BULLETIN

UNIVERSITY OF DEBRECEN MEDICAL AND HEALTH SCIENCE CENTER

Academic year of 2011/2012

FACULTY OF PUBLIC HEALTH

BSc in Public Health

International Education Center

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INTRODUCTION

MISSION STATEMENT OF THE UNIVERSITY OF DEBRECEN MEDICAL AND HEALTH SCIENCE CENTER

The aim of the Medical and Health Science Center of the University of Debrecen is to give training and education in the field of medical and health sciences committed to the prevention and restoration of health of the people, not only in its region but in the entire country. To achieve this, the requirements of the 21st century have to be met, and excellence in educational, therapeutic and scientific achievements must be continuously maintained at an international level.

Molecular medical and health sciences are opening up, and new possibilities are available for the diagnosis, prevention, prediction and treatment of diseases. One can witness such a progress that has never been seen before. All curricula of the Medical and Health Science Center of the University of Debrecen wish to meet the challenges of the modern times, and they embody some very basic values. They are comprehensive; they take into consideration the whole human personality (body and soul) in its natural and social surroundings, and they are based upon the best European humanistic traditions. Moreover, all curricula prepare students for co-operation and teamwork.

As regards education, both students and teachers are inspired to acquire higher levels of professionalism, precision, and problem solving skills, upon which the foundations of master and specialist trainings can be built. This approach enables the assimilation of new scientific developments, facilitating further education and continuous expansion of the knowledge.The interplay of these factors ensures the ability to understand and handle the changing demands of health and public health services.

On the field of research, the faculty members of the Medical and Health Science Center continuously acquire, internalize, and subsume new knowledge, especially concerning the genesis, possible prevention, and treatment of diseases. Moreover, new information aimed at improving, preserving and restoring health of the society is also absorbed. The Medical and Health Science Center of the University of Debrecen has been internationally recognized in the fields of both basic, public health and clinical research. Special attention is given to the facilitation and support of the close co-operation of researchers representing basic science and clinical research, and/or interdisciplinary studies.

In connection with serving the community, all faculty members of the Medical and Health Science Center wish to play a central role in shaping the policies of public health and health services; both within the region and in Hungary. They also want to ensure that sufficient number of medical doctors, dentists and public health experts with university education is provided for the society.

The organizational structure, including the multi-faculty construction of the institution, is a constantly improving, colorful educational environment, in which co-operation is manifest between the individual faculties and colleges, the various postgraduate programs such as the Doctorial Programme in Health Sciences with subprogrammes in public health, as well as prevention and control of metabolic diseases.

HIGHER EDUCATION IN DEBRECEN

A Brief History

1235 First reference to the town of Debrecen in ancient charters

1538 Establishment of the 'College of Reformed Church' in Debrecen

1567 Higher education begins in the College

1693 Declaration of Debrecen as a 'free royal town'

1849 Debrecen serves as the capital of Hungary for 4 months

1912 Establishment of the Hungarian Royal University comprising the Faculties of Arts, Law, Medicine, and Theology

1918 Inauguration of the Main Building of the Medical Faculty by King Charles IV of Hungary

1921 The Medical Faculty becomes operational

1932 Completion of the Main Building

1944 Although during the Second World War Debrecen became the capital of Hungary once again (for 100 days), the University was abandoned for a while

1949 The only year when the University has five faculties

1950 The Faculty of Law is discontinued; the Faculty of Science is established

1951 The University is split up into three independent organizations: Academy of Theology, Medical School, Lajos Kossuth University of Arts and Sciences.

1991 The 'Debrecen Universitas Association' is established

1998 The 'Federation of Debrecen Universities' is founded

2000 The federation is transformed into the unified 'Debrecen University' with all the relevant faculties and with some 20,000 students

2005 The Faculty of Public Health becomes operational

Debrecen is the traditional economic and cultural center of Eastern Hungary. In the 16th century Debrecen became the center of the Reformed Church in Hungary, and later it was referred to as the "Calvinist Rome". The 17th century was regarded as the golden age of the city, because Debrecen became the mediator between the three parts of Hungary: the part under Turkish occupation, the Kingdom of Hungary and the Principality of Transylvania. For short periods of time, Debrecen served twice as the capital of Hungary. Nowadays, with its population approximately a quarter of a million, it is the second largest city in Hungary.

Debrecen is a unique city: it has no mountains and rivers, still, its natural environment is rather interesting. One of the main attractions and places of natural uniqueness in Hungary is the Hortobágy National Park, known as the 'puszta' ('plain'), which begins just on the outskirts of Debrecen. This is the authentic Hungarian Plain without any notable elevations, with unique flora and fauna, natural phenomena (e.g. the Fata Morgana), and ancient animal husbandry traditions. The region is unmatched in Europe, no matter whether one considers its natural endowments or its historic and ethnographic traditions. A very lovely part of Debrecen is the 'Nagyerdő' ('The Great Forest'), that is a popular holiday resort. Beside numerous cultural and tourist establishments, luxurious thermal baths and spas, Nagyerdő accommodates the University main campus, too.

The history of higher education in Debrecen goes back to the 16th century when the College of the Reformed Church was established. The University Medical School of Debrecen has its roots in this spiritual heritage. It was in the year of the millennium of the establishment of

Hungary (1896) when the foundation of the present University was decided. The University of Debrecen was established in 1912, having four faculties initially (Faculties of Arts, Law, Medicine and Theology). The University was officially inaugurated by King Károly IV of Hungary, on October 23, 1918.

The educational activity in the University started in 1924, although the construction of the whole University was only completed in 1932. In 1951, the Faculty of Medicine became a self-contained, independent Medical University training medical students.

The first dental students began studying in the academic year 1976/1977. As a further development, the University Medical School established the Health College of Nyíregyháza in 1991. In 1993, as part of a nationwide program, the University was given the rights to issue scientific qualifications, and new PhD programs were also launched. Several new programs (e.g. training of molecular biologists, pharmacists, general practitioners) were commenced in the '90s. The Faculty of Dentistry came into being in 2003.

The Faculty of Public Health, the first and even now the only one public health faculty in Hungary was established in 2005 on the basis of an about 80 years teaching experience in public health. Since 2003 a master course in public health is running, and BSc courses in Public Health and Physiotherapy are also accredited and launched. The Faculty of Public Health is a member of the Association of Schools of Public Health in the European Region (ASPHER).

EDUCATION AT THE MEDICAL AND HEALTH SCIENCE CENTER OF THE UNIVERSITY OF DEBRECEN

The Hungarian Government gives major priorities to the higher education of health science in its higher education policy. One of these priorities is to increase the ratio of bachelor level training forms within the Hungarian higher education system. The governmental policy wishes to implement conditions under which the whole health science education system is built vertically from the lowest (post-secondary or certificate) to the highest (PhD-training) levels. In fact, this governmental policy was the reason behind the establishment of the new Health Science Education Center, based partially on the intellectual resources of University of Debrecen Medical and Health Science Center.

The Act of Higher Education (1993) has restored the rights of the medical universities to award postgraduate degrees and residency, and permission was also granted to license Physicians' procedures. This kind of training required a new structure, a new administrative apparatus, and a suitable training center. The new residency programs were launched in 1999.

The credit system was introduced nationwide in September 2003, with the declared aim of helping the quantitative and qualitative evaluation of the students' achievements.

International students must pass an admission interview. In some special cases it may be possible for candidates to be admitted as higher year students on the basis of their previous studies and achievements. The language of instruction for international students is English, but those fluent in Hungarian may also attend courses in Hungarian.

The syllabi and classes of all courses correspond with the European standards. Beside the General Medicine and Dentistry programs several other courses are available for foreign students.

The General Medicine program for international students was started in 1987; the Dentistry and Pharmacy programs for international students started in 2000 and 2004, respectively.

A master course in Public Health has been running since 2003 with students from all over the world. The BSc programs in Public Health and Physiotherapy of the Faculty of Public Health in English were accredited in 2010.

A one-year-long premedical (Basic Medicine) course, which serves as a foundation year, is recommended for applicants, who do not possess sufficient knowledge in biology, physics and chemistry after finishing high school.

After graduation, several interesting topics are offered for PhD training, which takes three years to complete.

The recently accredited PhD programs of the Medical and Health Science Center include the following research areas:

- Molecular and Cell Biology; Mechanisms of Signal Transduction
- Microbiology and Pharmacology
- Biophysics
- Physiology-Neurobiology
- Experimental and Clinical Investigations in Hematology and Hemostasis
- Epidemiological and Clinical Epidemiological Studies
- Cellular- and Molecular Biology: Study of the Activity of Cells and Tissues under Healthy and Pathological Conditions
- Immunology
- Experimental and Clinical Oncology
- Public Health
- Preventive Medicine
- Dental Research

The PhD programs are supervised by more than 100 accredited, highly qualified coordinators and tutors.

MEDICAL ACTIVITY AT THE UNIVERSITY OF DEBRECEN MEDICAL AND HEALTH SCIENCE CENTER (UDMHSC)

The UDMHSC is not only the second largest medical school in Hungary, but it is also one of the largest Hungarian hospitals, consisting of 92 departments; including 14 different clinical departments with almost 1,700 beds serving 100,000 inpatients and 1,200,000 outpatients every year. The UDMHSC is not only the best-equipped institution in the area, but it also represents the most important health care facility for the day-to-day medical care in its region (including an adult hemodialysis center, open-heart surgery facilities, kidney transplantation unit, etc.).

The Kenézy Gyula County Infirmary (with more than 1,300 beds) is strongly affiliated with the UDMHSC, and plays an important role in teaching the practical aspects of medicine and health science programmes. The Department of Obstetrics and Gynecology of UDMHSC has been an official reference center of the World Health Organization (WHO) for several years. There are also close contacts between the University and other health care institutions, mainly (but not exclusively) in its closer region. The UDMHSC has a Teaching Hospital Network consisting of 10 hospitals in nearby counties.

SCIENTIFIC RESEARCH AT THE UNIVERSITY OF DEBRECEN MEDICAL AND HEALTH SCIENCE CENTER

Scientific research is performed in both the departments for basic sciences and laboratories of clinical departments. The faculty members of the UDMHSC publish about 600 scientific

papers every year in international scientific journals. According to the scientometric data, the UDMHSC is among the 4 best of the more than 80 Hungarian research institutions and universities. Lots of scientists reach international recognition, exploiting the possibilities provided by local, national and international collaborations. Internationally acknowledged research areas include biophysics, cell biology, immunology, experimental and clinical oncology, hematology, neurobiology, neurology, physiology, and public health. Scientific exchange programs involve numerous foreign universities and a large proportion of faculty members are actively involved in programs that absorb foreign connections (the most important international collaborators are from Belgium, France, Germany, Italy, Japan, the UK and the USA).

HISTORY OF THE FACULTY OF PUBLIC HEALTH

The first Faculty of Public Health in Hungary was established by the decision of the Hungarian Government on 1st December 2005, by the unification of the School of Public Health, the Department of Preventive Medicine, the Department of Family Medicine (since 2009 known as Department of Family and Occupational Medicine) and the Department of Behavioural Sciences of the University of Debrecen.

Becoming an independent faculty of the University of Debrecen was preceded by a 10-year period of development. Establishment and launching of 5 different postgraduate and one graduate training programmes as well as the establishment of a doctoral programme were carried out by the teaching staff of the faculty with the effective support of the University of Debrecen and its Medical and Health Science Center. As a result of these efforts the Faculty became a unique, internationally recognised and competitive training Center in Hungary. In accordance with the Bologna process the Faculty has established and launched its bachelor and master training programmes in the field of public health and health sciences. With its 2 bachelor, 4 master training programmes and 6 postgraduate courses, the Faculty of Public Health offers a rich variety of learning experience at present. There are two doctoral programmes available since 2009. The Department of Hospital Hygiene and Infection Control was established in 2008, and a year later the Department of Physiotherapy was added to the Faculty.

Close cooperation with several faculties of the University of Debrecen guided the process of becoming a faculty, and the Faculty also became an internationally recognised workshop of public health research.

ORGANISATION STRUCTURE OF THE FACULTY OF PUBLIC HEALTH

Department of Preventive Medicine
- Division of Biomarker Analysis
- Division of Biostatistics and Epidemiology
- Division of Health Promotion
- Division of Public Health Medicine

Department of Family and Occupational Medicine
Department of Behavioural Sciences
- Division of Clinical and Health Psychology
- Division of Humanities for Health Care

Department of Hospital Hygiene and Infection Control
Department of Physiotherapy
School of Public Health (as postgraduate training center)

MISSION OF THE FACULTY OF PUBLIC HEALTH

The mission of the Faculty of Public Health of the University of Debrecen as the Center of public health education in Hungary is to improve health of the population by developing and maintaining high- and internationally recognised quality training programmes, complying with the training needs of the public health and health care institutions, both at the graduate and postgraduate level; pursuing excellence in research; providing consultancy as well as developing and investing in our staff. The Faculty of Public Health organises and carries out its training activities by the professional guidelines of the Association of Schools of Public Health in the European Region.

BSC IN PUBLIC HEALTH PROGRAMME AT THE FACULTY OF PUBLIC HEALTH

The BSc course in Public Health launched by the Faculty of Public Health of the University of Debrecen is built on a 14-year experience in education of Public Health professionals at the University of Debrecen. The training is identical in content to the accredited Bachelor of Science in Public Health course launched 5 years ago.

The course is based on the highly trained, internationally competitive staff and excellent infrastructure of the University in order to fulfill the prognosticated international demand in public health training. The majority of teachers have remarkable teaching experience in English, taking part in the international training programs of University of Debrecen Medical and Health Science Center.

Interested BSc students studying in English – similarly to those studying in Hungarian – will have the opportunity to join the Students' Scientific Circle, the most important means to prepare students for research and future academic career.

Outstanding students may present their work at the local Students' Scientific Conference organized by the Council of the Students' Scientific Association annually. The best performing students can advance to the National Students' Scientific Conference held every second year. Another way for students to introduce their scientific findings is to write a scientific essay which is evaluated through a network of reviewers operated by the Council of the Students' Scientific Association

The Faculty of Public Health offers the Master of Science in Public Health programme for graduates of the BSc in Public Health programme. This MSc programme is an internationally competitive course in English that is accredited (Accreditation decree: MAB 2006/6/X/2/12) and has been offered in the past years.

CHAPTER 1

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CHAPTER 3

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CHAPTER 4
ACADEMIC PROGRAMME FOR CREDIT SYSTEM

In September, 2003, the introduction of the credit system became compulsory in every Hungarian university, including the University of Debrecen. The aim of the credit system is to ensure that the students' achievements can be properly and objectively evaluated both quantitatively and qualitatively.

A credit is a relative index of cumulative work invested in a compulsory, required elective or optional subject listed in the curriculum. The credit value of a course is based upon the number of lectures, seminars and practical classes of the given subject that should be attended or participated in (so called „contact hours"), and upon the amount of work required for studying and preparing for the examination(s) (in the library or at home). Together with the credit(s) assigned to a particular subject (quantitative index), students are given grades (qualitative index) on passing an exam/course/class. The credit system that has been introduced in Hungary is in perfect harmony with the European Credit Transfer System (ECTS). The introduction of the ECTS promotes student mobility, facilitates more organization of student' exchange programs aimed at further education in foreign institutions, and allows recognition of the students' work, studies and achievements completed in various foreign departments by the mother institution.

Credit-based training is flexible. It provides students with a wider range of choice, enables them to make progress at an individual pace, and it also offers students a chance to study the compulsory or required subjects at a different university, even abroad. Owing to the flexible credit accumulation system, the term „repetition of a year" does not make sense any longer.

It should be noted, however, that students do not enjoy perfect freedom in the credit system either, as the system does not allow students to randomly include subjects in their curriculum or mix modules.

Since knowledge is based on previous knowledge, it is imperative that the departments clearly and thoroughly lay down the requirements to be met before students start studying a subject.

The general principles of the credit system are the following:

1. Students can be given their degree if, having met other criteria as well, they have collected 240 credits during their studies. Considering the recommended curriculum, this can be achieved in four years.
2. According to the credit regulations, students should obtain an average of 30 credits in each semester.
3. The criterion of obtaining 1 credit is to spend some 30 hours (including both contact and noncontact hours) studying the given subject.
4. Credit(s) can only be obtained if students pass the exam on the given subject.
5. Students accumulate the required amount of credits by passing exams on compulsory, required elective and optional subjects. Completion of every single compulsory credit course is one of the essential prerequisites of getting a degree. Courses belonging to the required elective courses are closely related to the basic subjects, but the information provided here is more detailed, including material not

dealt within the frame of the compulsory courses. Students do not need to take all required elective courses, but they should select some of them wisely to accumulate the predetermined amount of credits from this pool. Finally, a certain amount of credits should be obtained by selecting from the optional courses, which are usually not closely related to the basic (and thus mandatory) subjects, but they offer a different type of knowledge.

6. The pilot curricula show the recommended pacing of compulsory courses. If these courses are carefully supplemented with credits obtained from the necessary number of required elective and optional courses, students can successfully accumulate the credits required for their degree within 8 semesters.
7. The degree thesis is worth for 20 credits.
8. Regulations concerning the training of students in the credit system prescribe a minimum amount of credits for certain periods as outlined in the Educational and Examination Regulations of the University of Debrecen, Faculty of Public Health
9. The way of evaluation of the achievement of students is outlined in the Educational and Examination Regulations of the University of Debrecen and in its faculty appendix.
10. In any further questions the Educational and Examination Regulations of the University of Debrecen, and the appendix of Faculty of Public Health are determinative.

CURRICULUM FOR BSC IN PUBLIC HEALTH

Subject	Subject group	Contact hours/semester			Credit	Assessment	Pre-requirement
		lecture	Practical/ *Seminar*	total			
		1st semester					
Chemistry	basic	46	24	70	6	ESE	
Ecology	basic	30	15	45	6	ESE	
Basics of informatics	basic	12	33	45	3	AW5	
Psychology	basic	30		30	3	ESE	
Communication	basic	15	15	30	3	ESE	
Bioethics	basic	15		15	1	ESE	
First aid	basic	6	15	21	2	AW5	
Hungarian language I			30	30		AW5	
Introduction to Nursing and Clinical Medicine	basic professional	15	15	30	3	ESE	
Physical Education		30		30		Signature	
Sociology	basic	15		15	1	ESE	
Required elective subjects				30	2		
Total:				**391**	**30**		

Subject	Subject group	Contact hours/semester			Credit	Assessment	Pre-requirement
		lecture	Practical/ *Seminar*	total			
		2nd semester					
Introduction to public health	basic	15		15	1	ESE	
Cell Biology	basic	30		30	3	ESE	
Medical Latin	basic professional		30	30	2	ESE	
Basic anatomy	basic professional	30	30	60	6	ESE	
Biostatistics	differentiated	15	30	45	4	ESE	Basics of informatics
Health (& Library) informatics I.	basic professional	10	20	30	3	AW5	Basics of informatics
Genetics and molecular biology	basic professional	30		30	3	ESE	
Hungarian language II			30	30		AW5	
Basics of pedagogy	basic professional	15		15	1	ESE	
Health sociology	basic professional	30		30	2	ESE	Sociology
Required elective subjects				60	3		
Optional subjects				30	2		
Total:				**405**	**30**		

Subject	**Subject group**	**Contact hours/semester**					**Pre-requirement**
		lecture	Practical/ *Seminar*	total	**Credit**	**Assessment**	
		3rd semester					
Introduction to law I.	basic	30		30	2	ESE	
Health (& Library) Informatics II.	basic professional	10	20	30	3	ESE	Health (& Library) informatics I.
Physiology	basic professional	30	15	45	4	ESE	Basic anatomy
Health psychology	basic professional	30		30	3	ESE	Psychology
Basic microbiology	basic professional	30		30	4	ESE	
Public health medicine I.	differentiated	30	30	60	6	ESE	Basic anatomy
Basic epidemiology	differentiated	15	30	45	3	ESE	Biostatistics
Required elective subjects				60	3		
Optional subjects				30	2		
Total:				**360**	**30**		

Subject	**Subject group**	**Contact hours/semester**					**Pre-requirement**
		lecture	Practical/ *Seminar*	total	**Credit**	**Assessment**	
		4th semester					
Introduction to law II.	basic	30		30	2	ESE	Introduction to law I.
Biochemistry	basic professional	45		45	5	ESE	Chemistry
Environmental health	differentiated	30	30	60	6	ESE	Ecology, Chemistry
Public health medicine II.	differentiated	30	30	60	6	ESE	Public health medicine I.
Epidemiology of communicable and non-communicable diseases I.	differentiated	15	45	60	6	ESE	Basic epidemiology
Required elective subjects				60	3		
Optional subjects				30	2		
Total:				**345**	**30**		

Subject	**Subject group**	**Contact hours/semester**					**Pre-requirement**
		lecture	Practical/ *Seminar*	total	**Credit**	**Assessment**	
		5th semester					
Pharmacology	basic professional	30		30	3	ESE	Chemistry
Basics in health promotion and policy	basic professional	30	15	45	4	ESE	
Immunology	basic professional	30		30	2	ESE	Physiology, Biochemistry
Public health medicine III.	differentiated	30	30	60	6	ESE	Public health medicine II.
Epidemiology of communicable and non-communicable diseases II.	differentiated	15	30	45	4	FE	Epidemiology of communicable and non-communicable diseases I
Occupational health	differentiated	30	30	60	6	ESE	Basic Epidemiology, Chemistry, Environmental health
Health care law I.	differentiated	30		30	3	ESE	
Required elective subjects				60	4		
Total:				**360**	**32**		

Subject	**Subject group**	**Contact hours/semester**					
		lecture	Practical/ *Seminar*	total	**Credit**	**Assessment**	**Pre-requirement**
		6th semester					
Health care law II.	differentiated	30		30	3	ESE	Health care law I.
Public health medicine IV.	differentiated	30	30	60	6	FE	Public health medicine III.
Field and laboratory practice I.	differentiated		180	180	8	AW5	
Child and adolescent health	differentiated	30		30	2	ESE	
Basics of quality assurance	differentiated	15	15	30	2	ESE	
Required elective subjects				60	3		
Optional subjects				45	4		
Total:				**435**	**28**		

Subject	Subject group	Contact hours/semester			Credit	Assessment	Pre-requirement
		lecture	Practical/ *Seminar*	total			
		7th semester					
Health promotion	basic professional	10	20	30	2	ESE	
Nutritional health and food safety	differentiated	15	30	45	5	ESE	
Health care law III.	differentiated	30		30	3	ESE	Health care law II.
Field and laboratory practice II.	differentiated		180	180	8	AW5	Field and laboratory practice I.
Required elective subjects				90	5		
Optional subjects				30	2		
Thesis				15	6		
Total:				**420**	**31**		

Subject	Subject group	Contact hours/semester			Credit	Assessment	Pre-requirement
		lecture	Practical/ *Seminar*	total			
		8th semester					
Health system management	basic professional	30		30	2	FE	
Health care law IV.	differentiated	30		30	3	FE	Health care law III.
Field and laboratory practice III.	differentiated		180	180	8	ESE	Field and laboratory practice II.
Optional subjects				30	2		
Thesis				60	14		
Total:				**330**	**29**		
Grand total:				**3046**	**240**		

End of Semester Examination (ESE)
Term mark/Assessment of Work (5-grade: AW5)
Final Exam (FE)

CHAPTER 5

ACADEMIC PROGRAMME

FOR THE 1ST YEAR

1st SEMESTER

Department of Medical Chemistry

Subject: **CHEMISTRY**
Year, semester: **1st year/1st semester**
Number of teaching hours: **70**
Lecture: **46**
Seminar: **24**

1st week:

Lecture: Chemistry: the science of matter. Quantum theory and the atom. Electronic structure and the periodic table. Types of chemical bonds. Covalent bonding and properties of molecules.

Seminar: Atomic structure. Periodic perspective. Ionic and metallic bonds. Covalent bond: valence bond and molecular orbital theories.

2nd week:

Lecture: Intermolecular forces. Changes of state. Kinetic-molecular theory of gases and liquids. Solutions and colloids.

Seminar: The gaseous state. Liquid and solid states. Vapor pressures of liquid solutions and related properties. Freezing point depression. Osmosis.

3rd week:

Lecture: The ionization of water. Ions in aqueous solution. Acids and bases. The law of chemical equilibrium.

Seminar: The chemistry of water. Electrolytes. Acids and bases: Bronsted Lowry and Lewis theories. Equilibrium constant expressions. Le Chatelier's principle. Strength of acids and bases.

4th week:

Lecture: Ions and ionic equilibria.Thermochemistry and thermodynamics.

Seminar: Acid base equilibria. Titration curves. Buffer solutions. Solubility product. Internal energy and enthalpy. Hess' law. Entropy, free energy and free enthalpy.

5th week:

Lecture: Chemical kinetics. Electrochemistry. Thermodynamics of redox reactions.

Seminar: Chemical kinetics at the molecular level. Reaction rates and rate equations. Reaction mechanisms. Catalysis. Oxidation reduction and electrochemistry. Electrolysis.

6th week:

Lecture: 1st control test

Carbon-carbon bond, carbon-heteroatom bond. Stereochemistry: chiral molecules, optical activity, relative and absolute configurations. Saturated and unsaturated hydrocarbons: structure, isomerism and biological significance.

Seminar: Separation of chiral molecules. Electron distribution in organic compounds. Nomenclature of hydrocarbons. Chemical reactions of saturated and unsaturated hydrocarbons.

7th week:

Lecture: Alkynes. Aromatic hydrocarbons: structure and chemical reactions. Organic halogen compounds. Alcohols and phenols: physical and chemical properties. Biological oxidation of alcohols.

Seminar: Aromatic and heteroaromatic compounds. The mechanism of nucleophilic substitution. Important alcohols and phenols.

8th week:

Lecture: Aldehydes and ketones: physical and chemical properties. Keto and enol tautomers. Biological significance of aldehydes, ketones and quinones. Nitrogen containing compounds. Structure, properties and chemical reactions of amines. Nitrogen containing heterocyclic compounds.

Seminar: Ethers. Sulfur containing organic compounds. Biologically important nitrogen containing compounds: dyes sulfa drugs and alkaloids.

9th week:

Lecture: Carboxylic acids: physical and chemical properties. Acidity. Chemical reactions. Important carboxylic acids. Amino acids and peptides. Structure, classification, stereochemistry, acid-base behavior of amino acids. Stereochemistry of peptide bond. Naturally occurring peptides.

Seminar: Carboxylic acid derivatives: esters, thioesters, anhydrides, acyl halides, amides. Reactions and separations of amino acids. Principle of sequence analysis.

10th week:

Lecture: Structure and function of proteins. The three-dimensional structure of proteins. Carbohydrates: structure and stereochemistry. Properties of monosaccharides and disaccharides.

Seminar: Purification of proteins. Enzymes. Oligosaccharides of glycoproteins. Heteropolysaccharides

11th week:

Lecture: Lipids: structure, classification and biological functions. Steroids.

Seminar: The structure of biological membranes. Carbohydrate metabolism. Polysaccharides and their role in energy storing: glycogenolysis.

12th week:

Lecture: Nucleotides and nucleic acids. Structure of nucleosides, nucleotides and nucleotide coenzymes. Polynucleotides.

Seminar: Structure of DNA and RNA. Determination of DNA sequences.

Compulsory literature:

Chemistry, 5th edition, 2008, J. E. McMurry and R. C.Fay, Pearson Education, Inc. Pearson Prentice Hall

Organic and Bioorganic Chemistry for Medical Students, P. Gergely, 3rd edition, 2008, University of Debrecen, Medical and Health Science Center

Recommended literature:

Organic Chemistry for premedical students, F. Erdődi and C. Csortos, 2010, University of Debrecen, Medical and Health Science Center

Requirements:

The program consists of lectures and, seminars. Attendance at seminars is recorded. Concerning attendance, the rules laid out in the Rules and Regulations for English Students of the University of Debrecen Medical and Health Science Center apply.
Three control tests, including the topics of the lectures and seminars, will be given during the semester.

Control tests and the final examination will be assessed as follows:

Percentage (%)	Mark
0-50	fail (1)
51- 62	pass (2)
63-74	satisfactory (3)
75- 86	good (4)
87-100	excellent (5)

The student may obtain bonus points based on the result of the control tests during the semester. The bonus points are calculated as follows:

Bonus points = Sum of marks of control tests - 3

Consequently, a maximum of 12 bonus points can be collected by the student.

Rules of examinations:

The students have to sit for a final examination at the end of the first semester. The written final examination test covers all topics of the program in chemistry, including general chemistry, organic chemistry, introduction to biochemistry. The maximum score is 100% and 60 minutes are allocated for the examination. The examination will be conducted in accordance with the Rules of Examination of the University. Assessment is the same as for the control test (see above in the Requirement). The bonus points will be added to the percentage of the final examination test.

Department of Preventive Medicine

Subject: **ECOLOGY**
Year, semester: **1st year/1st semester**
Number of teaching hours: **45**
Lecture: **30**
Seminar: **15**

1st week:

Lecture: Introduction to ecology. Key terms in ecology. Geosphere, Biosphere and Noosphere. The general effects of environmental pollution.

Seminar: Global warming and its health impacts – „Six Degrees Could Change the World"

2nd week:

Lecture: Adaptation. Plant and animal adaptations to the environment. Tolerance. Homeostasis.

The organism and its environment – part I. The physical environment (geology and soil; topography; light and temperature variation; climate and weather; catastrophes).

Seminar: Thermoregulation, blood glucose homeostasis and osmoregulation.

3rd week:

Lecture: The organism and its environment – Part II. The biotic environment. Intraspecific relationships (within species). Interspecific relationships (between species). Co-evolution. Biotic and abiotic interactions. Pathogens and climate. Abiotic effects on competition.

Seminar: Relationships between species: Pollination of the common fig (Ficus carica-Blastophaga); African trypanosomes; Territory quality and reproductive success in birds.

4th week:

Lecture: The individuals. Why look at individuals in ecology. Autotrophs and heterotrophs. Metabolic rate. Factors affecting metabolic rate (size, lifestyle). Energy budgets. Assimilation efficiency. Production and respiration. Allocation to reproduction. Distinguishing between growth and reproduction.

Seminar: Hemiparasitic and carnivorous plants.

5th week:.

Lecture: Population ecology. Properties of population (definition of population; density and dispersion; age structure; sex ratio; mortality and natality). Evolutionary strategies: r and K strategies. Population growth and regulation (exponential and logistic growth curves). Population fluctuations and cycles. Factors which regulate population size. Patterns in population dynamics.

Seminar: Analysis of exponential and logistic growth curves by Populus 5.4 program.

6th week:

Lecture: Habitats and niches. Determination of niches. Fundamental and realised niches. Niche overlap and species coexistence. Gause's competitive exclusion principle. Resource partitioning. Character displacement. The importance of interspecific competition in natural communities.

Seminar: Survival estimation for populations of marked individuals (MARK 3.1).

7th week:

Lecture: Concept of ecosystem. Components of ecological systems and

essential processes. Energetics in. ecosystems. The nature of energy. Primary and secondary production. Food chains. Trophic levels and ecological pyramids. Succession (vegetation changes; the causes of change; patterns of succession). Human influence on succession.

Seminar: Estimation of population size by Popan 5.0 software.

8th week:

Lecture: Biogeochemical cycles. Gaseous cycles (Carbon; Oxygen; Nitrogen). Sedimentary cycles (Sulphur; Phosphorous, Heavy metals). Acid deposition. Chlorinated hydrocarbons. Radionuclides.

Seminar: Energy for Planet Earth.

9th week:

Lecture: Biomes. The world's terrestrial biomes. Wetland and freshwater biomes. Costal and marine biomes.

Seminar: Mountain sickness.

10th week:

Lecture: Conservation. The reasons for conservation. Conservation of species. Conservation of ecosystems. Conservation of the biosphere. Viable conservation.

Seminar: Nature conservation.

11th week:

Lecture: Microbial ecology – (part I.) History of microbial ecology. Object and task of microbial ecology. Whittaker (1969): The five-kingdom system. Whoese (1978): Classification of living organisms. Bergey's Manual of Systematic Bacteriology. The main groups of microorganisms: Archaea. Eubacteria. Eucaria (Protozoa, Algae, Fungi, Lichens).

Seminar: Symbiosis in the deep sea.

12th week:

Lecture: Microbial ecology - (part II.) Diversity of metabolism in microorganisms. Heterotrophic microbial metabolism. Fermentation. Special metabolic properties (methylotrophy, syntrophy). Anaerobic respiration (denitrification, sulphate reduction, acetogenesis). Chemolithotrophy (hydrogen oxidation, sulphur oxidation, ferrous iron (Fe2+) oxidation, nitrification, anammox). Phototrophy. Nitrogen fixation.

Seminar: Development of the Earth's atmosphere.

13th week:

Lecture: Microbial ecology - (part III.) Microbial communities in different habitats (sulphuretum and methanogen communities). Interactions between plants and microorganisms. Interactions between animals and microorganisms. Humans and microorganisms. The growth and spread of microorganisms. Microorganisms in environmental protection.

Seminar: Bacteria as multicellular organisms.

14th week:

Lecture: Ecological genetics. The importance of genetics to ecology. Genetic and environmental variation. The role of variation in natural selection. Reproductive systems. Genetic consequences of different reproductive systems. Patterns of genetic variation. Genetic variation within an organism.

Seminar: Plant gene technology: social considerations.

15th week:

Lecture: Sociobiology. The advantages and disadvantages of group living. Optimal group size. Evolution of helping behaviour. The unit of selection and social behaviour. Human sociobiology (Parental investment in the later mediaeval Portuguese nobility; Helping behaviour in humans).

Seminar: Chemical communication in the social insects.

Compulsory literature:

All the topics of lectures and seminars.

Recommended literature:

Begon M., Townsend C.R., Harper J. L. (2006): Ecology: From Individuals to Ecosystems, 4th Edition, Blackwell Publishing Ltd.

Chapman J. L., Reiss M. J. (1992): Ecology: principles and applications. Cambridge University Press.

Smith R. L. (1996): Ecology and Field Biology, 5th Edition. HarperCollins College Publishers Inc.

Requirements:

Attendance of the lectures is recommended, but not compulsory. Students are required to attend the seminars and may not miss more than two seminars during the semester. In case a student misses more than 2 ones, the lecture book will not be signed. The attendance of the seminars will be recorded by seminar leaders

Examination:

At the end of the semester students are required to take a Final Exam. The exam includes 30 single- and multiple choice test questions (30 x 2 points). The control tests, including the topics of the lectures and seminars, will given during the semester.

Tests will be assessed as follows:

Percentage (%)	Mark
0-50	fail (1)
51- 59	pass (2)
60-69	satisfactory (3)
70- 79	good (4)
80-100	excellent (5)

The maximum score is 100% and the examination takes 60 minutes. The examination will be conducted in accordance with the Rules of Examination of the University.

Department of Preventive Medicine

Subject: BASICS OF INFORMATICS
Year, semester: **1st year/1st semester**
Number of teaching hours: **45**
Lecture: **12**
Practical: **33**

1st week:

Lecture: History of computers. Principles of computers' operation (data handling, measures, hardware, software)

2nd week:

Lecture: Component of PCs, functions and operation of peripheral units. Electronic data storage (concepts of data, file, directory) Concepts and function of operation systems, basics of Windows

3rd week:

Lecture: -

Practical: Data files, types of and connection between data storing files, operation with data files, directory structure. Software installation

4th week:

Lecture: Networks: concept, setting, function, operation, application

Practical: Networks: concept, setting, function, operation, application

5th week:

Lecture: Text editing software (WORD x.x)

Practical: Editing, formatting, saving, printing documents; creation of header, footer and footnotes

6th week:

Lecture: -

Practical: Preparation of table of content and index. Cross-reference, hyperlink. Creation of table. Styles', templates' application; insertion of pictures, objects, into document; operations in big documents

7th week:

Lecture: -

Practical: Preparation of table of content and index; cross-reference, hyperlink; creation of table; styles, template application; insertion of pictures, objects, into document; operations in big documents

8th week:

Lecture: Application of spreadsheet software (EXCEL x.x)

Practical: Application of spreadsheet software (EXCEL x.x). Design of sheets, data preparation

9th week:

Lecture: -

Practical: Entering data, calculations, functions

10th week:

Lecture: -

Practical: Entering data, calculations, functions

11th week:

Lecture: -

Practical: Preparation of diagrams. Formatting tables, diagrams, inserting them into Word documents

12th week:

Lecture: Computer graphics

Practical: Application of image editing software. (MS Power Point x.x) Presentation preparation

13th week:

Lecture: -

Practical: Designing and formatting slides and adding notes to; editing equations, diagrams, tables, compilation of presentation

14th week:

Lecture: Internet, electronic mailing

Practical: Internet, electronic mailing

15th week:

Lecture: -

Practical: Compressing files; computer viruses

Recommended literature:

Last release of studied software handbooks

Requirements:

The participation in practicals is compulsory: the maximum of acceptable absence is 2 occasions. Further requirement is the submission of the assays and home assignments.
The students have to prepare an essay and to prepare homework for every topic. The average of the grades for assays and home assignments is the final grade.

Exemption opportunity:

If the student submit acceptable certification of the completion of a course on basics of informatics, and demonstrate the course description defined level of knowledge on computer usage, the student is not obliged to take part in the course.

Department of Behavioural Sciences

Subject: **PSYCHOLOGY**
Year, semester: **1st year/1st semester**
Number of teaching hours: **30**
Lecture: **30**

1st week:

Lecture: Competing naive and scientific views on man in psychology: a historical account

2nd week:

Lecture: Body and mind, brain and soul: conceptual developments from Descartes to Damasio

3rd week:

Lecture: Comparative psychology, evolutionary psychology

4th week:

Lecture: The nature /nurture debate and the concept of development in psychology

5th week:

Lecture: Theories of personality development ("inborn", "acquired", kinds of memory)

6th week:

Lecture: Perspectives on personality: the psychodynamic approach

7th week:

Lecture: Perspectives on personality: the behavioural approach

8th week:

Lecture: Perspectives on personality: the humanistic approach

9th week:

Lecture: Affective science/Cognitive science: an integrative account

10th week:

Lecture: Persons in relations: elements of social psychology

11th week:

Lecture: Culture and behaviour – cultural psychology as applied in helping professions

12th week:

Lecture: Conscious/subconscious and the "mirror neurons"

13th week:

Lecture: Normal and pathological in psychology

14th week:

Lecture: Psychology of the helping professionals

15th week:

Lecture: Methods in psychology

Compulsory literature:

Nolen-Hoeksema, S., Fredrickson, B., Loftus, G., Wagenaar, W.: Atkinson and Hilgard's Introduction to Psychology, 15th edition, Wadsworth Pub. Co, 2009

Recommended literature:

Hergenhahn, B. R.: An Introduction to the History of Psychology, Wadsworth Publishing, 2008

Segerstrale, U., Molnár, P. (Eds): Nonverbal Communication: Where Nature Meets Culture, Lawrence Erlbaum Associates, Mahwah, NJ, 1997

Requirements:

Attendance at lectures is highly recommended, since the topics in examination cover the lectured topics.

Department of Behavioural Sciences

Subject: COMMUNICATION
Year, semester: **1st year/1st semester**
Number of teaching hours: **30**
Lecture: **15**
Seminar: **15**

1st week:

Lecture: The phenomena and mechanisms of face-to-face communication

Lecture: The phenomena and mechanisms of face-to-face communication

2nd week

Lecture: Approaches to effective communication

Seninar: Approaches to effective communication

3rd week:

Lecture: Mechanisms of verbal and non–verbal communication, the role of congruence vs incongruence in implementation of public health programmes

Lecture: Mechanisms of verbal and non–verbal communication, the role of congruence vs incongruence in implementation of public health programmes

4th week:

Seminar: Verbal and non–verbal communication, the decisive role of their congruence vs incongruence during implementation of public health programmes

Seminar: Verbal and non–verbal communication, the decisive role of their congruence vs incongruence during implementation of public health programmes

5th week:

Lecture: Empathy: development, mechanisms; main factors affecting it's appearance

Lecture: Empathy: development, mechanisms; main factors affecting it's appearance

6th week:

Seminar: "Empathy lab": the congruent message, self-experience
Seminar: "Empathy lab": the congruent message, self-experience

7th week:

Seminar: Valid and convincing messages: a component analysis

Seminar: Valid and convincing messages: a component analysis

8th week

Lecture: Mediated /indirect/ communication: composing written and electronic information, fine grained analysis of their effects

Seminar: Mediated /indirect/ communication: composing written and electronic information, fine grained analysis of their effects

9th week:

Seminar: The role and impact of media: their use in presentation and dissemination of public health issues as well as programmes

Seminar: The role and impact of media: their use in presentation and dissemination of public health issues as well as programmes

10th week

Lecture: Conflict resolutions in the working place: theoretical and practical aspects

Seminar: Conflict resolutions in the working place: theoretical and practical aspects

11th week

Lecture: Methods and techniques applied in "management": their praxis and theory

Seminar: Aspects of negotiation, team-development, problem solving, decision making

12th week:

Seminar: Communication techniques applied in health management and organizational performance: their theory and praxis.

Seminar: Aspects of negotiation, team-development, problem solving, decision making.

13th week:

Seminar: Methods and techniques applied in health management and organizational performance: theory of praxis.

Seminar: Aspects of negotiation, team-development, problem solving, decision

14th week:

Lecture: Stress at the workplace: mental hygienic aspects

Seminar: Stress at the workplace: mental hygienic aspects

15th week:

Seminar: Stress at the workplace: mental hygienic aspects

Seminar: Stress at the workplace: mental hygienic aspects

Compulsory literature:

Pilling, János Medical Communication, Medicina Publishing House, Budapest, 2011 (in press)

Csabai, Márta and Molnár, Péter Health, illness and care, Springer, Budapest, 2000.

Recommended literature:

Segerstrale, Ullica and Molnár, Péter (Eds.) Non-verbal communication: Where nature meets culture Lawrence Erlbaum Associate, Mahwah, New Jersey, 1997.

Department of Behavioural Sciences

Subject: **BIOETHICS**
Year, semester: **1st year/1st semester**
Number of teaching hours: **15**
Lecture: **15**

1st week:

Lecture: The meaning of bioethics and its relationship with traditional medical ethics

Seminar: Interactive processing of the theme

2nd week:

Lecture: The nature of ethical decision making in clinical context

Seminar: Interactive processing of the theme

3rd week:

Lecture: Paternalism and anti-paternalism in modern bioethics

Seminar: Interactive processing of the theme

4th week:

Lecture: Patients' rights (in Hungary and in other countries)

Seminar: Interactive processing of the theme

5th week:

Lecture: The ethics of informed consent

Seminar: Interactive processing of the theme

6th week:

Lecture: The ethical aspects of living with disabilities

Seminar: Interactive processing of the theme

7th week:

Lecture: The epistemology and ethics of complementary medical therapies

Seminar: Interactive processing of the theme

8th week:

Lecture: Consultation

Seminar: Written examination

Compulsory literature:

W. Glannon: Biomedical Ethics. Oxford UP, 2004

Recommended literature:

G. Gigerenzer: Reckoning With Risk. Penguin Books, 2003

N. Levy: Neuroethics. Cambridge University Press, 2007

Requirements:

Attendance and activity in the classes; usable understanding of the core theoretical knowledge; knowledge about the actual patients' rights regulation

There will be opportunities to make individual presentations on relevant topics

Institute of Internal Medicine
Division of Emergency Medicine

Subject: **FIRST AID**
Year, semester: **1st year/1st semester**
Number of teaching hours: **21**
Lecture: **6**
Practical: **15**

1st week:

Lecture: Definition of "first aid"; first aid levels; time factor; behaviour of first responder in the field; the emergency call

Practical:-

2nd week:

Lecture: Unconsciousness; airway obstruction; airway opening manoeuvres; Gábor manoeuvre

Practical:-

3rd week:

Lecture: Death as a process; determining of clinical death; the different oxygen demand of the brain depending on age; establishing unconsciousness or death; assessment of vital signs; assessment of breathing, circulation, pupils and muscle tone

Practical:-

4th week:

Lecture: Reanimation on the spot – organisation problems; the theory of CPR; complications during the CPR; effect, results and success during CPR

5th week:

Lecture: -

Practical: Examination of breathing and circulation; the chest-thrust; airway opening manoeuvres; the recovery position (Gábor manoeuvre); one hour

6th week:

Lecture: -

Practical: Practicing the ventilation (one hour)

7th week:

Lecture: -

Practical: Practicing the chest compression (one hour)

8th week:

Lecture: -

Practical: CPR training without equipment (two hours)

9th week:

Lecture: -

Practical: CPR training, two-rescuer method (two hours)

10th week:

Lecture: -

Practical: Bleeding control with direct pressure and pressure point techniques; bandages and fixation; equipments, tools and manoeuvres; general rules of provisory injury therapy; pressure bandage for controlling of arterial and venous bleeding on the spot (two hours)

11th week:

Lecture: -

Practical: Bandages for head, nose; ears, eyes; chin, body and extremities; practising the bandages (two hours)

12th week:

Lecture: -

Practical: First aid in fractures, luxations, distortions and extended soft-tissue injuries; bandage for fixation with special triangle; Schantz collar; stifneck; Dessault bandage; fixation of finger and hand fractures; usage of Kramer splint and pneumatic splint (two hours)

13th week:

Lecture: -

Practical: CPR training (two hours)

14th week:

Lecture: -

Practical: Burning; first aid in burning diseases; shock

15th week:

Lecture: -

Practical: Intoxication; guideline of poisoning in toxicology; typical intoxications, special signs, first aid

Compulsory literature:

Kindersley D.: First Aid Manual 9th revised edition, Dorling Kindersley Publishers Ltd, 2009

Recommended literature:

St. John Ambulance, St. Andrew's Ambulance Association, British Red Cross Society: First Aid Manual: The Step by Step Guide for Everyone, 9th edition, Penguin; 2009

Van de Velde S, et al: European first aid guidelines. Resuscitation, 72:240-51, 2007

Requirements:

Attendance at lectures is inevitable condition for understanding the principles of the subject; attendance at practices is obligatory. The tutor may refuse the sign of Lecture Book if the student is absent from the practices more than twice in a semester. Missed practices should be made up for after consultation with the practice tutor. Facilities for a maximum of 2-make up practices are available at the Ambulance Station in Debrecen. The current knowledge of students will be tested two times in each semester in written test.

Department of Foreign Languages

Subject: **HUNGARIAN LANGUAGE I**
Year, semester: **1st year/1st semester**
Number of teaching hours: **30**
Practical: **30**

1st week:

Practical: Organization of the course

2nd week:

Practical: Introduction, the Hungarian alphabet, pronunciation rules

3rd week:

Practical: Ki vagy? (Who are you?) Personal pronouns

4th week:

Practical: Jó napot kívánok! (Greetings, formal and informal, basic situations)

5th week:

Practical: Számok (Numbers, phone numbers)

6th week:

Practical: Time expressions

7th week:

Practical: Pénz (Money, banknotes, ordinal numbers, how much? how many?)

8th week:

Practical: Mid-term test

9th week:

Practical: Hogy vagy? (How are you?)

10th week:

Practical: Milyen nyelven beszélsz? (What language do you speak?, nationalities)

11th week:

Practical: Mit csinálsz? (What are you doing? verb conjugation)

12th week:

Practical: Hová mész ma este? (Where are you going tonight? Past, present, future, where …to?)

13th week:

Practical: Revision

14th week:

Practical: End-term test

15th week:

Practical: Assessment and evaluation

Compulsory literature:

Marschalkó Gabriella: Hungaro Lingua Basic 2010.

Institute of Internal Medicine
1th Department of Internal Medicine

Subject: **INTRODUCTION TO NURSING AND CLINICAL MEDICINE**
Year, semester: **1st year/1st semester**
Number of teaching hours: **30**
Lecture: **15**
Practical: **15**

1st week:

Lecture: The history of nursing and medicine The physician's behavior. The patient and health care staff relationship. The professional secrecy. The aim of the diagnosis and its different forms. Symptoms of diseases.

Practical:-

2nd week:

Lecture: System of definitions and philosophy of nursing; nursing theories; nursing models, basic human needs; assessment of the basic human needs; patient observation. Nursing protocols and standards. Rules of the nursing documentation; ethical and legal aspects of nursing.

Practical:-

3rd week:

Lecture: Physiological breathing: needs of the rest and movements and their gratification; needs of nutrition, water and fluid balance and their gratification; suitable clothes and physiological body temperature.

Practical:-

4th week:

Lecture: Defecation and micturition; hygienic needs; needs of communication and information. Needs of the safety; the unconscious patient; postoperative nursing tasks; aseptic and hygienic environment. How to take care of a dying patient.

5th week:

Lecture: -

Practical: Scene of the nursing; structure of a hospital unit; observation of the patient; measurement of vital parameters. Nursing diagnosis and preparing of the nursing plan; maintenance of the patient's personal hygiene; beds and bed-making; methods of bed-making; general and specific instructions for the bed-making.

6th week:

Lecture: -

Practical: Patient medication; personal and objective conditions of feeding; artificial feedings; feeding with tube.

7th week:

Lecture: Tools for collecting urine and faeces; the planning and evaluation of the safety for patient

Practical:-

8th week:

Lecture: History taking. Family history, previous diseases, present complaints. Types of diagnosis, hospital course, hospital discharge summary. General medical physical examination (inspection, palpation, percussion, auscultation).

Practical:-

9th week:

Lecture: Physical examination of the skin, head, neck, and thyroid gland, the lymph nodes, the oral cavity, the eyes and the breasts and axillae.

Practical:-

10th week:

Lecture: Clinical laboratory: anatomic pathology, clinical microbiology, clinical biochemistry, hematology. Non invasive and invasive diagnostic tests (electrocardiography, nuclear medicine techniques, x-ray, ultrasound, MRI, PET, CT etc), cardiac catheterization and different forms of endoscopy.

Practical:-

11th week:

Lecture: Physical examination of the respiratory and cardiovascular system.

Practical:-

12th week:

Lecture: Physical examination of the abdomen and genital-urinary system.

Practical:-

13th week:

Lecture: Physical examination of the locomotors system and the nervous system.

Practical:-

14th week:

Lecture: Different forms of management of patients, Drug treatment efficacy, side effects, overdose and interaction. Clinical toxicology.

Practical:-

15th week:

Lecture: Final tutorial – consultation

Practical:

Compulsory literature

Perry, A. G., Potter, P. A: Fundamentals of Nursing, 7th edition, Mosby, 2008

Bates' Guide to Physical Examination and History Taking, Tenth Edition, eds Lynn S. Bickley, MD Lippincott Williams & Wilkins, 2008.

Recommended literature:

Perry, A. G., Potter, P. A: Clinical Nursing Skills and Techniques, 7th edition, Mosby, 2008

Jarvis, C.: Physical Examination and Health Assessment, 5th edition, Saunders, 2007

Student Laboratory Manual for Physical Examination & Health Assessment, 5th edition, Saunders, 2007

Requirements:

There are no requirements to take the Introduction to Nursing and Clinical Medicine course. Attendance of lectures is highly recommended, since the topics in examination cover the lectured topics. Attendance of practices is compulsory. If you missed more than 2 practices, the signature may be refused. To pass the practical examination is the indispensable condition for signature of Lecture Book.

Department of Behavioural Sciences

Subject: **SOCIOLOGY**
Year, semester: **1st year/1st semester**
Number of teaching hours: **15**
Lecture: **15**

1st week:

Lecture: Introduction to sociology and to the module

2nd week:

Lecture: Definition of health; gender and health

3rd week:

Lecture: Social class and health; ethnicity and health

4th week:

Lecture: Families and changing family relationships

5th week:

Lecture: Social forces, health and illness

6th week:

Lecture: The social distribution of illness

7th week:

Lecture: The experience of illness, social contexts

8th week:

Lecture: Disability and chronic illness

9th week:

Lecture: Mental health and mental illness

10th week:

Lecture: The profession of medicine

11th week:

Lecture: Other health care providers

12th week:

Lecture: Patients and practitioners

13th week:

Lecture: Main scopes of social policy in general and in Hungary I

14th week:

Lecture: Main scopes of social policy in general and in Hungary II

15th week:

Lecture: Repetition, discussion

Compulsory literature:

Weitz, R.: The Sociology of Health, Illness, and Health Care: A Critical Approach 4th edition, Wadsworth Publishing, 2007

Recommended literature:

Denny, E., Earle, S.: Sociology for Nurses. Polity Press, 2005

http://www.sociologyofhealth.net

Requirements:

Attendance at lectures is highly recommended, since the topics in examination cover the lectured topics.

2nd SEMESTER

Department of Preventive Medicine

Subject: **INTRODUCTION TO PUBLIC HEALTH**
Year, semester: **1st year/2nd semester**
Number of teaching hours: **15**
Lecture: **15**

1st week:

Lecture: Allocating public health in the medical and health sciences, evolution and development

2nd week:
Lecture: Public health: successes, failures and challenges in the 21st century

3rd week:

Lecture: Definition of health and its determinants

4th week:

Lecture: Relation between health and economy

5th week:

Lecture: Monitoring and analysing health state: options and methods

6th week:

Lecture: Theory and practice in health promotion

7th week:

Lecture: Levels of prevention

8th week:

Lecture: Screening programs

9th week:

Lecture: Global indicators of health state I.

10th week:

Lecture: Global indicators of health state II.

11th week:

Lecture: Public health in Hungary

12th week:

Lecture: Organizational structure for public health services in Hungary

13th week:

Lecture: Public health databases

14th week:

Lecture: North Karelia Program

15th week:

Lecture: National Public Health Program

Compulsory literature:

R.J. Donaldson, L.J. Donaldson: Essential Public Health Medicine, Petroc Press; 2Rev Ed edition (Dec 2003)
Last JM: A dictionary of epidemiology Oxford University Press, 2001

Department of Biophysics and Cell Biology

Subject: **CELL BIOLOGY**
Year, semester: **1st year/2nd semester**
Number of teaching hours: **30**
Lecture: **30**

1st week:

Lecture: Introduction to cell biology. Biological macromolecules in live cells; cell organelles

2nd week:

Lecture: The structure of cytoplasmic membrane; membrane transport processes; organization of the cytosol; cellular energetics: mitochondrium

3rd week:

Lecture: Ion channels; vesicular transport; regulation of the intracellular ionic milieu: calcium homeostasis, volume and osmoregulation

4th week:

Lecture: Cytoskeleton; transport within the cell; cell motility; cell-cell and cell-matrix contacts

5th week:

Lecture: Summary lectures. Consultation

6th week:

Lecture: 1st Self Control Test

7th week:

Lecture: Structure of the nucleus; chromatin and chromosomes; structure and function of the nuclear membrane; gene expression

8th week:

Lecture: Cell division, cell cycle, mitosis, meiosis. Signal transduction

9th week:

Lecture: Signaling in disease; relevance to infections, atherosclerosis, tumors; from cell to organism; integrative cellular functions of nerve and immune cells

10th week:

Lecture: Summary lectures; consultation; 2nd Self Control Test

11th week:

Lecture: Gametogenesis, fertilization; cell fates and twists of fates

12th week:

Lecture: Stem cells, in vitro cell differentiation; malignant transformation

13th week:

Lecture: Cells in terminal stages; virus-cell interactions from the cell's point of view

14th week:

Lecture: Summary lectures; consultation; 3rd Self Control Test

15th week:

Lecture: Cell biology in medicine

Compulsory literature:

Alberts et al.: Essential Cell Biology, 2nd edition, Garland Publ. Inc., 2004

Recommended literature:

Alberts et al.: Molecular Biology of Cells 5th edition Garland Publ. Inc., 2007

Requirements:

Signing the lecture book:

Attendance on 30% of lectures is compulsory. Attendance on lectures is highly recommended, for acquiring the knowledge required to write a successful test and to pass the course. Lectures are the best sources to obtain and structure the necessary information. During the consultations students can ask their questions related to the topic of the lectures discussed before.

Self Control Test: Only students who attended on 90% of lectures are allowed to write the self control tests. The dates and the topics for self control test will be announced on the first week of the semester. Based on the scores of the self control tests you will receive a „recommended final mark." If you accept this mark this will be your „final mark".

End of Semester Exam: the exam is a written test from all the material covered during the semester. Who accepts the recommended mark is exempted from the ESE in the examination period.

Department of Foreign Language

Subject: **MEDICAL LATIN**
Year, semester: **1st year/2nd semester**
Number of teaching hours: **30**
Practical: **30**

1st week:

Practical: The Latin and Greek alphabet and pronunciation; Basic terminology of health sciences; Latin and Greek prefixes and suffixes

2nd week:

Practical: The parts and regions of human body. Planes and directional terms in anatomical terminology; Genders, cases, declensions of Latin nouns

3rd week:

Practical: Grammar. The use of Nominative and Genitive Singular and Plural suffixes in anatomical terminology

4th week:

Practical: The skeleton of human body; basic terms of osteology; names of bones; an etymological approach. Word formation: adjectival suffixes

5th week:

Practical: Terminology of joints; names and types of movement; Word formation: word roots, combining forms and compounds

6th week:

Practical: Terminology of muscles 1; names describing the features of muscles

7th week:

Practical: Terminology of muscles 2; Analysis of names of muscles

8th week:

Practical: Mid-term test

9th week:

Practical: Clinical terms related to bones and joints; Greek equivalents of Latin word roots; names of orthopaedic diseases and disorders

10th week:

Practical: Clinical terms related to the muscular system; names of diseases and disorders

11th week:

Practical: Terminology of cardiovascular system

12th week:

Practical: Terminology of nervous system

13th week:

Practical: Latin numerals and abbreviations applied in prescriptions

14th week:

Practical: End-term test

15th week:

Practical: Assessment and evaluation

Compulsary literature:

László Répás: Basics of Latin Medical Terminology, Debrecen, 2010

Recommended: literature: http://ilekt.med.unideb.hu

Department of Anatomy, Histology and Embryology

Subject: **BASIC ANATOMY**
Year, semester: **1st year/2nd semester**
Number of teaching hours: **60**
Lecture: **30**
Practical:**30**

1st week:

Lecture: Covering and lining epithelia; Glandular epithelium; Connective tissues

2nd week:

Lecture: Adipose tissue, Cartilage; Bone, Bone formation; Muscle tissue

3rd week:

Lecture: Blood vessels; Blood; Bone marrow and blood formation

4th week

Lecture: Histology of lymphatic organs I; Histology of lymphatic organs II; Fertilization, Cleavage

5th week

Lecture: Gastrulation, formation of the mesoderm; Differentiation of the ectoderm and mesoderm; Differentiation of the entoderm, folding of the embryo

6th week

Lecture: Featal membranes, Placenta, The fetal period, Twins; Anatomical terminology; Osteology and arthrology – introduction

7th week

Lecture: The upper limb; The lower limb; The skull and the back.

8th week

Lecture: Anatomy of the head and neck; Nasal and oral cavities; The pharynx and the larynx

9th week

Lecture: The heart I; The heart II; The trachea, lungs and pleura

10th week

Lecture: Histology of the lung; Development of the lung and heart; Circulatory system. The vascular system of the embryo

11th week

Lecture: Development and general organization of the alimentary system; The oesophagus. The stomach; Small and large intestines

12th week

Lecture: The pancreas. The liver I.; The liver II. The system of the portal vein.;The peritoneum. The retroperitoneum

13th week

Lecture: The kidney; The urinary system; Male genital organs I

14th week

Lecture: Male genital organs II; Female genital organs I; Female genital organs II.

15th week

Lecture: Development of the urogenital system; Neuroendocrine regulation, The hypothalamo-hypophysealis system; The pineal, thyroid, parathyroid and suprarenal glands.

Compulsory literature:

K.L. Moore and A.M.R. Agur: Essential Clinical Anatomy
2nd ed., Lippincott Williams and Wilkins, 2002, ISBN 0-7817-2830-4

D.H. Cormack: Essential Histology
2nd ed., Lippincott Williams and Wilkins, 2001, ISBN 0-7817-1668-3

T.W. Sadler: Langman's Medical Embryology
10th edition, Lippincott Williams & Wilkins Co., 2006, ISBN 0-7817-9485-4

Recommended literature:

Sobotta: Atlas of Human Anatomy 1-2
14th ed., Urban& Schwarzenberg, Munich, ISBN: 3-541-72721-7

Department of Preventive Medicine

Subject: **BIOSTATISTICS**
Year, semester: **1st year/2nd semester**
Number of teaching hours: **45**
Lecture: **15**
Practical: **30**

1st week:

Lecture: The role and importance of statistical analysis

Practical: Introduction to STATA

2nd week:

Lecture: Basic data management, types of variables

Practical: Data management 1

3rd week:

Lecture: Presenting data by measures and charts.

Practical: Data management 2

4th week:

Lecture: Theoretical basics of interval estimation

Practical: Theoretical basics of interval estimation

5th week:

Lecture: Estimating the population mean

Practical: Estimating the population mean

6th week:

Lecture: Theoretical basics of hypothesis testing, statistical power, error of type 1 and 2

Practical: Theoretical basics of hypothesis testing, statistical power, error of type 1 and 2

7th week:

Lecture: Statistical inference by interval estimation and/or hypothesis testing

Practical: Z-test and one-sample t-test of mean

8th week:

Lecture: Comparing two means, two-sample t-test, paired t-test

Practical: Comparing two means, two-sample t-test, paired t-test

9th week:

Lecture: Comparing more means

Practical: One-way analysis of variance (ANOVA)

10th week:

Lecture: Probability, proportion, odds

Practical: Rank tests (Mann-Whitney-Wilcoxon, Kruskal-Wallis, Wilcoxon sign-rank test)

11th week:

Lecture: Estimating a probability

Practical: Estimating a proportion by exact binomial distribution and z-test

12th week:

Lecture: Comparing two independent proportions, the relationship with measures in epidemiology

Practical: Analyzing the association of two categorical variables

13th week:

Lecture: Simple linear regression

Practical: Simple linear regression

14th week:

Lecture: Multiple linear regression

Practical: Multiple linear regression

15th week:

Lecture: Survival tables, Kaplan-Meyer analysis, estimating incidence rates and ratios

Practical: The skeleton of human body; basic terms of osteology; names of bones; an etymological approach. Word formation: adjectival suffixes

Compulsory literature:

The material of lectures and seminars

Recommended literature:

Kirkwood B, Sterne JAC. Essential medical statistics. Oxford, Blackwell Science 2006.

Requirements:

Participation in seminars is obligatory. In the case of more than two absences signature is refused. During the course a practical mark will be given to the students on the base of classroom tasks and homework.

Examination:

The course is assessed with a written test at the end. The grade of the colloquium is the average of the practical mark and the exam mark.

Department of Preventive Medicine

Subject: **HEALTH (& LIBRARY) INFORMATICS I**
Year, semester: **1st year/2nd semester**
Number of teaching hours: **30**
Lecture: **10**
Practical: **20**

1st week:

Lecture: Information and data processing, The concept of information
Steps of information processing.

2nd week:

Lecture: Concept, techniques, advantages and disadvantages of coding,
Updating of codes

3rd week:

Lecture: Foundations of database management, data model, database definition

4th week:

Practical: The elements of data model, database operations

5th week:

Practical: Database management operations: MS Excel

6th week:

Lecture: TEST

7th week:

Practical: Database management, MS Access: defining keys, table design, layout, interconnection.

8th week:

Practical: Management of forms

9th week:

Practical: Queries, reports

10th weeek:

Practical: IT networks, remote data processing, file transfer

11th week:

Practical: Using the Internet: search engines, E-mail

12th week:

Lecture: Hungarian and international public health data sources via the Internet

13th week:

Practical: Hungarian and international public health data sources via the Internet

14th week:

Practical: Geographic information system (GIS) visualization methods, Application of GIS in public health.

15th week:

Practical: TEST

Compulsory literature:

JC Parker, E Thorson: Health Communication in the New Media Landscape. Springer Publishing Company, Inc., 2008

Recommended literature:

T Greenhalgh: How to Read a Paper: The Basic of Evidence based medicine. 3rd edition, Blackwell Publishing Ltd, 2006

Department of Human Genetics

Subject: **GENETICS AND MOLECULAR BIOLOGY**
Year, semester: **1st year/2nd semester**
Number of teaching hours: **30**
Lecture: **30**

1st week:

Lecture: Introduction to molecular genetics; structure of the DNA molecule; the genetic code

2nd week:

Lecture: DNA replication and recombination

3rd week:

Lecture: Transmission genetics; genes and alleles; Mendel's laws; genotype and phenotype

4th week:

Lecture: The chromosomal basis of heredity. Human cytogenetics; chromosomes; chromosome alterations

5th week:

Lecture: Transformation and transduction; molecular mechanisms of crossing over
1st self control test

6th week:

Lecture: Molecular genetics of gene expression; molecular mechanism of gene regulation

7th week:

Lecture: Mutations and DNA repair; the role of mutations in the development and progression of diseases

8th week:

Lecture: Genetic polymorphisms; the role of genetic polymorphisms in the predisposition of different diseases

9th week:

Lecture: Introduction to genetic engineering; application of recombinant DNA technology in biotechnology and medicine
2nd self control test

10th week:

Lecture: Molecular genetics of the cell cycle; the genetic origin of cancer

11th week:

Lecture: Molecular evolution and population genetics; the genetic basis of complex inheritance

12th week:

Lecture: Nucleic acid manipulations Polymerase chain reaction; Recombinant molecular biological techniques

13th week:

Lecture: New molecular biological techniques in the diagnosis of diseases; molecular targeted therapies

14th week:

Lecture: The Human Genome Programme (overwiev, advantages and results)
3rd self control test

15th week:

Lecture: Summary lectures, Consultation

Compulsory literature:

Daniel L. Hartl: Essential Genetics: A Genomics Perspective, 5th edition. Jones & Bartlett Publishers, 2009

Requirements:

Signing the lecture book:

Attendance on 30% of lectures is compulsory. Attendance on lectures is highly recommended, for acquiring the knowledge required to write a successful test and to pass the course. Lectures are the best sources to obtain and structure the necessary information. During the consultations students can ask their questions related to the topic of the lectures discussed before.

Self Control Test: Only students who attended on 90% of lectures are allowed to write the self control tests. The dates and the topics for self control test will be announced on the first week of the semester. Based on the scores of the self control tests you will receive a „recommended final mark." If you accept this mark this will be your „final mark".

End of Semester Exam: the exam is a written test from all the material covered during the semester. Who accepts the recommended mark is exempted from the ESE in the examination period.

Department of Foreign Languages

Subject: **HUNGARIAN LANGUAGE II**
Year, semester: **1st year/2nd semester**
Number of teaching hours: **30**
Practical: **30**

1st week:

Practical: Repetition and revision of 1st semester topics

2nd week:

Practical: Mit kérsz? (What would you like? In a buffet)

3rd week:

Practical: Formal and informal style, Accusative suffixes

4th week:

Practical: Kérsz egy kávét? (Would you like a coffee? Adjective forming suffixes)

5th week:

Practical: Tud, akar, szeret, szeretne (Can, want, like, would like)

6th week:

Practical: Word formation, infinitives

7th week:

Practical: Milyen idő van ma? (Weather)

8th week:

Practical: Mid-term test

9th week:

Practical: Irregular verbs

10th week:

Practical: Postán, vasútállomáson (At the post office, train station)

11th week:

Practical: Mit eszünk ma este? (Food and cooking; negation)

12th week:

Practical: Tetszik a ruhád (Colors, possessive suffixes)

13th week:

Practical: Revision

14th week:

Practical: End-term test

15th week:

Practical: Assessment and evaluation

Compulsory reading:

Marschalkó Gabriella: Hungaro Lingua Basic 2010.

Department of Behavioural Sciences

Subject: **BASICS OF PEDAGOGY**
Year, semester: **1st year/2nd semester**
Number of teaching hours: **15**
Lecture: **15**

1st week:

Lecture: Basic concepts of pedagogy

2nd week:

Lecture: Principles of pedagogical activity

3rd week:

Lecture: Theories and trends in pedagogy

4th week:

Lecture: Elements of pedagogical influence

5th week:

Lecture: Values and aims
Process of pedagogical influence

6th week:

Lecture: Fields of personality development

7th week:

Lecture: Process of education postoperative nursing tasks; aseptic and hygienic environment

8th week:

Lecture: Process of teaching and learning

9th week:

Lecture: Edifying conduct

10th week:

Lecture: Methodology (basics, influencing factors, methods, differentiation)

11th week:

Lecture: Scenes of pedagogical activity (family, school, boarding schools, etc.)

12th week:

Lecture: Key participants and their communication

13th week:

Lecture: Consultation

14th week:

Lecture: Theoretical and practical issues of planning

15th week:

Lecture: Pedagogical activity in health care

Compulsory literature:
Glanz, Rimer, Lewis eds. (2002): Health behavior and health education. Jossey-Bass, A Wiley Imprint, San Francisco.

Recommended literature:
Jossey-Bass (2004): Dictionary of public health promotion and education. ISBN: 978-0-7879-7535-7.

Department of Behavioural Sciences

Subject: **HEALTH SOCIOLOGY**
Year, semester: **1st year/2nd semester**
Number of teaching hours: **30**
Lecture: **30**

1st week:

Lecture: Population health and its relation with structural inequalities. Measuring social inequalities. Application of SED.

2nd week:

Lecture: Population and health. Sociological interpretation of health. Testing health models and health behaviour. Lifecourse analysis, sociological diagnosis.

3rd week:

Lecture: Sociocultural background of health promotion. International and national health promotion programs. Role of civil organizations in health promotion.

4th week:

Lecture: The social equilibrium of health and disease; bio-psycho-social interpretation of disequilibrium. Patterns of jealth-, risk-, and disease behaviour through case studies.

5th week:

Lecture: Sick role and sick behaviour. Perception and coping with disease. Sociographic investigation of the sick role and lifecourse of disease.

6th week:
Lecture: Sociocultural models of health care professions/jobs. Job orientation and prestige of health care professions.

7th week:

Lecture: Health risks and their consequences in minority populations. Investigation of prejudice, discrimination and equal opportunity.

8th week:

Lecture: Risks for health and health care of social deviances. Costs of deviant behaviour. Estimating hidden morbidity.

9th week:

Lecture: Organizational sociology of health care.

10th week:

Lecture: Health care secularization and medicalization.

11th week:

Lecture: Economic sociology of health care. Inequalities in health needs, demands and capacities.

12th week:

Lecture: Sociocultural motivation for the use of health services.

13th week:

Lecture: Economic sociology of health care. Financing health services. Public, trust-based and private primary care.

14th week:

Lecture: Evaluation of health care. Health technology assessment and cost-efficiency. Evaluation of health care. Quality of life. Self-perceived health status by lifestyle, quality of life and health expectations.

15th week:

Lecture: International protocols for investigating quality of life.
Evaluation of health care. Patient satisfaction and worker satisfaction.

Compulsory literature:

K. White: An Introduction to the Sociology of Health and Illness. Sage, London, 2002.

AM Barry, C. Yuill: Understanding the sociology of health: an introduction. Sage, 2nd rev. edition, 2008.

Recommended literature:

C.G. Helman: Culture, health and illness. 5th edition, Hodder Arnold, London 2007.

W.C. Cockerham: The Blackwell Companion to Medical Sociology. Wiley-Blackwell, 2001.

ACADEMIC PROGRAMME
FOR THE 2nd YEAR
1st SEMESTER

Department of Agricultural, Environmental and Labor Law

Subject: **INTRODUCTION TO LAW I**
Year, semester: **2nd year/1st semester**
Number of teaching hours: **30**
Lecture: **30**

1st week:

Lecture: Concept of law, evolution of legal thinking.

2nd week:

Lecture: Legal norm

3rd week:

Lecture: Legal relationship

4th week:

Lecture: Legal liability

5th week:

Lecture: Law system

6th week:

Lecture: Sources of law

7th week:

Lecture: Force of Law

8th week:

Lecture: Legal interpretation

9th week:

Lecture: Law enforcement

10th week:

Lecture: Theories of state formation

11th week:

Lecture: State sovereignty

12th week:

Lecture: State functions

13th week:

Lecture: Civil service legal disputes

14th week:

Lecture: Three branches of government

15th week:

Lecture: The institutions of collective labour law

Recommended literature:

David Kelly, Gary Slapper: Law: The Basics, 1th edition, 2011

Department of Preventive Medicine

Subject: **Health (& library) Informatics II**
Year, semester: **2 nd year/1st semester**
Number of teaching hours: **30**
Lecture: **10**
Practical: **20**

1th week:

Lecture: The basics of nosology (classification of diseases)

2nd week:

Practical: The most important classifications of health-care and public health:BNO, WHO, SNOWMED

3rd week:
Practical: The most important classifications of health-care and public health:BNO, WHO, SNOWMED

4th week:

Lecture: Health-care administration. Health-care information systems and databases

5th week:

Practical: Data-flow in health-care

6th week:

Practical: Primary care, specialty care, hospital, public health information systems

7th week:

Practical: Library information systems

8th week:

Practical: TEST

9th week:

Practical: Some use of library in formationsystemdetails: MEDLINE, PUBMED, CD-ROM, and multimedia systems

10th weeek:

Lecture: Information systems in public health, Traditional and electronic sources of information, studies and databases in public health

11th week:

Practical: Traditional sources of information, studies and databases of public health

12th week:

Practical: Electronic sources of information, studies and databases of public health

13th week:

Lecture: The issues of privacy, legal and ethical rules, Basics of Cryptography

14th week:

Practical: Physical and logical techniques and solutions of the protection of IT systems.

15th week:

Lecture: TEST

Compulsory literature:

JC Parker, E Thorson: Health Communication in the New Media Landscape. Springer Publishing Company, Inc., 2008

Recommended literature:T Greenhalgh: How to Read a Paper: The Basic of Evidence based medicine. 3rd edition, Blackwell Publishing Ltd, 2006

Department of Physiology

Subject: **PHYSIOLOGY**
Year, semester: **2nd year/1st semester**
Number of teaching hours: **45**
Lecture: **30**
Seminar: **15**

1st week:

Lecture: Membrane transport mechanisms; humoral regulation of cell function; significance of the membrane potential in the regulation of cell function

Seminar: Introduction to physiology, requirements; general overview of the structure and function of the cell membrane; role of membrane defects in the pathomechanism of diseases

2nd week:

Lecture: Compartmentalization of body fluids; blood as a circulating body fluid; plasma and formed elements

Seminar: types of anaemia; redistribution of body fluid compartments in pathological conditions

3rd week:

Lecture: Blood typing; haemostasis; mechanisms against bleeding; definition and significance of homeostasis; homeostatic parameters

Seminar: Clinical significance of blood typing, Rh^+ incompatibility; disturbed haemostasis; anticoagulant agents

4th week:

Lecture: Cardiovascular physiology: electrical and contractile properties of the heart; impulse generation and conduction; basics and diagnostic significance of electrocardiography; the heart as a pump; the cardiac cycle; neural and humoral regulation of cardiac function

Seminar: Starling mechanism as a compensatory mechanism in normal and pathological conditions, analysis of normal electrocardiogram

5th week:

Lecture: Cardiovascular physiology: characteristics of peripheral circulation; principles of haemodynamics; functional characteristics of blood vessels; vascular tone; main determinant of arterial blood pressure; reflex and humoral control of blood pressure and redistribution of cardiac output

Seminar: Discussion of lectured topics focused on the blood pressure and its regulation

6th week:

Lecture: Respiratory physiology: mechanics of mechanics of breathing; alveolar ventilation; gas transport in the blood; neural and chemical control of breathing

Seminar: Discussion of lectured topics focused on the static and dynamic respiratory parameters

7th week:

Lecture: Motoric and secretory function of the gastrointestinal tract; digestion, absorption; nutrition (food requirements, regulation of food intake); energy balance, thermoregulation

Seminar: Discussion of lectured topics completed with pathophysiologic relations

8th week:

Lecture: general aspects of renal function; glomerular filtration; types of tubular transport processes; characteristic parameters of the renal function:

glomerular filtration rate (GFR), filtration fraction (FF), clearance (C) and extraction coefficient (E)

Seminar: Detailed discussion and calculation of renal parameters

9th week:

Lecture: Principles of the volume and osmoregulation; characteristics of the salt and water reabsorption; pH regulation; role of the respiration and excretion in the acid-base balance; micturition

Seminar: The role of the kidney in the homeostatic regulation

10th week:

Lecture: Hormonal regulation; paracrine and endocrine mechanisms; hypothalamo-hypophyseal system; neurohormones and tropic hormones

Seminar: General overview of the hormonal regulation; relationships of neural an humoral regulation

11th week:

Lecture: Thyroid hormones (T_3 and T_4); endocrine regulation of intermediate metabolism and basal metabolic rate; physiological effects of corticosteroids

Seminar: Hormonal regulation of cellular metabolism, especially the metabolism of skeletal muscle cells

12th week:

Lecture: Significance of the ionized calcium concentration in the blood; regulation of calcium handling; endocrine function of the pancreas; significance and regulation of blood glucose level

Seminar: Tetania; hypo- and hyperglycaemia

13th week:

Lecture: Sexual hormones; somatic and autonomic nervous system; introduction to neural control; voluntary and reflex regulation

Seminar: Genital and extragenital effects of sexual steroids

14th week:

Lecture: Sensory function of the nervous system; stimulus, receptor, conduction of excitation; cortical processing; physiological basis of vision and hearing; motor function of nervous system: function and regulation of skeletal muscles (cortical, subcortical and spinal levels of regulation, coordinative function of cerebellum)

Seminar: Summary of somatic neural regulation

15th week:

Lecture: Regulation of visceral functions; common and different features of sympathetic and parasympathetic regulation; integrated function of the sympathetic nervous system and the adrenal medulla

Seminar: Summary of the vegetative control of visceral functions

Compulsory literature:

Fonyó, A.: Principles of Medical Physiology. Medicina, 2002

West, J.B. (Ed.): Best and Taylor's Physiological Basis of Medical Practice, 12th edition. Williams & Wilkins, 1990

Recommended literature:

Berne, R. M., Levy, M. N., Koeppen, B. M., Stanton, B. A.: Physiology 5th edition, V.C. Mosby Co., 2005

Guyton, A. C., Hall, J. E.: Textbook of Medical Physiology 11th edition, W.B. Saunders Co., 2005

Requirements:

It is recommended to attend the lectures, and it is compulsory to be present on seminars. The signature of the Lecture Book may be refused for the semester if one has more than two absences from the seminars.

The knowledge of the students will be tested 3 times during the semester using a written test system. The participation is compulsory and shall be preceded by ID confirmation (i.e. student's card, passport, driving licence if it contains a photo of the owner). At the end of the semester, students take a written end-semester exam (ESE). However, if one's average score of the three mid-semester tests is above 55%, it is not compulsory to take the ESE, and a mark based on the average score will be offered.

55-64%: pass (2)
65-74%: satisfactory (3)
75-84%: good (4)
85-100%: excellent (5)

If one is not satisfied with this result, (s)he may participate in ESE during the examination period.

The selected topics in Physiology are constitutive part of the final examination "Basic knowledge in the health sciences".

Department of Behavioural Sciences

Subject: **HEALTH PSYCHOLOGY**
Year, semester: **2nd year/1st semester**
Number of teaching hours: **30**
Lecture: **30**

1st week:

Lecture: Health psychology: the field and its subfields (clinical, preventive/ promoting, community, and critical health psychology)

2nd week:

Lecture: Framing health psychology: kindred disciplines of medical and clinical psychology, medical anthropology, behavioural medicine

3rd week:

Lecture: Health behaviour: definition and conditions of appearance

4th week:

Lecture: Comparative analysis of lay and professional mental representations of health

5th week:

Lecture: Personality and health, hardiness and health

6th week:

Lecture: Coping: theories, forms, effects

7th week:

Lecture: Doctor-patient communication: role of health beliefs, locus of control

8th week:

Lecture: Satisfaction, compliance, adherence: comparative analysis

9th week:

Lecture: Forms and mechanisms of preventive behavioural acts

10th week:

Lecture: Health behaviour: gender- and age-differences

11th week:

Lecture: Stress: comparative/interdisciplinary theories

12th week:

Lecture: Health belief and health behaviour: interactive mechanisms

13th week:

Lecture: Health psychology of pain

14th week:

Lecture: Interactive analyses of case studies

15th week:

Lecture: Consultation

Compulsory literature:

Csabai, M. and Molnar, P. Medical psychology and clinical health psychology, Medicina Publ. Co., Budapest, 2009.

Recommended literature:

Csabai, M. and Molnar, P. Health, illness and care, Springer, Budapest, 2000.

Department of Medical Microbiology

Subject: **BASIC MICROBIOLOGY**
Year, semester: **2nd year/1st semester**
Number of teaching hours: **30**
Lecture: **30**

1st week:

Lecture: The microbial word. Cell-mediated and antibody-mediated (humoral) immunity. Active and passive immunization.

2nd week:
Lecture: Laboratory diagnosis of bacterial and viral infections. Sterilization and disinfection

3rd week:

Lecture: Structure of bacterial cells. Essential and nonessential components. Exotoxins and endotoxins. Non-toxic virulence factors

4th week:

Lecture: Overview of the major Gram-positive bacteria

5th week:

Lecture: Overview of the major and Gram-negative bacteria.

6th week:

Lecture: Bacterial respiratory tract diseases. Skin and soft tissue infections caused by bacteria.

7th week:

Lecture: Sexually transmitted bacterial diseases. Central nervous system diseases caused by bacteria.

8th week:

Lecture: General mycology. Medically important fungi

9th week:

Lecture: The structure and classification of viruses. The pathogenesis of viral diseases.

10th week:

Lecture: Respiratory tract infections caused by viruses

11th week:

Lecture: Agents of viral gastroenteritis. Hepatitis viruses.

12th week:

Lecture: Agents of viral skin rash. Congenital virus infections.

13th week:

Lecture: The protozoal diseases.

14th week:

Lecture: Helminths. Ectoparasites

15th week:

Lecture: Consultation

Compulsory literature:

Levinson, W.: Review of Medical Microbiology and Immunology, 9th edition, McGraw-Hill Medical, 2006

Requirements:

The students are required to attend the lectures.

Examination:

End semester examination consists of an oral test. The student's performance will be assessed on a five-grade scale.

Department of Preventive Medicine

Subject: **PUBLIC HEALTH MEDICINE I**
Year, semester: **2nd year/1st semester**
Number of teaching hours: **60**
Lecture: **30**
Practical: **30**

TOPICS:

Clinical diagnosis
History, physical examination, investigations
Laboratory diagnosis, Imaging techniques, Functional tests.

Diseases of the circulatory system
Ischaemic heart disease, AMI, Hypertension and its complications, Thrombo-embolic diseases, Stroke

Haematological diseases
Anaemia, myeloproliferative diseases

Neoplasia
Breast, lung and throat cancers, Colorectal cancers, Cervical, uterine, and ovarian cancers, Stomach cancer, Prostate carcinoma, Cancers of the mouth, Kidney tumours, Scrotal tumours, Malignant haematologic diseases

Diseases of the digestive system
Diseases of the stomach. Diseases of the liver, gall bladder and pancreas

Metabolic diseases
Diabetes, Hyperlipidaemia, Gout, Porphyria.

Diseases of the pulmonary system
Bronchial asthma, Chronic obstructive pulmonary disease.

Infectious diseases
Acute and chronic infectious diseases

Diseases of the musculoskeletal system
Bones, joint and muscular diseases (with emphasis on osteoporosis)

Endocrinological diseases

Diseases of the kidney

Neurological diseases

Psychiatry
Psychosis, schizophrenia, alcoholism, delirium.

Paediatric diseases

Dental diseases

The fundamentals of surgery
The operating theatre and surgical procedures

Compulsory literature:

McPhee, Stephen J.; Papadakis, Maxine A.; Tierney, Lawrence M.: Current Medical Diagnosis and Treatment 2008.

Department of Preventive Medicine

Subject: **BASIC EPIDEMIOLOGY**
Year, semester: **2nd year/1st semester**
Number of teaching hours: **45**
Lecture: **15**
Practical/Seminar: **30**

1st week:

Lecture: History of epidemiology

Practical/Seminar: Measures of occurrence

2nd week:

Lecture: Measures of association

Practical/Seminar: John Snow on cholera epidemic

3rd week:

Lecture: Descriptive epidemiology

Practical/Seminar: Ecological and cross-sectional studies

4th week:

Lecture: Cohort studies

Practical/Seminar: Asbestos exposure and lung cancer development

5th week:

Lecture: Case-control studies

Practical/Seminar: Alcohol intake and breast cancer

6th week:

Lecture: Selection bias

Practical/Seminar: Precision of epidemiological studies

7th week:

Lecture: Measurement bias

Practical/Seminar: Evaluation of representativity

8th week:

Lecture: Confounding factors

Practical/Seminar: Effect of biased classification.

9th week:

Lecture: Causality

Practical/Seminar: Effect modification

10th week:

Lecture: Experimental studies

Practical/Seminar: Clinical study to evaluate vaccine effectiveness

11th week:

Lecture: Critical appraisal

Practical/Seminar: Evaluation of manuscripts published in international journal

12th week:

Lecture: Study planning

Practical/Seminar: Evaluation of manuscripts published in Hungaria journal

13th week:

Lecture: Screening

Practical/Seminar: Evaluation of cervix cancer screening

14 th week:

Lecture: Indicators of screening effectiveness

Practical/Seminar: Evaluation of cervix cancer screening II.

15th week:

Lecture: Role of epidemiology

Practical/Seminar: Needs for epidemiological research and the utilization of their results

Compulsory literature:

The material of lectures and seminars

Recommended literature:

Rothman KJ. Epidemiology. An introduction. Oxford University Press, New York, 2002

Woodward M. Epidemiology: Study design and data analysis. Chapman & Hall/CRC, Boca Raton, Florida, USA, 1999

Hennekens CH., Buring JE. Epidemiology in Medicine. Little, Brown and Company, Boston, Toronto, 1987

Requirements:

Participation in seminars is obligatory. In the case of more than two absences signature is refused. During the course a practical mark will be given to the students on the base of classroom tasks and homework.

Examination:

The course is assessed with a written test at the end. The grade of the colloquium is the average of the practical mark and the exam mark.

2nd SEMESTER

Department of Agricultural, Environmental and Labor Law

Subject: **INTRODUCTION TO LAW II**
Year, semester: **2nd year/2nd semester**
Number of teaching hours: **30**
Lecture: **30**

1st week:

Lecture: Constitutional system in Hungary

2nd week:

Lecture: Division of powers, parliament, government, president of the republic

3rd week:

Lecture: Electoral law in force

4th week:

Lecture: Powers and functions of governments

5th week:

Lecture: Judicial system in Hungary

6th week:

Lecture: Fundamental rights and duties in the Hungarian Constitution

7th week:

Lecture: System of legal disciplines; private law, criminal law, administrative law

8th week:

Lecture: Concept and practice of public administration.

9th week:

Lecture: The sources of administrative law

10th week:

Lecture: Legislation and law enforcement in public administration

11th week:

Lecture: General division of the state administration system, central state and local administrative bodies

12th week:

Lecture: Principles of the state administrative procedure

13th week:

Lecture: General rules of the state administrative procedure

14th week:

Lecture: Administrative appeals

15th week:

Lecture: Enforcement process, certificate, official control

Recommended literature:

David Kelly, Gary Slapper: Law: The Basics, 1th edition, 2011

Department of Biochemistry and Molecular Biology

Subject: **BIOCHEMISTRY**
Year, semester: **2nd year/2nd semester**
Number of teaching hours: **45**
Lecture: **45**

1st week:

Lecture: Energy in biology; oxidative phosphorylation; the citric acid cycle and its regulation; the mitochondrial genom

2nd week:

Lecture: Introduction; main pathways of the carbohydrate metabolism, central role of glucose; absorption and transport of monosaccharides; carbohydrate metabolism in various tissues; glycolytic pathway; Rapoport-Luebering shunt; energy production of the glycolytic pathway; non-physiological inhibitors of the glycolytic pathway; shuttle pathways; Cori cycle; glucose-alanine cycle; gluconeogenesis; substrates of the gluconeogenesis

3rd week:

Lecture: Regulation of the glycolytic pathway in liver and muscle; regulation of gluconeogenesis; glycogen in liver and muscle; degradation and synthesis of glycogen; regulation of glycogen synthesis and degradation; metabolism of galactose and fructose

4th week:

Lecture: Pentose phosphate pathway; synthesis of disaccharides; metabolism of glucuronic acid; inherited diseases in the carbohydrate metabolism; biochemistry of diabetes mellitus; pyruvate dehydrogenase complex

5th week: *self-control test (Week 1-4)*

Lecture: Organization of lipid structures; mixed micelles in the digestive tract; lipoproteins in blood plasma; covalent interactions between proteins and lipids; oxidation of fatty acids; synthesis of fatty acids

6th week:

Lecture: Synthesis of triacyl-glycerol; lipid metabolism during starvation; ketone bodies

7th week:

Lecture: The mevalonate metabolic pathway; synthesis of cholesterol; cholesterol transport in the body; the LDL receptor and its gene; excretion of cholesterol; biochemical explanation of elevated blood cholesterol levels

8th week:

Lecture: Steroid hormones; bile acids; vitamin D; eicosanoids; lipid peroxidation; synthesis of sphingolipids and phospholipids

9th week: *self-control test (Week 5-8)*

Lecture: Comparison of the amino acid metabolism with the carbohydrate and lipid metabolisms; formation and utilisation of the intracellular amino acid pool; nitrogen balance; exogenous amino acid sources; digestion of proteins; amino acid transports; structure and function of glutathione; endogenous amino acid sources: intracellular protein breakdown; common reactions in the amino acid metabolism: fate of the nitrogen; transaminations and deaminations; enzymes containing pyridoxal phosphate cofactors, and their mechanism of action: stereoelectronic control; formation and elimination of ammonia in the body; nitrogen transport between the tissues

10th week:

Lecture: The urea cycle and its regulation; mitochondrial carbamoyl phosphate synthetase; intracellular glutamine cycle;

decarboxylation and carboxylation reactions in the amino acid metabolism; C_1 transfer and transmethylation, related enzyme and vitamin deficiencies; monooxygenation and dioxygenation reactions; fate of the carbon skeleton of amino acids: glucogenic and ketogenic amino acids; degradation of amino acids in the pyruvate pathway; transport function of alanine; degradation and synthesis of cysteine; formation and utilization of PAPS; degradation and synthesis of serine and glycine; pathways of threonine degradation; degradation of amino acids in the alpha-ketoglutarate pathway; degradation of histidine, histidinemia

11th week:

Lecture: Degradation and synthesis of proline; degradation and synthesis of arginine and ornithine, their precursor functions: NO, creatine, polyamines; aspartate and asparagine degradation and synthesis in the oxaloacetate pathway; degradation of amino acids in the succinyl-CoA pathway; the vitamin requirements and enzyme deficiencies in the propionyl CoA succinyl CoA conversion; degradation of isoleucine and valine, related enzyme deficiencies; comparison of leucine degradation with the degradation of isoleucine and valine; degradation of lysine and tryptophane, their precursor functions; carnitine synthesis; degradation of phenylalanine and tyrosine, related enzyme deficiencies and precursor functions; synthesis and degradation of cathecolamines

12th week:

Lecture: Nucleotide pool; digestion and absorption of nucleic acids; sources of atoms in purine ring; de novo synthesis of purine nucleotides; regulation of purine nucleotide synthesis; salvage pathways for the purine bases; degradation of purine nucleotides; diseases associated with purine nucleotide metabolism

13th week:

Lecture: De novo synthesis of pyrimidine nucleotides; regulation of pyrimidine nucleotide synthesis; salvage pathways for the pyrimidines; degradation of pyrimidine nucleotides; nucleoside and nucleotide kinases; synthesis of deoxythymidilate; nucleotide coenzyme synthesis (NAD, FAD, CoA); antitumour and antiviral action of base and nucleoside analogues

14th week:

Lecture: Biochemistry of nutrition; energy requirement; basic metabolic rate; energy content of the food; energy storage and thermogenesis; biochemical mechanism of obesity; protein as nitrogen and energy source; nitrogen balance; essential amino acids; protein malnutrition; vegetarianism; clinical aspects of protein nutrition; carbohydrates and lipids; pathological mechanisms in obesity; vitamins: structure and biochemical functions; relationship between the biochemical functions and the symptoms of deficiency, essential inorganic elements of the food (metabolism, function, deficiency)

15th week: *self-control test (Week 9-14)*

Compulsory literature:

The lecture presentations with short explanations will be available in pdf format for download at the departmental web site (**http://bmbi.med.unideb.hu**) for the students.

Recommended literature:

Devlin, T. M. et al: Textbook of Biochemistry with Clinical Correlations, 6th edition. John Wiley and Sons, Inc., New York, 2005

Berg, J.M. et al: Biochemistry, 6th edition. Freeman and Co., New York, 2006

Examination, evaluation:

Achievement during the semester will be evaluated in term of points. During the semester points can be collected for the self-control tests from the material of the lectures. Self-control tests consist of simple and multiple choice test questions, recognition of chemical structures and assay questions. Grade will be offered on the base of the collected points for all those students, who collected at least 60% of points: pass (2) for 60%-69.9%; satisfactory (3) for 70%-79.9%; good (4) for 80%-89.9%; excellent (5) for 90%-100%. Those students who want to get a better grade can take an exam. Those, who did not collect 60% have to take a written exam in the exam period. The exam is a written one and consists of similar test and assay questions to those of self-control tests. Sixty percent is needed to get a passing mark, and the grade increases with every 10% (see above).

Department of Preventive Medicine

Subject: **ENVIRONMENTAL HEALTH**
Year, semester: **2nd year/2nd semester**
Number of teaching hours: **60**
Lecture: **30**
Seminar: **30**

1st week:

Lecture: The history, scope and methods of environmental health

Seminar: The Seveso disaster – case study

2nd week:

Lecture: Fundamentals of environmental toxicology, environmental exposures

Seminar: Principles of environmental health impact assessments

3rd week:

Lecture: Lecture: Air pollution and health

Seminar: The London smog – case study

4th week:

Lecture: Water pollution and health

Seminar: Monitoring of drinking water quality (laboratory visit)

5th week:

Lecture: Health hazards of ionising radiation and radioactive substances

Seminar: Monitoring of environmental ionizing radiations (laboratory visit)

6th week:

Lecture: Soil pollution and health

Seminar: Nuclear accidents – case study

7th week:

Lecture: Healthy nutrition. Nutritional deficiency disorders

Seminar: Environmental arsenic poisoning – case study

8th week:

Lecture: Food poisoning

Practice: Chemical and microbiological examination of drinking water (laboratory practice for small groups)

9th week:

Lecture: Health and the built environment

Practice: Chemical and microbiological examination of drinking water (laboratory practice for small groups)

10th week:

Lecture: Fundamentals of occupational health

Seminar: Occupational diseases

11th week:

Lecture: Defence of human organism against exposure to environmental chemicals

Seminar: Chemical safety

12th week:

Lecture: Health implications of waste and hazardous waste disposal

Seminar: Environmental polychlorinated biphenyl (PCB) poisoning – case study

13th week:

Lecture: Heavy metals in the human environment

Seminar: Environmental cadmium poisoning – case study

14th week:

Lecture: Toxic effects of pesticides and organic solvents

Seminar: Student's presentations – selected topics of environmental health

15th week:

Lecture: Global environmental health issues – Health effects of climate change

Seminar: Environmental law

Compulsory literature:

Moeller D. W.: Environmental Health, 3rd ed., Harvard University Press, London, 2005.

Recommended literature:

Frumkin H.: Environmental Health, 2nd ed., John Wiley & Sons, Inc., San Francisco, 2010.

Requirements:

Attendance of lectures is highly recommended. This is the best source of synthesized and structured knowledge. Some new concepts and results are discussed exclusively at the lectures. Attendance of the seminars, laboratory practices and visits is obligatory. The module coordinator can refuse to sign the lecture book if a student is absent more than twice from seminars, practices and visits in the semester even if he/she has an acceptable excuse.

Examination, evaluation:

At the end of the semester students are required to take a written exam consisting of multiple choice test questions. The test includes two sections. The first part covers the topics of the lectures while the second section is related to the topics of all seminars, practices and visits of the semester. The exam is assessed on the basis of the average of two marks and it is failed if any section of the test is graded unsatisfactory. Students should repeat only those section of the exam that has been unsuccessful previously. In this case the exam is graded according to the average of the passing mark obtained on the first and repeated exams.

Department of Preventive Medicine

Subject: **PUBLIC HEALTH MEDICINE II**
Year, semester: **2nd year/2nd semester**
Number of teaching hours: **60**
Lecture: **30**
Practical: **30**

TOPICS:

Clinical diagnosis
History, physical examination, investigations
Laboratory diagnosis, Imaging techniques, Functional tests.

Diseases of the circulatory system
Ischaemic heart disease, AMI, Hypertension and its complications, Thrombo-embolic diseases, Stroke

Haematological diseases
Anaemia, myeloproliferative diseases

Neoplasia
Breast, lung and throat cancers, Colorectal cancers, Cervical, uterine, and ovarian cancers, Stomach cancer, Prostate carcinoma, Cancers of the mouth, Kidney tumours, Scrotal tumours, Malignant haematologic diseases.

Diseases of the digestive system
Diseases of the stomach. Diseases of the liver, gall bladder and pancreas

Metabolic diseases
Diabetes, Hyperlipidaemia, Gout, Porphyria.

Diseases of the pulmonary system
Bronchial asthma, Chronic obstructive pulmonary disease.

Infectious diseases
Acute and chronic infectious diseases

Diseases of the musculoskeletal system
Bones, joint and muscular diseases (with emphasis on osteoporosis)

Endocrinological diseases

Diseases of the kidney

Neurological diseases

Psychiatry
Psychosis, schizophrenia, alcoholism, delirium.

Paediatric diseases

Dental diseases

The fundamentals of surgery
The operating theatre and surgical procedures

Compulsory literature:

McPhee, Stephen J., Papadakis, Maxine A., Tierney, Lawrence M.: Current Medical Diagnosis and Treatment 2008.

Department of Preventive Medicine

Subject: **EPIDEMIOLOGY OF COMMUNICABLE AND NON-COMMUNICABLE DISEASES I**
Year, semester: **2nd year/2nd semester**
Number of teaching hours: **60**
Lecture: **15**
Practical/Seminar: **45**

1st week:

Lecture: Introduction to the epidemiology of infectious diseases

Seminar: (2 hours): Editing data entry form using the Epi-Info software (Case Study)

2nd week:

Lecture: The spread of infectious diseases, indicators of measuring the infectivity

Seminar (4 hours): Editing data entry form using the Epi-Info software 2 (case study), the dynamics of infection (Case Study)

3rd week:

Lecture: Outbreak curve

Seminar (4 hours): Data entry and data management (case study)

4th week:

Seminar: (3 hours): Outbreak investigation - descriptive analysis (case study)

5th week:

Lecture 1: The basics of statistical inference

Lecture 2: The basics of sample size calculation

6 th week:

Lecture: Using analytical epidemiological studies in outbreak investigation

Seminar (2 hours): Statistical power estimation using PS software (Case Study)

7th week:

Seminar (4 hours): Outbreak investigation - analytical analysis (case study)

8th week

Lecture: Stratified analysis

Seminar (3 hours): Stratified analysis (case study)

9th week:

Lecture: Logistic regression

Seminar (2 hours): Logistic regression (Case Study)

10th week

Lecture: The practical aspects of the implementation of outbreak investigation

Seminar (3 hours): The surveillance of infectious diseases

11th week:

Lecture: Surveillance of nosocomial of diseases

Seminar: Surveillance of nosocomial diseases

12th week:

Lecture: Epidemiology of respiratory infectious diseases
Seminar: Monkey pox (Case Study)

13th week:

Lecture: Epidemiology of tuberculosis

Seminar (2 hours): Epidemiology of tuberculosis in developed countries (case study)

14th week:

Lecture 1: Epidemiology of gastrointestinal diseases

Lecture 2: Epidemiology of hepatitis

Seminar (3 hours): Hepatitis outbreak investigation (Case Study)

15th week

Lecture: Epidemiology of HIV / AIDS

Seminar: Hepatitis outbreak investigation 2 (Case Study)

Compulsory literature:

Lecture and seminar material

Recommended literature:

Heyman DL (ed). Control of communicable diseases manual, 18th ed. Washington, DC, American Public Health Association, 2004.

Giesecke J. Modern infectious disease epidemiology. 2nd edition. London: Arnold. 2002.

Gregg MB. (ed) Field Epidemiology. 2nd edition. Oxford: Oxford University Press. 2002.

Webber R, Communicable disease epidemiology and control. A global perspective. 2nd edition. Wallingford: CABI Publishing, 2005.

Requirements:

Participation in the seminars is mandatory. If there are more than two absences, the index might not be signed. Prerequisite subject: Basic Epidemiology

Examination:

During the semester the students will get practical grade for the homework assessments. At the end of the semester students are required to take a written test which will cover the topics of all lectures and seminars of the first semester. The mark of the final exam will be calculated on the basis of the average of the practice grade and the written exam.

ACADEMIC PROGRAMME
FOR THE 3rd YEAR
1st SEMESTER

Department of Pharmacology and Pharmacotherapy

Subject: **PHARMACOLOGY**
Year, semester: **3rd year/1st semester**
Number of teaching hours: **30**
Lecture: **30**

1st week:

Lecture: Introduction to general pharmacology: pharmacokinetics and pharmacodynamics

2nd week:

Lecture: Pharmacology of autonomic nervous system: drugs acting on cholinergic and adrenergic receptors

3rd week:

Lecture: Pharmacology of central nervous system: antidepressants, antiepileptics

4th week:

Lecture: Pharmacology of central nervous system: antiparkinsonian drugs, anti-psychotics

5th week:

Lecture: Pharmacology of drugs of abuse: narcotics, stimulants

6th week:

Lecture: Pharmacology of drugs of abuse: depressants, cannabis, hallucinogens

7th week:

Lecture: Inhalants, steroids

8th week:

Lecture: Cardiovascular pharmacology: antianginal, anti-arrhythmic drugs

9th week:

Lecture: Cardiovascular pharmacology: antihypertensive, antihyperlipidaemic drugs

10th week:

Lecture: Drugs used in congestive heart failure

11th week:

Lecture: Respiratory pharmacology: antiasthmatics

12th week:

Lecture: Pharmacology of gastrointestinal system

13th week:

Lecture: Antimicrobial and antiviral chemotherapy

14th week:

Lecture: Antitumor agents

15th week:

Lecture: Consultation

Compulsory literature:

Katzung, B. G. (ed.): Basic and Clinical Pharmacology, McGraw Hill, 10th edition, 2007

Recommended literature:

Trevor, A. J., Katzung B. G., Masters S. B. (eds): Katzung & Trevor's Pharmacology: Examination & Board Review, 7th edition, McGraw Hill, 2005

Requirements:

Attendance at lectures is highly recommended, since the topics in examination cover the lectured topics. You have to take ESE during the examination period.

Department of Preventive Medicine

Subject: **BASICS IN HEALTH PROMOTION AND POLICY**
Year, semester: **3rd year/1th semester**
Number of teaching hours: **45**
Lecture: **30**
Practical/Seminar: **15**

1st week:

Basics and values in policy. Policy networks and subsystems.

2nd week:

Values, principles and objectives of health policy. Stakeholders and stewardship. The relationship between health, social and economic policy.

3rd week:

The policy process. Health policy analysis.

4th week:

Healthy public policies. Health impact assessment.

5th week:

Goals and functions of health care systems. Preventive and curative care.

6th week:

The characteristics of health care market. Need, demand and supply of health services.

7th week:

Financing health care: revenue collection, fund pooling and purchasing. Models of health care systems. Health care reforms.

8th week:

Priority setting in health care. Performance measurement.

9th week:

Health workforce: education and employment policy. Public health law.

10th week:

The international arena of public health policy

11th week:

The concept of health promotion. Political decisions in health.

12th week:
Defining and measuring health in health care and health promotion.

13th week:

Individual and structural determinants of health 1. Policy measures to prevent smoking and drug abuse.

14th week:

Individual and structural determinants of health 2. Policy measures to influence nutrition.

15th week:

National and international infrastructure of health promotion

Compulsory literature:

Stahl, T., Wismar, M., Ollila, E., Lahtinen, E., Leppo, K.: Health in all policies. Prospects and potentials. Ministry of Social Affairs and Health, Helsinki, 2006. (Part 1, pages 3-38).

The Tallinn Charter: Health Systems for Health and Wealth, WHO, 2008. (5 pages)

The World Health Report 2008. Primary health care, now more than ever. WHO, 2008. Introduction and Overview. (14 pages)

Naidoo J., Wills J.: Health promotion. Foundations for practice. Bailliere Tindall 2000.

Ewles, L., Simnett, I.: Promoting health: a practical guide. Bailliere Tindall 2003.

Recommended literature:

Birkland T.: An introduction to the policy process. M.E.Sharpe, 2005

Buse, K., Mays, N., Walt, G.: Making health policy. Open University Press, 2005

Ewles, L., Simnett, I.: Promoting health: a practical guide. Bailliere Tindall 2003.

Kemm, J., Parry, J., Palmer, S.: Health Impact Assessment: Concepts, Theory, Techniques and Applications. Oxford: Oxford University Press, 2004.

Kingdon, J.W.: Agendas, alternatives and public policies, MA and Toronto: Little, Brown and Company. Boston, 1984.

Sabatier, P.A., (ed.): Theories of the policy process. Westview Press, Boulder, 2007.

Thomson, S., Foubister, T., Mossialos, E.: Financing health care in the European Union: Challenges and policy responses, European Observatory on Health Systems and Policies, WHO, 2009.

Seedhouse, D.: Health promotion. Philosophy, prejudice and practice. Wiley and Sons, 1997.

Bunton, R., Macdonald, G. (eds): Health Promotion. Disciplines, diversity, and developments. Routledge, 2002.

Requirements:

Attendance of the lectures is highly recommended.
Attendance of the seminars is obligatory and is a precondition of signing the lecture book, maximum two absences are allowed in the semester. Active participation in problem based learning exercises is required.

Examination:

Type of the exam: end-of-semester examination.
Form of exam: written exam (covers the topics of all lectures and seminars and the required literature).
Evaluation: Fail /pass on a scale 1-5.

Department of Immunology

Subject: **IMMUNOLOGY**
Year, semester: **3rd year/1th semester**
Number of teaching hours: **30**
Lecture: **30**

1st week:

Lecture: The structure and function of the immune system. Organs, cells and the molecules of the immune system

2nd week:

Lecture: Native and adaptive immunity; antigens and the theory of clonal selection

3rd week:

Lecture: The development of B- and T-lymphocytes; antigen-specific receptors. Structure and function

4th week:

Lecture: The structure of antibodies; the function of antibodies

5th week:

Lecture: Activation of B-lymphocytes; the humoral immune response

6th week:

Lecture: Antigen recognition by T-lymphocytes; antigen processing and presentation

7th week:

Lecture: Cytokines, lymphokines; effector T-cells

8th week:

Lecture: Cooperation between the cellular and humoral immune response. Immunity to infectious diseases

9th week:

Lecture: Allergy, hypersensitivity reactions. Immune tolerance versus autoimmunity

10th week:

Lecture: Transplantation, immuno-deficiency. Immune response against tumours

11th week:

Lecture: Antibody-mediated effector functions; precipitation

12th week:

Lecture: Agglutination; activation of the complement system

13th week:

Lecture: Phagocytosis. T-cell effector functions

14st week:

Lecture: Determination of the concentration of cytokine; determination of cytotoxic activity of immune cells

15th week:

Lecture: Consultation

Compulsory literature:

Parham, P.: The Immune System, 3rd edition, Garland Science, 2009

Recommended literature:

Janeway C. A. and Travers P: Immunobiology, 7th edition, Garland Science, 2008

Abbas A. K., Lichtmann A. H. and Pober S.: Cellular and molecular immunology, 4th edition W.B. Saunders Company, 2000

Requirements:

Evaluation: Based on an end-term written exam a grade will be offered. Pass level is at 50% of the total score. Offered grades may be improved by taking an oral exam that is considered an "A" chance even if the student fails to reach the pass level.

Department of Preventive Medicine

Subject: **PUBLIC HEALTH MEDICINE III**
Year, semester: **3rd year/1st semester**
Number of teaching hours: **60**
Lecture: **30**
Practical: **30**

TOPICS:

Clinical diagnosis
History, physical examination, investigations
Laboratory diagnosis, Imaging techniques, Functional tests.

Diseases of the circulatory system
Ischaemic heart disease, AMI, Hypertension and its complications, Thrombo-embolic diseases, Stroke

Haematological diseases
Anaemia, myeloproliferative diseases

Neoplasia
Breast, lung and throat cancers, Colorectal cancers, Cervical, uterine, and ovarian cancers, Stomach cancer, Prostate carcinoma, Cancers of the mouth, Kidney tumours, Scrotal tumours, Malignant haematologic diseases.

Diseases of the digestive system
Diseases of the stomach. Diseases of the liver, gall bladder and pancreas

Metabolic diseases
Diabetes, Hyperlipidaemia, Gout, Porphyria.

Diseases of the pulmonary system
Bronchial asthma, Chronic obstructive pulmonary disease.

Infectious diseases
Acute and chronic infectious diseases

Diseases of the musculoskeletal system
Bones, joint and muscular diseases (with emphasis on osteoporosis)

Endocrinological diseases

Diseases of the kidney

Neurological diseases

Psychiatry
Psychosis, schizophrenia, alcoholism, delirium.

Paediatric diseases

Dental diseases

The fundamentals of surgery
The operating theatre and surgical procedures

Compulsory literature:

McPhee, Stephen J.; Papadakis, Maxine A.; Tierney, Lawrence M.: Current Medical Diagnosis and Treatment 2008.

Department of Preventive Medicine

Subject: **EPIDEMIOLOGY OF COMMUNICABLE AND NON-COMMUNICABLE DISEASES II**
Year, semester: **3rd year/1th semester**
Number of teaching hours: **45**
Lecture: **15**
Seminar: **30**

1st week:

Lecture: Vaccinations, Vaccines

Seminar: Vaccine efficacy

2nd week:

Lecture 1: Emerging and re-emerging infectious diseases

Lecture 2: The world health report

Seminar: Epidemiology of HIV / AIDS

3rd week:

Lecture: Levels of prevention, preventive strategies

Seminar: The advantages and disadvantages of different preventive strategies

4th week:

Lecture: The theoretical basis for screening programs

Seminar: Screening programs

5th week:

Lecture 1: The screening systems

Lecture 2: Public Health Databases

Seminar: HFA database

6th week:

Lecture: Literature research

Seminar: HFA database; Literature Research

7th week:

Lecture: Evidence-based health policy

Seminar: Literature search using PubMed

8th week:

Lecture: Study Writing

Seminar: Literature search using PubMed (2)

9th week:

Lecture: Epidemiology and prevention of cardiovascular diseases

Seminar: Study design- a measurement the frequency of a non-communicable disease - a theoretical framework

10th week:

Lecture: Epidemiology of metabolic disorders

Seminar: Study design- a measurement the frequency of a non-communicable disease

11th week:

Lecture: Epidemiology of liver and gastrointestinal diseases

Seminar:: Study design- a measurement the frequency of a non-communicable disease

12th week:

Lecture: Cancer Epidemiology and Prevention

Seminar: Epidemiology of cancer

13th week:

Lecture: Epidemiology of chronic respiratory diseases

Seminar: The epidemiology of cancer (2)

14th week:

Lecture 1: The epidemiology and prevention of accidents

Lecture 2: Basics of health economics

15th week:

Lecture: Epidemiology and prevention of musculoskeletal disorders

Seminar: Basics of health economics

Compulsory literature:

Lecture and seminar material

Recommended literature:

Morrison: Screening in chronic disease, Oxford University Press, 1992.

Brownson, Remington, Davis: Chronic disease epidemiology and control.American Public Health Association, 1998

Mayor: Essential Evidenced-Based Medicine. Cambridge University Press; 2004.

Schottenfeld, Fraumeni: Cancer Epidemiology and Prevention, Oxford University Press, 2006

Weiss: Clinical Epidemiology, Oxford University Press, 2006

Marmot, Elliott: Coronary Heart Disease Epidemiology - From aetiology topublic health, Oxford University Press, 2005

Narayan, Williams, Gregg, Cowie: Diabetes Public Health - From Data toPolicy, Oxford University Press, 2010

Requirements:

Participation in the seminars is mandatory. If there are more than two absences, the index might not be signed. Prerequisite subject: Epidemiology of communicable and non-communicable diseases I.

Examination:

During the semester the students will get practical grade for the assessment of homework. At the end of the semester students are required to take a written test which will cover the topics of all lectures and seminars of the first semester. The mark of the final exam will be calculated on the basis of the average of the practice grade and the written exam.

Department of Preventive Medicine

Subject: **OCCUPATIONAL HEALTH**
Year, semester: **3rd year/1st semester**
Number of teaching hours: **60**
Lecture: **30**
Seminar: **30**

1st week:

Lecture: Introduction to occupational health; the subject (occupational medicine and occupational hygiene)

Seminar: Organizational structure and legal background of occupational health

2nd week:

Lecture: Physiology of work (stress and strain), workability. Workplace effects (hazard and risk)

Seminar: Criteria, classification and reporting of occupational diseases

3rd week:

Lecture: Levels of workplace prevention, environmental and biological monitoring

Seminar: Occupational exposure limits

4th week:

Lecture: Physical workplace hazards (noise, vibration, temperature, pressure)

Seminar: Measurement, evaluation and prevention of workplace noise and heat exposure

5th week:

Lecture: Physical workplace hazards (ionizing and non-ionizing radiations)

Seminar: Measurement, evaluation and prevention of workplace exposure to radiations

6th week:

Lecture: Chemical workplace hazards (metals, gasses)

Seminar: Chemical safety

7th week:

Lecture: Chemical workplace hazards solvents, plastics, pesticides)

Seminar: Measurement, evaluation and prevention of workplace chemical exposures

8th week:

Lecture: Workplace aerosol exposure (dusts, fibers)

Seminar: Measurement, evaluation and prevention of workplace dust and fiber exposures

9th week:

Lecture: Chemical workplace hazards (mutagens, carcinogens, teratogens)

Practical: Mutagenecity tests (laboratory practical)

10th week:

Lecture: Biological workplace hazards

Seminar: Measurement, evaluation and prevention of workplace biological exposures

11th week:

Lecture: Mechanical (ergonomic) workplace hazards, occupational accidents

Seminar: Occupational safety

12th week:

Lecture: Psychosocial effects at workplaces

Seminar: Workplace communication (situation practice)

13th week:

Lecture: Occupational health/occupational hygiene inspection, comprehensive evaluation of work environment, occupational risk assessment

Seminar: Criteria for making occupational hygiene reports

14th week:

Lecture: Occupational health evaluation of industrial processes I

Practical: Workplace visit

15th week:

Lecture: Occupational health evaluation of industrial processes II

Seminar: Discussion of the workplace visit (student presentations)

Compulsory literature:

University textbook (ed.: Balázs Ádám)
Lecture and seminar notes, syllabi

Recommended literature:

Raffe PAB, Adams PH, Baxter PJ, Lee WR: Hunter's Diseases of Occupation, 8th ed., London: Edward Arnold Publishers, 1994

Levy BS, Wegman DH: Occupational Health. 3rd ed, Boston: Little, Brown and Company, 1995

Stellman JM (ed): Encyclopaedia of Occupational Health and Safety. 4th ed, Geneva: ILO, 1998

Requirements:

To register for the subject, students need a successful exam in chemistry, basic epidemiology and environmental health. Attendance of seminars and practices is obligatory, not more than 2 absences are required for the signature of lecture book

Examination:

The subject ends with a written exam assessing knowledge taught on lectures and seminars. To pass, students are required to give correct answers to at least 50% of the 10 multiple choice and 10 short open questions. "B" and upgrading exams are held in oral.

Department of Agricultural, Environmental and Labor Law

Subject: **HEALTH CARE LAW I**
Year, semester: **3rd year/1st semester**
Number of teaching hours: **30**
Lecture: **30**

1st week:

Lecture: Development of medical officer service's regulation

2nd week:

Lecture: Medical officer service in the state administration system

3rd week:

Lecture: Power and territorial system of the medical officer service

4th week:

Lecture: Population health management

5th week:

Lecture: Public health management

6th week:

Lecture: Environmental and settlement health management

7th week:

Lecture: Administrative tasks related to the deceased

8th week:

Lecture: Workplace aerosol exposure (dusts, fibers)

9th week:

Lecture: Control of the food chain

10th week:

Lecture: Rights and obligations of the food chain actors

11th week:

Lecture: State's responsibility in the food chain control

12th week:

Lecture: Administration tasks of the food chain supervisory authority

13th week:

Lecture: Occupational health management

14th week:

Lecture: Administration and coordination tasks of the health administration bodies

Recommended literature:

Jonathan Montgomery: Health Care Law, 2nd edition, New York, 2003

2nd SEMESTER

Department of Agricultural, Environmental and Labor Law

Subject: **HEALTH CARE LAW II**
Year, semester: **3rd year/2nd semester**
Number of teaching hours: **30**
Lecture: **30**

1st week:

Lecture: Principles of health care law

2nd week:

Lecture: System of health services

3rd week:

Lecture: Health care system, primary care, outpatient and inpatient care, other health services

4th week:

Lecture: Professional requirements of health services

5th week:

Lecture: Health care organization and management

6th week:

Lecture: Public health

7th week:

Lecture: Health promotion, family and women's care, youth health care, sports health care, environment and settlement health, food and nutrition health

8th week:

Lecture: Radiation Health, occupational health, infectious disease control

9th week:

Lecture: Patients' rights and obligations

10th week:

Lecture: Rights and duties of health care workers

11th week:

Lecture: Medical research on humans

12th week:

Lecture: Special procedures related to human reproduction, research involving human embryos and gametes, sterilization

13th week:

Lecture: Treatment and care of psychiatric patients

14th week:

Lecture: Organ and tissue transplantation, blood provision

15th week:

Lecture: Provisions related to the deceased, disaster medical care

Recommended literature:

Jonathan Montgomery: Health Care Law, 2nd edition, New York, 2003

Department of Preventive Medicine

Subject: **PUBLIC HEALTH MEDICINE IV**
Year, semester: **3rd year/2nd semester**
Number of teaching hours: **60**
Lecture: **30**
Practical: **30**

TOPICS:

Clinical diagnosis
History, physical examination, investigations
Laboratory diagnosis, Imaging techniques, Functional tests.

Diseases of the circulatory system
Ischaemic heart disease, AMI, Hypertension and its complications, Thrombo-embolic diseases, Stroke

Haematological diseases
Anaemia, myeloproliferative diseases

Neoplasia
Breast, lung and throat cancers, Colorectal cancers, Cervical, uterine, and ovarian cancers, Stomach cancer, Prostate carcinoma, Cancers of the mouth, Kidney tumours, Scrotal tumours, Malignant haematologic diseases.

Diseases of the digestive system
Diseases of the stomach. Diseases of the liver, gall bladder and pancreas

Metabolic diseases
Diabetes, Hyperlipidaemia, Gout, Porphyria.

Diseases of the pulmonary system
Bronchial asthma, Chronic obstructive pulmonary disease.

Infectious diseases
Acute and chronic infectious diseases

Diseases of the musculoskeletal system
Bones, joint and muscular diseases (with emphasis on osteoporosis)

Endocrinological diseases

Diseases of the kidney

Neurological diseases

Psychiatry
Psychosis, schizophrenia, alcoholism, delirium.

Paediatric diseases

Dental diseases

The fundamentals of surgery
The operating theatre and surgical procedures

Compulsory literature:

McPhee, Stephen J.; Papadakis, Maxine A.; Tierney, Lawrence M.: Current Medical Diagnosis and Treatment 2008.

Department of Preventive Medicine

Subject: **FIELD AND LABORATORY PRACTICE I**
Year, semester: **3rd year/2nd semester**
Number of teaching hours: **180**
Practical: **180**

This course aims to equip students with the knowledge and skills to make valuable contributions to environmental health, food and nutrition , child and youth health, radiation and chemical safety, as well as communicable diseases, health promotion and health administration and management.

The course focuses on:

The health status of the population, risk factors and the analysis of them, risk assessment and prevention;
Effective public health rules: in the fields of enviromental health, radiation, chemical safety, food and nutrition;
Control of communicable diseases;
Laboratory methods of preventive medicine;
Health promotion activities to prevent diseases;
Health administration tasks;
Supervision of nursing, childhood care and pharmaceutics

Compulsory literature:

Maxey-Rosenau-Last Public Health and Preventive Medicine: Fifteenth Edition, 2007

Department of Family and Occupational Medicine

Subject: **CHILD AND ADOLESCENT HEALTH**
Year, semester: **3rd year/2nd semester**
Number of teaching hours: **30**
Lecture: **30**

1st week:

Lecture: Child health services: organisation and place in the health care system

2nd week:

Lecture: Child health services: tasks and activities

3rd week:

Lecture: Demographic, mortality and morbidity data regarding child health care

4th week:

Lecture: Development of healthy infants, children and adolescents

5th week:

Lecture: Primary prevention in infant age, childhood and adolescence

6th week:

Lecture: Childhood surveillance

7th week:

Lecture: Continuous care of children with chronic diseases

8th week:

Lecture: Complexity of health promotion: health education, health protection and prevention in childhood

9th week:

Lecture: Care of infants, children and adolescents with special needs

10th week:

Lecture: Infant feeding and nutrition in childhood and adolescence

11th week:

Lecture: Physical activity and physical education

12th week:

Lecture: Obesity and its consequences in childhood and adolescence

13th week:

Lecture: Smoking, alcohol an drug abuse in childhood and adolescence

14th week:

Lecture: Puberty, its disturbances and adolescents' sexuality

15th week:

Lecture: Psychological problems and harmful behaviours in adolescence

Compulsory literature:

Polnay L (ed): Community Paediatrics (Third edition) Elsevier, 2003.

Royal College of Paediatrics and Child Health: Strengthening of Care of Children in the Community: A Review of Community Child Health. RCPCH, 2001.
Hall DMB, Hill P, Elliman D: The child surveillance handbook (2nd ed.) Radcliff Med. Press, Oxford, 1999.

Recommended literature:

Cartlidge P (ed): Ethical, Legal and Social Aspects of Child Healthcare Elsevier, 2007.

Lissauer T, Clayden G: Illustrated textbook of Paediatrics (Chapter 1: The child in society; chapter 3: child development; chapter 11: Nutrition; chapter 21: Emotions and behaviour; chapter 26: The children with special needs) (2nd ed.) Mosby, 2001.

Overby KJ: Pediatric Health Supervision. In: Rudolf CD, Rudolf AM (eds): Rudolf's Pediatrics (21st ed.) McGraw Hill, 2003. pp. 1-53.

Requirements:

Attendance of lectures

Examination:

Oral exam, colloquium

Department of Preventive Medicine

Subject: **BASICS OF QUALITY ASSURANCE**
Year, semester: **3 rd year/2nd semester**
Number of teaching hours: **30**
Lecture: **15**
Seminar: **15**

1st week:

Lecture: Importance of quality management in healthcare, general definitions of quality, evolution of quality thinking;

2nd week:

Seminar: What quality means to me?

3rd week:

Lecture: Dimensions and structure of quality in healthcare, definition of criteria, standard, guideline, protocol, indicator;

4th week:

Seminar: Discussion of Donabedian model

5th week:

Lecture: Assessment of quality of healthcare services, types of audit;

6th week:

Seminar: Measurement of quality of healthcare by Donabedian model

7th week:

Lecture: Quality problems in healthcare

8th week:

Seminar: Prioritising quality problems

9th week:

Lecture: Quality improvement and quality tools;

10th week:

Seminar: Planning a quality improvement project

11th week:

Lecture: Importance of clinical effectiveness in the improvement of healthcare service; Steps of clinical effectiveness in the improvement of healthcare service;

12th week:

Lecture: Clinical audit

13th week:

Seminar: Planning of a clinical audit projects by teams

14th week:

Seminar: Presentation and discussion of quality improvement projects 1.

15th week:

Seminar: Presentation and discussion of quality improvement projects 2.

Compulsory literature:

Irvine,D., Irvine,S.(1966): The Practice of Quality. Radcliffe Medical Press.

Baker, R.H., Hearnshaw, H., Robertson, N. (1999): Implementing Change with Clinical Audit, Wiley.

Requirements:

Regular attending for the course
Presentation of a quality improvement project

Examination:

Written form

ACADEMIC PROGRAMME
FOR THE 4th YEAR
1st SEMESTER

Department of Preventive Medicine

Subject: **HEALTH PROMOTION**
Year, semester: **4st year/1st semester**
Number of teaching hours: **30**
Lecture: **10**
Practical: **20**

1st week:

History of public health and health promotion

2nd week:

International infrastructure of health promotion

3rd week:

Basics of communication

4th week:

Life course perspective of health: childhood as determinant of health

5th week:

Integrative model of health

6th week:

Self-knowledge, professional self-reflexion

7th week:

Changing health behavior 1: theories of behavior change

8th week:

Changing health behavior 2: health education by written material

9th week:

Changing health behavior 3: oral health education

10th week:

Community development

11th week:

Changing community behavior 1: Basics of project planning

12th week:

Changing community behavior 2: Practical: project planning

13th week:

Public health problems of disadvantaged groups

14th week:

Evidence-based policies to promote health in populations

15th week:

Presenting project plans, feedback session

Compulsory literature:

Student manual for health promotion. Faculty of Public Health, University of Debrecen
Ewles, L., Simnett, I.: Promoting health: a practical guide. Bailliere Tindall 2003.

Recommended literature:

Seedhouse, D.: Health: the foundations for achievement. Wiley-Blackwell, 2nd edition, 2001.

Requirements:

Attendance of the lectures is highly recommended.

Attendance of the seminars and practicals is obligatory and is a precondition of signing the lecture book. Maximum two absences are allowed in the semester, but absences from practicals must be made up for.

Examination:

Type of the exam: end-of-semester examination.

Form of exam:

Written exam (covers the topics of all lectures and seminars and the required literature). Evaluation: Fail /pass on a scale 1-5.

Individual oral presentation on a preselected topic. Evaluation: Fail /pass on a scale 1-5.

Group presentation of a project plan: Evaluation: Fail /pass on a scale 1-5 for all group members.

The final grade equals the mathematical average of the 3 sub-parts of the exam.

Department of Preventive Medicine

Subject: **NUTRITIONAL HEALTH AND FOOD SAFETY**
Year, semester: **4th year/1st semester**
Number of teaching hours: **45**
Lecture: **15**
Practical: **30**

1st week:

Lecture: Introduction to nutritional health

Seminar: Foods and nutrients. Food composition tables

2nd week:

Lecture: Nutrition and metabolism

Seminar: Food balance tables

3rd week:

Lecture: Energy and protein requirements
Seminar: Energy practical

4th week:

Lecture Nutritional surveys
Seminar: Food frequency questionnaires

5th week:

Lecture: Nutritional deficiency diseases

Seminar: Prevention of nutritional deficiency diseases. Program planning

6th week:

Lecture: Epidemiology of obesity

Seminar: Nutritional assessment. Anthropometric methods

7th week:

Lecture: Diet and cardiovascular diseases

Seminar: Diet and prevention of chronic diseases. Poster presentations

8th week:

Lecture: Diet and cancer

Seminar: Role of different foods and nutrients in health and disease. Student presentations 1.

9th week:

Lecture: Anticarcinogenic phytochemicals
Seminar: Role of different foods and nutrients in health and disease. Student presentations 2.

10th week:

Lecture: Dietary recommendations

Seminar: Role of different foods and nutrients in health and disease. Student presentations 3.

11th week:

Lecture: Food safety. HACCP.

Seminar: Food preservations. Food additives

12th week:

Lecture: Epidemiology of foodborne diseases

Seminar: Outbreak of foodborne disease. Case study.

13th week:

Lecture: Food allergy and intolerance

Seminar: Foodborne disease investigation. Food hygiene

14th week:

Lecture: Genetically modified foods

Seminar: Regulation and legislation related to food chain

15th week:

Lecture: Food choice
Seminar: consultation

Compulsory literature:
Lecture and seminar notes

Recommended literature:

Gibney MJ, Margetts BM, Kearney JM.eds. Public health nutrition. (Nutrition Society textbooks). Blackwell Publishing, 2004

Diet, nutrition and the prevention of chronic diseases. Report of a joint WHO/FAO expert consultation. WHO Technical Report Series. No 916. WHO, Geneva, 2003 (http://www.who.int/dietphysicalactivity/publications/trs916/en/)

From farm to fork. Safe food for Europe's consumers. European Communities. 2004 (http://ec.europa.eu/food/resources/publications_en.htm)

Requirements:

Attendance of lectures is not obligatory but highly recommended. Attendance of the group seminars and practices is obligatory.

Examination:

Written test, which assessed on five-grade scale.

Department of Agricultural, Environmental and Labor Law

Subject: **HEALTH CARE LAW III**
Year, semester: **4th year/1st semester**
Number of teaching hours: **30**
Lecture: **30**

1st week:

Lecture: Evolution of the welfare state and social service systems

2nd week:

Lecture: Health care as part of the social system

3rd week:

Lecture: Principles of the Social Security Act, system of benefits

4th week:

Lecture: Institutional social care and management

5th week:

Lecture: European Social Charter and its Rules

6th week:

Lecture: The evolution of social insurance systems

7th week:

Lecture: Forms of social insurance: health insurance; pension insurance

8th week:

Lecture: Accident insurance benefits in Hungary and in Western Europe

9th week:

Lecture: Health insurance benefits, the duration of the incapacity benefits (sick pay)

10th week:

Lecture: Health insurance benefits provided in nature

11th week:

Lecture: System of maternity benefits: maternity leave, childcare benefits, family support system, principles and concepts

12th week:

Lecture: Pension insurance systems in Western Europe

13th week:

Lecture: Forms of personal pension schemes, special rules of old-age and invalidity pension

14th week:

Lecture: Forms of dependent's pension schemes, the rules for Western European institutions

15th week:

Lecture: Special rules of private pension funds, principles and schemes

Recommended literature:

Jonathan Montgomery: Health Care Law, 2nd edition, New York, 2003

Department of Preventive Medicine

Subject: **FIELD AND LABORATORY PRACTICE II**
Year, semester: **4th year/1st semester**
Number of teaching hours: **180**
Practical: **180**

This course aims to equip students with the knowledge and and skills to make valuable contributions to environmental health, food and nutrition , child and youth health, radiation and chemical safety, as well as communicable diseases, health promotion and health administration and management.

The course focuses on:

The health status of the population, risk factors and the analysis of them, risk assessment and prevention;
Effective public health rules: in the fields of enviromental health, radiation, chemical safety, food and nutrition
Control of communicable diseases;
Laboratory methods of preventive medicine;
Health promotion activities to prevent diseases;
Health administration tasks
Supervision of nursing, childhood care and pharmaceutics;

Compulsory literature:

Maxey-Rosenau-Last Public Health and Preventive Medicine: Fifteenth Edition, 2007

2nd SEMESTER

Faculty of Public Health

Subject: **HEALTH SYSTEM MANAGEMENT**
Year, semester: **4th year/2nd semester**
Number of teaching hours: **30**
Lecture: **30**

1st week:

Lecture: The background of the Hungarian health system in the aspect of law. Basic definitions.

2nd week:

Lecture: The construction and the levels of the health system, its conditions of functions and obligations.

3rd week:

Lecture: The constitution of financing according to the sources (OEP, state support, own income or other sources) in health institutes.

4th week:

Lecture: The actual questions and the background of patient documentation according to the rules of law. The patient documentation system of the UDMHSC.

5th week:

Lecture: The basic rules of employing manpower in the health system.

6th week:

Lecture: The tools of human resource from recruitment to labour development.

7th week:

Lecture: Conflict management – amicable settlement of disputes during work.

8th week:

Lecture: Fame, reputation and image. The determination and the complex interpretation of the institute's image. Interdependace between image and PR. The tools of PR and PR in tools.

9th week:

Lecture: PR as Public Affairs, connection with the media and press, relations to the government, issue management/conflict management.

10th weeek:

Lecture: Effective communication in connection with tenders in the projects' preparatory, effectuative and later stages.

11th week:

Lecture: Tendering possibilities in public health nowadays.

12th week:

Lecture: Quality contol and quality assurance in health institutes (tasks and opportunities). Quality assurance as a supportive tool of decision preparation.

13th week:

Lecture: The social circumstances and the background of quality assurance in the aspect of law, profession and economy.

14th week:

Lecture: The estimation and the measurement of the level of health care nowadays.

15th week:

Lecture: Summary, Q & As, testing in a written form.

Compulsory literature:

Thomas Bodenheimer: Understanding Health Policy, Fifth Edition, 2008

James W. Henderson: Health Economics and Policy, 2008

Recommended literature:

Michael E. Porter: Redefining Health Care: Creating Value-Based Competition on Results, 2006

Peter Kongstvedt: Managed Care: What It Is and How It Works (Managed Health Care Handbook, Kongstvedt), 2008

Jonas and Kovner's Health Care Delivery in the United States: 9th Edition, 2008

Robert H. Lee: Economics for Healthcare Managers, Second Edition, 2009

Examination:

final examination

Form of examination:

The students are required to make an essay from a freely chosen topic in the field of health system management by using the literature they explore and elaborate on their own. The essay's volume is reqired to be 10.000-15.000 characters and has to be submitted by the 14th educational week.
With the agreement of the teacher correction of the mark is possible by making a new essay on a different topic.

Department of Agricultural, Environmental and Labor Law

Subject: **HEALTH CARE LAW IV**
Year, semester: **4th year/2nd semester**
Number of teaching hours: **30**
Lecture: **30**

1st week:

Lecture: The development of labour law, the appearance of civil service employment law

2nd week:

Lecture: Labour law principles, introductory provisions of the Code of Labour, the scope of the Act on Legal Status of Civil Servants

3rd week:

Lecture: Subjects and establishment of civil service legal relationship

4th week:

Lecture: Content of civil service legal relationship, fundamental rights and obligations

5th week:

Lecture: Carrier development of civil servants

6th week:

Lecture: Working time and rest time rules for the civil service

7th week:

Lecture: Remuneration of civil servants

8th week:

Lecture: Liability of civil servants, disciplinary liability

9th week:

Lecture: Civil servant's liability for damages

10th week:

Lecture: Employer's liability for damages

11th week:

Lecture: Termination of the civil service legal relationship 1

12th week:

Lecture: Termination of the civil service legal relationship 2

13th week:

Lecture: Civil service legal disputes

14th week:

Lecture: Special conditions of employment in the civil service

15th week

Lecture: The institutions of collective labour law

Recommended literature:

Jonathan Montgomery: Health Care Law, 2nd edition, New York, 2003

Department of Preventive Medicine

Subject: **FIELD AND LABORATORY PRACTICE III**
Year, semester: **4th year/2nd semester**
Number of teaching hours: **180**
Practical: **180**

This course aims to equip students with the knowledge and skills to make valuable contributions to environmental health, food and nutrition , child and youth health, radiation and chemical safety, as well as communicable diseases, health promotion and health administration and management.

The course focuses on:

The health status of the population, risk factors and the analysis of them, risk assessment and prevention;
Effective public health rules: in the fields of enviromental health, radiation, chemical safety, food and nutrition;
Control of communicable diseases;
Laboratory methods of preventive medicine;
Health promotion activities to prevent diseases;
Health administration tasks;
Supervision of nursing, childhood care and pharmaceutics

Compulsory literature:

Maxey-Rosenau-Last Public Health and Preventive Medicine: Fifteenth Edition, 2007

LIST OF TEXTBOOKS

1st year

Chemistry

Compulsory literature:

Chemistry, 5th edition, 2008, J. E. McMurry and R. C.Fay, Pearson Education, Inc. Pearson Prentice Hall

Organic and Bioorganic Chemistry for Medical Students, P. Gergely, 3rd edition, 2008, University of Debrecen, Medical and Health Science Center

Recommended literature:

Organic Chemistry for premedical students, F. Erdődi and C. Csortos, 2010, University of Debrecen, Medical and Health Science Center

Ecology

Compulsory literature:

All the topics of lectures and seminars.

Recommended literature:

Begon M., Townsend C.R., Harper J. L. (2006): Ecology: From Individuals to Ecosystems, 4th Edition, Blackwell Publishing Ltd.

Chapman J. L., Reiss M. J. (1992): Ecology: principles and applications. Cambridge University Press.

Smith R. L. (1996): Ecology and Field Biology, 5th Edition. HarperCollins College Publishers Inc.

Basics of informatics

Recommended literature:

Last release of studied software handbooks

Psyschology

Compulsory literature:

Nolen-Hoeksema, S., Fredrickson, B., Loftus, G. and Wagenaar, W.: Atkinson and Hilgard's Introduction to Psychology, 15th edition, Wadsworth Pub. Co, 2009

Recommended literature:

Hergenhahn, B. R.: An Introduction to the History of Psychology, Wadsworth Publishing, 2008

Segerstrale, U. and Molnár, P. (Eds): Nonverbal Communication: Where Nature Meets Culture, Lawrence Erlbaum Associates, Mahwah, NJ, 1997

Communication

Compulsory literature:

Pilling, János Medical Communication, Medicina Publishing House, Budapest, 2011 (in press)

Csabai, Márta and Molnár, Péter Health, illness and care, Springer, Budapest, 2000.

Recommended literature:

Segerstrale, Ullica and Molnár, Péter (Eds.) Non-verbal communication: Where nature meets culture Lawrence Erlbaum Associate, Mahwah, New Jersey, 1997.

Bioethics

Compulsory literature:

W. Glannon: Biomedical Ethics. Oxford UP, 2004

Recommended literature:

G. Gigerenzer: Reckoning With Risk. Penguin Books, 2003

N. Levy: Neuroethics. Cambridge University Press, 2007

First Aid

Compulsory literature:

Kindersley D.: First Aid Manual 9th revised edition, Dorling Kindersley Publishers Ltd, 2009

Recommended literature:

St. John Ambulance, St. Andrew's Ambulance Association, British Red Cross Society: First Aid Manual: The Step by Step Guide for Everyone, 9th edition, Penguin; 2009

Van de Velde S, et al: European first aid guidelines. Resuscitation, 72:240-51, 2007

Hungarian Language I

Compulsory literature:

Marschalkó Gabriella: Hungaro Lingua Basic 2010.

Introduction to Nursing and Clinical Medicine

Compulsory literature

Perry, A. G., Potter, P. A: Fundamentals of Nursing, 7th edition, Mosby, 2008

Bates' Guide to Physical Examination and History Taking, Tenth Edition, eds Lynn S. Bickley, MD Lippincott Williams & Wilkins, 2008.

Recommended literature:

Perry, A. G., Potter, P. A: Clinical Nursing Skills and Techniques, 7th edition, Mosby, 2008

Jarvis, C.: Physical Examination and Health Assessment, 5th edition, Saunders, 2007

Student Laboratory Manual for Physical Examination & Health Assessment, 5th edition, Saunders, 2007

Sociology

Compulsory literature:

Weitz, R.: The Sociology of Health, Illness, and Health Care: A Critical Approach 4th edition, Wadsworth Publishing, 2007

Recommended literature:

Denny, E., Earle, S.: Sociology for Nurses. Polity Press, 2005

http://www.sociologyofhealth.net

Introduction to Public Health

Compulsory literature:

R.J. Donaldson, L.J. Donaldson: Essential Public Health Medicine, Petroc Press; 2Rev Ed edition (Dec 2003)

Last JM: A dictionary of epidemiology Oxford University Press, 2001

Cell Biology

Compulsory literature:

Alberts et al.: Essential Cell Biology, 2nd edition, Garland Publ. Inc., 2004

Recommended literature:

Alberts et al.: Molecular Biology of Cells 5th edition Garland Publ. Inc., 2007

Medical Latin

Compulsory literature:

László Répás: Basics of Latin Medical Terminology, Debrecen, 2010

Recommended literature:

http://ilekt.med.unideb.hu

Basic Anatomy

Compulsory reading:

K.L. Moore and A.M.R. Agur: Essential Clinical Anatomy
2nd ed., Lippincott Williams and Wilkins, 2002, ISBN 0-7817-2830-4

D.H. Cormack: Essential Histology
2nd ed., Lippincott Williams and Wilkins, 2001, ISBN 0-7817-1668-3

T.W. Sadler: Langman's Medical Embryology
10th edition, Lippincott Williams & Wilkins Co., 2006, ISBN 0-7817-9485-4

Recommended literature:

Sobotta: Atlas of Human Anatomy 1-2

14th ed., Urban& Schwarzenberg, Munich, ISBN: 3-541-72721-7

Biostatistics

Compulsory literature:

The material of lectures and seminars

Recommended literature:

Kirkwood B, Sterne JAC. Essential medical statistics. Oxford, Blackwell Science 2006.

Health (& Library) Informatics I

Compulsory literature:

JC Parker, E Thorson: Health Communication in the New Media Landscape. Springer Publishing Company, Inc., 2008

Recommended literature:

T Greenhalgh: How to Read a Paper: The Basic of Evidence based medicine. 3rd edition, Blackwell Publishing Ltd, 2006

Genetics and Molecular Biology

Compulsory literature:

Daniel L. Hartl: Essential Genetics: A Genomics Perspective, 5th edition. Jones & Bartlett Publishers, 2009

Hungarian Language II

Compulsory reading:

Marschalkó Gabriella: Hungaro Lingua Basic 2010

Basics of Pedagogy

Compulsory literature:

Glanz, Rimer, Lewis eds. (2002): Health behavior and health education. Jossey-Bass, A Wiley Imprint, San Francisco.

Recommended literature

Jossey-Bass (2004): Dictionary of public health promotion and education. ISBN: 978-0-7879-7535-7.

Health Sociology

Compulsory literature

K. White: An Introduction to the Sociology of Health and Illness. Sage, London, 2002.

AM Barry, C. Yuill: Understanding the sociology of health: an introduction. Sage, 2nd rev. edition, 2008.

Recommended literature

C.G. Helman: Culture, health and illness. 5th edition, Hodder Arnold, London 2007.

W.C. Cockerham: The Blackwell Companion to Medical Sociology. Wiley-Blackwell, 2001.

2nd year

Introduction to Law I

Recommended literature:

David Kelly, Gary Slapper: Law: The Basics, 1th edition, 2011

Health (& Library) Informatics II

Compulsory literature:

JC Parker, E Thorson: Health Communication in the New Media Landscape. Springer Publishing Company, Inc., 2008

Recommended literature:

T Greenhalgh: How to Read a Paper: The Basic of Evidence based medicine. 3rd edition, Blackwell Publishing Ltd, 2006

Physiology

Compulsory literature:

Fonyó, A.: Principles of Medical Physiology. Medicina, 2002

West, J.B. (Ed.): Best and Taylor's Physiological Basis of Medical Practice, 12th edition. Williams & Wilkins, 1990

Recommended literature:

Berne, R. M., Levy, M. N., Koeppen, B. M., Stanton, B. A.: Physiology 5th edition, V.C. Mosby Co., 2005

Guyton, A. C., Hall, J. E.: Textbook of Medical Physiology 11th edition, W.B. Saunders Co., 2005

Health Psychology

Compulsory literature:

Csabai, M. and Molnar, P. Medical psychology and clinical health psychology, Medicina Publ. Co., Budapest, 2009.

Recommended literature:

Csabai, M. and Molnar, P. Health, illness and care, Springer, Budapest, 2000.

Basic Microbiology

Compulsory literature:

Levinson, W.: Review of Medical Microbiology and Immunology, 9th edition, McGraw-Hill Medical, 2006

Public Health Medicine I

Compulsory literature:

McPhee, Stephen J.; Papadakis, Maxine A.; Tierney, Lawrence M.: Current Medical Diagnosis and Treatment 2008.

Basic Epidemiology

Compulsory literature:

The material of lectures and seminars

Recommended literature:

Rothman KJ. Epidemiology. An introduction. Oxford University Press, New York, 2002

Woodward M. Epidemiology: Study design and data analysis. Chapman & Hall/CRC, Boca Raton, Florida, USA, 1999

Hennekens CH., Buring JE. Epidemiology in Medicine. Little, Brown and Company, Boston, Toronto, 1987

Introduction to law II

Recommended literature:

David Kelly, Gary Slapper: Law: The Basics, 1th edition, 2011

Biochemisty

Compulsory literature:

The lecture presentations with short explanations will be available in pdf format for download at the departmental web site (**http://bmbi.med.unideb.hu**) for the students.

Recommended literature:

Devlin, T. M. et al: Textbook of Biochemistry with Clinical Correlations, 6th edition. John Wiley and Sons, Inc., New York, 2005

Berg, J.M. et al: Biochemistry, 6th edition. Freeman and Co., New York, 2006

Environmental Health

Compulsory literature:

Moeller D. W.: Environmental Health, 3rd ed., Harvard University Press, London, 2005.

Recommended literature:

Frumkin H.: Environmental Health, 2nd ed., John Wiley & Sons, Inc., San Francisco, 2010.

Public Health Medicine II

Compulsory literature:

McPhee, Stephen J.; Papadakis, Maxine A.; Tierney, Lawrence M.: Current Medical Diagnosis and Treatment 2008.

Epidemiology of Communicable and Non-Communicable Diseases I

Compulsory literature:
Lecture and seminar material

Recommended literature:

Heyman DL (ed). Control of communicable diseases manual, 18th ed. Washington, DC, American Public Health Association, 2004.

Giesecke J. Modern infectious disease epidemiology. 2nd edition. London: Arnold. 2002.

Gregg MB. (ed) Field Epidemiology. 2nd edition. Oxford: Oxford University Press. 2002.

Webber R, Communicable disease epidemiology and control. A global perspective. 2nd edition. Wallingford: CABI Publishing, 2005.

3rd year

PHARMACOLOGY

Compulsory literature:

Katzung, B. G. (ed.): Basic and Clinical Pharmacology, McGraw Hill, 10th edition, 2007

Recommended literature:

Trevor, A. J., Katzung B. G., Masters S. B. (eds): Katzung & Trevor's Pharmacology: Examination & Board Review, 7th edition, McGraw Hill, 2005

BASICS IN HEALTH PROMOTION AND POLICY

Compulsory literature:

Stahl, T., Wismar, M., Ollila, E., Lahtinen, E., Leppo, K.: Health in all policies. Prospects and potentials. Ministry of

Social Affairs and Health, Helsinki, 2006. (Part 1, pages 3-38).

The Tallinn Charter: Health Systems for Health and Wealth, WHO, 2008. (5 pages)

The World Health Report 2008. Primary health care, now more than ever. WHO, 2008. Introduction and Overview. (14 pages)

Naidoo J., Wills J.: Health promotion. Foundations for practice. Bailliere Tindall 2000.

Ewles, L., Simnett, I.: Promoting health: a practical guide. Bailliere Tindall 2003.

Recommended literature:

Birkland T.: An introduction to the policy process. M.E.Sharpe, 2005

Buse, K., Mays, N., Walt, G.: Making health policy. Open University Press, 2005

Ewles, L., Simnett, I.: Promoting health: a practical guide. Bailliere Tindall 2003.

Kemm, J., Parry, J., Palmer, S.: Health Impact Assessment: Concepts, Theory, Techniques and Applications. Oxford: Oxford University Press, 2004.

Kingdon, J.W.: Agendas, alternatives and public policies, MA and Toronto: Little, Brown and Company. Boston, 1984.

Sabatier, P.A., (ed.): Theories of the policy process. Westview Press, Boulder, 2007.

Thomson, S., Foubister, T., Mossialos, E.: Financing health care in the European Union: Challenges and policy responses, European Observatory on Health Systems and Policies, WHO, 2009.

Seedhouse, D.: Health promotion. Philosophy, prejudice and practice. Wiley and Sons, 1997.

Bunton, R., Macdonald, G. (eds): Health Promotion. Disciplines, diversity, and developments. Routledge, 2002.

IMMUNOLOGY

Compulsory literature:

Parham, P.: The Immune System, 3rd edition, Garland Science, 2009

Recommended literature:

Janeway C. A. and Travers P: Immunobiology, 7th edition, Garland Science, 2008

Abbas A. K., Lichtmann A. H. and Pober S.: Cellular and molecular immunology, 4th edition W.B. Saunders Company, 2000

PUBLIC HEALTH MEDICINE III

Compulsory literature:

McPhee, Stephen J.; Papadakis, Maxine A.; Tierney, Lawrence M.: Current Medical Diagnosis and Treatment 2008.

EPIDEMIOLOGY OF COMMUNICABLE AND NON-COMMUNICABLE DISEASES II

Compulsory literature

Lecture and seminar material

Recommended literature:

Morrison: Screening in chronic disease, Oxford University Press, 1992.

Brownson, Remington, Davis: Chronic disease epidemiology and control. American Public Health Association, 1998

Mayor: Essential Evidenced-Based Medicine. Cambridge University Press; 2004.

Schottenfeld, Fraumeni: Cancer Epidemiology and Prevention, Oxford University Press, 2006

Weiss: Clinical Epidemiology, Oxford University Press, 2006

Marmot, Elliott: Coronary Heart Disease Epidemiology - From aetiology to public health, Oxford University Press, 2005

Narayan, Williams, Gregg, Cowie: Diabetes Public Health - From Data to Policy, Oxford University Press, 2010

OCCUPATIONAL HEALTH

Compulsory literature

University textbook (ed.:Balázs Ádám)

Lecture and seminar notes, syllabi

Recommended literature:

Raffe PAB, Adams PH, Baxter PJ, Lee WR: Hunter's Diseases of Occupation, 8th ed., London: Edward Arnold Publishers, 1994

Levy BS, Wegman DH: Occupational Health. 3rd ed, Boston: Little, Brown and Company, 1995

Stellman JM (ed): Encyclopaedia of Occupational Health and Safety. 4th ed, Geneva: ILO, 1998

HEALTH CARE LAW I

Recommended literature:

Jonathan Montgomery: Health Care Law, 2nd edition, New York, 2003

HEALTH CARE LAW II

Recommended literature:

Jonathan Montgomery: Health Care Law, 2nd edition, New York, 2003

PUBLIC HEALTH MEDICINE IV

Compulsory literature:

McPhee, Stephen J.; Papadakis, Maxine A.; Tierney, Lawrence M.: Current Medical Diagnosis and Treatment 2008.

FIELD AND LABORATORY PRACTICE I

Compulsory literature:

Maxey-Rosenau-Last Public Health and Preventive Medicine: Fifteenth Edition, 2007

CHILD AND ADOLESCENT HEALTH

Compulsory literature

Polnay L (ed): Community Paediatrics (Third edition) Elsevier, 2003.

Royal College of Paediatrics and Child Health: Strengthening of Care of Children in the Community: A Review of Community Child Health. RCPCH, 2001.

Hall DMB, Hill P, Elliman D: The child surveillance handbook (2nd ed.) Radcliff Med. Press, Oxford, 1999.

Recommended literature:

Cartlidge P (ed): Ethical, Legal and Social Aspects of Child Healthcare Elsevier, 2007.

Lissauer T, Clayden G: Illustrated textbook of Paediatrics (Chapter 1: The child in society; chapter 3: child development; chapter 11: Nutrition; chapter 21: Emotions and behaviour; chapter 26: The children with special needs) (2nd ed.) Mosby, 2001.

Overby KJ: Pediatric Health Supervision. In: Rudolf CD, Rudolf AM (eds): Rudolf's Pediatrics (21st ed.) McGraw Hill, 2003. pp. 1-53.

BASICS OF QUALITY ASSURANCE

Compulsory literature:

Irvine,D., Irvine,S.(1966): The Practice of Quality. Radcliffe Medical Press.

Baker, R.H., Hearnshaw, H., Robertson, N. (1999): Implementing Change with Clinical Audit, Wiley.

4th year

HEALTH PROMOTION

Compulsory literature:

Student manual for health promotion. Faculty of Public Health, University of Debrecen

Ewles, L., Simnett, I.: Promoting health: a practical guide. Bailliere Tindall 2003.

Recommended literature:

Seedhouse, D.: Health: the foundations for achievement. Wiley-Blackwell, 2nd edition, 2001.

NUTRITIONAL HEALTH AND FOOD SAFETY

Compulsory literature:

Lecture and seminar notes

Recommended literature:

Gibney MJ, Margetts BM, Kearney JM.eds. Public health nutrition. (Nutrition Society textbooks). Blackwell Publishing, 2004

Diet, nutrition and the prevention of chronic diseases. Report of a joint WHO/FAO expert consultation. WHO Technical Report Series. No 916. WHO, Geneva, 2003 (http://www.who.int/dietphysicalactivity/publications/trs916/en/)

From farm to fork. Safe food for Europe's consumers. European Communities. 2004 (http://ec.europa.eu/food/resources/publications_en.htm)

HEALTH CARE LAW III

Recommended literature:

Jonathan Montgomery: Health Care Law, 2nd edition, New York, 2003

FIELD AND LABORATORY PRACTICE II

Compulsory literature:

Maxey-Rosenau-Last Public Health and Preventive Medicine: Fifteenth Edition, 2007

HEALTH SYSTEM MANAGEMENT

Compulsory literature:

Thomas Bodenheimer: Understanding Health Policy, Fifth Edition, 2008

James W. Henderson: Health Economics and Policy, 2008

Recommended literature:

Michael E. Porter: Redefining Health Care: Creating Value-Based Competition on Results, 2006

Peter Kongstvedt: Managed Care: What It Is and How It Works (Managed Health Care Handbook, Kongstvedt), 2008

Jonas & Kovner's: Jonas and Kovner's Health Care Delivery in the United States: 9th Edition, 2008

Robert H. Lee: Economics for Healthcare Managers, Second Edition, 2009

HEALTH CARE LAW IV

Recommended Literature:

Jonathan Montgomery: Health Care Law, 2nd edition, New York, 2003

FIELD AND LABORATORY PRACTICE III

Compulsory literature:

Maxey-Rosenau-Last Public Health and Preventive Medicine: Fifteenth Edition, 2007

CHAPTER 6

REQUIRED ELECTIVE COURSES

Subject	Contact hours/semester			Credit	Assessment	Pre-requirement
	lecture	Practical/ *Seminar*	total			
1th semester						
Health Impact Assesment	9	6	15	1	AW5	
Environmental Protection	15		15	1	AW5	
Clinical Audit	8	6	14	1	AW5	
Internet in Medicine	20		20	2	AW5	
Applied epidemiology		30	30	3	ESE	
Introduction to the general laboratory practice		15	15	1	AW5	Chemistry, Biochemistry
Basics of research methodology	15	15	30	3	ESE	-
Narrative case studies	7	7	14	1	AW5	
Mathematical basics of biostatistics	15	30	45	4	ESE	
Modern morphological methods and possible applications	22	8	30	3	ESE	Genetics, Cell biology

Department of Preventive Medicine

Subject: **HEALTH IMPACT ASSESSMENT**
Number of teaching hours: **15**
Lecture: **9**
Practical/Seminar: **6**

1st week:

Lecture: Introduction into impact assessments

2nd week:

Lecture: Regulatory, environmental and social impact assessment

3rd week:

Lecture: History of health impact assessment (HIA)

4th week:

Lecture: International organizations, regulatory background of HIA (WHO, EU, World Bank)

5th week:

Lecture: Health impact assessment activities in countries

6th week:

Lecture: History and legal background of HIA in Hungary

7th week:

Lecture: General characteristics and types of HIA (rapid, intermediate, comprehensive)

8th week:

Lecture: Methodology of HIA (process, phases)

9th week:

Practical: Screening

10th week:

Practical: Data sources

11th week:

Practical: Quantitative risk assessment I

12th week:

Practical: Quantitative risk assessment II

13th week:

Lecture: Use of health impact assessment results in decision making

14th week:

Seminar: HIA case studies I (seminar)

15th week:

Seminar: HIA case studies II (seminar)

Compulsory literature: Lecture and seminar notes

Recommended literature: Institute of Public Health in Ireland: Health Impact Assessment: a practical guidance, Dublin: IPHI, 2003

Requirements: Maximum two absences from seminars are allowed.

Examination: The subject ends with a written exam assessing knowledge taught on lectures and seminars. To pass, students are required to give correct answers to at least 50% of the 10 multiple choice and 10 short open questions.

Department of Preventive Medicine

Subject: **ENVIRONMENTAL PROTECTION**
Number of teaching hours: **15**
Lecture: **15**

1st week:

Lecture: Human impacts on the Biosphere. Examination of global environmental problems.

2nd week:

Lecture: The main International Conferences on the Protection of the Environment from Stockholm to present days. Their results and decisions. Scope and definition of sustainable development. Structure and contents of Agenda 21.

3rd week:

Lecture: Composition and structure of the Earth's Atmosphere. Air pollution. Main pollutants and sources. Air Quality Index (AQI). Indoor air quality. Sulphurous- and photochemical smog. Different preventions of air pollution.

4th week:

Lecture: Temperature changes. External forcings (greenhouse gases; aerosols and soot; solar variation). Climate models and effects of recent climate change. Responses to global warming (mitigation, adaptation, UNFCCC).

5th week:

Lecture: Emissions of chemicals leading to acidification. Acid deposition. Adverse effects of acid precipitation. Affected areas. Prevention methods.

6th week:

Lecture: Identification of ozone. The history and importance of the Ozone Layer. Ozone cycle overview. The ozone hole and its causes. Consequences of ozone layer depletion.

7th week:

Lecture: Radioactive substances in the environment. Natural and artificial radiation sources. Nuclear power. Nuclear and radiation accidents - Chernobyl disaster. The biological effects of radioactive contamination.

8th week:

Lecture: Renewable energy technologies: wind power; hydropower; solar energy; biomass; geothermal energy.

9th week:

Lecture: Water pollution categories. Principal sources of water pollution. Adverse effects. Cultural eutrophication. Measurement and control of water pollution.

10th week:

Lecture: Labelling of fertilizers. Types of fertilizer. Comparison organic with inorganic fertilizers. Environmental effects of fertilizer use.

11th week:

Lecture: Definition of pesticide. Classification. Uses and regulations of pesticides. Accidents, environmental- and health effects. Biological pesticides.

12th week:

Lecture: History of agriculture (ancient origins; middle ages; modern era - Green Revolution). Crop production systems. Animal production systems. Crop alteration and biotechnology. Environmental impacts of intensive farming.

13th week:

Lecture: Waste types (state, source, environmental threats). Composition of waste. The major problems caused by waste production. **Lecture:** Waste management (prevention and waste minimisation; reuse and recycling; methods of disposal). EU Waste Management Policy.

14th week:

Lecture: Concept of sound. Sound pressure level, frequency, and propagation. The acoustic environment. Heath effects of noise. Noise control.

15th week:

Lecture: Definition of biological indicator. Plant, animal and microbial indicators and chemical pollutants. Indicator systems and communication with them.

Compulsory and recommended literature:

All the topics of lectures.

Recommended literature:

Carson R.: Silent Spring. First Mariner Books edition, New York, (2002).

Lynas M.: Six Degrees: Our Future on a Hotter Planet. Fourth Estate, (2007).

Peirce J., Weiner R.F., Vesilind P.A.: Environmental Pollution and Control, Fourth Edition. Butterworth-Heinemann, (1998).

Straalen N. M., Krivolutsky D.A.: Bioindicator systems for soil pollution. Kluwer Academic Publishers, Dordrecht, (1996).

Young M.: Garbage and Recycling: Opposing Viewpoints. Greenhaven Press, (2007).

Requirements:

Concerning attendance, the rules written in the Regulations Governing Admission, Education and Examinations of the University are valid.

Examination:

At the end of the semester students are required to take a Final Exam. The exam includes 30 single- and multiple choice test questions (30 x 2 points). The control tests, including the topics of the lectures, will given during the semester.

Tests will be assessed as follows:

Percentage (%)	Mark
0-50	fail (1)
51- 59	pass (2)
60-69	satisfactory (3)
70- 79	good (4)
80-100	excellent (5)

The maximum score is 100% and the examination takes 60 minutes.

Department of Preventive Medicine

Subject: **CLINICAL AUDIT**
Number of teaching hours: **14**
Lecture: **8**
Seminars: **6**

1st week:

Lecture: Importance of clinical audit

2nd week:

Lecture: Steps of clinical audit

3rd week:

Lecture: Quality indicators

4th week:

Seminar: Planning of clinical audit projects by teams

5th week:

Seminar: Presentation and discussion of clinical audit projects by teams 1.

6th week:

Seminar: Presentation and discussion of clinical audit projects by teams 2.

Compulsory literature

Baker, R.H., Hearnshaw, H., Robertson, N. (1999): Implementing Change with Clinical Audit, Wiley.

Requirements:

Regular attending for the course

Presentation of the clinical audit project

Examination:

Written form

Department of Preventive Medicine

Subject: **INTERNET IN MEDICINE**
Number of teaching hours: **20**
Lecture: **20**

1st week:

Lecture: What does web 2.0 mean?
Web 2.0 in medicine: Introduction

2nd week:

Lecture: The medical blogosphere
From the first comment to blog carnivals: Step by step

3rd week:

Lecture: Being up-to-date with RSS
Microblogging in medicine: Twitter and Friendfeed

4th week:

Lecture: Everything you have to know about Wikipedia
Medical wikis

5th week:

Lecture: Medical communities: online
E-Patients on the web

6th week:

Lecture: Second Life: Virtual medicine I.
Second Life: Virtual medicine II.

7th week:

Lecture: Medical practices on the web
Education online: medical resources

8th week:

Lecture: Podcasts and medical videos
A new way of collaboration: Google Docs

9th week:

Lecture: Medical search engines
The Google phenomenon

10th week:

Lecture: The dangers of web 2.0
Future: is there a web 3.0?

Compulsory literature:

http://www.med20course.com

Requirements:

Two questionnaires must be filled in.

Division of Biostatistics and Epidemiology

Subject: **APPLIED EPIDEMIOLOGY**
Number of teaching hours: **30**
Practical/Seminar: **30**

1st week:

Practical/Seminar: Evolution of epidemiological methods

2nd week:

Practical/Seminar: Experimental and observational approaches

3rd week:

Practical/Seminar: Defining study questions

4th week:

Practical/Seminar: Model preparation

5th week:

Practical/Seminar: Most frequently used study designs

6th week:

Practical/Seminar: Statistical inference

7th week:

Practical/Seminar: Statistics in epidemiology (95% confidence interval)

8th week:

Practical/Seminar: Statistics in epidemiology (t-test, chi-square test, ANOVA)

9th week:

Practical/Seminar: Statistics in epidemiology (risk/odds ratio, Mantel-Haenszel odds ratio)

10th week:

Practical/Seminar: Statistics in epidemiology (linear, logistic and Cox regression)

11th week:

Practical/Seminar: Statistics in epidemiology (standardization)

12th week:

Practical/Seminar: Evaluating validity (confounding factors)

13th week:

Practical/Seminar: Evaluating validity (selection bias)

14th week:

Practical/Seminar: Evaluating validity (measurment bias)

15th week:

Practical/Seminar: Answering study question and practical conclusions

Compulsory literature:

R. Beaglehole, R. Bonita and T. Kjellström: Basic epidemiology. Geneva : World Health Organization, 1993

Requirements:

Evaluation of presented project work has to reach at least the satisfactory (2) level.

Examination:

Term mark (assessment of work, 5-grade)

Department of Preventive Medicine

Subject: **INTRODUCTION TO THE GENERAL LABORATORY PRACTICE**
Number of teaching hours: **15**
Practical/Seminar: **15**

1st week:

Lecture: Safety precautions in the laboratory

2nd week:

Seminar: Glassware used in the laboratory

3rd week:

Seminar: Cleaning glassware

4th week:

Seminar: Equipments used in the cell culture

5th week:

Seminar: Volumetric flasks used in the laboratory

6th week:

Seminar: Pipettes and pipettors used in the laboratory

7th week:

Seminar: Types of balances used in the laboratory

8th week:

Practical: Calibration of pipettors

9th week:

Seminar: Measurement of pH

10th week:

Practical: Calibration of pH meters

11th week:

Seminar: Buffers used in the laboratory

12th week:

Seminar: Types of solutions used in the laboratory

13th week:

Seminar: Types of centrifuges used in the laboratory

14th week:

Seminar: Spectrophotometric measurements

15th week:

Practical: Spectrophotometric determination of protein concentration

Compulsory literature:

Handouts provided by the module coordinator

Recommended literature:

Coyne G. S.: The laboratory companion. A practical guide to materials, equipments and technique. John Wiley & Sons, Inc., New York, 2005.

Holum J. R., Olmsted S. R.: Laboratory manual. Elements of general, organic and biological chemistry. 9th ed., John Wiley & Sons, Inc., New York, 2008.

Requirements:

Attendance of the seminars and laboratory practices is obligatory. The module coordinator can refuse to sign the lecture book if a student is absent more than twice from seminars and practices in the semester even if he/she has an acceptable excuse.

Examination:

At the end of the course students are required to take a written exam consisting of multiple choice test questions. The test covers the topics of the seminars and practices. If the test is graded unsatisfactory students should repeat the exam.

Department of Preventive Medicine

Subject: **BASICS OF RESEARCH METHODOLOGY**
Number of teaching hours: **30**
Lecture: **15**
Practical/Seminar: **15**

1st week:

The principles of scientific inquiry. Validity, reliability, precision of research

2nd week:

Ethics of science

3rd week:

Types of scientific research

4th week:

Methods of quantitative research 1

5th week:

Methods of quantitative research 2

6th week:

Methods of qualitative research

7th week:

Orientation in the scientific literature 1

8th week:

Orientation in the scientific literature 2

9th week:

Data sources

10th week:

Measures of occurrence and association

11th week:

Designing a scientific inquiry (study design)

12th week:

Data storage, processing, and analysis

13th week:

Interpreting results

14th week:

Presenting results 1

15th week:

Presenting results 2

Compulsory literature:

Basics of research methodology - course notes for students

Recommended literature:

WMK Trochim: Research methods knowledge base, 2006.http://www.socialresearchmethods.net/kb/contents.php

Health research methodology. A Guide for Training in Research Methods. WHO Regional Office for the Western Pacific, 2001. http://www.wpro.who.int/NR/rdonlyres/3418F27F-60F0-42F3-9409-852F47E09DEF/0/Health_research_edited.pdf

Department of Behavioural Sciences

Subject: **NARRATIVE CASE STUDIES**
Number of teaching hours: **14**
Lecture: **7**
Practical: **7**

1st week:

Lecture : Introduction to qualitative research methodology

Lecture: :Role of case studies in research

2nd week:

Lecture: Investigating subjective reflections

Lecture: Narrative based methods

3rd week:

Practical: Interview-1

Practical: Interview-2

4th week:

Practical: Interview-3

Practical: Interview-4

5th week:

Practical: Preparation of written documentation-1

Practical: Preparation of written documentation-2

6th week:

Lecture: Presentation and discussion of students projects-1 (L5)

Practical: Preparation of written documentation-3

7th week:

Lecture: Pentation and discussion of students projects-2

Lecture: Presentation and discussion of students projects-3

Compulsory literature:

Arthur Kleinman: The illness narratives. Basic Books. Inc. 1988.

J. Launer: Narrative based medicine.

Requirements, evaluation:

Evaluation of presented project work has to reach at least the satisfactory (2) level. Term mark (assessment of work, 5-grade)

Department of Preventive Medicine

Subject: **MATHEMATICAL BASICS OF BIOSTATISTICS**
Number of teaching hours: **45**
Lecture: **15**
Practical/Seminar: **30**

1 st week:

Lecture: Mathematical notation, formulas, operations

Seminar: Mathematical notation, formulas, operations

2nd week:

Lecture: Equations, inequalities

Seminar: Equations, inequalities

3rd week:

Lecture: The concept of sets, set operations

Seminar: The concept of sets, set operations

4th week:

Lecture: Combinatorics

Seminar: Combinatorics

5th week:

Lecture: Relations, functions

Seminar: Relations, functions

6th week:

Lecture: Number sequences and series

Seminar: Number sequences and series

7th week:

Lecture: The concept of limit

Seminar: The concept of limit

8th week:

Lecture: Calculus

Seminar: Calculus

9th week:

Lecture: Mathematical investigation of functions

Seminar: Mathematical investigation of functions

10th weeek:

Lecture: Basic concepts of probability

Seminar: Basic concepts of probability

11th week:

Lecture: Classical probability

Seminar: Classical probability

12th week:

Lecture: The mathematical concept of probability

Seminar: The mathematical concept of probability

13th week:

Lecture: Total probability theorem, Bayes' theorem

Seminar: Total probability theorem, Bayes' theorem

14th week:

Lecture: Random variables, expected value, standard deviation

Seminar: Random variables, expected value, standard deviation

15th week:

Lecture: Probability distributions

Seminar: Probability distributions

Compulsory literature:

The material of lectures and seminars

Requirements:

Participation in seminars is obligatory. In the case of more than two absences signature is refused. During the course a practical mark will be given to the students on the base of classroom tasks and homework.

Examination:

The course is assessed with a written test at the end. The grade of the colloquium is the average of the practical mark and the exam mark.

Department of Preventive Medicine

Subject: **MODERN MORPHOLOGICAL METHODS AND POSSIBLE APPLICATONS**
Number of teaching hours: **30**
Seminar: **22**
Practical: **8**

1st week:

Introduction into molecular morphological methods The history of microscopy. The structure of microscopes.

2nd week:

Fluorescent dyes in morphological techniques. Fluorescent and confocal microscopes, advantage of confocal microscopes. Confocal microscope. Practice for small group.

3rd week:

The history of cytogenetics and in situ hybridization. Basics and practical aspects of in situ hybridization. Generation of FISH PROBES. FISH on tissue sections and on cell preparations.

4th week:

Application of FISH. Detection of translocation of chromosome segments using whole chromosome painting probes. Detection of gene amplification in interphase tumor cells with locus specific DNA probes different fluorochromes for chromosome analysis. Clinical application of FISH.

5th week:

FISH in the research laboratory. Practice, protocol demonstration for small groups.

6th week:

Methods for the search of genome alterations. The fundamentals of comparative genomic hybridization. Array comparative genomic hybridization. The use of array CGH in the diagnosis of cancer. DNA chips. Detection of genetic alterations in different diseases.

7th week:

Epigenetic alteratioons and diseases.

8th week:

The underlying principles of conventional immmunohistochemical methods. Immunohistochemical reactions on paraffin embedded and on frozen tissue sections, multiple labeling (fluorescent and enzymatic). Simultaneous detection of genetic alteration and protein expression (combination of FISH and immunochystochemical methods, demonstration).

9th week:

Principle of laser microdissection. The structure of the laser microdissection module. Sample preparation, mounting histological sections.

10th week:

Laser microdissection. Practice for small groups.

11th week:

Polymerase chain reaction. Basic priciple and use in research and diagnosis.

12th week:

PCR instrument. Practice for small groups.

13th week:

Basic principle of microgel electrophoretic technique for the detection of DNA strand breaks and repair. Fluorescence

microscopic demonstration of the digital image analysis software for the evaluation of comet assay images.

14th week:

Application of comet assay. Demonstration of comet assay. Practice for small groups.

15th week:

Summary and consultation. Pre-exam test.

Recommended literature:

http://www.pcrlinks.com/generalities/introduction.htm

Pinkel D., Albertson DG., Comparative genomic hybridization. Annual Review of Genomics and Human Genetics, 2005; 6: 331-54.

Faust F, Kassie F, Knasmüller S, Boedecker RH, Mann M. and Mersch-Sundermann V. The use of the alkaline comet assay with lymphocytes in human biomonitoring studies Mutat Res. 2004;566(3):209-29.

Player A, Barrett JC, Kawasaki ES. Laser capture microdissection, microarrays and the precise definition of a cancer cell. Expert Rev Mol Diagn. 2004;4(6):831-40.

Feuk L, et al. (Structural variation in the human genome. Nat Rev Genet. 2006;7(2):85-97.
http://microscopy.unc.edu/Resources/Leica-lmd/Application_Letter_Microdissection.pdf

Course description:

Molecular biology and biomedical research have recently experienced a revolutionary change with the development of new methods. The aim of the course is to introduce students into these new technical approaches that are used at the field of environmental health and molecular medicine and research. During the lectures, we will discuss the basics of the methods in details and highlight the possible applications at different fields. The course will help the students to join the scientific work at the University and understand the principal of the modern molecular techniques (e.g. microscopy, polymerase chain reaction, comet assay and fluorescence in situ hybridization).

Prerequisite:

Genetics and cell biology

Requirements:

Attendance on lectures and seminars are recommended since the topics in examination will cover the topic of lectures. The signature of the lecture book may be refused for the semester int he cases of absences from more than two practices or lectures. Student who do not attend on lectures and seminars are not allowed to write th epre-exam test. Depending ont he result of the test the final mark will be offered.

Examination:

At the end of the semester students will be examined (end-semester-exam: ESE). The form of examination is a written form. Evaluation of the written test is assessed on a fivegrade scale.

CHAPTER 7
TITLES OF THESES

Department of Preventive Medicine

1. The use of Molecular genetic techniques for the detection of genom alterations in malignant diseases (review the literature)
2. Mental health of university students
3. Improve the mental health of university students
4. Living conditions and health among vulnerable people
5. Mental health of students
6. Health policy analysises of Public Health Programmes
7. Health impact assessment of development policies
8. Evaluation of foreign aid for the health sector in medium and low income countries
9. Prevalence of type 2 diabetes (specific region)
10. Monitoring type 2 diabetes design strategies

Department of Physiotherapy

11. Clinical effects of pulsed magnetic fields in osteoarthritis of the knee
12. The efficacy of lumbar traction in the treatment of low back pain (LBP)

Department of Behavioural Sciences

13. Computer based rehabilitation methods
14. Music Therapy in Medicine
15. Is paternalism ethically acceptable in public health care?
16. The attitude of Hungarian people to ethnical relevant questions
17. The ethics of medical communication in the age of the Internet
18. Cross-cultural differences in the ethics of public health care
19. Body in medicine (cultural anthropological approach)
20. Woman in medicine (cultural anthropological approach)
21. Psychoanalysis and medicine
22. Sandor Ferenczi's diary and the philosophy of doctor-patient relationship
23. The changing image of human being in Western medicine
24. Medicalization and its social-cultural context
25. Changing concept of disease
26. The traits of modern Western culture that make people ill

Department of Family and Occupational Health

27. Primary prevention in primary child care
28. Screening in child care methods
29. Prevention of cardiovascular diseases
30. Obesity and its consequences in childhood and adolescence
31. Metabolic syndrome in childhood and adolescence
32. Nutritional factors in prevention and development of diseases
33. The roles of physical activity in disease prevention
34. Psychological disturbances in adolescence
35. Adolescents' sexuality
36. Smoking in childhood and adolescence
37. Alcohol and drug in childhood and adolescence