency. Comparing disease occurrence – absolute and relative comparison.	2
4.	Types of epidemiological studies. Descriptive studies. Analytical studies – types, design, conducting. Potential errors.	2
5.	Public health – concept. Measurement of morbidity. Sources and methods of studying morbidity. Disease recording systems. ICD – 10. Trernds and leading causes of morbidity. DALYs.	2
6.	Epidemiology and prevention. The scope of prevention. Levels of prevention. Primary prevention – high and population strategies. Secondary prevention. Screening. WHO global prevention programmes.	2
7.	Demographic approaches to health assessment. Population – size and composition by sex, residence, age structure. Methods of assessing population age structure, age pyramid analysis. Social and medical consequences of population aging.	2
	Total	**16**

№	**Social Medicine:** **PRACTICAL EXERCISES - 4 semester**	**hours**
1.	Demographic approaches to health assessment: Population - size and composition by sex, residence, age structure. Methods of assessing population age structure, age pyramid analysis. Social and medical consequences of population aging.	2
2.	Demographic approaches to health assessment: Birth and fertility. Indices of	2

	fertility, trends and problems. Registration of births.	
3.	Demographic approaches to health assessment: Mortality. Measures of mortality, leading causes of death, trends in mortality. Registration and certification of deaths.	2
4.	Standardization. Direct and indirect method.	2
5.	Demographic approaches to health assessment: Infant mortality. Measures of deaths in infancy. Under-5 mortality rate. Factors and trends of infant mortality and U5MR in developed and developing countries.	2
6.	Demographic approaches to health assessment: Life expectancy - definition, construction of life tables, trends and problems.	2
7.	Colloquium on demographic approaches to health assessment.	2
8.	Health care system - goals, principles of organization, structure.	2
9.	Primary health care - Organizational models.	2
10.	Test on health care system and PHC. Medical and social problems of women health. Health services for women.	2
11.	Medical and social problems of children' health. Health services for children.	2
12.	Health care for the elderly. Rural health services.	2
13.	Hospital care.	2
14.	Sociology, Epidemiology and Morbidity - overview	2
15.	Main problems of contemporary population health and health care systems. Demography - overview.	2
	Total	**30**

FM 12 SYLLABUS of Medical Ethics

№	**Medical Ethics:** **LECTURES - 4 semester**	**hours**
1.	Introduction to ethics. Principles of bioethics.	2
2.	Confidentiality in medical practice. Models of physician-patient relationships.	2
3.	Informed consent.	2
4.	Reproductive ethics. Ethics and genetics.	2
5.	Ethical issues at the end of life. Palliative / hospice care. Euthanasia.	2
6.	Ethical problems of research and human experimentation.	2
7.	Ethical problems of organ- and tissue transplantation. Justice in health care.	3
	Total	**15**

№	**Medical Ethics:** **PRACTICAL EXERCISES - 4 semester**	**hours**
1.	Basic concepts of ethics. Importance of ethics in medicine. The Hippocratic Oath, Declaration of Geneva, World Medical Association International Code of Medical Ethics.Principles of ethics: respect for autonomy, beneficence and non-maleficence, justice. The concept of confidentiality.	2
2.	Informed consent in medicine - criteria for valid consent. Competence. Consent by proxy and by minors. Models of doctor - patient relationship. Rights of patients. Declaration of Lisbon.	2
3.	Ethical aspects of human reproduction - contraception, abortion, sex pre-selection. Assisted reproductive technologies - artificial insemination, in vitro fertilisation. Surrogacy.	2

4.	Ethical problems of death and dying. Truth telling. Relief of pain. Hospice care.	2
5.	Euthanasia - definitions, active and passive euthanasia. Ethical issues of physician assisted suicide.	2
6.	Ethical problems of research and human experimentation - Declaration of Helsinki. Organ transplantation.	2
7.	Economics and health care. Distributive justice in health care. Moral dilemmas in allocating medical resources. Ethical questions of macro and microallocation.	3
	Total	**15**

FM 13 SYLLABUS of Microbiology

№	**Microbiology:** **LECTURES - 3 semester**	**hours**
1.	The science of microbiology. Bacteria compared with other microorganisms.	2
2.	Bacterial structure.	2
3.	Classification of bacteria. The growth of microorganisms.	2
4.	Bacterial metabolism.	2
5.	Bacterial genetics.	2
6.	Pathogenesis of Bacterial infections.	2
7.	Host defenses. Nonspecific defenses.	2
8.	Humoral immunity. Cell mediated immunity.	2
9.	Pathologic consequences of the immune response.	2
10.	Antimicrobial chemotherapy.	2
11.	Drug resistance.	2
12.	Normal microbial flora of the body.	2
13.	Genus Staphylococcus.	2
14.	Genus Streptococcus.	2
15.	Genus Enterococcus. Genus neisseria.	2
	Total	**30**

№	**Microbiology:** **PRACTICAL EXERCISES - 3 semester**	**hours**
1.	Organization of the Clinical microbiology laboratory. Optical methods for laboratory diagnosis of infectious diseases.	2
2.	Staining procedures for bacteria.	2
3.	Commonly used stains in bacteriology.	2
4.	Methods for cultivation and isolation of bacteria.	2
5.	Conventional and automated methods for identification of bacteria.	2
6.	Molecular and serologic diagnosis of infectious diseases.	2
7.	Methods for testing antimicrobial susceptibility.	2
8.	Colloquium.	2
9.	Disinfection and sterilization.	2
10.	Vaccines and sera.	2
11.	Microbiological diagnosis of infectious caused by gram-positive cocci: Genus staphylococcus.	2
12.	Microbiological diagnosis of infectious caused by gram-positive cocci: Genus streptococcus. Genus enterococcus.	2
13.	Microbiological diagnosis of infectious caused by gram- positive aerobic spore - forming and non spore- forming rods.	2

14.	Microbiological diagnosis of infectious caused by gram-negative cocci and coccobacteria.	2
15.	Microbiological diagnosis of infectious caused by enteric pathogens.	2
	Total	**30**

№	**Microbiology:** **LECTURES - 4 semester**	**hours**
1.	Familly Enterobacteriaceae: General Characteristics. Opportunistic Enteric Bacteria.	2
2.	Pathogenic Enteric Bacteria. Genus Salmonella. Genus Shigella.	2
3.	Nonfermentative Gram-Negative Bacilli. Genus Pseudomonas.	2
4.	Genus Haemophilus. Genus Bordetella.	2
5.	Genus Mycobacterium. Genus Corynebacterium.	2
6.	Non – Spore Forming Anaerobic Bacteria.	2
7.	Spore – Forming Anaerobic Bacteria.	2
8.	Genus Treponema. Genus Borrelia.	2
9.	Genus Mycoplasma. Genus Ureaplasma. Familly Chlamydiaceae.	2
10.	General Properties of Viruses. Antiviral Drugs.	2
11.	Role of Viruses in Infectious Diseases.	2
12.	Familly Herpesviridae.	2
13.	Hepatitis Viruses.	2
14.	Familly Retroviridae.	2
15.	Fungi. General Characteristics. Etiologic Agents of Opportunistic and Systemic Mycoses.	2
	Total	**30**

№	**Microbiology:** **PRACTICAL EXERCISES - 4 semester**	**hours**
1.	Microbiological diagnosis of infections caused by enterobacteria.	3
2.	Microbiological diagnosis of cholera and infections caused by nonfermentative gram-negative bacteria.	3
3.	Microbiological diagnosis of infections caused by spore-forming and non – spore forming anaerobic bacteria.	3
4.	Microbiological diagnosis of tuberculosis and infections caused by medically important fungi.	3
5.	Microbiological diagnosis of infections caused by spirochaetes, mycoplasma and chlamydia.	3
6.	Colloquium.	3
7.	Laboratory diagnosis of central nervous system. Infections.	3
8.	Laboratory diagnosis of bloodstream Infections.	3
9.	Laboratory diagnosis of respiratory tract infections.	3
10.	Laboratory diagnosis of genitourinary tract infections.	3
11.	Laboratory diagnosis of gastrointestinal tract infections.	3
12.	Laboratory diagnosis of infections of skin, muscles, bone joints and wounds.	3
13.	Laboratory diagnosis of viral infections. Laboratory diagnosis of infections caused by respiratory viruses.	3
14.	Laboratory diagnosis of infections caused by enteroviruses and hepatitis viruses. Mumps. Viral exanthematic diseases.	3

15.	Laboratory diagnosis of infections caused by sexually – transmitted viruses, congenital viruses, oncoviruses, and viruses transmitted by blood – sucking arthropod vectors.	3
	Total	**45**

FM 14 SYLLABUS of Medical Genetics

№	**Medical Genetics:** **LECTURES - 5 semester**	**hours**
1.	What is medical genetics? Classification of genetic disease. The impact of genetic disease.	2
2.	Organisation of human genom. Structure and function of genes.	2
3.	Mutations as cause of genetic disorders.	2
4.	Chromosome disorders.	2
5.	Haemoglobinopathies.	2
6.	Multifactorial disorders.	2
7.	Unusual pattern of inheritance. Mosaicism. Genomic imprinting and uniparental disomy.	2
8.	Unusual pattern of inheritance. Expansion of trinucleotide repeats – anticipation. Cytoplasmic (mitochondrial) inheritance. Clinical examples.	2
9.	The genetic heterogeneity of single gene disorders.	2
10.	Pleiotropy, variable expressivity and reduced penetrance of single gene disorders.	2
11.	Immunogenetics. Inherited immunodeficiency disorders.	2
12.	Approaches for prevention of genetic disorders. Types of screening.	2
13.	Genetic counselling.	2
14.	Prenatal diagnosis.	2
15.	Cancer genetics.	2
	Total	**30**

№	**Medical Genetics:** **PRACTICAL EXERCISES - 5 semester**	**hours**
1.	Methods for studying genetic disorders. Genetic testing.	2
2.	Single gene mutations I. Patterns of inheritance: autosomal and X-linked, dominant and recessive pattern of inheritance: criteria, genetic risks, general phenotypic features in traits of each type of inheritance, examples.	2
3.	Single gene mutations II. Patterns of inheritance: autosomal and X-linked, recessive pattern of inheritance: criteria, genetic risks, general phenotypic features in traits of each type of inheritance, examples.	2
4.	Chromosomal disorders I. Cytogenetic methods. Steps in cytogenetic preparation. Reporting of karyotypes according to ISCN. Indications for chromosome analysis.	2
5.	Chromosomal disorders II. Autosomal and sex chromosomal abnormalities: genetic impact, main clinical features, incidence, examples, cytogenetic variants, and recurrence risks.	2
6.	Carrier detection and pre-symptomatic diagnosis – obligate carriers, testing for carrier state, screening for carrier detection.	2
7.	Molecular-genetic methods. Techniques of DNA analysis. Application of DNA analysis to genetic disorders.	2

8.	DNA analysis in genetic disorders: haemoglobinopathies, cystic fibrosis, Huntington`s chorea, Duchenne/Becker muscular dystrophy.	2
9.	The inborn errors of metabolism: prevalence, inheritance, common metabolic defects. Population screening programs in newborns.	2
10.	Multifactorial inheritance – factors increasing risk to relatives in multifactorial disorders. Genetics of common disorders.	2
11.	Genetics and congenital abnormalities. Dysmorphology and teratogenesis. Definition of terms, patterns of congenital anomalies, aetiology.	2
12.	Colloquium.	2
13.	Genetic counselling as a process. Principles and steps. Genetic counselling of chromosomal disorders.	2
14.	Genetic counselling of single-gene and multifactorial disorders.Ethical considerations.	2
15.	Cancer genetics. General nature of neoplasia. Malignancy as phenotype. Malignancy as genotype. Tumor suppressor genes. Oncogenes.	2
	Total	**30**

FM 15 SYLLABUS of Pathophysiology

№	**Pathophysiology:** **LECTURES - 4 and 5 semester**	**hours**
1.	Disorders of carbohydrate metabolism.	5
2.	Body fluid imbalance.	5
3.	Fat metabolism – regulation and disorders. Atherosclerosis.	5
4.	Acid – base disorders.	5
5.	Disturbances in peripheral circulation.	5
6.	Pathophysiology of inflammation.	5
7.	Fever.	5
	Total	**45**

№	**Pathophysiology:** **PRACTICAL EXERCISES - 4 and 5 semester**	**hours**
1.	Experimental methods.	4
2.	Disorders of carbohydrate metabolism.	4
3.	Disorders of protein metabolism. Fluid imbalance.	4
4.	Electrolyte disorders.	4
5.	Acid-base disorders.	4
6.	Hypoxia.	4
7.	Disturbances in peripheral circulation I.	4
8.	Disturbances in peripheral circulation II.	4
9.	Colloquium.	4
10.	Environmental factors I.	4
11.	Environmental factors II.	4
12.	Inflammation I.	4
13.	Inflammation II.	4
14.	Fever.	4
15.	Final class.	4
	Total	**60**

FM 16 SYLLABUS of General Pathoanatomy

№	**General Pathoanatomy:** **LECTURES - 4 and 5 semester**	**hours**
1.	Introduction to General Pathoanatomy. Reversible cellular injury.	2
2.	Cellular Adaptation. Cellular growth and differentiation. Atrophy. Hypertrophy. Hyperplasia. Metaplasia. Dysplasia.	2
3.	Pathologic calcification. Hyalinosis. Amyloidosis.	2
4.	Irreversible Cell Injury. Necrosis. Morphology. Apoptosis.	2
5.	Hemodynamic disorders. Edema. Hyperemia and congestion. Hemorrhage.	2
6.	Thrombosis. Disseminated. Intravascular Coagulation (DIC). Embolism.	2
7.	Infarction. Shock.	2
8.	Inflammation. Acute inflammation.	2
9.	Chronic inflammation.	2
10.	Regeneration. Fibrosis. Wound healing.	2
11.	Diseases of immunity: Types of hypersensitivity reactions. Immunodeficiency diseases. Primary immunodeficiency diseases. Autoimmune diseases.	2
12.	Neoplasm. Carcinogenesis. Classification of tumors.	2
13.	Epithelial Tumors.	2
14.	Mesenchymal Tumors.	2
15.	Tumors of Central Nervous System. Melanocytic Tumors. Teratoma.	2
	Total	**30**

№	**General Pathoanatomy:** **PRACTICAL EXERCISES - 4 and 5 semester**	**hours**
1.	Introduction to pathology. Different methods used in pathology. Revision of normal histology of some internal organs of the human body.	2
2.	Reversible cell injury-I. Intracellular accumulation.	2
3.	Reversible cell injury-II. Exogenous and endogenous pigments.	2
4.	Cell adaptations.	2
5.	Irreversible cell injury. Pathology of the connective tissue. Disorders of calcium metabolism.	2
6.	Acute irreversible cell injury.	2
7.	Autopsy.	2
8.	Test. Colloquium.	2
9.	Circulatory disorders I.	2
10.	Circulatory disorders II.	2
11.	Inflammation. Acute Inflammation.	2
12.	Inflammation. Chronic inflammation.	2
13.	Pathological effect of inflammation, regeneration and repair. Wound healing.	2
14.	Diseases of Immunity.	2
15.	Autopsy.	2
16.	Autopsy. Sectional technique.	2
17.	Seminar.	2
18.	Colloquium – Inflammation, circulatory system, immunopathology.	2
19.	Tumor – General Characteristics. Precancerous. Diagnostic methods and cytology.	2
20.	Benign Epithelial Tumors.	2

21.	Malignant Epithelial Tumors.	2
22.	Organ specific tumors.	2
23.	Autopsy. Clinical case.	2
24.	Benign Mesenchymal Tumors.	2
25.	Malignant Mesenchymal Tumors.	2
26.	Tumors of Central Nervous System. Melanoma. Melanin forming pigment tumors.	2
27.	Seminar. Macro- and microscopic preparations of tumors.	2
28.	Test. Colloquium (Tumors).	2
29.	Museum jars and histological preparations of general pathology.	2
30.	Autopsy.	2
	Total	**60**

FM 17 SYLLABUS of Clinical Pathoanatomy

№	**Clinical Pathoanatomy:** **LECTURES - 6 and 7 semester**	**hours**
1.	Diseases of oral cavity and oesophagus. Gastritis and peptic ulcer disease.	2
2.	Tumors of the gastrointestinal tract. Boweldisease.	2
3.	Viral hepatitis. Chronic viral hepatitis. Cirrhosis. Alcoholic liver disease.	2
4.	Tumors of liver. Disorders of the gallbladder, exocrine pancreas and peritoneum.	2
5.	Acute and chronic inflammatory diseases of the respiratory tract and lungs. Bronchitis and bacterial pneumonia.	2
6.	Pulmonary Infection - viral, parasytic and fungal pneumonia. Bronchial asthma. Diffuse alveolar. Damage Haman-Rich disease.	2
7.	Chronic obstructive pulmonary diseases. Emphysema. Bronchiectasiae. Chronic pneumonia.	2
8.	Airway tumors. Tumors of the lungs.	2
9.	Pneumoconiosis. Silicosis. Asbestosis. Berylliosis. Aluminosis. Siderosis.	2
10.	Atherosclerosis. Ischemic Heart Disease (IHD).	2
11.	Hypertensive vascular disease (HD).	2
12.	Vasculitis. Aneurisms. Benign Tumors of Blood Vessels. Malignant tumors of Blood Vessels.	2
13.	Acquired valvular and endocardial diseases.	2
14.	Myocardial Disease. Disease of the Pericardium. Pathology of Interventional Therapies.	2
15.	Glomerular syndromes. Noninflammatory glomerulopathies.Glomerulonephritis.	2
16.	Tubulointerstitial diseases.	2
17.	Male Reproductive System and Prostate Diseases. Malignant tumors and premalignant conditions.	2
18.	Brest diseases.	2
19.	Female reproductive system I. Malignant tumors and premalignant conditions of the vulva, vagina, cervix and uterus.	2
20.	Ovarial tumors. Pregnancy diseases and newborn diseases.	2
21.	Haemopoetic and Lymphoid System Diseases -I. Anaemia. Leukaemia.	2
22.	Haemopoetic and Lymphoid System Diseases -II. Lymphadenitis Malignant Lymphomas.	2
23.	Endocrine diseases -I. Pathology of the thyroid gland. Goiter, hyperthyroidism,	2

	thyroid.	
24.	Endocrine diseases -II. Pathology of the endocrine pancreas.	2
25.	Tuberculosis and leprosy.	2
26.	Nervous System Diseases-I. Demyelinating and degenerative diseases.	2
27.	Nervous System Diseases-II. Inflammatory diseases.	2
28.	Nervous System Diseases-III. Circulatory disorders.	2
29.	Bacterial diseases. Sepsis.	2
30.	Virus Infections. AIDS.	2
	Total	**60**

№	**Clinical Pathoanatomy:** **PRACTICAL EXERCISES - 6 and 7 semester**	**hours**
1.	Macroscopic diagnosis. Autopsy.	2
2.	Digestive diseases. Stomach and duodenum diseases.	2
3.	diseases of the digestive system - small and large intestines.	2
4.	Diseases of the liver and biliary system.	2
5.	Test- digestive system and clinical case.	2
6.	Respiratory diseases. Acute, chronic and inflammatory disease of the lung and pleura. Lung abscess. Lung tumors.	2
7.	Chronic obstructive pulmonary disease (COPD). Chronic bronchitis. Emphysema. Pneumoconiosis.	2
8.	Test- respiratory system and clinical case.	2
9.	Cardiovascular diseases. Atherosclerosis. Ischemic heart disease. Acute myocardial infarction. Chronic forms of coronary artery disease. Complications.	2
10.	Cardiovascular diseases. Hypertensive heart disease. Heart failure.	2
11.	Cardiovascular diseases. Inflammatory heart diseases. Rheumatism. Bacterial endocarditis. Myocarditis. Pericarditis.	2
12.	Test- cardiovascular system and clinical case.	2
13.	Kidney and Urinary Tract Disorders. Glomerulonephritis Acute tubular necrosis. Acute renal failure. Interstitial nephritis. Acute and chronic pyelonephritis. Tumors of the kidney and urinary tract.	2
14.	Test- excretory organs and clinical case.	2
15.	Autopsy.	2
16.	Macroscopic diagnosis.	2
17.	Disorders of the male reproductive system.	2
18.	Disorders of the female reproductive system- I.	2
19.	Disorders of the female reproductive system- II.	2
20.	Test- male and female reproductive system and clinical case.	2
21.	Breast diseases.	2
22.	Childhood pathology and pregnancy diseases.	2
23.	Test- mammary gland, pregnancy, newborn and clinical case.	2
24.	Diseases of the haematopoietic system- I.	2
25.	Diseases of the haematopoietic system- II.	2
26.	Endocrine system diseases.	2
27.	Test- hematopoietic system, endocrine system and clinical case.	2
28.	Infectiousdiseases. Tuberculosis.	2
29.	Diseases of the Nervous System.	2
30.	Test- infectious diseases, nervous abnormality and clinical case.	2
	Total	**60**

FM 18 SYLLABUS of General and Operative Surgery

№	**General and Operative Surgery:** **LECTURES - 4 semester**	**hours**
1.	Development of surgery as a medical specialty. Role and its place among other medical specialities.	2
2.	Aseptic and Antiseptic.	2
3.	Congenital diseases.	3
4.	Acute Purulent infection - Source of the invasion and ways to spread in the body. Tissue processes, local and general symtpoms.	2
5.	Furuncles, carbuncle, folliculitis, hidroadenitis - clinical features and course. Principle of treatment.	2
6.	Abscess, phlegmon - clinical features and course. Principles of treament.	2
7.	Erysipelas, erizipeloid, purulent arthritis.	2
8.	Osteomyelitis.	2
9.	General Purulent infection - sepsis.	2
10.	Gas gangrene.	2
11.	Tetanus. Siberian ulcer.	2
12.	Chronic infectious processes - TB, actinobacteriosis, mycetoma.	2
13.	Necrosis and gangrene - surgery and approach.	2
14.	Ulcers and fistulae - essence of the problem and surgical approach.	2
15.	Acute and chronic disorder of blood circulation - clinical significance and its approach.	2
	Total	**30**

№	**General and Operative Surgery:** **PRACTICAL EXERCISES - 4 semester**	**hours**
1.	History - general rules, collectively taking the medical history with the help of the teacher.	3
2.	History 2.	3
3.	Methods in the clinical examination of surgical patients. Inspection, palpation, percussion, aucultation.	3
4.	Present status, general status, and surgical status - common rules and plan to record the overall status.	3
5.	Asepsis and antiseptic.	3
6.	Examination of skin and visible mucous membranes.	3
7.	Exploration of the lymphatic system.	3
8.	Examination of arteries.	3
9.	Examination of veins.	3
10.	Examination of head.	3
11.	Examination of neck.	3
12.	Examination of the thyroid gland.	3
13.	Examination of Thoracic cage.	3
14.	Examination of the breast gland.	3
15.	Colloquium.	3
	Total	**45**

№	**General and Operative Surgery:** **LECTURES - 5 semester**	**hours**
1.	Disease process of venous system, principles of diagnosis and treament.	2
2.	Disease of lymphatic system.	2
3.	Tumors. TNM-classification. Surgical significance in the concept of Benign and Malignant tumor.	2
4.	Principle of treatment in patients with Tumor process.	2
5.	Trauma as complex problem in medicine.	2
6.	Open Trauma. Types of wounds.	2
7.	Haemorrhage and hemostasis - surgical importance.	2
8.	Characteristic of wounds. Approach.	2
9.	Wound healing.	2
10.	Thermal trauma and effects of chemical agents on skin.	2
11.	Effect of low temperatures and electrical energy on the human organism and their treatment.	2
12.	Closed trauma Contusion, distorsion, luxation - clinical diagnosis and principles of treatment.	2
13.	Fractures of the bones - clinical diagnosis and principles of treatment.	2
14.	Principle of basic surgical technique.	2
15.	Transplantation.	2
	Total	**30**

№	**General and Operative Surgery:** **PRACTICAL EXERCISES - 5 semester**	**hours**
1.	Blood groups.	2
2.	Examination of the Abdomen.	2
3.	Palpation of the Abdomen.	2
4.	General exercise in examination of the abdomen.	2
5.	Examination in Urological Patient.	2
6.	Examination of the perineum, anus and rectum.	2
7.	Examination of the limbs.	2
8.	Examination of joint of lower limb.	2
9.	Examination of patient with wound, ulcer and fistula.	2
10.	Examination of Patient with hernia.	2
11.	Colloquium.	2
12.	Aseptic and septic wound dressing.	2
13.	Injections.	2
14.	Haemostasis.	2
15.	Dressing. General considerations, materials and rules of dressing. Dressing of upper limb.	2
16.	Dressing of lower limb, Plaster of paris dressing, adhesive dressing, fixating adhesive dressing materials and technical elements. Practical exercises.	2
17.	Dressing of head and Thorax (dressing of Velpo and Dezo). Materials and technical elements. Practical exercise.	2
18.	Examination of Ileus patient.	2
19.	Examination of the patient with acute appendicites.	2
20.	Examination of the patient with Bleeding from upper GI tract.	2
21.	Examination of a patient with trauma.	2
22.	Examination of a patient with burns.	2

23.	Examination of a patient with sepsis.	2
24.	Examination of patient with mechanical jaundice.	2
25.	Examination of an oncologic patient.	2
26.	Examination of surgical patient with diabetes mellitus.	2
27.	Examination of a patient with inflammatory diseases of the hand.	2
28.	Examination of surgical disease in an elderly patient.	2
29.	Examination of a patient with acute pancreatitis.	2
30.	Colloquium.	2
	Total	**60**

FM 19 SYLLABUS of Propaedeutics of Internal Diseases

№	**Propaedeutics of Internal Diseases: LECTURES - 4 semester**	**hours**
1.	Introduction to the propaedeutics of internal medicine. History taking. Physical examination.	3
2.	Diagnosis of the diseases. Sensorial methods of examination. Inspection. General considerations. Build of the patint. Examination of the head and neck.	3
3.	Major manifestations of the lung diseases.	3
4.	Inspection and palpation of the chest. Percussion of the lungs.	3
5.	Auscultation of the lungs. Ancillary investigations.	3
6.	Upper respiratory tract infections. Acute tracheobronchitis. Bronchial asthma. Lung emphysema. Cor pulmonale.	3
7.	Pneumonias. Pneumofibrosis. Abscess of the lung.	3
8.	Pulmonary thromboembolism. Tumors of the lungs. Pleurisy and pleural effusion.	3
9.	Shock. Hypertension. Chronic heart failure.	3
10.	ECG- normal and pathological images (arrhythmias, blocks, ishaemic heart disease, myocardial infarction etc.).	3
11.	Cardiac arrhythmias- ECG features. Examination of the arterial pulses. Inspection of the praecordium.	3
12.	Palpation of the praecordium and auscultation of the heart.	3
13.	Rheumatic fever.Acquired valvular heart diseases.	3
14.	Atherosclerosis. Arterial hypertension. Ischaemic disease.	3
15.	Endocardites. Myocardites. Pericardites.	3
	Total	**45**

№	**Propaedeutics of Internal Diseases: PRACTICAL EXERCISES - 4 semester**	**hours**
1.	History taking- presenting complaint, present illness.	3
2.	History taking- previous illness, menstrual and occupational history.	3
3.	History taking- writing out the history.	3
4.	General considerations.	3
5.	Examination of head and neck.	3
6.	Inspection and palpation of the chest.	3
7.	Percussionof the chest- technique and normal findings.	3
8.	Percussionof the chest- pathological changes.	3
9.	Auscultation of the lungs- technique and normal findings.	3

10.	Auscultation of the lungs- pathological changes.	3
11.	Chronic bronchitis and emphysema.	3
12.	Bronchial asthma.	3
13.	Pneumonias.	3
14.	Pleurisy. Pleural effusion.	3
15.	Revision of the physical examination of the respiratory system. Ancillary investigations.	3
16.	Inspection and palpation of the praecordium.	3
17.	Percussion of the heart- technique and normal findings.	3
18.	Percussion of the heart- pathological changes.	3
19.	Auscultation of the heart- technique and normal findings.	3
20.	Auscultation of the heart- pathological changes of the sounds.	3
21.	Auscultation of the heart- murmurs and changes of the rhythm.	3
22.	Examination of the arterial pulses, venous puls, measurement of the blood pressure.	3
23.	Examination of patients with disorders of the mitral valve.	3
24.	Examination of patients with disorders of the aortic valve.	3
25.	ECG- normal and pathological images.	3
26.	Other ancillary investigations used in cardiology.	3
27.	Coronary artery disease. Myocardial infarction.	3
28.	Myocarditis. Pericarditis.	3
29.	Revision if the examination of the cardio-vascular system. Presenting a case of a patient with cardio-vascular disease.	3
30.	Revision of the physical examination of the respiratory and cardio-vascular system.	3
	Total	**90**

№	**Propaedeutics of Internal Diseases:** **LECTURES - 5 semester**	**hours**
1.	Gastrointestinal tract and abdomen- common symptoms of gastrointestinal disease. Methods for examination.	2
2.	Diseases of oesophagus, stomach, small intestine and colon- symptoms and syndromes. Methods of investigation.	2
3.	Methods for investigation of the liver, gallbladder and pancreas. Common diseases.	2
4.	The kidney and urinary system- mean symptoms and syndromes. Methods for examination.	2
5.	The kidney and urinary system. Common diseases.	2
6.	The blood- red cells. Anaemias.	2
7.	The blood- white cells. Common diseases.	2
8.	The blood- haemostasis. Bleeding disorders. Examination of the spleen.	2
9.	The endocrine system. Diseases of the pituitary gland.	2
10.	Diseases of the thyroid gland, parathyroid glands and adrenal glands. Methods of investigation.	2
11.	The endocrine pancreas. Diabetes mellitus. Hypoglycemia.	2
12.	Metabolic disorders- obesity, gout, hiperlipidaemias.	2
13.	Diseases of the joints and bones- methods of investigation. Rheumatoid arthritis, deforming osteoarthrosis.	2
14.	Diseases of the connective tissue.	2

15.	Diseases of the connective tissue, bones and joints. Common diseases.	2
	Total	**30**

№	**Propaedeutics of Internal Diseases:** **PRACTICAL EXERCISES - 5 semester**	**hours**
1.	Examination of the cardio-vascular system- revision.	2.5
2.	Examination of the cardio-vascular system- revision.	2.5
3.	Examination of the abdomen- inspection, percussion, auscultation.	2.5
4.	Methods for palpation of the abdomen.	2.5
5.	Examination of the stomach and bowel.	2.5
6.	Gastritis, colitis, cancer of the stomach and colorectal cancer.	2.5
7.	Peptic ulcer disease.	2.5
8.	Examination of the liver- inspection, percussion, auscultation.	2.5
9.	Palpation of the liver.	2.5
10.	Special techniques in the examination of the liver. Examination of the gallbladder.	2.5
11.	Hepatitis. Cholelithiasis.	2.5
12.	Liver cirrhosis.	2.5
13.	Examination of the pancreas. Pancreatitis.	2.5
14.	Examination of the spleen.	2.5
15.	Examination of the kidney and urinary system.	2.5
16.	Glomerulonephritis and pyelonephritis.	2.5
17.	Nephrolithiasis. Tumours of the kidney and urinary system.	2.5
18.	Anaemias.	2.5
19.	Leukaemias and lymphomas.	2.5
20.	Bleeding disorders.	2.5
21.	Examination of the endocrine glands. Diabetes insipidus. Acromegaly and gigantism.	2.5
22.	Examination and diseases of the thyroid gland.	2.5
23.	Examination of the endocrine glands. Diabetes mellitus.	2.5
24.	Examination and diseases of the suprarenal glands.	2.5
25.	Examination of the joints.	2.5
26.	Rheumatoid arthritis. Osteoarthritis.	2.5
27.	Connective tissue diseases.	2.5
28.	Routine examination of the patient- revision (gastrointestinal system).	2.5
29.	Routine examination of the patient- revision (kidneys and urinary system).	2.5
30.	Routine examination of the patient- revision (endocrine system and joints).	2.5
	Total	**75**

FM 20 SYLLABUS of Hygiene, Medical Ecology and Professional Diseases

№	**Hygiene, Medical Ecology and Professional Diseases:** **LECTURES - Hygiene**	**hours**
1.	Introduction in hygiene- subject, aims, parts, connection with other disciplines.	2
2.	Ecology and hygiene. Sanitary and ecological present-day problems.	2
3.	Air sanitary. Air pollution.	2
4.	Sanitary characteristic of physical factors of atmosphere.	2
5.	Hygiene of climate and weather.	2

6.	Sanitary requirements to community water-supply.	2
7.	Sanitary assessment of living conditions in towns and villages.	2
8.	Sanitary assessment of buildings. Non-ionizing radiation and urban area.	2
9.	Sanitary requirements to health care institutions.	2
10.	Sanitary requirements to special health care departments. Prevention of nosocomial infections. Regime in hospitals.	2
11.	Personal hygiene.	2
12.	Hygiene problems of ionizing radiation. Prevention.	2
13.	Sanitary requirements to soil.	2
14.	Main urban problems. Hygiene–ecological characteristic of Pleven.	2
15.	Summary lecture of communal hygiene.	2
16.	Occupational hygiene- subject, aims, purposes. Ergonomics and engineering design.	2
17.	Occupational physiology. Fatigue and overfatigue - character and prevention.	2
18.	Unfavourable effect of physical factors of working environment.	2
19.	Prevention of occupational injuries due to chemical factors exposition-occupational toxicology.	2
20.	Present-day problems of agriculture.	2
21.	Occupational hygiene in video- display works.	2
22.	Health care and prevention for labours.	2
23.	Modern nutrition problems. Nutrition characteristic.	2
24.	Dietary constituents. Nutrition norms and characteristics for different groups.	2
25.	Food products. Optimal nutrition.	2
26.	Malnutrition. Obesity. Food toxicology.	2
27.	Hygiene of children and growing up. Present-day problems.	2
28.	Regime of kids and schoolchildren. Medical care.	2
29.	Sanitary school control.	2
30.	Summary lecture.	2
	Total	**60**

№	**Hygiene, Medical Ecology and Professional Diseases: PRACTICAL EXERCISES - Hygiene**	**hours**
1.	Organization, structure, aims and methods of doing. Preliminary and continuous sanitary assessment. Hygienic standards and norms. Controlling institutions.	2
2.	Methods of atmosphere air pollution control. Evaluation hazardous effect of air pollutions on human health.	2
3.	Determination gas and dust pollutions in air-sulfur dioxide, nitro- gases, lead aerosols, dust.	2
4.	Methods of hygienic assessment and evaluation of basic physical factors in the air.	2
5.	Methods of complex hygienic microclimate assessment.	2
6.	Methods of hygienic investigation of water reservoirs and drinking water. Organoleptic indicators of the water. Control test for air hygiene.	2
7.	Methods of hygienic chemical investigation of drinking water.	2
8.	Disinfection and cleaning of drinking water. Methods of sanitary assessment of polluting level and self-cleaning characteristics of water.	2
9.	Sanitary expertise of planning project and building of house complex, micro-area infrastructure, and apartments. Methods of technical and sanitary evaluation of ventilation, heating, lighting.	2

10.	Sanitary expertise of planning project of house and municipal building (practical training in area).	2
11.	Sanitary expertise of planning project of hospital building. Control test for water hygiene.	2
12.	Expertise of sanitary requirements order and rules in hospitals and diagnostic medical departments.	2
13.	Discussion of health care institution investigation results.	2
14.	Principal rules of ionizing radiation protection in diagnostic and treatment medical divisions.	2
15.	Continuous sanitary assessment of medical divisions, working with ionizing radiation sources.	2
16.	Evaluation of the heaviness of work, level and origin of fatigue.	2
17.	Sanitary expertise of noise and vibration. Personal protective tools.	2
18.	Toxicological evaluation of industrial poisonings. Preventive measures in pesticide using works.	2
19.	Preliminary and continuous sanitary assessment of plant.	2
20.	Continuous sanitary assessment of plant. Health care organization in labour communities (practical training in area).	2
21.	Methods of food and nutrition control. Energy value of food and physical activity. Weight control. Diets. Control test for occupation health.	2
22.	Medical assessment of real nutrition. Laboratory analyses of different foods /proteins, carbohydrates, lipids/.	2
23.	Hygienic evaluation of biological value of meat, milk, baby foods and tins.	2
24.	Sanitarian evaluation of the catering establishment (seminar).	2
25.	Sanitarian investigation of the catering establishment (object).	2
26.	Evaluation of physiological growth and capacity of children and adolescent. Test of nutrition hygiene.	2
27.	Sanitarian evaluation of the kindergarten and school.	2
28.	Hygienic evaluation of kindergarten (object).	2
29.	Hygienic aims of medical care specialist in children groups.	2
30.	Summary practical exercises.	2
	Total	**60**

№	**Hygiene, Medical Ecology and Professional Diseases:** **LECTURES - Occupational diseases**	**hours**
1.	Approach to occupational diseases and job accidents. List of occupational diseases. Etiology, pathogenesis and diagnostic improvement to occupational diseases. Expert procedures and workers compensation insurance premium. Health care organization.	2
2.	Occupational musculoskeletal and neurology injuries, opportunities to tour work area and evaluate job procedures. Injuries due to physical hazards. Rick assessment of vibrations and noise. Occupational Rhaynaud`s syndrome. Occupational hearing loss.	2
3.	Injuries due to physical hazards (cold, heat, electrical, atmosphere pressure). Nonionizing radiation occupational injuries (due to radiofrequency, microwave radiation, IRR, VR, UVR, laser).	2
4.	Pneumoconiosis. Silicosis, Asbestos-induced diseases, beryllium disease and lung diseases by other inorganic dust. Occupational bronchitis. Occupational	2

	bronchial asthma. Occupational bronchial asthma.	
5.	Occupational toxicology. Chronic poisons with heavy metals. Disorders associated with decreased oxygen saturation.	2
6.	Chronic poisons with solvents (aliphatic hydrocarbons, petroleum distillates, alcohols, glycols, phenols, esters, aliphatic amines chlorinated hydrocarbons). Chronic poisons with plastics (polypropylene, PVC, acrylics, fluoropolymers, phenolics, polyesters) and rubber.	2
7.	Chronic poisons with pesticides (organophosphate, carbamate, organochlorine, substituted phenolschlorophenoxyacetic acids). Prevention.	2
8.	Chronic poisons with toxic gases and fumes. Occupational cancer diseases. 2 Occupational infections due to exposure to infected humans or transmitted from animals. Occupational skin disorders.	
	Total	**16**

№	**Hygiene, Medical Ecology and Professional Diseases: PRACTICAL EXERCISES - Occupational diseases**	**hours**
1.	History of occupational medicine. Approach to occupational diseases and job accidents. List of occupational diseases. Etiology, pathogenesis and diagnostic improvement to occupational diseases. Expert procedures and workers compensation insurance premium. Health care of occupational diseases.	2
2.	Occupational musculoskeletal and neurology injuries- diagnostic, treatment and expert tasks. Prevention. Occupational Rhaynaud`s syndrome- diagnostic, treatment.	2
3.	Occupational injuries related with non-ionizing waves, elevated ambient temperature, humidity and high or low atmosphere pressure.	2
4.	Lung diseases caused of dust exposure. Silicosis- diagnostic, treatment and expert tasks.	2
5.	Occupational bronchitis. Occupational bronchial asthma. Diagnostic, treatment and expert tasks.	2
6.	Chronic poisons with heavy metals- Pb, Mn, Hg, Cd. Diagnostic methods, treatment and expert tasks. Chronic poisons with solvents, nitrates, Diagnostic methods, treatment.	2
7.	Chronic poisons with plastics and resins- diagnosis, treatment, protection. 2 Chronic poisons with toxic gasses and fumes. Diagnostic, treatment and expert tasks.	
8.	Occupational cancer diseases. Occupational skin diseases. Diagnostic, treatment and expert tasks. Preventure.	2
	Total	**16**

FM 21 SYLLABUS of X-Ray and Radiology

№	**X-Ray and Radiology: LECTURES - 5 semester**	**hours**
1.	Historical consideration. Basic physics of Nuclear medicine. Ionizing rays. Basic physics of radiotherapy. Dozimetric quantities and measurements. Principles of radioprotection in Nuclear medicine and radiotherapy.	3
2.	Radiopharmaceuticals. Basic principles of Nuclear medicine. Nuclear medicine in Endocrinology. Radiommunassay.	2
3.	Nuclear medicine in Cardiology, Pulmonology, Nephrology.	2

4.	Nuclear medicine in Neurology, Hematology and Bone and Joint system.	2
5.	Nuclear medicine in Gastroenterology. Nuclear medicine in Lymph system. Nuclear medicine in Oncology. Noveltis and updates in Nuclear medicine.	2
6.	Radiobiologic foundations of Radiotherapy. Radiotherapy in complex treatment of cancer. Methods of external beam radiotherapy. Methods of brachitherapy and methabolic radiotherapy. Planing, performing and control of radiotherapy. Adversw events connected with radiotherapy in normal tissues and organs.	2
7.	Radiotherapy of cancer of the cervix uteri, corpus uteri, breast cancer, larynx cancer, nasopharynx cancer, lymphomas, skin cancer. Radiotherapy of nontumor diseases.	2
	Total	**15**

№	**X-Ray and Radiology:** **PRACTICAL EXERCISES - 5 semester**	**hours**
1.	Physical base of Nuclear Medicine. Principles of Nuclear Medicine. Radiopharmaceuticals. Divises. Radiation protection.	3
2.	Nuclear medical diagnosis of Endocrine system. Radioimmunoassay. Nuclear medical diagnosis of Cardiovascular system.	3
3.	Nuclear medical diagnosis of Lung, Urinary tract, Central nervous system.	3
4.	Nuclear medical diagnosis of haematological system, Bone and Joint, Gastrointestinal system.	3
5.	Nuclear medical diagnoses of Lymph system. Nuclear medical diagnoses in Oncology. Test.	3
6.	Radiotherapy in the complete treatment of cancer. Methods of External beam radiotherapy. Methods of brachytherapy and metabolic radiotherapy. Plannind, performing and control of radiotherapy. Adverse events connected with radiotherapy in normal tissues and organs. Principles of radiaon Protection in radiotherapy.	3
7.	Radiotherapy of Carcinoma Corpus uteri, Carcinoma colli uteri, Larynx cancer, Nasopharynx cancer.	3
8.	Radiotherapy of Breast cancer, Lymphomas, Cutaneus neoplasm, Nonocology disease. Test.	3
	Total	**24**

№	**X-Ray and Radiology:** **LECTURES - 6 semester**	**hours**
1.	Foreword. Selected terms pertaining to Radiology. W.C. Roentgen and the discovery of X-rays. Physical parameters of the image. Modalities and methods. Contrast media. Interventional radiology.	2
2.	Chest. The imaging investigation of the chest. Normal anatomy.	2
3.	Respiratory disorders. Emphysema, Bronchiectasis and lung abscess. Lung infections Pleural lesions. Pulmonary embolism and infarction. Congestive heart failure (CHF).	2
4.	Respiratory disorders. Lung infections. Tuberculosis.	2
5.	Respiratory disorders. Pneumoconioses – Silicosis. Neoplasm's. Metastases. Mediastinal lesions. Diaphragmal lesions.	2
6.	Cardiovascular Radiology. Modalities. Normal anatomy.Cardiovascular disorders.	2

7.	The Gastrointestinal tract. Upper gastrointestinal tract – General considerations. The esophageal phase of swallowing – examination techniques. Stomach and duodenum imaging. Pathological conditions of the oesophagus. Gastric diseases – Gastritis, Gastric Ulceration, Gastric Carcinoma. Other Gastric tumors. Duodenal diseases.	2
8.	Digestive Disorders. The small intestine diseases. The large intestine diseases. Pathological conditions of the biliary tract, liver and pancreas.	2
9.	Urogenital tract. Modalities. Kidney and Urinary tract – Anatomy. Physiology.	2
10.	Urogenital disorders. Prerenal pathology. Renal pathology. Postrenal pathology. Pathology of the lower urinary tract.	2
11.	Musculosceletal Radiology. Modalities. Measurements. Anatomy. Skeletal maturation. Sceletal trauma.	2
12.	Musculosceletal Disorders. Inflammatory diseases .Tumors and tumor – like conditions.	2
13.	Musculosceletal Disorders. Degenerative disease in peripheral joints. Osteonecrosis.	2
14.	Neuroradiology. Introduction to Brain imaging, Head and Neck imaging. Cerebrovascular diseases. Central nervous system infections. Central nervous system Neoplasm's. Craniofacial trauma.	2
15.	Obstetric and gynecologic imaging. Technical consideration. Anatomic consideration. Pathologic consideration-congenital abnormalities. Pelvic inflammatory disease and neoplasm. Colloquium.	2
	Total	**30**

№	**X-Ray and Radiology:** **PRACTICAL EXERCISES - 6 semester**	**hours**
1.	Introduction in radiology.	2
2.	Chest. Methods of examination. Normal radiology anatomy. Pathologic considerations.	2
3.	Chest diseases. Lung infections. Congestive heart failure.	2
4.	Chest diseases. Pulmonary tuberculosis.	2
5.	Chest diseases. Industrial pulmonary diseases.	2
6.	Chest diseases. Lung tumour. Secondary deposits.	2
7.	Chest diseases. Pleural fluid. Tumors of mediastinum. Colloquium.	2
8.	Cardiac imaging. Methods of examination. Anatomic considerations. Pathological considerations.	2
9.	Heart diseases. Congenital heart disease. Acquired heard disease. Mitral and aortic valve disease.	2
10.	Heart diseases. Pericardial disease. Myocardial disease. Vascular diseases.	2
11.	Gastrointestinal imaging. Pharynx and oesophagus .Methods of examinations. Anatomic considerations. Diseases.	2
12.	Gastrointestinal imaging. Stomach. Methods of examinations. Anatomic considerations Diseases.	2
13.	Gastrointestinal imaging. Duodenum and small bowels. Methods of examinations. Anatomic considerations. Diseases.	2
14.	Gastrointestinal imaging. Large bowel. Methods of examination. Anatomic considerations. Colon diseases. Acute abdomen.	2
15.	The biliarytract, liver and pancreas. Methods of examination. Anatomic considerations. Diseases.	2

16.	Urinary tract imaging. Methods of examination. Anatomic considerations. Congenital abnormalities Obstructive lesions. Infections. Mass lesions – tumours and cysts.	2
17.	Musculosceletal imaging. Methods of examinations. Anatomic considerations. Pathologic considerations. Analysis of bone and joint lesions.	2
18.	Musculosceletal imaging. Traumatic diseases. Inflammatory diseases. Neoplasm. Metabolic diseases.	2
19.	Neuroradiology. Introduction to Brain imaging. Head and Neck imaging. Craniofacial trauma. Cerebrovascular diseases. Central nervous system infections. Central nervous system. Neoplasms.	2
20.	Obstetric and gynecologic imaging. Technical consideration. Anatomic consideration. Pathologic consideration-congenital abnormalities, pelvic inflammatory disease and neoplasm. Colloquium.	2
	Total	**40**

FM 22 SYLLABUS of Disaster Medicine

№	**Disaster Medicine:** **LECTURES - 6 semester**	**hours**
1.	An introduction to disaster medicine. Chemical disasters.	2
2.	General toxicology. Basic concepts. Nature of toxic effects. Biotransformation of xenobiotics. Principles of therapy of intoxication.	2
3.	Toxicology of anticholinesterase pesticides. Toxicology of chemical warfare agents.	2
4.	Toxicology of carbon monoxide, carbon dioxide and cyanide intoxications.	2
5.	Toxicology of pulmonary-inducing compounds – phosgene, chlorine, ammonia, nitrogen oxides. Modern riot compounds.	2
6.	Toxicology of solvents.	2
7.	Physics of radiation biology. Basic concepts of dosimetry. Biological effects of the ionizing radiaton.	2
8.	Radiation effects on the molecular, cellular and tissue levels.	2
9.	Total body radiation syndromes. Radioprotectors.	2
10.	Late effects of radiation – somatic and genetic. Radiation dermatitis.	2
11.	Radiotoxicology.	2
12.	Nuclear radiation accidents. Protective actions after nuclear accidents.	2
13.	Organization of medical care in disaster situation.	2
14.	Pre-hospital care. Medical and rescue teams.	2
15.	Disaster management. Advanced medical post. Triage.	2
	Total	**30**

№	**Disaster Medicine:** **PRACTICAL EXERCISES - 6 semester**	**hours**
1.	Cardiopulmonary resuscitation. ATLS and ACLS guidelines.	2
2.	Toxic effects of anticholinesterase pesticides. Toxic effects of carbon monoxide and cyanide.	2
3.	Toxic effects of pulmonary edema-inducing compounds. Toxic effects of solvents. Differential diagnosis of coma.	2
4.	Antidotes – classification. Antidotes. Principles of antidotal therapy. Colloquium	2

	on toxicology.	
5.	Nuclear radiation accidents.	2
6.	Total body radiation syndromes.	2
7.	Late effects of radiation. Colloquium on radiobiology.	2
	Total	**14**

FM 23 SYLLABUS of Pharmacology

№	**Pharmacology:** **LECTURES - 6 semester**	**hours**
1.	Introduction. Basic pharmacology. Clinical pharmacology.	2
2.	General Pharmacokinetics.	2
3.	General Pharmacokinetics.	2
4.	General Pharmacodynamics.	2
5.	Cholinergic transmission. Muscarinic agonists. Anticholinesterase drugs.	2
6.	Muscarinic antagonists. Neuromuscular blocking drugs.	2
7.	Adrenergic transmission. Adrenoreceptor agonists.	2
8.	Adrenergic transmission. Adrenoreceptor antagonists.	2
9.	Drugs affecting the local hormons, mediators of inflammation and allergy - histamine, eicosanoids, PAF, bradikinin, interleukins, interferons, serotonin.	2
10.	Nonsteroidal antiinflammatory drugs (NSAIDs). Nonopioid analgesics.	2
11.	Chemical transmission in the central nervous system. General anaesthetics. Hypnotic drugs.	2
12.	Antiepileptic drugs. Antiparkinsonic drugs.	2
13.	Antipsychotic drugs. Anxiolytics.	2
14.	Antidepressant drugs. CNS stimulants. Antimanic agents.	2
15.	Local anaesthetics.	2
	Total	**30**

№	**Pharmacology:** **PRACTICAL EXERCISES - 6 semester**	**hours**
1.	Structure of the medical prescription. Prescription writing.	3
2.	Drug origin. Galenic preparations. Formulation of drug substances. Solid dosage forms.	3
3.	Liquid dosage forms.	3
4.	Semisolid dosage forms. Aerosols.	3
5.	Colloquium on drug prescriptions.	3
6.	Peripheral efferent nervous system. Cholinomimetics and cholinolytics.	3
7.	Adrenergic transmission. Adrenomimetics and adrenolytics.	3
8.	Centrally acting myorelaxants. Peripheral myorelaxants (neuromuscular blocking drugs).	3
9.	Colloquium on autonomic nervous system.	3
10.	Histamine and antihistamines. Serotonin and drugs affecting serotonin transmission.	3
11.	Nonsteroidal antiinflammatory drugs (NSAIDs). Nonopioid analgesics-antipyretics.	3
12.	Hypnotics. Antiepileptic drugs. Antiparkinsonic drugs.	3
13.	Antipsychotic drugs. Anxiolytics.	3

14.	Antidepressant drugs. CNS stimulants. Antimanic agents.	3
15.	Local anaesthetics.	3
	Total	**30**

№	**Pharmacology:** **LECTURES - 7 semester**	**hours**
1.	Opioid (narcotic) analgetics.	2
2.	Cardiac glycosides and other cardiotonic agents. Anti-anginal drugs.	2
3.	Antidysrrhythmic drugs. Vasodilators. Capillarotonics. Venotonics. Lipid-lowering drugs.	2
4.	Antihypertensive drugs. Drugs acting on the kidney.	2
5.	Drugs affecting blood coagulation and haemopoietic system.	2
6.	Beta-lactam antibiotics.	2
7.	Antimicrobial agents affecting bacterial protein syntesis Aminoglycosides, Tetracyclins, Amphenicols, Macrolides, Lincosamides.	2
8.	Antimicrobial agents affecting topoisomerase II (4- Quinolones). Sulfonamides. Glycopeptides. Polymyxins.	2
9.	Antimycobacterial agents. Antiviral drugs. Antifungal drugs. Antiprotozoal drugs. Antihelmintic drugs.	2
10.	Drugs acting on the uterus. Drugs acting on respiratory system.	2
11.	Drugs acting on gastrointestinal tract.	2
12.	Drugs acting on endocrine system - Hypothalamic hormons, Pituitary hormons, Thyroid hormons, Parathyroid hormons. Pharmacology of the endocrine pancreas.	2
13.	Glucocorticoids. Mineralcorticoids. Sex hormones.	2
14.	Drugs used in cancer hemotherapy. Imunomodulants.	2
15.	Adverse drug reactions.	2
	Total	**30**

№	**Pharmacology:** **PRACTICAL EXERCISES - 7 semester**	**hours**
1.	Opioid analgesics.	3
2.	Cardiac glycosides and other cardiotonic agents. Antianginal drugs.	3
3.	Antidysrrhythmic drugs. Vasodilators. Lipid-lowering drugs.	3
4.	Antihypertensive drugs. Drugs acting on the kidney.	3
5.	Colloquium on CVS.	3
6.	Drugs affecting blood coagulation and haemopoiesis.	3
7.	Beta-lactam antibiotics. Antimicrobial agents, affecting bacterial protein synthesis – Aminoglycosides, Tetracyclins, Amphenicols, Macrolides, Lincosamides.	3
8.	Antimicrobial agents affecting topoisomerase II (4-Quinolones). Sulfonamides. Glycopeptides, Polymyxins, Antimycobacterial agents.	3
9.	Antiviral drugs. Antifungal drugs. Antiprotozoal drugs. Antihelmintic drugs.	3
10.	Colloquium on antimicrobial agents.	3
11.	Drugs acting on the uterus. Drugs which affect respiratory system.	3
12.	Drugs acting on the gastrointestinal tract.	3
13.	Drugs acting on the endocrine system.	3
14.	Drugs used in cancer chemotherapy.	3

15.	Immunomodulants.	3
	Total	**30**

FM 24 SYLLABUS of Otorhinolaryngology

№	**Otorhinolaryngology:** **LECTURES - 7 semester**	**hours**
1.	Introduction. Anatomy and physiology of the ear. Methods of investigations, hearing tests, vestibular function tests.	3
2.	Diseases of the external ear, congenital anomalies, trauma, foreign bodies, inflammation of the external ear, tumors.	3
3.	Diseases of the middle ear: trauma, acute and chronic serous otitis media, acute otitis media in nurselings, young children and adults.	3
4.	Otogenic infective complications: mastoiditis otogenic sigmoid sinus thrombosis, labyrinthis, otogenic meningitis, extradural abscess, cerebellar abscess.	3
5.	Chronic otitis media: mesotympanitis, epitympanitis, treatment of the chronic otitis media, hearing impoving operations, otosclerosis.	3
6.	Hearing prosthesis and hearing aids, tumors of the middle and inner ear, inborn decrease of the hearing and deaf-mutism, facial nerve paralysis, ear pain (otalgia)- differential diagnosis of the pain in the ear region, differential diagnosis of the ear diseases.	3
7.	Anatomy, physiology and methods of investigations of the nose and paranasal sinuses, local anaesthesia of the nasal mucosa, diseases of the external nose.	3
8.	Diseases of the nasal cavities, epistaxis, diseases leading to nasal obstruction inflammatory, diseases of the nasal cavities.	4
9.	Diseases of the paranasal cavities, trauma to the nose, paranasal sinuses and facial skeleton and the anterior skull base, inflammatory diseases of the paranasal sinuses, complications of sinus infections.	4
10.	Tumors of the nose and paranasal sinuses. Anatomy and physiology of the nasopharynx. Diseases of the nasopharynx, tumors of the nasopharynx, headache, differential diagnosis of the diseases of the nose and paranasal sinuses.	4
11.	Anatomy, physiology and methods of investigation of the pharynx. Diseases of the pharynx: congenital diseases, foreign bodies, trauma. Inflammatory diseases of the pharynx: acute and chronic pharyngitis, acute and chronic tonsillitis, peritonsillar abscess, parapharyngeal abscess, retropharyngeal abscess, Ludwig's angina, tumors of the pharynx.	4
12.	Anatomy, physiology and methods of investigation of the larynx, trauma, diseases of the larynx, functional disorders, inflammatory diseases of the larynx.	4
13.	Laryngeal tumors, acute and chronic laryngeal respiratory insufficiency. Diagnosis of the enlarged cervical lymph nodes speech and voice disorders, foreign bodies in larynx, trachea, bronchi and esophagus, burns by acid or lye of the esophagus.	4
	Total	**45**

№	**Otorhinolaryngology:** **PRACTICAL EXERCISES - 7 semester**	**hours**
1.	Clinical anatomy of the ear. Introduction to the ENT instruments.	4
2.	Physiology of hearing- tuning for tests.	3

3.	Audiometry.	3
4.	Methods of investigation of the vestibular function.	3
5.	Clinical anatomy and methods of investigation of the nose and paranasal sinuses.	3
6.	Intracranial complications.	4
7.	Clinical anatomy and methods of investigation of the mounth and pharynx.	3
8.	Clinical anatomy and methods of investigation of the larynx.	3
9.	Indirect laryngoscopy.	3
10.	Investigation of patients with chronic sinusitis, deviation of the nasal septum, adenoid hyperplasia and tonsillitis.	3
11.	Demonstration and discussion of patients with pharynges diseases.	4
12.	Methods of investigation of the trachea and bronchi.	3
13.	Methods of investigation of the esophagus.	3
14.	Discussion of emergency cases in ENT pathology.	3
	Total	**45**

FM 25 SYLLABUS of Ophthalmology

№	**Ophthalmology:** **LECTURES - 6 semester**	**hours**
1.	Anatomy – ocular adnexa.	3
2.	Anatomy – eyeball.	3
3.	Physiology of vision.	3
4.	Refraction and methods of examination of the eye and ocular adnexa.	3
5.	Diseases of ocular adnexa – orbit and eyelids (1).	3
6.	Diseases of ocular adnexa – conjunctiva and lacrimal apparatus (2).	3
7.	Differential diagnosis of syndrome “red eye”.	3
8.	Diseases of the cornea – degeneration, dystrophy and keratitis.	3
9.	Diseases of the uvea.	3
10.	Diseases of the retina – vascular diseases.	3
11.	Diseases of the retina – diabetes, retinal detachment.	3
12.	Glaucoma (1).	3
13.	Glaucoma (2).	3
14.	Ocular diseases in children.	3
15.	Ocular injury.	3
	Total	**45**

№	**Ophthalmology:** **PRACTICAL EXERCISES - 6 semester**	**hours**
1.	Anatomy of the eye and ocular adnexae.	2
2.	Examination of light detection and colour detection.	2
3.	Examination of central, peripheral and binocular vision.	2
4.	Determination of refraction – subjective and objective methods.	2
5.	Systemic order of eye examination.	2
6.	Examination of the orbit and adnexae.	2
7.	Examination of the anterior eye segment – conjunctiva, cornea and sclera.	2
8.	Examination of the anterior eye segment – anterior chamber, iris, pupil, lens.	2
9.	Examination of the posterior eye segment – vitreous and retina. Vascular, inflammatory and degenerative diseases of the retina.	2

10.	Examination of the posterior eye segment – retina and visual pathway. Retinal detachment.	2
11.	Examination, diagnosis and treatment of Glaucoma.	2
12.	Methods of examination in Pediatric Ophthalmology.	2
13.	Examination of strabismic patients.	2
14.	Injury of the eye.	2
15.	Methods of examination, diagnosis and treatment of emergency Ocular conditions.	2
	Total	**30**

FM 26 SYLLABUS of Obstetrics And Gynaecology

№	**Obstetrics And Gynaecology:** **LECTURES - 6 semester**	**hours**
1.	Physiology ZHPO.	2
2.	Fertilization, implantation and fetal development Egg.	2
3.	Placenta, husks, umbilical cord, amniotic fluid.	2
4.	Physiology of the newborn.	2
5.	Abortion.	2
6.	Morphological and functional changes in the body of pregnant. Hygiene and dietika pregnancy.	2
7.	Keeping birth normal birth.	2
	Total	**15**

№	**Obstetrics And Gynaecology:** **PRACTICAL EXERCISES - 6 semester**	**hours**
1.	Anatomy of the female genitalia (ZHPO). Introduction: external genitalia, internal genitalia, terms of internal reproductive organs adjacent to bodies located in the abdominal cavity, histological characteristics of the tissues constituting the external and internal genitalia, arterial and venous circulation, lymph flow, demonstration and visual aids patients.	3
2.	Zhpo Physiology. Introduction: hypothalamus hormonal cycle, pituitary hormonal cycle in (ovarian hormonal cycle, uterine cycle - physiology of normal menstruation, biochemistry of sex hormones), demonstration schemes.	3
3.	Obstetric history. Diagnosis of early pregnancy- clinical and paraclinical methods. Introduction: features of obstetric history, specific terminology relating to pregnancy; methods for diagnosis of early pregnancy: history, objective signs of immunological tests, biological test, radio test UZD; demonstration of various types of diagnostics.	3
4.	Habitus and situs of the fetus - position and presentation. Introduction: definition of situs – types, definition of habitus – types, definition of position – type, definition of presentation - species; demonstration of various versions of the phantom, introduction of Latin terminology.	3
5.	Obstetric palpation on Leyopold. Introduction: definition and technique and I nostrum Leopold; definition and technique II and Leopold nostrum; definition and technique III and techniques of Leopold; definition and technique, and techniques IV Leopold; demonstration of the technique of patients, students' work with patients.	3
6.	Diagnosis of late pregnancy: Introduction: history, methods of determining the	3

	term for birth, VTR; use of obstetric palpation; menzuratsiya the pregnant; importance of children's movements as a diagnostic sign, UZD; working with patients.	
7.	Pelvimetria. Introduction: anatomy of the normal pelvic bone; principles of foreign pelvimetria – tools; internal pelvimetria – techniques; location of application of X-ray pelvimetria; demonstration outside pelvimetriya of patients.	3
8.	Sounds of children's heart tones (DST): Introduction: DST classical auscultation with a stethoscope obstetric; normal frequency of DST; sounds and places in different positions and race that is set; abnormal DST and their prognostic important; direct cardiography – principles; indirect cardiography – principles; cardiotocography- NST, FOT, DST monitoring during labor; demonstration of normal cardiotocograph records and demonstration of use of obstetrical monitor.	3
9.	Normal birth - periods clinic behavior. Introduction: first period of birth- clinic, the leading behavior of the birth; second period of birth - hospital, birth leading behavior; third period of birth - clinic, the leading behavior of birth prevention; monitoring features and the woman in the early period; monitoring of normal birth.	3
10.	Keeping the birth.	3
11.	Normal puerperium. Introduction: Physiology of puerperium, maternal surveillance in different periods of puerperium; features of post-operative period.	3
12.	Narrow pelvises. Introduction: definition of a narrow pelvis, different classifications; features of pregnancy in a narrow pelvis, features in the mechanism of birth, obstetric estimate; demonstration patients with different types of narrow pelvis.	3
13.	Gynecological history, objective gynecological examination. Introduction: gynecological history characteristics; principles study of gynecological sick woman - viewing, palpation, percussion, engineering inspection of the genitals and gynecological palpation bimanual, combined gynecological palpation; tools needed, demonstration view of the external genitals, vagina and PVTSU, demonstration and practicing the bimanual palpation of the internal genitalia.	3
14.	Anatomy and physiology of the newborn.	3
15.	Anatomy, physiology and behavior in preterm newborn.	3
	Total	**45**
№	**Obstetrics And Gynaecology:** **LECTURES - 7 semester**	**hours**
1.	Diagnosis of early and late pregnancy.	2
2.	Premature birth. Transmission pregnancies.	2
3.	Pathology of the amnion and chorionic.	2
4.	Gynaecological symptomatology. Dysfunctional uterine bleeding.	2
5.	Ectopic pregnancies.	2
6.	Inflammatory diseases of ZHPO.	2
7.	Early pregnancy toxemia.	2
8.	Hypertensive disorders in pregnancy.	2
9.	Danger fruit.	2
10.	Dynamic dystocia.	2
11.	Mechanical dystocia. A narrow pelvis.	2
12.	Ancestral trauma to the mother and fetus.	2
13.	Pulmonary pathology in the neonatal period.	2

14.	Pathology of the puerperium. Puerperalni infections.	2
15.	Benign tumors of the uterus.	2
	Total	**30**

№	**Obstetrics And Gynaecology:** **PRACTICAL EXERCISES - 7 semester**	**hours**
1.	Late toxemia of pregnancy. Introduction: historical data, etiology, theories of pathogenesis, classification of the forms, types, demonstration of patients.	3
2.	Late toxemia of pregnancy. Introduction: clinical, term therapy of various symptoms, risks to the fetus and pregnant, diagnosis; clinic, preclinical and clinical behavior.	3
3.	Premature birth. Introduction: etiology of the mother, etiology of the fetal, phases of the development of premature birth - the clinical features of images, therapeutic behavior in different phases of the development process, risks of the mother and fetus, methods of delivery, principles of hospitalization and keeping birth in hospital, demonstration of the patients.	3
4.	Abortion. Introduction: definition, etiology, types of abortions, miscarriage clinic in various stages of development, treatment, prevention; cerclage - method for the treatment of cervical disease, indication, tools, training pregnant, techniques, attitude to VTR, monitoring of pregnant women, monitoring cerclage.	3
5.	Transmission pregnancy. Introduction: etiology, species transmission pregnancy, diagnostics - principles and indicators of the Bishop-score, therapeutic conduct; demonstration of patients.	3
6.	Pathology of the amniotic membranes. Introduction: hidramnion - etiology, clinical features, diagnosis, behavior; oligohidramniya - etiology, clinical features, diagnosis, behavior; inflammatory diseases of the amniotic envelopes - etiology, clinical features, diagnosis, behavior risks for mother and fetus, demonstration patients and discuss clinical cases.	3
7.	Placenta previa. Introduction: definition, species; clinic during pregnancy, diagnosis; behavior, clinic of hemorrhagic shock; demonstration of the patients and discuss clinical cases. Detachment of the placenta attached to the normal position. Introduction: risk groups of patients, species; clinic, diagnosis; risks to mother and fetus, behavior, clinic DIC syndrome - clinical and laboratory diagnosis, treatment, demonstration of the patients and discussion of clinical cases.	3
8.	Atypical glavichni race that is set. Aetiology. Types of atypical gl. race that is set. Mechanism of course delivery. Risks to mother and fetus. Diagnosis. Obstetric behavior.	3
9.	Mechanical dystocia. Introduction: mechanical dystocia resulting from pathology of the pelvic bone and soft generic tract - clinical, diagnosis, behavior, mechanical dystocia resulting from incorrect race that is set to the fetus - clinic, diagnosis, behavior, mechanical dystocia resulting features of the anatomy of the fetus - clinic, diagnosis, behavior, discussion of clinical cases.	3
10.	Functional dystocia. Introduction: dystocia resulting from low activity of the body of the uterus - clinical, diagnosis, behavior, dystocia resulting from excessive activity of the body of the uterus - clinical, diagnosis, behavior, functional dystocia caused by dysfunction of the lower uterine sigment - clinic, diagnosis, behavior, risks to mother and fetus; clinic and became threatening uterine rupture - clinical, diagnosis, behavior, discussion of clinical cases.	3
11.	Multiple pregnancies. Introduction: etiology, types of multiple pregnancy, clinic	3

	features of multiple pregnancy - principles of conduct, diagnosis during pregnancy, idemonstration of pregnancy and discuss clinical cases.	
12.	Bleeding in early placental and sledplatsentaren period. Introduction: bleeding in the placental period - etiology, clinical features, diagnosis, differential diagnosis, behavior; bleeding in early period sledplatsentaren - etiology, clinical features, diagnosis, differential diagnosis, behavior; risks to the mother; prevention; demo clinical cases.	3
13.	Infectious pathology in the neonatal period, etiology, clinic of individual nosological units, treatment, hospital-acquired infections - epidemiology, risks, treatment and prevention. Jaundice in the neonatal period: features of liver function during the neonatal period, physiological neonatal jaundice, neonatal jaundice in Rh – conflict, jaundice from congenital damage of liver function, principles of transfusion.	3
14.	Pulmonary pathology in the neonatal period: etiology, clinic, diagnosis and treatment of hyaline membrane disease, congenital anomalies the respiratory system - clinics, diagnosis and treatment, infectious pulmonary pathology in the neonatal period - clinical features, diagnosis and treatment. Asphyxia of the newborn: aetiology, pathogenesi, severity, treatment methods according to the severity of asphyxia.	3
15.	Breast - functional anatomy. Benign breast disease. Introduction: anatomy of the breast, physiological characteristics in different ages and during pregnancy and after birth; benign breast disease - clinical, diagnosis, behavior, amenorrhea-galactorrhea syndrome - clinical, diagnosis, behavior; discussion of clinical cases.	3
	Total	**45**

№	**Obstetrics And Gynaecology: LECTURES - 8 semester**	**hours**
1.	Static disease ZHPO.	2
2.	Ovarian tumors.	2
3.	Malignant tumors of the cervix.	2
4.	Bleeding in the second half of pregnancy. Placenta previa. Abruptsio placenta.	2
5.	Physiology and pathology of the premature baby.	2
6.	Multiple pregnancies.	2
7.	Bleeding in early placental and sledplatsentaren period. Coagulopathies.	2
8.	Cardiotocography, ultrasound diagnosis in obstetrics and gynecology.	2
9.	Malignancies of the vulva, vagina and uterine. Pipes.	2
10.	Children gynecology.	2
11.	Menopause.	2
12.	Ceasarean.	2
13.	Infertility in the family.	2
14.	Sarcoma and carcinoma of the uterine body.	2
15.	Contractions.	2
	Total	**30**

№	**Obstetrics And Gynaecology: PRACTICAL EXERCISES - 8 semester**	**hours**
1.	Operative Obstetrics - forceps. Introduction: tools, indications to impose	3

	Forceps- from the mother and baby, conditions to impose forceps, forceps technique outgoing, technique of oblique forceps, risks to mother and fetus - prevention, diagnosis, demonstration and practicing the techniques of phantom types. Operative Obstetrics - vacuum extraction of the fetus. Introduction: tools, indications by the mother and fetus, conditions; equipment; risks to mother and fetus; demonstration of vacuum extractor.	
2.	Breech birth. Introduction: aetiology of breech, types of breech, manual assistance in classical technique- manual assistance Brahe equipment, manual assistance Tsoviyanov– equipment, manual assistance Mueller equipment, demonstration and practicing the above four methods of phantom. Breech birth - manual extraction of the fetus. Introduction: etiology, indications for manual extraction of the fetus; conditions for manual extraction of the fetus, manual extraction technique for forefoot, manual extraction technique for hind leg, manual extraction technique for two feet, manual extraction technique based on fixed inputs in the pelvis; extraction technique for manual seat, moving the entrance of the pelvis, demonstrating and practicing the five above method of extraction of phantom.	3
3.	Verzio obstetrics. Introduction: indications, conditions, technique of external verzio, classical technique of internal verzio, technique in Brakston-Hicks, demonstration and practicing the above three methods verzio a phantom.	3
4.	Operations. Introduction: indications, species operations, tools; terms, technique punktsio crane, crane perforatsio, craniotomy and kranioklaziya, risks for the mother - prevention, behavior, demonstration of various types of instruments and techniques phantom. Operations. Introduction: decapitation - conditions, technique, perforation of the last chapter - conditions, equipment, cleidotomia - conditions, equipment, risks for the mother - prevention, behavior, demonstration of the above techniques phantom.	3
5.	Abdominal cesarean. Introduction: indications by the mother; indication of the fetus; preparation for expectant planned caesarean section, preparation of pregnant emergency Caesarean section; conditions for intervention, species Caesarean section - equipment; monitoring Caesarean section; clinical behavior in the postoperative period. Colloquium on the techniques of surgical gynecology.	3
6.	Operations to expand the soft birth canal. Manual extraction of placenta. Uterine-vaginal tamponade. Introduction: operations to expand the soft birth canal - blood and bloodless methods of extending cervical, conditions and indications, expanding the output of the vagina - episiotomy types, tools, techniques, indications, recovery razhdaneto; manual extraction of placenta - indications, preparation of the operator and mother of manipulation techniques, risks, manual revision of uterine cavity; uterine-vaginal tamponade - indications for its implementation, training of operators and mother, equipment, surveillance; anesthesia methods applicable described in manipulations - methods of short-term general anesthesia, anesthesia wire methods, methods of local anesthesia.	3
7.	Birthing trauma to the infant. Introduction: causes of puerperal accidents - by the mechanism of the birth of the anatomy of the fetus, by way of keeping birth; birthing trauma types- clinical expression of Capua suktsedaneum, kefalhematom, paresis and paralysis brahialis plexus, upper and lower type, collarbone fracture, traumatic loksatsiyana hip, unusual types of trauma to the infant.	3
8.	Cervical cancer. Cancer of the uterine body. Introduction: precancerous cervical	3

	- clinical diagnostics, behavior; cervical cancer - etiology, clinical features, diagnosis, behavior, precancerous uterus - clinical, diagnostic behavior; endometrial cancer - etiology, clinic diagnosis, conduct, sarcoma of the uterus and cervix - clinical, diagnosis, behavior, demonstration of patients. Prevention of malignant ZHPO. Introduction: prevention of cervical cancer - screening method with cervical pap smear, periodicals, technique, interpretation of results, behavior in different groups; prevention of malignant diseases of the uterus, monitor sampling and Pap smear colposcopy in Onko office.	
9.	Benign and malignant ovarian disease. Introduction: functional ovarian cysts - clinic, diagnosis, behavior; benign ovarian tumors - clinical, diagnosis, behavior; malignant ovarian tumors - clinical, diagnosis, behavior, characteristics of the clinical picture in hormonally active tumors, prevention tumors of the ovary; demonstration of patients.	3
10.	Myoma. Introduction: etiology, species; clinical monitoring; types of surgery – indications, prevention of the clinical picture of acute climax after radical removal of the uterus and adneksite, dispensary of patients with miomatoza the uterus; monitoring surgical treatment of patients with fibroids. Endometriosis. Introduction: etiology, species; clinic disease, diagnosis of disease- classification of severity levels; surgical treatment; discussion of clinical cases.	3
11.	Dysfunctional uterine bleeding. Introduction: etiology, dysfunctional bleeding in puberty - clinic, diagnosis, treatment; dysfunctional bleeding in fertile age - clinic, diagnosis, treatment; dysfunctional bleeding in menopausal age - clinic, diagnosis, conduct; bleeding after Menopause - etiology, clinical features, diagnosis; discussion of clinical cases; monitoring technique abrasion test – patient, preparation, instrumentation. Polycystic ovarian syndrome. Introduction: etiology, clinical picture, diagnostics - UZD, hormonal diagnosis, laparoscopic diagnosis, surgical treatment; significance of polycystic ovarian disease to reproduction the woman, discussion of clinical cases, monitoring laparoscopy.	3
12.	Gynecological diseases in childhood and adolescence. Introduction: features of the genitalia in childhood, inflammatory diseases of genitals in childhood, tumors of the reproductive organs in childhood, characteristics of changes in the genitals during puberty - menarhe, telarhe, pubarhe, aksilarhe, inflammatory and tumor diseases in puberty, metropatiya hemoragika yuvenilis - clinic, diagnosis, behavior, demonstration of patients.	3
13.	Static disease ZHPO. Introduction: etiology, pathogenesis; clinic descent of the anterior and posterior vaginal wall, descent and prolapse of the uterus - clinical picture, diagnosis, conservative and surgical methods for correction of static disease - medicines, techniques. Indications for surgical treatment, risks to patients, preoperative preparation and postoperative mode, demonstration of clinical cases.	3
14.	Inflammatory diseases of ZHPO - vulvit, kolpit, cervicitis. Introduction.: vulvit - etiology, clinical features, diagnosis, treatment, kolpit - etiology, clinical features, diagnosis, treatment, Cervicitis - etiology, clinical features, diagnosis, treatment, exo-and endocervicitis, diagnosis and treatment. Inflammatory disease, endometritis ZHPO, adneksite, parametritis. Introduction: endometritis - etiology, clinical features, diagnosis, treatment; adnexitis - etiology, clinical features, diagnosis, treatment; parametritis - etiology, clinical features, diagnosis, treatment, types of antibiotic preparations, most often used in	3

	gynecological practice - dosage regimens, demonstration of patients.	
15.	Infertility in women. Introduction: etiology, types of infertility; diagnosis, 3 behavior for different types of infertility; types in vitro fertilization - indications. Family planning. Introduction: principles of family planning; demographic concepts, pecialized counseling on family planning; sexual and reproductive health; monitoring of educational films. Family planning, premarital counseling - principles; types of contraception - calendar method, mechanical contraceptives, barrier methods, hormonal contraception, agents and representatives of groups, monitoring educational movie kind of contraception.	
	Total	**45**

FM 27 SYLLABUS of Neurology

№	**Neurology:** **LECTURES - 7 and 8 semester**	**hours**
1.	Reflex activity. Normal and pathological reflexes.	2
2.	Sensation – anatomophysiology, research, syndromes.	2
3.	Motor activity. Central and peripheral paralysis. Muscle tone.	2
4.	Cerebellum - anatomy and physiology. Coordination. Cerebellar and other discoordinative syndromes.	2
5.	Motor activity. Extrapyramidal system - anatomophysiology. Syndromes.	2
6.	Peripheral nervous system - anatomy and physiology.Periferal nervous system syndroms – roots, plexus, polyneuritis.	2
7.	Cranial nerves. Bulbar and pseudobulbar paralyses.	2
8.	Brain stem – (alternating) brain and spinal cord syndromes.	2
9.	Autonomic nervous system. Diencephalon syndromes and other vegetative disorders.	2
10.	Consciousness and mental disorders.	2
11.	Cortical syndromes - frontal, temporal, parietal, occipital.	2
12.	High cortical functions – speech, gnosis, praxis. Disorders of the High cortical functions – aphasia, agnosia, apraxia.	2
13.	Anatomy and physiology of the cerebral circulation - arterial system, carotid system, vertebrobasilar system. Extracranial and intracranial anastomoses.	2
14.	Syndrome of the increased intracranial pressure and cerebral herniation.	2
15.	Meningitis (aseptic, pyogenic, tuberculous). Meningeal syndrome.	2
16.	Viral encephalitis and encephalomyelitis /Acute anterior poliomyelitis. Epidemic (lethargic) encephalitis.	2
17.	Multiple sclerosis.	2
18.	Diseases of the peripheral nervous system. Root's syndroms and radiculopathies. Intervertebral disk prolaps.	2
19.	Diseases and injuries of the plexuses and peripheral nerves. Polyneuritis and polyneuropathies.	2
20.	Cerebrovascular disease. Cerebral haemorrhage. Subarachnoid haemorrhage.	2
21.	Cerebral infarction. Transient cerebral ischemia. Chronic (or progressive) cerebral ischemia. Latent cerebrovascular insufficiency.	2
22.	Differential diagnosis and treatment of the cerebrovascular disorders.	2
23.	Degenerative diseases of the central nervous system: Parkinson's disease, hepatocerebral dystrophy (Willson's disease, hereditary spinocerebellar ataxias). Neuromuscular disorders: Amyotrophic lateral sclerosis, myasthenia gravis,	2

	progressive muscular dystrophy.	
24.	Brain tumors. Tumors of the spine and spinal cord. Brain abscess.	2
25.	Closed traumatic brain and spinal cord injuries. Delayed sequels of traumatic brain injury.	2
26.	Epilepsy. Types of epileptic seizures. Treatment.	2
27.	Epilepsy – epileptic status. Diagnosis and treatment.	2
28.	Early and late neurolues. Tabes dorsalis.	2
29.	Primary headaches. Migraine and other types of headaches. Diagnosis and treatment.	2
30.	Neurosis and neurotic conditions. Diagnosis and treatment.	2
	Total	**60**

№	**Neurology:** **PRACTICAL EXERCISES – 7 and 8 semester**	**hours**
1.	Reflex activity. History of neurological patient. Characteristics of neurological history. Reflex activity. Definition. Classification. Methods of testing with topical - diagnostic significance. Normal reflexes. Research methods of external and proprioceptive reflexes.	2
2.	Reflex activity. Pathology of reflexes - morbid changes of the tendon, periosteal, skin and mucosal reflexes. Abnormal reflexes.	2
3.	Sensation. Classification. Methods of examination, symptomatology, methods of examining the skin, deep and complex sensation.	2
4.	Sensation – symptoms and syndromes of sensation disorders.	2
5.	Motor activity. Methods of study of motor activity. Muscle strength. Muscle tone. Syndromes of the central and peripheral paralysis. Bulbar and pseudobulbar paralyses.	2
6.	Motor activity. Methods of examination of coordination and movement. Cerebellar and other syndromes of disorders of coordination.	2
7.	Extrapyramidal syndromes. Parkinson syndrome, choreoathetosis, and others.	2
8.	Syndromes of damage of the peripheral nerves. Major spinal nerves - radial, femoral, icshiatic.	2
9.	Syndromes of damage of the cranial nerves (from Ist to VIth). Testing methods.	2
10.	Syndromes of damage of the cranial nerves (from VIIth to XIIth). Methods of testing.	2
11.	Radiological Diagnostic in neurology – X-ray of the scull and myelography, spondilography. Pneumo and ventriculography. Angiography of the brain vessels. Computar tomography. MRI.	2
12.	CSF diagnosis. Anatomophysiology of the CSF system. Medical research and changes in brain fluid. CSF syndromes.	2
13.	Electrodiagnostics of neurological diseases.Electrovuzbudim. Electromyelography. Electroencephalography.	2
14.	Fundamentals of physiotherapy and rehabilitation of neurological diseases. Complete neurological examination. Neurological status.	2
15.	Meningitis (purulent, serous, limfotsitaren choriomeningitis, tuberculous meningitis).	2
16.	Encephalitis and encephalomyelitis (primary virus, poliomyelitis, lethargic encephalitis, subacute progressive panencephalitis, rabies, acar encephalitis chorea minor, secondary and perivenious encephalites and encephalomyelitis).	2

17.	Multiple sclerosis, disseminated encephalomyelitis, transverse myelitis.	2
18.	Radiculities and radiculopathies. Herniated disc. Plexites and plexopathies. Compressive-ischaemic and traumatic lesions of the peripheral nerves.	2
19.	Neuritis of the facial nerve. Neuralgia of the trigeminal nerve. Polyneurities and polyneuropathies.	2
20.	Cerebral circulation. Vascular diseases of the brain. Latent and transient impairment of cerebral circulation. Ischemic brain insults.	2
21.	Brain hemorrhage. Parenchimal cerebral hemorrhage, subarachnoid hemorrhage.	2
22.	Degenerative dystrophic diseases: progressive muscular dystrophy, neural muscular atrophy, myasthenia gravis, amyotrophic lateral sclerosis, syringomyeliya, hepato-cerebral dystrophy, spinocerebellar heredoataxias – Fridrayh and Pierre Marie diseases.	2
23.	Parkinsonism.	2
24.	Brain tumors and tumors of the spinal cord. Brain abscess.	2
25.	Closed traumatic brain and spinal cord injuries. Delayed sequel of traumatic brain injury.	2
26.	Epilepsy.	2
27.	Epileptic status.	2
28.	Early and late neurolues. Tabes dorsalis.	2
29.	Primary headaches (migraine and other types of headaches).	2
30.	Neuroses and neurotic conditions.	2
	Total	**60**

FM 28 SYLLABUS of Orthopaedics And Traumatology

№	**Orthopaedics And Traumatology:** **LECTURES - 8 semester**	**hours**
1.	Pelvic fractures: causation, classification, principle of treatment. Acetabular fractures. Traumatic hip dislocation.	2
2.	Fractures of the femur: examination, assessment and treatment. Femoral neck fractures, trochanteric fractures, femoral shaft fractures.	2
3.	Around the knee fractures: supracondylar femoral fractures, patellar fractures, Condylar fractures of the tibia.	2
4.	Crural, ankle and foot fractures.	2
5.	Soft- tissue injuries of the knee.	2
6.	Spine injuries.	2
7.	Shoulder girdle trauma. Shoulder instability. Humeral fractures.	2
8.	Elbow and forearm injuries. Elbow instability. Hand injuries.	2
9.	Congenital anomalies of the Musculosceletal system- classification. Developmental dysplasia of the hip. Congenital coax vara. Slipped upper femoral epiphyses.	3
10.	Congenital anomalies of the spine: scoliosis, accessory cervical ribs.	2
11.	Congenital anomalies of the foot: pes equinovarus (clubfoot), pes planovalgus, pes adductus.	2
12.	Avascular necroses. Brachial plexus palsy. Carebral palsy. Poliomyelitis.	2
13.	Bone tumors.	2
14.	Osteoarthritis: hip arthritis, knee arthritis, spondylarthritis, intervertebral disk diseases. Shoulder impingement syndrome.	3
	Total	**30**

№	**Orthopaedics And Traumatology:** **PRACTICAL EXERCISES - 8 semester**	**hours**
1.	Examinition of a patient with trauma or disease of the musculosceletal system.	2
2.	Pelvic fractures: classification, principles of treatment.	2
3.	Acetabular fractures. Traumatic hip dislocation.	2
4.	Femoral neck fractures. Trochanteric fractures.	2
5.	Femoral shaft fractures. Supraconylar femoral fractures.	2
6.	Patellar fractures. Condylar fractures of the Tibia.	2
7.	Crural, ankle and foot fractures.	2
8.	Soft-tissue injuries of the knee.	2
9.	Spine injuries.	2
10.	Shoulder girdle trauma.	2
11.	Shoulder instability.	2
12.	Humeral fractures.	2
13.	Elbow injuries. Elbow instability.	2
14.	Forearm fractures. Monteggia fracture- dislocation. Galeazzi fracture-dislocation.	2
15.	Distal radius fractures. Hand injuries. Carpal instability.	2
16.	Peripheral nerve injuries. Tendon injuries.	
17.	Open fractures: classification, principles of management.	
18.	Congenital anomalies of Muscuosceletal system- classification.	
19.	Developmental dysplasia of the hip.	
20.	Pes equinovarus (clubfoot), pes planovalgus, pes adductus.	
21.	Degenerative joint disease- hio arthritis, knee. Arthritis degenerative joint disease- spondyarthritis, intervertebral disk disease.	
22.	Shoulder impingement syndrome. Tendinitis, compressive, tendinopathies and bursitis.	
23.	Bone tumors: benign, malignat and tumor-like conditions.	
	Total	**30**

FM 29 SYLLABUS of Anaesthesiology

№	**Anaesthesiology:** **LECTURES - 8 semester**	**hours**
1.	Anesthesiology - Reanimation, and intensive care – Definition of the subject, and development tasks.	2
2.	Medical preparation of the patient for anesthesia. Premedication. Induction, maintenance of anesthesia, Extubation, early postoperative period. Types of intubation tubes.	2
3.	Preparations for general anesthesia - inhalational anesthetics, intravenous anesthetics.	2
4.	Local anesthetics. Spinal anesthesia, Epidural anesthesia.	2
5.	Muscle relaxants. Neuroleptic Analgesia Type I and II. Ataralgesia - Type I and Type II.	2
6.	Peculiarities of anesthesia in pediatric gynecology, obstetrics, thoracic surgery, abdominal surgery and orthopedics and traumatology.	2
7.	Errors and complications during anesthesia, in the early post operative period -	2

	respiratory system, cardiovascular system, digestive, excretory and nervous system.	
8.	Aspiration syndrome. Shock. Types, clinical characteristics and treatment.	2
9.	CPR (cardiopulmonary resuscitation). Clinical death and brain death. Parenteral and enteral nutrition.	2
10.	Acute respiratory failure.	2
11.	Correction in water electrolyte imbalance. And acid alkaline balance, ITT (infusion - transfusion therapy).	2
12.	Trauma disease. Thermal trauma. Frost. Drowning. Insect bites and animals. Snakebites.	2
13.	Alcohol poisoning. Poisoning by Organo- phosphorous. Food Poisoning.	2
14.	Intensive therapy in abdominal surgery. Acute Abdomen. Pancreatitis, peritonitis and ileus).	2
15.	Intensive therapy for AMI (acute myocardial infarction), hypertensive crisis, transient ischemic attack.	2
	Total	**30**

№	**Anaesthesiology:** **PRACTICAL EXERCISES - 8 semester**	**hours**
1.	Anesthesiology - Reanimation and intensive care – Definitions, the subject, and development tasks.	2
2.	Anesthetic apparatus. Tools for anesthesia. Types of intubation tubes. Preparing the patient for anesthesia.	2
3.	Preparations for general anesthesia - inhalational anesthetics, intravenous anesthetics. Muscle relaxants. Conduct of general anesthesia.	2
4.	Local anesthetics. Spinal anesthesia, Epidural anesthesia. Neuroleptic analgesia) Type I and II. Ataralgesia - Type I and Type II.	2
5.	Peculiarities of anesthesia in pediatric, gynecology, obstetrics, thoracic surgery, abdominal surgery and orthopedics and traumatology.	2
6.	Errors and complications during anesthesia and in the early post operative period - respiratory system, cardiovascular system, digestive, excretory and nervous system.	2
7.	Acute respiratory failure. Maintenance of airway.	2
8.	CPR (cardiopulmonary resuscitation). Clinical death and brain death.	2
9.	Parenteral and enteral nutrition. Monitoring of the patient.	2
10.	Aspiration syndrome. Shock. Types, clinical characteristics and treatment.	2
11.	Correction of distortions in the water, electrolyte, acid, alkaline imbalance, ITT (infusion - transfusion therapy).	2
12.	Trauma disease. Thermal trauma. Frost. Drowning.	2
13.	Intensive therapy in abdominal surgery Acute Abdomen, (pancreatitis, peritonitis and ileus).	2
14.	Intensive therapy for AMI (acute myocardial infarction), hypertensive crisis, transient ischemic attack.	2
15.	Test exam.	2
	Total	**30**

FM 30 SYLLABUS of IDT – Clinical Laboratory

№	**Clinical Laboratory:** **LECTURES - 6 semester**	**hours**
1.	Clinical significant urine laboratory parameters.	3
2.	Interpretation of the hematological parameters from the CBC and differential blood count.	2
3.	Laboratory diagnostics of anemia.	2
4.	Laboratory parameters for diagnostics of the most frequent coagulation disorders.	2
5.	Laboratory control of the therapy with anticoagulants.	2
6.	Carbohydrate metabolism and laboratory diagnostics of its disturbances. Laboratory diagnostics and monitoring of Diabetes mellitus.	2
7.	Lipid metabolism and laboratory diagnostics of its disturbances. Laboratory evaluation of atherogenic risk.	2
8.	Laboratory diagnostics of the protein metabolism disturbances.	2
9.	Acid-base balance. Laboratory diagnostics.	2
10.	Laboratory diagnostics of renal diseases.	2
11.	Laboratory diagnostics of liver diseases.	2
12.	Laboratory diagnostics of inflammation.	2
13.	Laboratory diagnostics of neoplasia.	2
14.	Laboratory diagnostics of thyroid diseases.	3
	Total	**30**

№	**Clinical Laboratory:** **PRACTICAL EXERCISES - 6 semester**	**hours**
1.	Organization of the Clinical Laboratory.	2
2.	Urinanalysis: Colour, pH, Blood, Proteins, Nitrites.	2
3.	Urinanalysis: Glucose, Ketone Bodies, Bilirubin, Urobilinogen.	2
4.	Urinanalysis: Microscopic Examination.	2
5.	Basic Haematological tests.	2
6.	Morphology of the Red Blood Cells in Norm and Pathology.	2
7.	Morphology of the white blood cells in Norm and Pathology.	2
8.	Differential Count of the White Blood Cells.	2
9.	Laboratory Parameters in the Assessment of Inflammation.	2
10.	Laboratory Assessment of Anaemia.	2
11.	Basic Coagulation tests.	2
12.	Laboratory Analysis of Biochemical Parameters.	2
13.	Laboratory Analysis of pH and Blood Gases.	2
14.	Laboratory Analysis of Electrolytes.	2
15.	Laboratory Analysis of Lipoproteins.	2
	Total	**30**

FM 31 SYLLABUS of Internal Diseases and Therapy – Pulmology

№	**Pulmology:** **LECTURES - 7 semester**	**hours**
1.	Obstructive pulmonary diseases.	4

	1. Bronchial asthma - definition, pathophysiology, classifications. Essence of the concept "obstruction". Current classification of bronchial asthma. 2. Bronchial asthma – approach to a patient with asthma, monitoring. Methods for diagnosis. Treatment regimens. Education of the asthma patient. 3. Chronic obstructive pulmonary disease (COPD) – definition, classification, pathophysiology, clinical picture. 4. Methods for diagnosis, functional criteria of obstruction in COPD. COPD – observation of the patient with COPD. Complications. Differential diagnosis. Treatment – methods.	
2.	Pneumonias. 1. Determination of the nature of pneumonia. Classification problems. Epidemiology. Community acquired pneumonias. 2. Atypical pneumonia-epidemiology and its importance. Clinical characteristic. Special features and development. 3. Diagnosis and treatment of pneumonias – principles. Risk classes in pneumonia and its connection with severity of the process.	4
3.	Suppurative lung diseases. 4. Definition, risk factors. Abscess, necrotizing pneumonia – mechanisms of infection, microbiological characteristic of cause agents. Clinical and pathological characteristic; investigations. 5. Bronchiectasis – etiology, pathogenesis, main symptoms. Diagnosis and treatment.	4
4.	Lung cancer. 1. Epidemiology. Risk factors. Classifications. 2. Methods of diagnosis of lung cancer. Staging. Treatment.	4
5.	Pulmonary thromboembolism (PTE). 1. Definition. Incidence and mortality. Risk factors. Pathophysiological response in PTE. 2. Importance of clinical symptoms and some laboratory and functional indices in PTE. Diagnostic problems. Prophylaxis and treatment.	4
6.	Diseases of the pleura. 1. Pleural effusions. Mechanisms of forming of pleural effusions.Etiology and classification of effusions. Clinical symptoms, diagnosis and treatment. 2. Pneumothorax. Types of pneumothorax and forming mechanisms of each type. Methods of treatment of pneumothorax.	4
7.	Pulmonary tuberculosis (TB). 1. Importance of tuberculosis. Epidemiology. Speciality of the cause microbiological agent. Predisposing factors. 2. Mechanisms of infection. Pathogenesis. Specific clinical symptoms. 3. Diagnosis of the disease – main methods. Modern methods for establishing TB infection. 4. Observation of the patient with tuberculosis and its connection with specific signs of the causative agent and the development of the disease. 5. Treatment of tuberculosis – basic therapeutical approaches. Treatment regimens – models. Patients with resistant TB and their cure. Prophylaxis of the infection – risk groups, types of prophylaxis. Diffuse interstitial fibroses. 1. Deffinition. Etiology. Pathogenesis. The role of immune processes. 2. Classification. Morphologic forms of fibroses.	6

	3. Clinical signes of the forms of pulmonary fibroses. 4. Diagnosis of fibrosis. 5. Treatment of fibroses. Therapeutical possibilities and schemes for the treatment of pulmonary fibroses.	
	Total	**30**

№	**Pulmology:** **PRACTICAL EXERCISES - 7 semester**	**hours**
1.	Diagnosis in pulmonology.	4
2.	Bronchial asthma - pathophysiology, classification, diagnosis.	4
3.	Bronchial asthma - follow-up, treatment, pharmacoeconomics.	4
4.	Chronic obstructive pulmonary disease - pathogenesis, classification, diagnosis.	4
5.	Chronic obstructive pulmonary disease - follow-up, complications, treatment.	4
6.	Community-acquired pneumonia - etiology, pathogenesis, diagnosis.	4
7.	Atypical pneumonia - etiology, pathogenesis, diagnosis.	4
8.	Purulent lung diseases - abscess, necrotizing pneumonia.	4
9.	Antimicrobial therapy in the patient with pneumonia.	4
10.	Lung cancer - etiology, pathogenesis, diagnosis, treatment.	4
11.	Pulmonary embolism - etiology, pathogenesis, diagnosis, treatment.	4
12.	Pleural effusions - etiology, diagnosis, treatment.	4
13.	Pulmonary tuberculosis - etiology, pathogenesis, diagnosis, treatment.	4
14.	Pulmonary tuberculosis - follow-up, treatment.	4
15.	Diffuse interstitial fibroses.	4
	Total	**60**

FM 32 SYLLABUS of Internal Diseases and Therapy – Endocrinology

№	**Endocrinology:** **LECTURES - 8 semester**	**hours**
1.	Hypothalamus-hypophysis. Hyperfunction of hypophysis. Hypopituitarismus, Neurohypophysis.	2
2.	Thyroid gland. Hyperthyroidismus.	2
3.	Hypothyroidismus, thyroiditis.	2
4.	Parathyroid gland and bone diseases.	2
5.	Suprarenal gland. Adrenal insufficiency. Cushing syndrome.	2
6.	Glucose metabolism and Diabetes mellitus.	2
7.	Acute and chronic complications of Diabetes mellitus. Obesity.	3
	Total	**15**
№	**Endocrinology:** **PRACTICAL EXERCISES - 8 semester**	**hours**
1.	Diabetes mellitus- diagnosis and classification.	3
2.	Diabetes mellitus- therapy of type 2 diabetes.	3
3.	Insulin- therapy.	3
4.	Complications of Diabetes mellitus.	3
5.	Goiter- endemic and sporadic.	3
6.	Thyrotoxicosis- clinical picture and diagnosis.	3
7.	Thyrotoxicosis- treatment, TAO.	3
8.	Hypothyroidismus, thyroiditis.	3

9.	Hyperparathyroidismus.	3
10.	Hypoparathyroidismus.	3
11.	Osteoporosis.	3
12.	Hyperglucocorticismus.	3
13.	Hypoglucocorticismus.	3
14.	Hypothalamo-hypophysic diseases.	3
15.	Obesity, Metabolic syndrome.	3
	Total	**45**

FM 33 SYLLABUS of Internal Diseases and Therapy – Cardiology

№	**Cardiology:** **LECTURES – 7 and 8 semester**	**hours**
1.	Basic physiology and pathophysiology of cardiovascular system.	2
2.	Basic principles of cardiovascular pathophysiology and non drug treatment. Major cardiovascular drug classes.	2
3.	Prevention of cardio vascular diseases. Major cardiovascular risk factors. Evidence - based medicine. Basic principles and their use in cardiology.	2
4.	Cardiology investigation. Basic clinical skills. Invasive and noninvasive techniques in cardiology.	2
5.	Heart failure. Pathogenesis in cardiology.	2
6.	Basic principles of cardiovascular emergencies. Acute heart failure and cardiogenic shock.	2
7.	Major cardiac arrhythmias.	2
8.	Chronic Heart Failure.	2
9.	Rhythm disorders.	2
10.	Conduction disorders. Sudden cardiac death. Principles of resuscitation.	2
11.	Arterial hypertension.	2
12.	Treatment of arterial hypertension.	2
13.	Atherosclerosis. Ischaemic heart disease – pathogenesis. Stable angina pectoris.	2
14.	Acute Coronary Syndrome – unstable angina.	2
15.	Acute myocardial infarction.	2
16.	Infective endocarditis. Pericarditis.	2
17.	Myocarditis. Cardiomyopathies.	2
18.	Valvular haeart diseases.	2
19.	Pulmonary embolism. Pulmonary hypertension.	2
20.	Connective tissue diseases.	2
21.	Rheumatoid arthritis.	2
22.	Osteoporosis.	2
	Total	**44**

№	**Cardiology:** **PRACTICAL EXERCISES - 7 and 8 semester**	**hours**
1.	Medical history and status of cardiac patient. From the symptoms to the diagnosis - syndromes, building diagnosis, differential diagnosis.	2
2.	Risk factors for cardiovascular disease. Risk stratification. Preventive Cardiology.	2
3.	Non-pharmacological treatment of cardiovascular diseases. Main groups of drugs in the treatment of cardiovascular diseases - beta blockers, ACE inhibitors,	2

	ARBs, nitrates, calcium channel blockers, diuretics, digitalis.	
4.	Main groups of drugs in the treatment of cardiovascular diseases - Part II, digoxin, lipid-lowering drugs, anticoagulants, antiplatelet agents and antiarhythmic medications and more.	2
5.	Invasive and noninvasive diagnostic methods in cardiology. Main characteristics of the normal ECG.	2
6.	Echocardiography - early concepts. Scintigraphy and MRI.	2
7.	Exercise tolerance test (ETT) - types and interpretation. Holter ECG and Holter BP.	2
8.	Arrhythmias - supraventricular tachycardia.	2
9.	Arrhythmias - ventricular tachycardia.	2
10.	Conduction abnormalities. Changes in diselectrolitemias and digitalis intoxication.	2
11.	Complications of the conduction and rhythm disorders. MAS syndrome. Indications for temporary and permanent electrocardiostimulation.	2
12.	Heart Failure - etiology, pathogenesis, classification.	2
13.	Heart failure - clinical characteristics and therapeutic approaches.	2
14.	Specific approaches in emergency cardiology - ICU.	2
15.	Heart Failure - etiology, pathogenesis, classification, clinical presentation, diagnosis and treatment.	2
16.	Cardiogenic shock.	2
17.	Rheumatism. Acquired heart defects - mitral valve diseases.	2
18.	Acquired heart diseases - Aortic defects.	2
19.	Congenital heart defects in adults. Combined heart defects.	2
20.	Arterial hypertension - etiology, pathogenesis, clinical presentation and diagnosis.	2
21.	Secondary hypertension. Differential diagnosis and treatment.	2
22.	Diseases of the aorta and great vessels. Aortic dissection.	2
23.	Internal assesment examination.	2
24.	Arrhythmias - supraventricular and ventricular arrhythmias.	2
25.	Conduction abnormalities. Complications of conduction abnormalities. MAS-syndrome. Indications for temporary and permanent electrocardiostimulation.	2
26.	Sudden cardiac death. Cardiopulmonary resuscitation.	2
27.	IHD - etiology, risk factors, forms. Stable angina pectoris.	2
28.	Acute coronary syndrome - unstable angina.	2
29.	Acute myocardial infarction.	2
30.	Complications of acute myocardial infarction.	2
31.	Treatment of AMI and its complications. Prognostic criteria.	2
32.	Internal assessment examination.	2
33.	Myocarditis and pericarditis.	2
34.	Infective endocarditis.	2
35.	Cardiomyopathy - primary and secondary.	2
36.	Acute and chronic cor pulmonale.	2
37.	Assessment of the cardio-vascular risk in patients with other diseases.	2
38.	Internal assessment examination.	2
39.	Collagenosis.	2
40.	Rheumatoid arthritis.	2
41.	Arthrosis. Osteoporosis. Gout.	2

42.	Assessment of cardiac risk in patients with cardiovascular and other diseases. Revision.	2
	Total	**84**

FM 34 SYLLABUS of Internal Diseases and Therapy – Gastroenterology

№	**Gastroenterology: LECTURES - 9 semester**	**hours**
1.	Esophagus diseases.	2
2.	Acute and chronic gastritis.	2
3.	Ulcer disease- etiology, phathogenesis, clinical pictures.	2
4.	Ulcer disease- gastric and duodendal ulcer. Diagnosis and differential diagnosis. Complication of gastric and duodendal ulcer.	2
5.	Crohn's disease. Ulcerative disease.	2
6.	Precancerous and carcinoma of the colon.	2
7.	Cronic hepatitis B, D and C virus.	2
8.	Alcoholic liver disease.	2
9.	Liver cirrhosis- classification, etiology, clinical pictures, treatment.	2
10.	Liver cirrhosis- hypertonia portalis, ascites, jaundice. Hepatic encephalopathy. The hepatic coma syndromes.	2
11.	Haemochromatosis. Wilson's disease.	2
12.	Cholecystolithiasis. Cholecistitis.	2
13.	Acute pancreatitis.	2
14.	Chronic pancreatitis. Cancer of the pancreas.	2
15.	Cholelithiasis. DD of Jondice.	2
	Total	**30**

№	**Gastroenterology: PRACTICAL EXERCISES - 9 semester**	**hours**
1.	Achalasia and carcinoma of the esophagus.	2
2.	Gastroesophageal reflux disease.	2
3.	Acute and chronic gastritis.	2
4.	Ulcer disease- gastric and duodendal ulcer. Ethiology, pathognesis, clinical pictures.	2
5.	Ulcer disease- gastric ulcer. Diagnosis and differentiale diagnosis.	2
6.	Ulcer duodenal. Diagnosis and differentiale diagnosis.	2
7.	Treatment of the ulcer disease.	2
8.	Complication of gastric and duodenal ulcer.	2
9.	Precancerouse and gastric cancer I.	2
10.	Precancerouse and gastric cancer II.	2
11.	Crohn's disease.	2
12.	Ulceractive disease.	2
13.	Precancerouse and carcinoma of the colon.	2
14.	Chronic hepatitis B,D.	2
15.	Chronic hepatitis C virus.	2
16.	Autoimmune hepatitis.	2
17.	Alcoholic liver disease.	2
18.	Liver cirrhosis- classification, etiology, clinical pictures, treatment.	2
19.	Liver cirrhosis- hypertonia portalis, ascites, jaundice.	2

20.	Hepatic encephalopathy. The hepatic coma syndromes.	2
21.	Haemochromatosis.	2
22.	Wilson's disease.	2
23.	Primary biliari cirrhosis.	2
24.	Hepatocellular carcinoma.	2
25.	Cholecystolithiasis. Cholecistitis.	2
26.	Acute pancreatitis.	2
27.	Chronic pancreatitis.	2
28.	Cancer of the pancreas.	2
29.	Differentiale diagnosis of the jaundice I.	2
30.	Differentiale diagnosis of the jaundice II.	2
	Total	**60**

FM 35 SYLLABUS of Internal Diseases and Therapy – Nephrology

№	**Nephrology:** **LECTURES - 10 semester**	**hours**
1.	Acute glomerulonephritis.	2
2.	Chronic glomerulonephritis.	2
3.	Acute and chronic pyelonephritis.	2
4.	Nephrolithiasis.	2
5.	Polycystic kidney disease.	2
6.	Acute renal failure.	2
7.	Chronic renal failure.	2
	Total	**14**

№	**Nephrology:** **PRACTICAL EXERCISES - 10 semester**	**hours**
1.	Acute glomerulonephritis.	3
2.	Chronic glomerulonephritis.	3
3.	Acute pyelonephritis.	3
4.	Chronic pyelonephritis.	3
5.	Nephrolithiasis.	3
6.	Autosomal dominant polycystic kidney disease.	3
7.	Interstitial nephritis.	3
8.	Balcan endemic nephropathy.	3
9.	Diabetic nephropathy. Lupus nephropathy.	3
10.	Myelomic nephropathy. Gout nephropathy.	3
11.	Pregnancy induced nephropathy. Renal amyloidosis.	3
12.	Acute renal failure.	3
13.	Chronic renal failure.	3
14.	Management and therapy of chronic renal failure.	3
	Total	**42**

FM 36 SYLLABUS of Internal Diseases and Therapy – General and Clinical Haematology

№	**General and Clinical Haematology: LECTURES - 10 semester**	**hours**
1.	Normal hematopoiesis. Physiology of erythrocytes, anatomo- physiology of the spleen.	2
2.	Differential diagnosis of anemic syndrome. Iron- deficiency anemia. Pernicious anemia.	2
3.	Hemolytic anemia.	2
4.	Myeloproliferative diseases. Blast leukemia.	2
5.	Hodkin's disease. Chronic lympholeucosis.	2
6.	Hodkin's lymphoma. Multiple myeloma.	2
7.	Haemorrhagic diathesis.	3
	Total	**14**

№	**General and Clinical Haematology: PRACTICAL EXERCISES - 10 semester**	**hours**
1.	Iron- deficiency anemia. Latent iron deficiency.	3
2.	Megaloblastic anemia. Pernicious anemia.	3
3.	Hemolytic anemia (anemia Sferositna, Enzimopatii).	3
4.	Hemolytic anemia (Haemoglobinopathies, autoimmune hemolytic anemia).	3
5.	Myeloproliferative disorders (chronic myeloleucosis, idiopathic myelofibrosis).	3
6.	Myeloproliferative diseases (polycythemia vera, essential thrombocythaemia).	3
7.	Myelodysplastic syndromes.	3
8.	Blast leukemia.	3
9.	Hodkin's disease.	3
10.	Hodkin's lymphoma.	3
11.	Chronic limpholeucosis.	3
12.	Multiple myeloma.	3
13.	Haemorrhagic diathesis (immune thrombocytopenia, hemophilia).	3
14.	Haemorrhagic diathesis (capillary dysfunctions, DIC syndrome).	3
15.	Clinical allergology.	3
	Total	**45**

FM 37 SYLLABUS of Internal Diseases and Therapy – General and Clinical Immunology

№	**General and Clinical Immunology: LECTURES - 10 semester**	**hours**
1.	Principles of Immunology. Immunodeficiency diseases– basic immunological problems and opportunities for diagnosis and therapy.	2
2.	Autoimmunity and autoimmune diseases.	2
3.	Antiphospholipid syndrome (APS).	2
4.	Reproductive immunology I.	2
5.	Reproductive immunology II.	2
6.	Neoplasms – immunological diagnosis and treatment.	2
7.	Allergic reactions.	3
	Total	**15**

№	**General and Clinical Immunology:** **PRACTICAL EXERCISES - 10 semester**	**hours**
1.	Introduction in immunology.	3
2.	Clinical immunological mrthods for detection of antigens and antibodies.	3
3.	Clinical immunological mrthods for detection of lymphocyte populations.	3
4.	Immunodeficiency disorders. Clinical and immunological diagnosis of immunodeficiency diseases associated with abnormalities in humoral immunity and lymphocyte populations.	3
5.	Acquired immunodeficiency syndrome. HIV infection.	3
6.	Clinical and immunological diagnosis of neoplastic diseases.	3
7.	Infectious immunity. Atypical infections.	3
8.	Autoimmune diseases- etiology, immunologic pathogenesis, classificaton.	3
9.	Autoimmune diseases- diagnosis and differential diagnosis.	3
10.	Autoimmune diseases- therapy (intravenous immunoglobulin therapy-IVIG).	3
11.	Antiphospholipid syndrome (APS).	3
12.	Immunological mechanisms in infertility – classification.	3
13.	Immunological mechanisms in infertility – diagnosis and treatment.	3
14.	Allergic reactions – first type.	3
15.	Allergic reactions – second, third and fourth type.	3
	Total	**45**

FM 38 SYLLABUS of Surgical Diseases

№	**Surgical Diseases:** **LECTURES - 7 semester**	**hours**
1.	Congenital anomalies of the facial region.	2
2.	Injuries and inflammatory diseases of the facial region.	2
3.	Tumors of the facial region.	2
4.	Congenital, traumatic, inflammatory diseases of the neck region. Tumors.	2
5.	Diseases of the thyroid gland. Anatomic and physiological data. Goiters. Thyrotoxicosis.	2
6.	Tumors of the thyroid gland.	2
7.	Thoracic traumas.	2
8.	Disease of the mammary glands. Acute and chronic mastitis.	2
9.	Benign and malignant diseases of the braest.	2
10.	Non-specific inflammatory and mycotic diseases of the lungs. Brochiectasies, abscessus and gangrene. Actinomycosis.	2
11.	Cysts of the lungs - congenital, acquired and parasite.	2
12.	Tumors of the lungs.	2
13.	Diseases of the pleura. Spontaneous pneumothorax. Empyema pleurae. Primary pleural tumors and metastasis. Surgical treatment.	2
14.	Diseases of the mediastinum. Mediastinitis. Tumors and cysts. Vena cava syndrome. Mediastinal emphysema.	2
15.	Esophageal congenital diseases. Diverticula. Strictures. Esophageal achalasia.	2
	Total	**30**

№	**Surgical Diseases:** **PRACTICAL EXERCISES - 7 semester**	**hours**

1.	Congenital anomalies of the facial region.	4
2.	Injuries and inflammatory diseases of the facial region.	2
3.	Tumors of the facial region.	2
4.	Congenital, traumatic, inflammatory diseases of the neck region. Tumors.	4
5.	Diseases of the thyroid gland. Anatomic and physiological data. Goiters. Thyrotoxicosis.	4
6.	Tumors of the thyroid gland.	4
7.	Thoracic traumas.	4
8.	Disease of the mammary glands. Acute and chronic mastitis.	4
9.	Colloquium.	3
10.	Benign and malignant diseases of the braest.	4
11.	Non-specific inflammatory and mycotic diseases of the lungs. Brochiectasies, abscessus and gangrene. Actinomycosis.	4
12.	Cysts of the lungs - congenital, acquired and parasite.	4
13.	Tumors of the lungs.	4
14.	Diseases of the pleura. Spontaneous pneumothorax. Empyema pleurae. Primary pleural tumors and metastasis. Surgical treatment.	4
15.	Diseases of the mediastinum. Mediastinitis. Tumors and cysts. Vena cava syndrome. Mediastinal emphysema.	4
16.	Esophageal congenital diseases. Diverticula. Strictures. Esophageal achalasia.	4
17.	Colloquium.	3
	Total	**62**

№	**Surgical Diseases:** **LECTURES - 8 semester**	**hours**
1.	Stucture of the abdominal wall. Inguinal and femoral canal. Hernias. Groin hernias.	2
2.	Femoral hernias.	2
3.	Umbilical hernia, umbilical cysts and fistulas.	2
4.	Diseases of the stomach-anatomic and physiological data. Clinical features. Methods of examination. Stomach and duodenal ulcers. Clinical manifestation. Diagnostic methods and indications for surgical treatment. Types of operations. Results.	2
5.	Gastric outlet obstruction - clinic, diagnostics, treatment. Bleeding ulcer - melena and hematemesis. Clinical features, diagnostics, differential diagnosis. Indications for surgical treatment.	2
6.	Perforated peptic ulcer disease. Reccurent and penetrating ulcer.	2
7.	Precanceroses of the stomach.	2
8.	Caricinoma of the stomach.	2
9.	Mini-invasive surgery.	2
10.	Diseases of the liver and biliary tract. Cholelitiasis. Cholecystitis-complications.	2
11.	Hepatal echinococceal cysts. Portal hypertension.	2
12.	Tumors of the liver and biliary tract. Icterus mechanicus.	2
13.	Surgical diseases of the arterial wall.	2
14.	Surgical diseases of the venous wall.	2
15.	Surgical diseases of the lymphatic system.	2
	Total	**30**

№	**Surgical Diseases:**	**hours**

	PRACTICAL EXERCISES - 8 semester	
1.	Stucture of the abdominal wall. Inguinal and femoral canal. Hernias. Groin hernias.	6
2.	Femoral hernias.	2
3.	Umbilical hernia, umbilical cysts and fistulas.	2
4.	Diseases of the stomach-anatomic and physiological data. Clinical features. Methods of examination. Stomach and duodenal ulcers. Clinical manifestation. Diagnostic methods and indications for operation. Types of operations. Results.	6
5.	Gastric outlet obstruction - clinics, diagnostics, treatment. Bleeding ulcer, melena and hemathemesis. Clinical features, diagnostics, differential diagnosis. Indications for operative treatment.	4
6.	Perforated peptic ulcer disease. Reccurent and penetrating ulcer.	4
7.	Precanceroses of the stomach.	4
8.	Caricinoma of the stomach.	6
9.	Mini-invasive surgery.	2
10.	Diseases of the liver and biliary tract. Cholelithiasis. Cholecystitis - complications.	4
11.	Hepatal echinococceal cysts. Portal hypertension.	4
12.	Tumors of the liver and biliary tract. Icterus mechanicus.	4
13.	Surgical diseases of the arterial wall.	4
14.	Surgical diseases of the venous wall.	2
15.	Surgical diseases of the lymphatic system.	2
16.	Colloquium.	4
	Total	**60**

№	**Surgical Diseases:** **LECTURES - 9 semester**	**hours**
1.	Acute appendicitis – classification, clinical presentation, treatment.	2
2.	Acute appendicitis in pediatrics, during pregnancy and in old patients.Chronic appendicitis. Mesenterial lymphadenitis. Terminal ileitis. Meckel's diverticulum Diverticulitis (haemorrage and perforation).	2
3.	Diseases of the pancreas. Anatomy. Acute pancreatitis. Etiopathogenesis. Treatment. Chronic pancreatitis. Pancreatic cysts and fistulas.	2
4.	Tumors of the pancreas.	2
5.	Bowel obstruction. Classification and pathophysiological mechanisms. Strangulation of the bowel.	2
6.	Ileus per obturationem.	2
7.	Acute abdomen.	2
8.	Mesenterial thrombosis.	2
9.	Peritonites – etiopathogenesis, classification, treatment. Intraabdominal sepsis.	2
10.	Diseases of the large bowel (congenital and acquired). Diverticulosis. Ulcero - haemorhagic colitis. Tuberculosis. Polyps. Polyposes.	2
11.	Injuries to the abdominal wall and the abdominal organs. Polytraumas. Combined traumas.	2
12.	Diseases of the rectum. Anatomy and physiology. Diagnostic methods. Congenital diseases, traumas, foreign bodies. Rectal carcinoma - etiopathogenesis, pathoanatomical forms. Clinical presentation, diagnostic and differential diagnosis. Surgical treatment. Radical and palliative operations.	2

13.	Paraproctites. Acute and chronic. Forms, clinics and treatment. Diseases of the anus and perineum. Heamorrhoids, fissures, prolapsus of the anus and rectum.	2
14.	Congenital diseases of the esophagus, stomach and intestines.	2
15.	Invagination.	2
	Total	**30**

№	**Surgical Diseases:** **PRACTICAL EXERCISES - 9 semester**	**hours**
1.	Acute appendicitis – classification, clinical presentation, treatment.	2
2.	Acute appendicitis in pediatrics, during pregnancy and in old patients. Chronic appendicitis. Mesenterial lymphadenitis. Terminal ileitis. Meckel's diverticulum Diverticulitis (haemorrage and perforation).	4
3.	Diseases of the pancreas. Anatomy. Acute pancreatitis. Etiopathogenesis. Treatment. Chronic pancreatitis. Pancreatic cysts and fistulas.	4
4.	Tumors of the pancreas.	4
5.	Bowel obstruction. Classification and pathophysiologic mechanisms. Strangulation of the bowel.	2
6.	Ileus per obturationem.	2
7.	Acute abdomen.	4
8.	Mesenterial thrombosis.	4
9.	Peritonites – etiopathogenesis, classification, treatment. Intraabdominal sepsis.	6
10.	Diseases of the large bowel (congenital and acquired). Diverticulosis. Ulcero - haemorhagic colitis. Tuberculosis. Polyps. Polyposes.	6
11.	Injuries to the abdominal wall and the abdominal organs. Polytraumas. Combined traumas.	4
12.	Diseases of the rectum. Anatomy and physiology. Diagnostic methods. Congenital diseases, traumas, foreign bodies. Rectal carcinoma - etiopathogenesis, pathoanatomical forms. Clinical presentation, diagnostic and differential diagnosis. Surgical treatment. Radical and palliative operations.	6
13.	Paraproctites. Acute and chronic. Forms, clinics and treatment. Diseases of the anus and perineum. Heamorrhoids, fissures, prolapsus of the anus and rectum.	2
14.	Congenital diseases of the esophagus, stomach and intestines.	4
15.	Colloquium.	4
	Total	**58**

FM 39 SYLLABUS of Dermatology and Venerology

№	**Dermatology and Venerology:** **LECTURES - 8 semester**	**hours**
1.	Anatomy and physiology of the skin.	3
2.	Primary and secondary skin eruptions. Pathologic changes in the skin.	2
3.	Bacterial infections of the skin.	2
4.	Dermatomycoses.	2
5.	Dermatoviroses.	2
6.	Parasitoses.	2
7.	Micobacterial infections.	2
	Total	**15**

№	**Dermatology and Venerology:** **PRACTICAL EXERCISES - 8 semester**	**hours**
1.	Dermatological history (anamnaesis).	2
2.	Examination. Primiry skin eruption.	2
3.	Secundary skin eruption. Basic pathologic changes of the epidermis.	2
4.	Basics of dermatologic therapy.	2
5.	Bacterial infections of the skin: Impetigo, Ectyma, Erysipelas, Cellulitis.	2
6.	Bacterial infections of the skin: Folliculitis, Furuncle, Carbuncle, Sycosis, Miliaria, Periporitis, Hydradentitis.	2
7.	Viral infections: Herpes virus infections, Varicella virus infections.	2
8.	Viral infections: Warts, Molluscum contagiosum. Orf. Milker's nodules. Hand-Food Mouth disease.	2
9.	Dermatomycoses. Clinical forms. Tinea corporis, Tinea capitis, Tinea pedis, Pytiriasis versicolor.	2
10.	Dermatomycoses. Candidiasis, Oral candidiasis, Genital candidiasis, Intertrigo.	2
11.	Protozoal infections. Scabies. Insect bites.	2
12.	Protozoal infections. Pediculosis. Leishmaniosis.	2
13.	Mycobacterial infections. Tuberculosis. Lupu vulgaris. Scrofuloderma.	2
14.	Mycobacterial infections. Leprosy.	2
15.	Revision- Infections of the skin. Skin eruptions.	2
	Total	**30**

№	**Dermatology and Venerology:** **LECTURES - 9 semester**	**hours**
1.	Acne and acneform drug eruption. Rosacea. Gr negative folliculitis. Perioral dermatitis. Desease with Balding and hair Loss: Defluvium, Alopecia areata, Hirsutism, Vitiligo	3
2.	Erithemas and erythemosquamous dermatoses.	2
3.	Immunologicaly Mediated Blistering Diseases: Lupus erythematosus, Systemic sclerosis, Dermatomyositis.	2
4.	Immunologicaly Mediated Blistering Diseases: Pemphigus vulgaris, Pemphigus seborrhoicus, Pemphigus foliaceus, Bullous pemphigoid, Morbus Duhring.	2
5.	Skin cancers: Basal cell carcinoma. Squamous cell carcinoma. Melanoma malignum.	2
6.	Sexual Transmited Diseases (STD). Syphilis.	2
7.	STD- Gonorrhea, Chlamydiasis, Trichomoniasis, Non specific uretritis, AIDS.	2
	Total	**15**

№	**Dermatology and Venerology:** **PRACTICAL EXERCISES - 9 semester**	**hours**
1.	Acne and acneform grug eruption. Rosacea. Perioral dermatitis.	2
2.	Eczematous rashes. Dermatitis. Diferential diagnosis. Therapy.	2
3.	Urticaria et oedema Quince. Strophulus.	2
4.	Benign skin tumors. Precancerosis. Moles.	2
5.	Scin cancers: Basal cell carcinoma, Squamous cell carcinoma, Melanoma malignum.	2
6.	Disease with balding and hair loss: Defluvivium, Alopecia areata, Hirsutism, Vitiligo.	2

7.	Sexual Transmited Diseases (STD). Syphilis.	2
8.	STD- Gonorrhea, Chlamydiasis, Trichomoniasis, Non specific uretritis.	2
9.	Immunologicaly Mediated Blistering Diseases: Pemphigus vulgaris, Pemphigoid, Dermatitis herpetiformis.	2
10.	Immunologicaly Mediated Blistering Diseases: Lupus erythematosus, Systemic sclerosis, Dermatomyiositis.	2
11.	Erythemas: Erithema exudativum nultiforme, E. Nodosum, Rytiriasis rosea, Erythema anulare.	2
12.	Local dermatological therapy.	2
13.	Systematic dermatological therapy.	2
14.	Psoriasis vulgaris. lichen rubber planus.	2
15.	Dermatology in general Medicine.	2
	Total	**30**

FM 40 SYLLABUS of Urology

№	**Urology:** **LECTURES - 9 semester**	**hours**
1.	Urologycal history and examination.	2
2.	Urinary tract calculi.	3
3.	Urinary tract infections and adults.	2
4.	Benign prostatc hyperplasia and carcinoma of the prostate.	2
5.	Tumors of the kidney.	2
6.	Tumors of the bladder and the testes.	2
7.	Injures to the genitourinary tract. Haematuria. Varicocele.	2
	Total	**15**

№	**Urology:** **PRACTICAL EXERCISES - 9 semester**	**hours**
1.	Methods of examination in Urology.	2
2.	Urinary tract calculi- medical history and examination.	2
3.	Urinary tract calculi- renal colic, treatment.	2
4.	Inflammatory diseases of kidney and urinary bladder- specific and non specific.	2
5.	Inflammatory diseases of male genital organs.	2
6.	Tumors of the kidneys, pyelon and ureter.	3
7.	Tumors of the bladder.	2
8.	Benign prostatic hyperplasia.	2
9.	Carcinoma of the prostate.	2
10.	Anuria. Retention urinare.	2
11.	Hydrocele, funiculocele, phymosis.	2
12.	Urinary obstruction.	2
13.	Tumors of the test. Carcinoma of the penis.	2
14.	Injures of the kidneys, bladder and urethra.	2
15.	Review.	2
	Total	**30**

FM 41 SYLLABUS of Physiotherapy

№	**Physiotherapy:** **LECTURES - 9 semester**	**hours**
1.	Physical medicine. Rehabilitation potencial. Physical bases of electrotherapy. Types of currents, used in electrotherapy. Galvanization- physical characteristics of the galvanic current. Iontophoresis. Dyadanamic currents. Dyadynamophoresis. Medium frequency currents- interferential and sinusoidal-modulated currents.	2
2.	High frequency currents- d'Arsonval, diathermy, ulta-high frequency currents, decimeter and centimeter waves. Magnetotherapy. Ultrasound therapy, ultraphonophoresis. Inhalation therapy.	2
3.	Light therapy (infrared, visible and ultra-violet beams of light). Artificial caloric and luminescent sources of light energy. Biodosimetry. Methods and doses. Prophylaxis with ultra- violet light. Laser therapy, laser puncture, laser acupuncture.	2
4.	Low frequency impulse currents with regulated parameters. Excitomotoric electro diagnostics. Electro stimulations. Reflexotherapy.	2
5.	Thermotherapy. Physical capacities of thermotherapeutic modalities. 2 Paraffinotherapy. Sauna. Hydro- and balneotherapy- douches, baths, piscine. Peloidotherapy. Cryotherapy. Spa- resources. Spa- therapy. Indications. Physioprophylaxis with natural and pre-formed physical modalities. Principles of the reasonable mode of life.	
6.	Influence of the movement on different organs and systems. Active movement regime. Hypodynamia. Bases of kinesiology, biomechanics and patho-biomechanics. Kinesiological analysis. Goniometry. Dynamometry. Manual muscle testing. Evaluation of functional deficiency. Kinesitherapy (physiotherapy) - active and passive. Therapeutic gymnastics. Underwater exercises. Therapeutic massage. Mechanotherapy. Extension. Ergotherapy (occupational therapy). Independence in activities of daily living (ADL). Therapeutic tourism. Manual therapy.	3
7.	Bases of physical therapy and rehabilitation in cases of some socially important diseases: orthopedic conditions, traumatic lesions, disorders of the central and peripheral nervous system, arthro- rheumatological diseases, pediatric and geriatric rehabilitation.	2
	Total	**15**

№	**Physiotherapy:** **PRACTICAL EXERCISES - 9 semester**	**hours**
1.	Galvanic current-devices, methods, electrodes. Iontophoresis- advantages and disadvantages, solutions for Iontophoresis. Doses. Indications. Contraindications.	2
2.	Diadynamotherapy- devices, methods, electrodes. Doses. Indications. Contraindications.	2
3.	Interferential currents- devices, methods, electrodes. Doses. Indications. Contraindications.	4
4.	Sinusoidal modulated currents- devices, methods, electrodes. Doses. Indications. Contraindications.	4
5.	High frequency electric current- types, pprinciples of action, endogenous heat.	2

	Devices for d'Arsonval currents. Methods. Indications. Contraindications.	
6.	Short wave diathermy. Microwave diathermy, methods. Doses. Indications. Contraindications.	3
7.	Light therapy- infrared, visible beams of light. Erythema calore. Ultra violet beams of light. Erythema photoelectrica. Laser- devices, methods. Doses. Indications. Contraindications.	2
8.	Inhalations- aerosols. Nebulizers. Doses. Indications. Contraindications.	3
9.	Low frequency magnetic field- devices, methods, advantages. Doses. Indications. Contraindications.	2
10.	Ultrasound therapy- devices, methods. Doses. Phonophoresis- advantages, substances for phonophoresis. Indications. Contraindications.	2
11.	Hydrotherapy- types of hydrotherapeutic procedures. Types of baths, douches, underwater massage. Doses. Indications. Contraindications.	2
12.	Thermotherapy- paraffin and mud therapy. Methods of applications. Doses. Indications. Contrainications.	3
13.	Kinesitherapy- active kinesitherapy, types.Goniometry, manual muscle testing.	
14.	Massage- types, techniques. Indications. Contrainications.	
	Total	**30**

FM 42 SYLLABUS of General Medicine

№	**General Medicine:** **LECTURES - 3 semester**	**hours**
1.	Introduction to general practice – Who is general practitioner. Basic features of general practice.	2
2.	The "whole patient". Health and disease; Model of health. Doctor-patient relationships. Introduction to communication skills of the general practitioner.	3
	Total	**5**

№	**General Medicine:** **PRACTICAL EXERCISES - 3 semester**	**hours**
1.	The paradigm of general practice. Key positions, key functions, key skills and key abilities of the GP.	2
2.	Physical, psychological and social status of the patient – holistic approach.	2
3.	Communication skills in general practice – introduction. The role of the personality in communication.	2
4.	Basic communication skills: Listening, Understanding and Interviewing the patient. Explanation the problems with the patient.	2
5.	Ethical dilemmas in general practice. Confidentiality. Patient's benefit – community's benefit.	2
6.	The general practitioner "face to face" with the patient.	3
7.	Feed back – test.	2
	Total	**15**

№	**General Medicine:** **LECTURES - 6 semester**	**hours**
1.	Models of the consultation in general practice. The psychological approach in general practice.	3
2.	Working in team – in general practice.	2

	Total	**5**

№	**General Medicine:** **PRACTICAL EXERCISES - 6 semester**	**hours**
1.	Tasks and special features of the consultation in general practice.	2
2.	Communication skills in the steps of the general practice consultation.	2
3.	Psychological approach in general practice.	2
4.	The family as the basic unit in general practice.	2
5.	Tasks of the general practitioner in the different phases of family's development.	3
6.	Breaking bad news.	2
7.	Feed back – test.	2
	Total	**15**

№	**General Medicine:** **LECTURES - 9 semester**	**hours**
1.	Decision making in general practice.	2
2.	Good medical practice.	3
	Total	**5**

№	**General Medicine:** **PRACTICAL EXERCISES - 9 semester**	**hours**
1.	Health promotion and prevention in general practice. Motivating of the patient for health behavior.	2
2.	Decision making in general practice.	2
3.	Care of dying patient in general practice.	2
4.	The challenges of the consultation – communication with the difficult patients.	2
5.	Ethical dilemmas: the role of the personal features in the relationships between general practitioner, his colleagues and his patient.	2
6.	Community oriented medicine.	3
7.	Feed back– test.	2
	Total	**15**

FM 43 SYLLABUS of Forensic Medicine
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№	**Forensic Medicine:** **LECTURES - 9 and 10 semester**	**hours**
1.	Death. 1. The nature and definitions of death. 2. Changes after death. The early changes after death. 1. Changes after death. Postmotem decomposition.	3
2.	The examination of wounds. 2. Wounding injury and trauma. Classification of wounds. 3. The examination of wounds. Abrasions. 4. The examination of wounds. Bruises. 5. The examination of wounds.Lacerations. 6. The examination of wounds. Incised wounds. Chop wounds. Stab wounds. 7. The examination of wounds. Regional injuries- fractures of skull.	3

	8. Regional injuries- injuries of brain and meninges. 9. Regional injuries- intracranial haemorrhage. Spinal injury.	
3.	Firearm and explosive injuries. 10. Firearm and explosive injuries. Types of injuries. 11. Firearm and explosive injuries. Explosives.	3
4.	Transportation injuries. 12. Transportation injuries. Motor vehicle injuries. 13. Transportation injuries. Motor cycle injuries. Railway injuries. 14. Motor vehicle injuries. Railway injuries. Aircraft fatalities.	6
5.	Asphyxia. 15. General aspects of asphyxia. 16. Hanging. 17. Suffocation. Choking. 18. Throtting. Strangulation. 19. Traumatic asphyxia. Enviromental asphyxia. Positional asphyxia. Sexual asphyxia. 20. Immersion and drowning. Signs of immersion. Drowning.	3
6.	Heat, cold and electricity. 21. Injury due to heat. 22. Cold injury. 23. Electrical injury.	3
7.Sudden death.	24. Unexpected and sudden death from natural causes. Causes of sudden and unexpected death. 25. Sudden infant death syndrome (SIDS).	3
8.	Sexual offences. 26. Sexual offences.Types of sexual offences. 27. The doctor's duty in the examination of sexual offences.	3
9.	Poisoning. 28. General aspects of poisoning. The toxic and fatal dose. Factors influencing toxicity. Absorbtion. 29. General aspects of poisoning. The toxic and fatal dose. Factors influencing toxicity. Distribution, biotransformation, excretion. 30. Alchohol Methanol. 31. Drugs dependence and abuse: heroin, morphine and other opioids. 32. Poisoning. Barbiturates. Amphetamines. Cocain. Cannabis. 33. Poisoning. Corrosive poisons. 34. Poisoning.Heavy metal poisoning. 35. Poisoning. Pesticides. 36. Poisoning. Gaseous poisons. Carbon monoxide. Carbon dioxide. Cyanides. 37. Poisoning. Strychnine. 38. Poisoning. Snakes.	3
	Total	**30**

№	**Forensic Medicine:** **PRACTICAL EXERCISES - 9 and 10 semester**	**hours**
1.	The autopsy.	3
2.	Medico-legal investigation of death.	3
3.	Wounding, injury and trauma.	12

4.	Motor vehicle injuries. Motor cycle injuries. Railway injuries. Aircraft fatalities.	6
5.	Firearm injuries.	3
6.	Asphyxia. Hanging. Suffocation. Choking. Throtting. Strangulation. Traumatic asphyxia. Enviromental asphyxia. Positional asphyxia. Sexual asphyxia. Immersion and drowning. Signs of immersion. Drowning.	6
7.	Injury due to heat and cold. Electrical injury.	3
8.	Sexual offences.	3
9.	Unexpected and sudden death from natural causes. Causes of sudden and unexpected death.	3
10.	The doctor's duty in suspected poisoning. Recognition of poisoning. The collection and storage of samples for toxicological analysis.	3
	Total	**45**

FM 44 SYLLABUS of Paediatrics

№	**Paediatrics:** **LECTURES - 9 semester**	**hours**
1.	Making Diagnosis in Pediatrics. Physical Examination.	2
2.	Principles of Therapy in Pediatrics. Risk factors and Prophylaxys.	2
3.	Principles of Pediatric Nutrition. Breast-Feeding.	2
4.	Formula-feeding. Formulas for infant feeding.	2
5.	Growth and Development. Psychomotor Development.	2
6.	Rickets.	2
7.	Hypotrophy. Obesity.	2
8.	Respiratory Tract Diseases. Respiratory Failure.	2
9.	Upper Respiratory Tract infections: Rhinitis, Rhinopharyngitis, Tonsilitis, Laryngitis. Bronchitis. Bronchiolitis.	2
10.	Acute Pneumonia. Destructive Pneumonia.	2
11.	Chronic Lung Inflammation. Cystitic Fibrosis.	2
12.	Tuberculosis in Children.	2
13.	AllergicDisoders. Asthma.	2
14.	Morphologic and Functional Features of the Cardiovascular system. Assessment of the Cardiovascular system- main symptoms and syndromes.	2
15.	Functional assessment of the Cardiovascular system. Specific features of the ECG in children.	2
	Total	**30**

№	**Paediatrics:** **PRACTICAL EXERCISES - 9 semester**	**hours**
1.	Obtaining the Pediatric History. The Pediatric Physical Examination.	4
2.	Making Diagnosis in Pediatrics. General aspects of Antimicrobial Therapy Prescribing Antibiotics.	4
3.	Principles of Drug Therapy in Pediatrics Prescribing Drugs. Breast-Feeding.	4
4.	Bottle-feeding Formulas for infant Feeding. Dietary-feeding Prescribing Dietary Regimens.	4
5.	Physical Growth and Development. Psychomotor Development.	4
6.	Vitamin D Deficiency Rickets. Vitamin D Resistant Rickets.	4
7.	Undernutrition. Overnutricion-Obesity.	4

8.	Morphologic and Functional Features of the Respiratory System in Children Assessiment of the Respiratory System. Respiratory Failure.	4
9.	Upper Respiratory Tract Infections: Rhinitis, Rhinopharyngitis, Tonsillitis, Laryngitis. Bronchitis. Bronchiolitis.	4
10.	Acute Pneumonia. Destructive Pneumonia.	4
11.	Foreign Body Aspiration. Chronic Lung Inflammation.	4
12.	Cystitic Fibrosis. Tuberculosis in Children.	4
13.	Asthma. Clinical tasks on Respiratory system.	4
14.	Morphologic and Functional Features of the Cardiovascular system. Assessment of the Cardiovascular system.	4
15.	Functional assessment of the Cardiovascular system. Clinical case presentation.	4
	Total	**60**

№	**Paediatrics:** **LECTURES - 10 semester**	**hours**
1.	Heart failure – main symptoms and syndromes. Heart failure – therapy. Hypertention in childhood.	2
2.	CHD with left-to-right shunt. CHD with right-to-left shunt. CHD with fut shunt.	2
3.	Connective tissue diseases – rheumatic disease. Juvenile Rheumatoid Arthritis.	2
4.	Anatomical and physiological features of the urinary system in children. Examination of the urinary system. Main symptoms and syndromes – hematuria, proteinuria and pyuria. Renal failure.	2
5.	Glomerulonephritis. Nephrotic syndrome. Urinary tract infections.	2
6.	Anatomical and physiological features of the digestive system in children. Main symptoms and syndromes – vomiting. Fluid and electrolyte homeostasis.	2
7.	Malabsorbtion syndrome. Diarrhea. Abdominal pain.	2
8.	Anemias in childhood. Hemorrhagic disorders.	2
9.	Malignancy in childhood.	2
10.	Anatomical and physiological features of the nervous system. Examination of the nervous system. Seizures: Epilepsy. Meningitis and encephalitis. Reye syndrome.	2
11.	Short stature and tall stature. Pituitary gland disorders. Hypothyroidism.	2
12.	Congenital adrenal hyperplasia. Diabetes.	2
13.	Preterm newborn. Jaundice in newborn. Asphyxia in newborn. Infection of the newborn.	2
14.	Poisonings. Genetic diseases and genetic consultation.	2
15.	Child Abuse-Etiology and characteristics of abused children. Psychologic symptoms of dlused children, diagnosis, treatment.	2
	Total	**30**

№	**Paediatrics:** **PRACTICAL EXERCISES - 10 semester**	**hours**
1.	Anatomical and physiological features of the cardiovascular system in children. Heart failure – Diagnosis and Treatment.	6
2.	Congenital heart defects (CHD) with left-to-right shunt (case presentation). CHD with right-to-left shunt. Case presentation.	6
3.	Collagen diseases. Rheumatic disease. Differential diagnosis of joint syndrome.	6
4.	Anatomical and physiological features of the urinary system in children. Glomerulonephritis. Differential diagnosis of hematuria.	6

5.	Nephrotic syndrome. Urinary tract infections.	6
6.	Fluid and electrolyte rehydration. Anatomical and physiological features of the digestive system.	6
7.	Gastro esophageal reflux disease. Hypertrophic pyloric stenosis. Differential diagnosis of the vomiting. Acute diarrhea. Chronic diarrhea.	6
8.	Abdominal pain. Differential diagnosis of hepatosplenomegaly.	6
9.	Deficiency anemias. Hypoplastic and aplastic anemias.	6
10.	Hemolytic anemias. The Leukemias. Differential diagnosis of enlarged lymph nodules.	6
11.	Hemorrhagic diseases. Anatomical and physiological features and examination of the nervous system.Differential diagnosis of seizures.	6
12.	Differential diagnosis of short stature. Thyroid gland disorders. Adrenal gland disorders. Puberty disorders.	6
13.	Diabetes in children. Diabetes – coma.	6
14.	Poisonings in children. Differential diagnosis of jaundice in newborn.	6
15.	Laboratory tasks. Case study.	6
	Total	**90**

FM 45 SYLLABUS of Epidemiology, Infectious Diseases, Medical Parasitology and Tropical Medicine

№	**Epidemiology, Infectious Diseases, Medical Parasitology and Tropical Medicine:** **LECTURES - Epidemiology**	**hours**
1.	Infectious disease epidemiology: background, important definitions related to specific concepts. Chain of infection.	2
2.	Chain of infection. Dinamics of disease transmission: reservoir and sources, routes of transmission.	2
3.	Sussceptible host. Host defences. Immunity.	2
4.	Prevention and control of infectious disease. Global and national control.	2
5.	Influenza and respiratory tract infections. Varicella – zoster infection.	2
6.	Measles. Mumps.	2
7.	Scarlet fever. Diphtheria.	2
8.	Viral hepatitis type “a”. Poliomyelitis.	2
9.	Crimean-congo haemorragic fever. Haemorragic fever with renal syndrome.	2
10.	Viral hepatitis “B” and “C”.	2
11.	Q-fever. Lyme disease.	2
	Total	**22**

№	**Epidemiology, Infectious Diseases, Medical Parasitology and Tropical Medicine:** **PRACTICAL EXERCISES - Epidemiology**	**hours**
1.	Infectious disease epidemiology: definitions, subject, methods. Control of infectious diseases.	2
2.	Chain of infection. Sources of infection. Human sources of infection. Case and carrier.	2
3.	Epidemiological investigation.	2
4.	Epidemiological investigation of droplet infection case.	2

5.	Epidemiological investigation of intestinal infection case.	2
6.	Disinfection and sterilization. Sterilization. Methods. Monitoring of sterilization procedures.	2
7.	Disinfection and sterilization. Disinfection. Chemical method. Disinfectants. Monitoring of disinfection.	2
8.	Animal reservoirs of infection. Zoonoses. Human health. Importance of rodents. Rodent control.	2
9.	Vectors of infectious diseases. Arthropod- borne diseases. Vector. Control. Disinfection.	2
10.	Host defences. Immunization. Immunizing agents.	2
11.	Vaccines. Types of vaccines. Vaccine reactions and complications. Contraindicatios.	2
12.	Active immunization. Who – epi. National immunization schedule of India.	2
13.	Active immunizations recommended under special conditions/ cholera, plague, reabies, yellow fever/. Passive imunization.	2
14.	Aids and other sexually transmited diseases. Preventive strategies. Aids global and national control programs.	2
15.	Nosocomial infections.	2
	Total	**30**

№	**Epidemiology, Infectious Diseases, Medical Parasitology and Tropical Medicine:** **LECTURES - Infectious Diseases**	**hours**
1.	Infections, infections process and infectious diseases.	2
2.	Bowel diseases – typhoid fever, salmonellosis, shigellosis, colienteritis, cholera, botulism – etiology, pathogenesis, clinical features.	2
3.	Bowel diseases – diagnosis, differential diagnosis; treatment – etiological and pathogenic treatment.	2
4.	Infections of the central nervous system (CNS) – meningococcal infections, bacterial meningitis, viral infections of the CNS – etiology, pathogenesis, clinical features.	2
5.	Infections of the CNS – diagnosis, differential diagnosis; treatment – etiological and pathogenic treatment.	2
6.	Viral hepatitis – etiology, pathogenesis, clinical features, diagnosis, differential diagnosis, treatment. Acute liver failure.	2
7.	Haemorrhagic fevers – congo-crimean haemorrhagic fever, haemorrhagic fever with renal syndrome, yellow fever. Leptospirosis.	2
8.	Infectious diseases with exanthema – measles, rubella, chickenpox, scarlet fever.	2
9.	Diphteria. Tetanus.	2
10.	Rickettsial diseases – epidemic typhus fever, boutoneus fever, q fever.	2
11.	Human immunodeficiency virus, aids; opportunistic infections.	
12.	Lyme disease.	
13.	Treatment of infectious diseases.	
	Total	**26**

№	**Epidemiology, Infectious Diseases, Medical Parasitology and Tropical Medicine:** **PRACTICAL EXERCISES - Infectious Diseases**	**hours**
1.	Taking a history and physical examination of a patient with infectious disease.	2

2.	Bowel infections – typhoid fever, shigellosis, salmonellosis, cholera, colienteritis – etiology, clinical features, diagnosis, differential diagnosis.	2
3.	Bowel infections – dehydration – degrees, clinical features, hypovolemic shock. Management and treatment.	2
4.	Bacterial infections of the central nervous system – clinical features, diagnosis, differential diagnosis, treatment.	2
5.	Viral infections of the central nervous system – diagnosis, differential diagnosis, treatment.	2
6.	Preliminary examination. Botulism.	2
7.	Measles, rubella, chickenpox, mumps (Parotitis).	2
8.	Diphtheria, scarlet fever, whooping cough (pertussis).	2
9.	Tropical medicine – arbovirus infections. Dengue (dendy fever). Encephalites and encephalomyelites.	2
10.	Tropical medicine – donovanosis. Bartonellosis.	2
11.	Viral hepatitis – etiology, pathogenesis, clinical features.	2
12.	Viral hepatitis – diagnosis, differential diagnosis, Treatmen. Acute liver failure – features and management.	2
13.	Tetanus, serotherapy.	2
14.	Anthrax, respiratory anthrax, rabies.	2
15.	Leptospirosis – etiology, pathogenesis, clinical features, diagnosis, differential diagnosis, treatment. Acute renal failure – management and treatment.	2
16.	Preliminary examination. Poliomyelitis.	2
17.	Haemorrhagic fevers – congo - crimmean haemorrhagic fever, haemorrhagic fever with renal syndrome.	2
18.	Lyme disease, boutouneus fever – etiology, pathogenesis, clinical features, diagnosis, treatment.	2
	Total	**36**

№	**Epidemiology, Infectious Diseases, Medical Parasitology and Tropical Medicine:** **LECTURES - Medical Parasitology**	**hours**
1.	Malaria – causative agents, symptoms, treatment, control and prevention.	2
2.	Leishmaniasis. Visceral leishmaniasis. Cutaneus leishmaniasis of the old world. Cutaneus leishmaniasis of the new world.	2
3.	Amoebiasis. Giardiasis.	2
4.	Opportunistic parasitoses in HIV– PATIENTS. Toxoplasmosis. Pneumocystosis.	2
5.	Enterobiosis. Ascaridosis. Trychocephalosis.	2
6.	Trichinellosis. Echinococcosis.	2
7.	Hymenolepidosis. Taeniarhynchosis. Taeniosis.	2
	Total	**14**

№	**Epidemiology, Infectious Diseases, Medical Parasitology and Tropical Medicine:** **PRACTICAL EXERCISES - Medical Parasitology**	**hours**
1.	Malaria – laboratory diagnosis.	2
2.	Malaria – sitting professional call. Laboratory. Diagnosis.	2
3.	Visceral leishmaniasis. Pneumocystosis. Toxoplasmosis. (Laboratory – seminar exercise).	2

4.	Amebiasis. Giardiasis. Urogenital. Trichomonasis. (Laboratory – seminar exercise).	2
5.	Examination on the tropics 1-4. Ascaridosis.	2
6.	Trychocephalosis. Enterobiosis.	2
7.	Trichinellosis. Echinococcosis. Sitting Professional call.	2
8.	Taeniases. Hymenolepidosis.	2
	Total	**16**

№	**Epidemiology, Infectious Diseases, Medical Parasitology and Tropical Medicine:** **LECTURES - Tropical Medicine**	**hours**
1.	Diarrhea syndrome disease in the tropic caused by parasites.	2
2.	African and American trypanosomiasis.	2
3.	Ancylostomiasis. Lymphatic filariasis.	2
4.	Shistosomiasis. Diseases caused by venomous animals. Myases.	2
5.	Arbovirus infection. Dengue (Dangue Fever). Encephalitis and Encephalomye-litis.	2
6.	Plague. Leprosy.	2
	Total	**12**

№	**Epidemiology, Infectious Diseases, Medical Parasitology and Tropical Medicine:** **PRACTICAL EXERCISES - Tropical Medicine**	**hours**
1.	Diarrhea syndrome in the tropic caused by parasites. (Laboratory – seminar exercise).	2
2.	Laishmaniasis. Trypanosomiasis (Laboratory – seminar exercise).	2
3.	Lymphatyc Filariasis. Onchocerciasis (Laboratory – seminar exercise).	2
4.	Loaosis. Dracunculiasis. Ancylostomiasis (Laboratory – seminar exercise).	2
5.	Shistosomiasis examination on the tropical parasitic diseases passed from 1st till 4^{ui} exercises.	2
	Total	**10**

FM 46 SYLLABUS of Psychiatry

№	**Psychiatry:** **LECTURES - 10 semester**	**hours**
1.	Disorders of perception. Disorders of consciousness. Illusions, hallucinations, pseudohallucinacions, depersonalization, derealization, confusion. Definitions and types of psychiatric disorders presenting with disorders of perception and/or consciousness.	2
2.	Overview of the dsm-iv and psychiatric diagnosis. The diagnostic interview. The significance and contents of the DSM - IV. Diagnostic uncertainty and the DSM - IV. Obtaining clinical information. Components of the diagnostic interview. High-yield inductive history questions. The mental state examination. The clinician - patient relationship.	2
3.	Disorders of thinking. Disorders of memory. Disorders of intellect. General symptoms and syndromes and types of psychiatric conditions presenting with disturbances of thinking, memory, and intellect.	2
4.	Disturbances of emotions, motor behavior and attention. Introduction. Affect -	2

	subtypes. Mood disturbances - dysphonic, expansive, euthymic, elevated mood, euphoria, depression, anxiety, agitation, tension, panic attack. Motor behavior - catatonia - excitement, stupor, rigidity, negativism, overactivity.	
5.	Affective disorders. Epidemiology. Classification. Etiology. Clinical features - depressive syndromes, masked depression, agitated depression, depressive stupor, mania, treatment of disorders.	2
6.	Psychotic disorders. Schizophrenia. Overview. Clinical features of psychosis. Psychiatric disorders with psychotic symptoms. Diagnostic clues of psychosis. Schizophrenia - definitions, history, epidemiology, etiology, symptoms and diagnosis, psychological changes caused by the illness and psychological diagnostic tools for schizophrenia, clinical course and treatment.	2
7.	Personality disorders. Definition. Classification. Etiology. Clinical features and treatment. Sexual and gender identity disorders.	2
8.	Cognitive disorders. General information, disturbances of cognition, distinguishing among cognitive disorders, diagnostic clues. Delirium, dementia, specific, amnesic disorders - epidemiology, etiology, diagnosis, clinical course and treatment.	2
9.	Childhood disorders and geriatric disorders. Mental retardation. Tic disorders. Enuresis. Mood disorders and schizophrenia in childhood and adolescence. Alzheimer disease. Pick's disease. Parkinson disease. Treatment of geriatric disorders.	2
10.	Treatment of psychiatric disorders. Biological. Therapies. General principles of psychopharmacology. Psychiatric drugs - neuroleptics, antidepressants, anxiolitics, and mood stabilizers. Electroconvulsive therapy. Psychotherapy.	2
11.	Law and ethics in psychiatry. Overview. Patient's rights. Confidentiality. Competency. Guardianship. Involuntary treatment. Professional responsibilities. Psychiatric malpractice claims.	2
12.	Anxiety and somatoform disorders. Anxiety as a syndrome. Panic disorder - epidemiology, etiology, clinical course, treatment. Phobic disorders. Social phobia. Obsessive-compulsive disorder. Posttraumatic. Stress disorder. Generalized anxiety disorder. Substance-induced anxiety disorder. Somatoform disorders - epidemiology, etiology, diagnostic features, clinical course and treatment. Somatization disorder. Conversion and pain disorders. Hypochondriasis. Body dysmorphic disorder.	2
13.	Substance abuse and dependence. Types. Definitions - substance use, abuse and dependence. Epidemiology. Etiology, risk factors. Commonly abused substances - nicotine, alcohol, marihuana, cocaine, amphetamines and other stimulants, opiates, inhalants, benzodiazepines and other sedative-hypnotic drugs, anabolic steroids. Course. Prognosis. Complications. Assessment. General principles of treatment - detoxification, rehabilitation, relapse prevention.	2
14.	Alcohol use disorders – alcohol abuse and alcoholism. Definition. Epidemiology. Etiology – biological, psychological and social factors. Clinical features, diagnostic criteria and assessment. Complications. Treatment – intervention, detoxification and rehabilitation.	2
15.	Other substances of abuse and dependence. Overview. Epidemiology. Etiology – biological, psychological and social factors. Substance intoxication and substance withdrawal – diagnostic criteria for the different classes of substances. Diagnosis and treatment.	2
	Total	**30**

№	**Psychiatry:** **PRACTICAL EXERCISES - 10 semester**	**hours**
1.	Disorders of perception. Disorders of consciousness. Illusions, hallucinations, pseudohallucinacions, depersonalization, derealization, confusion. Most common mental disorders presenting with disturbances of perception and consciousness.	3
2.	Overview of the dsm-iv and psychiatric diagnosis. The diagnostic interview. The significance and contens of the DSM - IV. Diagnostic uncertainty and the DSM - IV. Obtaining clinical information. Components of the diagnostic interview. High-yield inductive history questions. The mental state examination. The clinician - patient relationship.	3
3.	Disorders of thinking. Disorders of memory. Disorders of intellect. General symptoms and syndromes and number of psychiatric disorders when they meeting.	3
4.	Disturbances of emotions, motor behavior and attention. Introduction. Affect - subtypes. Mood disturbances - disphoric, expansive, euthymic, elevated, euphoria, depression, anxiety, agitation, tension, panic attack. Motor behavior - catatonia - excitement, stupor, rigidity, negativism, overactivity.	3
5.	Affective disorders. Epidemiology. Classification. Etiology. Clinical features - depressive syndromes, masked depression, agitated depression, depressive stupor, mania, treatment of disorders.	3
6.	Psychotic disorders. Schizophrenia. Overview. Clinical features of psychosis. Psychiatric disorders that account for psychosis. Diagnostic clues os psychosis. Schizophrenia - definitions, history, symptoms, psychological changes, epidemiology, etiology, diagnosis, clinical course and treatment.	3
7.	Personality disorders. Definition. Classification. Etiology. Problems of sexuality and gender.	3
8.	Cognitive disorders. General information, disturbances of cognition, distinguishing among cognitive disorders, diagnostic clues. Delirium, dementia, specific, amnesic disorder - epidemiology, etiology, diagnosis, clinical course and treatment.	3
9.	Childhood disorders and geriatric disorders. Mental retardation. Tic disorders. Enuresis. Mood disorders and schizophrenia in childhood and adolescent. Alzheimer disease. Pick's disease. Parkinson disease. Treatment of geriatric disorders.	3
10.	Treatment of psychiatric disorders. Biological. Therapies. General principles of psychopharmacology. Psychiatric drugs - neuroleptics, antidepressants, anxiolitics, and mood stabilizers. Electroconvulsive therapy. Psychotherapy.	3
11.	Law and ethics in psychiatry. Overview. Patient's rights. Confidentiality. Competency. Guardianship. Involuntary treatment. Professional responsibilities. Psychiatric malpractice claims.	3
12.	Anxiety and somatoform disorders. Anxiety as a syndrome. Panic disorder - epidemiology, etiology, clinical course, treatment. Phobic disorders. Social phobia. Obsessive-compulsive disorder. Posttraumatic. Stress disorder. Generalized anxiety disorder. Substance-induced anxiety disorder. Somatoform disorders - epidemiology, etiology, diagnostic features, clinical course and treatment. Somatization disorder. Conversion and pain disorders. Hypochondriasis. Body dysmorphic disorder.	3
13.	Substance abuse and dependence. Types. Definitions - substance use, abuse and dependence. Epidemiology. Etiology, risk factors. Commonly abused substances	3

	- nicotine, alcohol, marihuana, cocaine, amphetamines and other stimulants, opiates, inhalants, benzodiazepines and other sedative-hypnotic drugs, anabolic steroids. Course. Prognosis. Complications. Assessment. General principles of treatment.	
14.	Alcohol use disorders – alcohol abuse and alcoholism. Definition. Epidemiology. Etiology – biological, psychological and social factors. Clinical features, diagnostic criteria and assessment. Complications. Treatment – intervention, detoxification and rehabilitation.	3
15.	Other substances of abuse and dependence. Overview. Epidemiology. Etiology – biological, psychological and social factors. Substance intoxication and substance withdrawal – diagnostic criteria for the different classes of substances. Diagnosis and treatment.	3
	Total	**45**

FM 47 SYLLABUS of Clinical Pharmacology

№	**Clinical Pharmacology:** **LECTURES - 10 semester**	**hours**
1.	Clinical pharmacology and therapeutics: goal, problems. Methods to carry out clinical trials.	2
2.	Clinical Pharmacokinetics: Clinical relevance of the pharmacokinetic parameters. Dosage regiments. Bioavailability and bioequivalence.	2
3.	Clinical Pharmacodynamics: Criteria for effectiveness of the treatment. 2 Pharmacodynamic models. Reasons for a non-effective drug therapy. Drug therapy in pregnancy and elderly.	
4.	Factors, which influence the drug efficacy: Chronopharmacology, genetics, food intake, alcohol consumption, and tobacco-smoking.	2
5.	Clinical-pharmacological approaches of drug therapy in liver or renal insufficiency.	2
6.	Adverse Drug Reactions (ADR's): type, qualitative and quantitative methods to assess the risk of ADR's.	2
7.	Evidence Based Medicine: goal, problems, and relevance in the medical practice. Pharmacoeconomics.	2
	Total	**14**

№	**Clinical Pharmacology:** **PRACTICAL EXERCISES - 10 semester**	**hours**
1.	Clinical-pharmacological considerations in the management of CAD. Solving clinical cases.	2
2.	Clinical-pharmacological considerations in the management of CHF. Solving clinical cases.	2
3.	Clinical-pharmacological considerations in the management of arterial hypertension. Solving clinical cases.	2
4.	Clinical-pharmacological considerations in the management of pain. Solving clinical cases.	2
5.	Clinical-pharmacological considerations in the management of bronchial obstruction. Solving clinical cases.	2
6.	Clinical-pharmacological considerations in the treatment with antibacterial	2

	drugs. Solving clinical cases.	
7.	Clinical-pharmacological considerations in the management of gastro-intestinal disturbances. Solving clinical cases.	2
8.	Case-based test.	2
	Total	**16**

FM 48 SYLLABUS of Neurosurgery

№	**Neurosurgery** **LECTURES – 9 semester**	**hours**
1.	Traumatic brain and spinal cord injuries. Delayed sequela of traumatic brain injuries.	2
2.	Brain tumors. Tumors of the spine and spinal cord. Brain abscess	2
3.	Surgical management of neurovascular disease	2
4.	Neurosurgical management of degenerative diseases, malformations of CNS and functional neurosurgery	2
	Total	**8**

№	**Neurosurgery** **PRACTICAL EXERCISES – 9 semester**	**hours**
1.	Traumatic brain and spinal cord injuries. Delayed sequela of traumatic brain injuries.	2
2.	Brain tumors. Tumors of the spine and spinal cord. Brain abscess	2
3.	Surgical management of neurovascular disease	2
4.	Neurosurgical management of degenerative diseases, malformations of CNS and functional neurosurgery	2
	Total	**8**

FM 49 SYLLABUS of Medical Statistics

№	**Medical Statistics:** **LECTURES - 4 semester**	**hours**
1.	Introduction to Statistics. Population and sample. Types of study. The research process – planning, strategies, sampling, sources and types of bias.	2
2.	Sources and types of data. Summarizing and presenting data. Simple descriptive statistics for categorical data – ratios, proportions, percentages, rates.	2
3.	Measures of central tendency – mean, mode, median. Measures of spread – range, interquartile range, standard deviation, variance.	2
4.	Distributions. Normal distribution. Non-normal distributions. The normal curve. Standard scores. Standard normal curve. The concept of "norms" or "normal limits". Percentiles.	2
5.	Correlation. Linear and non-linear correlation. Correlation coefficients. Correlation and causation. Regression.	2
6.	Inferential statistics. Probability and sampling distributions. From sample to population. Confidence intervals.	2
7.	Hypothesis testing. Parametric tests – one-sided and two-sided t-test.	2

8.	Hypothesis testing. Nonparametric tests – chi-square, etc.	1
	Total	**15**

№	**Medical Statistics:** **PRACTICAL EXERCISES - 4 semester**	**hours**
1.	Introduction to Statistics. Population and sample. Types of study. The research process – planning, strategies, sampling, sources and types of bias.	2
2.	Sources and types of data. Summarizing and presenting data. Simple descriptive statistics for categorical data – ratios, proportions, percentages, rates.	2
3.	Measures of central tendency – mean, mode, median. Measures of spread – range, interquartile range, standard deviation, variance.	2
4.	Distributions. Normal distribution. Non-normal distributions. The normal curve. Standard scores. Standard normal curve. The concept of "norms" or "normal limits". Percentiles.	2
5.	Correlation. Linear and non-linear correlation. Correlation coefficients. 2 Correlation and causation. Regression.	
6.	Inferential statistics. Probability and sampling distributions. From sample to population. Confidence intervals.	2
7.	Hypothesis testing. Parametric tests – one-sided and two-sided t-test.	2
8.	Hypothesis testing. Nonparametric tests – chi-square, etc.	1
	Total	**15**

FM 53 SYLLABUS of Medical Psychology

№	**Medical Psychology:** **LECTURES - 1 semester**	**hours**
1.	Introduction in medical psychology. Objective, aims and methods of Medical Psychology. Relation between Medical Psychology and other medical sciences.	1
2.	Sensations and perception. Neurobiological and psychological mechanisms involved in sensations and perception. Major mental disorders presenting with disturbances of sensations and perception.	1
3.	Personality. Definition. Components of human personality – temperament and character. Biological, psychological and social factors contributing to personality formation.	1
4.	Personality. Methods of assessment. Productive measures. Objective personality assessment - MMPI, Eysenck Personality Inventory, Three-dimensional Personality Inventory etc. Projective Personality Assessment - Rorschach test, Thematic Apperception Test (TAT), Sentence Completion Test (SCT). Integration of test findings.	1
5.	Emotions and feelings. Definition and terms. Psychological and neurobiological mechanisms of emotions. Brain areas involved in emotional experience – limbic system, cerebral cortex etc.	1
6.	Emotions and feelings. Emotional development from infancy to childhood. Z. Freud and his structural theory of the mind - ID, EGO, SUPEREGO. Oedipal conflict. Defense mechanisms. Major mental disorders presenting with disturbances of emotions.	1
7.	Language and speech. Definition. Psychological and biological mechanisms involved in language formation. Major brain areas participating controlling	1

	language and speech. Phoneme perception-categorical perception. Intonation contour. Nonverbal communication.	
8.	Language and speech. Psychological and clinical assessment of language and speech. Major mental and neurological disorders presenting with disturbances of language and speech (aphasic disorders etc.).	1
9.	Thinking, attention and concentration. Definition. Psychological and neurobiological mechanisms involved in thinking, attention and concentration. Brain areas controlling thinking, attention and concentration - frontal cortex, reticular formation etc. Cognitive development in infancy and adolescence - Piaget's theory of cognition. Deductive logic. Inductive logic. Probability.	1
10.	Thinking, attention and concentration. Psychological and clinical methods of assessment (digit span test, continuous performance test, Wisconsin card sort test etc.) Major mental disorders presenting with disturbances of thinking, attention and concentration.	1
11.	Memory and intelligence. Psychological end neurobiological mechanisms involved in memory and intelligence. Anatomical basis of memory and intelligence – limbic system, hypothalamus, cerebral cortex etc. Memory as information. Types of Encoding, storage, retrieval. Procedural and proposition learning and memory.	1
12.	Memory and intelligence. Psychological testing of memory - Wechsler memory Scale. Intelligence testing – Wechsler Intelligence Scale, Raven Progressive Matrices etc. Interpretation of test results. Clinical screening of memory – MMSE. Group tests of General ability (SAT, ACT). The dynamics of intelligence. Major mental disorders presenting with disturbances of memory and intelligence – mental retardation, dementia etc.	1
13.	Human development in childhood and adolescence. Stages of intellectual and emotional development - stages of psychosexual development according to Freud, Erik Erikson's eight stages of the life cycle. Bowlby's attachment theory. Child abuse, maternal deprivation. Social interactions.	1
14.	Doctor-patient communication. Structure, content and technique of obtaining patient's history. Models of the doctor-patient relationship. Interviewing. Compliance.	1
15.	Personality of the healthcare professional. Physician and nurse and their personality characteristics. Medical pedagogy, ethics and moral.	1
	Total	**15**

№	**Medical Psychology:** **PRACTICAL EXERCISES - 1 semester**	**hours**
1.	Introduction in medical psychology. Objective, aims and methods of Medical Psychology. Relation between Medical Psychology and other medical sciences.	1
2.	Sensations and perception. Neurobiological and psychological mechanisms involved in sensations and perception. Major mental disorders presenting with disturbances of sensations and perception.	1
3.	Personality. Definition. Components of human personality – temperament and character. Biological, psychological and social factors contributing to personality formation.	1
4.	Personality. Methods of assessment. Productive measures. Objective personality assessment - MMPI, Eysenck Personality Inventory, Three-dimensional Personality Inventory etc. Projective Personality Assessment - Rorschach test, Thematic Apperception Test (TAT) Sentence Completion Test (SCT).	1

	Integration of test findings.	
5.	Emotions and feelings. Definition and terms. Psychological and neurobiological mechanisms of emotions. Brain areas involved in emotional experience – limbic system, cerebral cortex etc.	1
6.	Emotions and feelings. Emotional development from infancy to childhood. Z. Freud and his structural theory of the mind - ID, EGO, SUPEREGO. Oedipal conflict. Defense mechanisms. Major mental disorders presenting with disturbances of emotions.	1
7.	Language and speech. Definition. Psychological and biological mechanisms involved in language formation. Major brain areas participating controlling language and speech. Phoneme perception-categorical perception. Intonation contour. Nonverbal communication.	1
8.	Language and speech. Psychological and clinical assessment of language and speech. Major mental and neurological disorders presenting with disturbances of language and speech (aphasic disorders etc.).	1
9.	Thinking, attention and concentration. Definition. Psychological and neurobiological mechanisms involved in thinking, attention and concentration. Brain areas controlling thinking, attention and concentration - frontal cortex, reticular formation etc. Cognitive development in infancy and adolescence - Piaget's theory of cognition. Deductive logic. Inductive logic. Probability.	1
10.	Thinking, attention and concentration. Psychological and clinical methods of assessment (digit span test, continuous performance test, Wisconsin card sort test etc.) Major mental disorders presenting with disturbances of thinking, attention and concentration.	1
11.	Memory and inteligence. Psychological end neurobiological mechanisms involved in memory and intelligence. Anatomical basis of memory and intelligence – limbic system, hypothalamus, cerebral cortex etc. Memory as information. Types of Encoding, storage, retrieval. Procedural and proposition learning and memory.	1
12.	Memory and inteligence. Psychological testing of memory - Wechsler memory Scale. Intelligence testing – Wechsler Intelligence Scale, Raven Progressive Matrices etc. Interpretation of test results. Clinical screening of memory – MMSE. Group tests of General ability (SAT, ACT). The dynamics of intelligence. Major mental disorders presenting with disturbances of memory and intelligence – mental retardation, dementia etc.	1
13.	Human development in childhood and adolescence. Stages of intellectual and emotional development - stages of psychosexual development according to Freud, Erik Erikson's eight stages of the life cycle. Bowlby's attachment theory. Child abuse, maternal deprivation. Social interactions.	1
14.	Doctor-patient communication. Structure, content and technique of obtaining patient's history. Models of the doctor-patient relationship. Interviewing. Compliance.	1
15.	Personality of the healthcare professional. Physician and nurse and their personality characteristics. Medical pedagogy, ethics and moral.	1
	Total	**15**

FM 54 SYLLABUS of Communication Skills

№	**Communication Skills:** **LECTURES - 4 semester**	**hours**
1.	Introduction in course.	
2.	The essence of the communication-basic components, mechanisms and methods of communication.	2
3.	The importance of good communication in General practice.	1
	Total	**3**

№	**Communication Skills:** **PRACTICAL EXERCISES - 4 semester**	**hours**
1.	Do you know yourself?	2
2.	The role of the personality in the process of the communication.	1
3.	Basic communication skills and their means in General practice.	2
4.	The means of empathy and why we must use in General practice.	1
5.	The main tasks of the consultation in General Practice. Communication skills for achievement the tasks of the consultation during each separate phase.	1
6.	The main tasks during the first phase of the consultation. Communication skills useful for establishing a relationship with the patient.	1
7.	The main tasks during the second phase of the consultation. Communication skills useful for discovering the reasons for the patient's attendance.	1
8.	Gathering information for the patient's problems. The main parts of the interview – guidelines for conducting an interview. Summarising – the essence and meaning for the patient and the doctor.	1
9.	Giving information to the patient. Communication skills useful for providing the correct amount and type of information.	1
10.	Communication skills useful for explaining and achieving shared understanding with the patient. Negotiating skills.	1
11.	The ways of communicating effectively with patients who are withdrawn and appear difficult to engage in conversation.	2
12.	The communication with anxious patients.	1
13.	The communication with angry and aggressive patients.	1
14.	The communication with patients having hearing and\or speech problems.	1
15.	The Burnout syndrome-the essence, reasons and symptoms.	1
16.	Teamwork in medicine-definition, importance, advantages and disadvantages.	2
17.	Team roles – the essence, meaning and kinds.	1
18.	Teamwork – leadership styles.	1
19.	Phases of the development of the team.	1
20.	Conflict- the essence, meaning end causes.	1
21.	Styles for resolving the conflicts.	1
22.	Assertiveness – the definition, meaning and techniques.	1
23.	Conflict's mediation - the essence and meaning.	1
	Total	**27**

FM 55 SYLLABUS of Allergology

№	**Allergology:** **LECTURES – 10 semester**	**hours**
1.	Allergic diseases of upper airways: Allergic Rhinitis and Bronchial Asthma.	2
2.	Systemic allergic diseases: Food and Drug Allergy, Urticaria and Angioedema, Anaphylactic shock, Insect sting Allergy.	2
	Total	4

№	**Allergology:** **Practical exercises – 10 semester**	**hours**
1.	Skin tests for allergy diagnosis. Allergen extracts and techniques for skin diagnosis.	2
2.	Lung function testing. Spyrometry. Equipment and test procedures. Bronchodilatation test. Bronchial provocation tests.	2
3.	Food and drug provocation tests. Provocation with physical factors.	1
	Total	5

FM 56 SYLLABUS of Toxicology

№	**Toxicology:** **LECTURES – 10 semester**	**hours**
1.	Principles of clinical toxicology – classifications, epidemiology and pathogenesis of acute intoxications. Main treatment methods – antidoes, prehospital activities and life saving procedures.	2
2.	Differential diagnosis of comatose states in case of heavy intoxication.	2
3.	Acute intoxications by agricultural poisons – POC, carbamates, pyrethroids, ets.	2
4.	Acute alcohol intoxications – ethanol, methanol and ethylene glycol. Poisoning 2 by antabuse.	
5.Acute intoxications with heavy metals metalloids, toxic gases.		2
6.	Mushrooms poisonings – of irritative, phalloide, muscarine and pantherine types. Acute intoxications with poisons of plant origin.	2
7.	Acute intoxications with narcotics – heroin, cocaine, amphetamines, designer drugs. Toxicomanias.	2
8.	Acute intoxications with biological poisons – snake, arthropods, fish, etc. venom. Poisoning by chemicals, used in everyday life.	2
9.	Acute intoxications with tehnical chemicals – acids, alkali. Poisoning by petrol derivatives.	2
10.	Poisoning by drugs.	
	Total	18

№	**Toxicology:** **Practical exercises – 10 semester**	**hours**
1.	Acute intoxications by agricultural poisons – POC, carbamates, pyrethroids, ets.	2
2.	Acute alcohol intoxications – ethanol, methanol and ethylene glycol. Poisoning 2 by antabuse.	
3.	Mushrooms poisonings – of irritative, phalloide, muscarine and pantherine types. Acute intoxications with poisons of plant origin.	2

	Total	6

FM 57 SYLLABUS of Medical Informatics

№	**Medical Informatics:** **LECTURES - 1 semester**	**hours**
1.	Information technologies in medicine.	2
2.	Computer architecture. Basic modules.	2
3.	External memory. Input/output devices.	2
4.	Software. Operating systems.	2
5.	Organization of information – file structures.	2
6.	Computer networks – characteristics, types and services.	2
7.	Office automation – characteristics, main activities, word processing.	1
8.	Spreadsheets. Excel worksheets – basics, user interface, and usage.	2
	Total	**15**

№	**Medical Informatics:** **PRACTICAL EXERCISES - 1 semester**	**hours**
1.	Information measuring. Representation of information.	1
2.	Basic parameters in computer architecture.	1
3.	External memory. Input/output devices.	1
4.	Software. User interface of operating systems.	1
5.	File structures in Windows.	2
6.	Working with file structures.	2
7.	Computer networks – settings, services.	2
8.	Office automation – characteristics, main activities, word processing.	1
9.	Word processing – creating and editing documents, parameters.	1
10.	Excel worksheets – creating documents, calculation.	2
11.	Excel charts.	1
	Total	**15**

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