

**BULLETIN**

**UNIVERSITY OF DEBRECEN**

**ACADEMIC YEAR 2017-2018**

**FACULTY OF PUBLIC HEALTH**

**BSc in Public Health**

**EDUCATIONAL OFFICE FACULTY OF PUBLIC HEALTH**

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## CHAPTER 1 INTRODUCTION

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The aim of the University of Debrecen is to become a university of medical sciences committed to the prevention and restoration of health of the people, not only in its region but in the entire country.

In the past two decades both medical science and health care have entered a new era: the medical science of the 21st century. Molecular medicine is opening up and new possibilities are available for the diagnosis, prevention, prediction and treatment of the diseases. One can witness such a progress in medical sciences that has never been seen before. Modern attitudes in health care should be enforced in practice, including therapeutical approaches that consider the explanation and possible prevention of diseases, and attempt to comprehend and take the human personality into consideration. These approaches demand the application of the most modern techniques in all fields of the medical education.

All curricula wish to meet the challenges of 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.

With respect to education, both students and teachers are inspired to acquire higher levels of professionalism, precision, and problem solving skills, upon which the foundations of specialist training and independent medical practice can be built. This approach enables the assimilation of new scientific developments, facilitating further education and the continuous expansion of knowledge. The interplay of these factors ensures the ability to understand and handle the changing demands of health care.

With respect to research, the faculty members 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 the health of the society is also absorbed. The University of Debrecen is already internationally recognized in the fields of both basic and clinical research, and the clinicians and scientists of the University are determined to preserve this achievement. Special attention is given to facilitate and support the close co-operation of researchers representing basic science and clinical research, and/or interdisciplinary studies.

With respect to therapeutic practice, the main objective is to provide high quality, effective, up to date and much devoted health care to all members of the society, showing an example for other medical institutions in Hungary. One of the primary tasks is to continuously improve the actual standards of the diagnostic and therapeutic procedures and techniques, and to establish regional or even nationwide protocols.

With respect to serving the community, all faculty members wish to play a central role in shaping the policies of the health service; both within the region and in Hungary. They also want to ensure that sufficient number of medical doctors, dentists and other health care experts with university education is provided for the society.

With respect to the development, all employees strive for reinforcing those features and skills of the lecturers, scientists, medical doctors, health care professionals, collaborators and students which are of vital importance in meeting the challenges of medical education, research and therapy of the 21st century. These include humanity, empathy, social sensitivity, team-spirit, creativity, professionalism, independence, critical and innovative thinking, co-operation and management.

The organizational structure, including the multi-faculty construction of the institution, is a constantly improving, colourful educational environment, in which co-operation is manifest between the individual faculties and colleges, the various postgraduate programs as well as the

molecular- and medical biology educations.

## 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 State University of Debrecen 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 buildings of the campus.
- 1944: Although during the Second World War, Debrecen became the capital of Hungary again (for 100 days), the University itself is abandoned for a while.
- 1949: The only year when the University has five faculties.
- 1950: The Faculty of Law idles; 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 “University of Debrecen” with all the relevant faculties and with some 20,000 students.

Debrecen is the traditional economic and cultural centre 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 of approximately a quarter of a million, it is the second largest city in Hungary.

Debrecen is a unique city: although it has no mountains and rivers, its natural environment is rather interesting. One of the main attractions and places of natural uniqueness in Hungary is Hortobágy National Park, known as “puszta” (“plain”), which begins just in 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”), which is a popular holiday resort. Besides a number of cultural and tourist establishments, luxurious thermal baths and spas, Nagyerdő accommodates the University 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, initially having four faculties (Faculties of Arts, Law, Medicine and Theology). The University was officially inaugurated by King Charles IV of Hungary on October 23rd, 1918.

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

The special training of dentists began in 1976. 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 Ph.D. programs were also launched. Several new programs (e.g. the training of molecular biologists, pharmacists, general practitioners) were commenced in the '90s. The Faculty of Public Health was established in 1999, while the Faculty of Dentistry was founded in 2000.

#### *Education at the University of Debrecen*

Debrecen, the second largest city of Hungary, is situated in Eastern Hungary. Students enrolled in the various programs (e.g. Medicine, Dentistry, Pharmacy, Public Health, Molecular Biology, etc.) study on a beautiful campus situated in the area called "Great Forest".

The Hungarian Government gives major priorities to the higher education of health sciences in its higher education policy. One of these priorities is to increase the ratio of college level training forms within the Hungarian higher education system. The governmental policy wishes to implement conditions in 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 Centre within the Federation of Debrecen Universities (DESZ), based partially on the intellectual resources of the University of Debrecen. The new programs – with specialized training for paramedics – will help to correct the balance of the Hungarian labor-market that became rather unsettled in the past few decades.

The Act of Higher Education (1993) has restored the rights of the medical universities to award postgraduate degrees and residency, and permission was also given 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 commenced in 1999.

The introduction of the credit system, starting in September 2003, has been mandatory in every Hungarian university, helping the quantitative and qualitative evaluation of the students' achievements. Admission requirements for Hungarian students are defined at national level, and they are applicable for every student wishing to be enrolled into the Medicine or Dentistry programs.

International students must pass an entrance exam in biology and (depending on their preference) in physics or chemistry. In some special cases it may be possible for the candidates to apply for transfer to higher years on the basis of their previous studies and achievements. International students study in English language. Entrance for certain courses of the Health College is also possible on the basis of a special evaluation (scoring) and an entrance interview.

The syllabuses and classes of all courses correspond to European standards. The total number of contact hours in medical education is over 5,500, which can be divided into three main parts: basic theoretical training (1st and 2nd year), pre-clinical subjects (3rd year) and clinical subjects (4th and 5th year) followed by the internship (6th year). The proportion of the theoretical and practical classes is 30% to 70%; whereas the students/instructors ratio is about 8/1. The first two years of dentistry education are similar to the medicine program, but the former contains a basic dental training that is followed by a three-year-long pre-clinical and clinical training. Besides the medicine and dentistry programs, there are several other courses also available, including molecular biology. The various Health College courses include more and more new curricula.

The Medicine program delivered in English and intended for international students was commenced in 1987; whereas the Dentistry and Pharmacy programs for international students started in 2000 and 2004, respectively. The curriculum of the English language Medicine program meets all the requirements prescribed by the European medical curriculum, which was outlined in 1993 by the Association of Medical Schools in Europe. Compared to the Hungarian program, the most

important differences are:

- Hungarian language is taught,
- More emphasis is laid upon the tropical infectious diseases (as parts of the “Internal Medicine” and “Hygiene and Epidemiology” courses).

Otherwise, the English language curriculum is identical with the Hungarian one. The 6th year of the curriculum is the internship that includes Internal Medicine, Pediatrics, Surgery, Obstetrics and Gynecology, Neurology, and Psychiatry. The completion of these subjects takes at least 47 weeks, although students are allowed to finish them within a 24-month-long period. The successfully completed internship is followed by the Hungarian National Board Examination. Just like the rest of the courses, the internship is also identical in the Hungarian and English programs.

A one-year-long premedical (Basic Medicine) course, which serves as a foundation year, is recommended for those 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 lasts for three years. If interested, outstanding graduates of the English General Medicine and Dentistry programs may join these PhD courses (“English PhD-program”). Special education for general practitioners has been recently started and a new system is in preparation now for the training of licensed physicians in Debrecen.

The accredited PhD programs include the following topics:

- 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 led by more than 100 accredited, highly qualified coordinators and tutors.

#### *Medical Activity at the Faculty of Medicine*

The Faculty of Medicine is not only the second largest medical school in Hungary, but it is also one of the largest Hungarian hospitals, consisting of 49 departments; including 18 different clinical departments with more than 1,800 beds. It 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.

The Kenézy Gyula County Hospital (with some 1,400 beds) is strongly affiliated with the University of Debrecen and plays an important role in teaching the practical aspects of medicine. There are also close contacts between the University and other health care institutions, mainly (but not exclusively) in its closer region. The University of Debrecen has a Teaching Hospital Network consisting of 19 hospitals in Israel, Japan and South Korea.

It is also of importance that the University of Debrecen has a particularly fruitful collaboration with the Nuclear Research Institute of the Hungarian Academy of Sciences in Debrecen, allowing the coordination of all activities that involve the use of their cyclotron in conjunction with various

diagnostic and therapeutic procedures (e.g. Positron Emission Tomography 'PET').

#### *Scientific Research at the Faculty of Medicine*

Scientific research is performed both at the departments for basic sciences and at the laboratories of clinical departments. The faculty members publish about 600 scientific papers every year in international scientific journals. According to the scientometric data, the Faculty 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 are Biophysics, Biochemistry, Cell Biology, Immunology, Experimental and Clinical Oncology, Hematology, Neurobiology, Molecular Biology, Neurology, and Physiology. The scientific exchange program involves numerous foreign universities and a large proportion of the 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 and the Department of Behavioral Sciences of the University of Debrecen.

Becoming an independent faculty of the University of Debrecen (presently uniting 15 different faculties) was preceded by a 10-year period of development. Establishment and launching of 5 different postgraduate and one graduate training programs as well as the establishment of a doctoral program were carried out by the teaching staff of the faculty with the effective support of the University of Debrecen. As a result of these efforts the Faculty became a unique, internationally recognized and competitive training center in Hungary. According to the Bologna process the Faculty has established and from 2006 and 2007 launched its bachelor and master training programs in the field of public health and health sciences. With its 3 bachelor, 5 master training programs and 6 postgraduate courses, the Faculty of Public Health offers a rich variety of learning experience at present. There are two doctoral programs available since 2009.

Close cooperation with several faculties of the University of Debrecen guided the process of becoming a faculty, and the Faculty also became an internationally recognized 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 Health Management and Quality Assurance  
Department of Hospital Hygiene and Infection Control  
Department of Physiotherapy  
School of Public Health (as postgraduate training centre)



## MISSION OF THE FACULTY OF PUBLIC HEALTH

The mission of the Faculty of Public Health of the University of Debrecen as the centre of public health education in Hungary is to improve health of the population by developing and maintaining high- and internationally recognized quality training programs, 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 organizes and carries out its training activities by the professional guidelines of the Association of Schools of Public Health in the European Region.

## BSC AND MSC PROGRAMMES AT THE FACULTY OF PUBLIC HEALTH

Bachelor program in Physiotherapy launched by the Faculty of Public Health of the University of Debrecen is built on a 17-year experience in education of physiotherapists at the University of Debrecen. The training is identical in content to the accredited Bachelor of Science program in Nursing and Patient Care with Physiotherapist specialization launched six years ago. The course is based on the University's highly trained, internationally competitive staff and excellent infrastructure in order to fulfil an international demand in health care (involving physiotherapy) training.

The another bachelor program launched by the Faculty of Public Health is the BSc in Public Health.

The majority of teachers have remarkable teaching experience in English taking part in the international training programmes of University of Debrecen.

The international MSc programs (MSc in Public Health, MSc in Complex Rehabilitation) launched by the Faculty of Public Health are offered for students graduated in the BSc courses of health sciences. Students studying in English – similarly to those studying in Hungarian – will have the opportunity to join the Students' Scientific Association, the most important means to prepare students for 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. 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.

**CHAPTER 2**  
**ORGANISATION STRUCTURE**

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**RECTOR OF THE UNIVERSITY OF DEBRECEN**

Rector	Zoltán Szilvássy M.D., Ph.D., D.Sc.
Address	4032 Debrecen, Egyetem tér 1.
Phone	+36-52-416-060
Phone/fax	+36-52-416-490
E-mail	rector@unideb.hu

**COORDINATING CENTER FOR INTERNATIONAL EDUCATION**

Director	Attila Jenei M.Sc., Ph.D.
Address	4032 Debrecen, Nagyerdei krt. 94.
Phone	+36-52-258-058
Fax	+36-52-414-013
E-mail	info@edu.unideb.hu

**FACULTY OF MEDICINE**

Dean	László Mátyus M.D., Ph.D., D.Sc.
Address	4032 Debrecen, Nagyerdei krt. 98.
Phone	+36-52-258-086
Fax	+36-52-255-150
E-mail	dekan@med.unideb.hu

**Vice Dean of Specialization and Further Education**

Vice Dean of Specialization and Further Education	Andrea Szegedi M.D., Ph.D., D.Sc.
Address	4032 Debrecen, Nagyerdei krt. 98.
Phone	+36-52-411-717/56432
Fax	+36-52-255-150
E-mail	dekan@med.unideb.hu

**Vice-Dean for Scientific Affairs**

Vice-Dean for Scientific Affairs	Zoltán Papp M.D., Ph.D., D.Sc.
Address	4032 Debrecen, Nagyerdei krt. 98.
Phone	+36-52-411-717/54329
Fax	+36-52-255-978
E-mail	dekan@med.unideb.hu

**Vice-Dean for Educational Affairs**

Norbert Németh M.D., MBA, Ph.D.

Address 4032 Debrecen, Nagyerdei krt. 98.  
 Phone +36-52-411-717/54226  
 Fax +36-52-416-915  
 E-mail dekan@med.unideb.hu

DEAN'S OFFICE OF THE FACULTY OF  
 MEDICINE

Head of Dean's Office Katalin Juhász M.A.  
 Address 4032 Debrecen, Nagyerdei krt. 98.  
 Phone/Fax +36-52-258-085, +36-52-255-150  
 E-mail kjuhasz@edu.unideb.hu

REGISTRAR'S OFFICE

Head of Registrar's Office Pál Pap M.Sc., Ph.D.  
 Address 4032 Debrecen, Nagyerdei krt. 94.  
 Phone/Fax +36-52-258-001  
 E-mail pap.pal@med.unideb.hu

FACULTY OF DENTISTRY

Dean Csaba Hegedűs M.D., L.D.S., Ph.D.  
 Address 4032 Debrecen, Nagyerdei krt. 98.  
 Phone/Fax +36-52-255-208  
 E-mail hegedus.csaba.prof@dental.unideb.hu

Vice-Dean for Educational Affairs Kinga Bágyi D.M.D., Ph.D.  
 Address 4032 Debrecen, Nagyerdei krt. 98.  
 Phone/Fax +36-52-255-208  
 E-mail bagyi.kinga@dental.unideb.hu

Vice-Dean for General Affairs István Varga D.M.D., Ph.D.  
 Address 4032 Debrecen, Nagyerdei krt. 98.  
 Phone/Fax +36-52-255-208  
 E-mail varga.istvan@dental.unideb.hu

FACULTY OF PHARMACY

Dean Miklós Vecsernyés Pharm.D., Ph.D., D.Sc.  
 Address 4032 Debrecen, Nagyerdei krt. 98.

Phone/Fax +36-52-411-717/54033  
 E-mail vecsernyes.miklos@pharm.unideb.hu  
 Vice-Dean For General and Development Affairs Gábor Halmos Pharm.D., Ph.D.

Address 4032 Debrecen, Nagyerdei krt. 98.  
 Phone/Fax +36-52-411-600/55292  
 E-mail halmos.gabor@pharm.unideb.hu

Vice-Dean for Educational Affairs Ildikó Bácskay Pharm.D., Ph.D.  
 Address 4032 Debrecen, Nagyerdei krt. 98.  
 Phone/Fax +36-52-411-600/54034  
 E-mail bacskay.ildiko@pharm.unideb.hu

#### FACULTY OF PUBLIC HEALTH

Dean Margit Balázs Msc., Ph.D., D.Sc.  
 Address 4028 Debrecen, Kassai út 26/b.  
 Phone +36-52-512-765  
 Fax +36-52-512-769  
 E-mail dekan@sph.unideb.hu

Vice-Dean for Educational Affairs Attila Bánfalvi MA., Ph.D.  
 Address 4032 Debrecen, Móricz Zsigmond. krt. 22.  
 Phone +36-52-411-600  
 Fax +36-52-255-487  
 E-mail banfalvi.attila@sph.unideb.hu

Vice-Dean for Strategic Affairs Karolina Kósa M.D., M.Sc., PhD.  
 Address 4032 Debrecen, Móricz Zsigmond krt. 22.  
 Phone +36-52-411-600  
 Fax +36-52-255-487  
 E-mail kosa.karolina@sph.unideb.hu

#### FACULTY OF HEALTH

Dean Imre Semsei, D.Sc.  
 Address 4400 Nyíregyháza, Sóstói u. 2-4.  
 Phone +36-42-598-235  
 Fax +36-42-408-656  
 E-mail dekan@foh.unideb.hu

Vice-Dean for Scientific Affairs János Kiss Ph.D.  
 Address 4400 Nyíregyháza, Sóstói út 2-4.  
 Phone +36-42-598-235  
 Fax +36-42-408-656  
 E-mail kiss.janos@foh.unideb.hu

Vice-Dean for Educational Affairs Attila Sárváry Ph.D.  
 Address 4400 Nyíregyháza, Sóstói út 2-4.  
 Phone +36-42-598-235  
 Fax +36-42-408-656  
 E-mail sarvary.attila@foh.unideb.hu

Vice-Dean for General and Development Affairs Gergely Fábrián Ph.D.  
 Address 4400 Nyíregyháza, Sóstói út 2-4.  
 Phone +36-42-598-235  
 Fax +36-42-408-656  
 E-mail fabian.gergely@csello.hu

International Student Union Debrecen  
 Internet <https://hu-hu.facebook.com/ISUDEbrecen/>  
 E-mail [isudebrecen@gmail.com](mailto:isudebrecen@gmail.com)

#### KENÉZY LIFE SCIENCES LIBRARY

Address 4032 Debrecen, Egyetem tér 1.  
 Phone/Fax +36-52-518-610, +36-52-518-605  
 E-mail [kenezy@lib.unideb.hu](mailto:kenezy@lib.unideb.hu)  
 Internet <http://kenezy.lib.unideb.hu>

**CHAPTER 3**  
**ADMINISTRATIVE UNITS**

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**EDUCATIONAL ORGANIZATIONAL OFFICE OF FACULTY OF PUBLIC HEALTH**

Kassai str. 28, Debrecen, 4028, Tel: 52-512-765/77408

E-mail: info@sph.unideb.hu, Web: http://nk.unideb.hu

Head	Ms Zsuzsa Nagy-Belgyár
Education Officer, Contact Person	Mr Róbert Bata
	Ms. Zsuzsa Flóra Péter
	Ms Andrea Krizsán
	Ms. Tímea Géber

**COORDINATING CENTER FOR INTERNATIONAL EDUCATION**

Nagyerdei krt. 94., Debrecen, 4032 Telephone: +36-52-258-058

E-mail: info@edu.unideb.hu, Web: www.edu.unideb.hu

Director	Prof. Attila Jenei M.Sc., Ph.D.
Program Coordinator	Prof. Ferenc Erdódi M.Sc., Ph.D., D.Sc.
BMC Coordinator	Ms. Beáta Lontay M.Sc., Ph.D.
Manager Assistant	Ms. Szandra Gyarmati B.Sc.
	Ms. Andrea Tiba B.Sc.
Contract&Marketing Coordinator	Ábrahám Gergely Varga J.D.
Agent&Marketing Coordinator	Tamás Zabán M.Sc.
Financial Coordinator	Ms. Rita Kovács J.D.
Agent Coordinator	József Harmati J.D.
English Program Coordinators	Ms. Dóra Benkő (Admission, Visa Issues, BMC, US Loans)
	Ms. Regina Berei (Tuition fee, Financial certificates, Refunds, USMLE Coordinator)
	Ms. Anna Jászterné Kapitány M.Sc. (Admission, Wyckoff HMC Application, USMLE Coordinator)
	Ms. Ildikó Lakatos M.A. (Admission, Visa Issues)
	Ms. Krisztina Németh M.Sc. (Bulletin)
	Ms. Enikő Sallai M.Sc. (Tuition fee, Health Insurance)
	Ms. Mária Tóth M.Sc. (Stipendium Hungaricum Scholarship)
IT Project Coordinator	Imre Szűcs B.Sc.

**CHAPTER 4**  
**DEPARTMENTS OF THE FACULTY OF PUBLIC HEALTH**

**INSTITUTE OF BEHAVIOURAL SCIENCES, FACULTY OF PUBLIC HEALTH**

Nagyerdei krt. 98., Debrecen, 4032, Tel: +36-52-255-594

www.nk.unideb.hu

Associate Professor, Head of Department	Ms. Karolina Kósa M.D., M.Sc., Ph.D.
Associate Professor, Head of Division of Clinical And Health Psychology	Ms. Ildikó Kuritár Szabó M.A., Ph.D.
Associate Professor, Head of Division of Humanities For Health Care	Attila Bánfalvi M.A., Ph.D., C.Sc.
Professor Emeritus	Péter Molnár M.D., D.Sc.
Assistant Professor	Ms. Mónika Andrejkovics M.A., Ph.D. Péter Kakuk M.A., Ph.D.
	Ms. Judit Molnár M.A., Ph.D. Roland Tisljár M.A., Ph.D.
Assistant Lecturer	János Kristóf Bodnár M.A., Ph.D. Sándor Kőműves M.A., Ph.D.
	Ms. Eszter Tisljár - Szabó M.A., Ph.D.
Invited Lecturer	Ms. Beáta Kovács-Tóth M.A. Bence Döbrössy M.A.
Intern	Ms. Bernadett Bodor M.Sc. Ms. Katalin Mária Dallos M.Sc. Ms. Márta Erdei M.Sc. Ms. Bernadett Hidegh M.Sc. Ms. Éva Knapek M.Sc. Ms. Katalin Merza M.A. Ms. Erika Nagy M.Sc. Ms. Anna Eszter Rácz M.Sc.
PhD Student	Dániel Balajthy M.Sc. Ms. Amanda Illés M.Sc. Szabolcs Kató M.Sc. Ms. Orsolya Micskei M.Sc. Ms. Brigitta Munkácsi M.Sc. Ms. Anikó Nagy M.Sc.
Academic Advisor	Ms. Mónika Andrejkovics M.A., Ph.D. (4th year, Behavioural Medicine, Behavioural Science Final Exam) Attila Bánfalvi M.A., Ph.D., C.Sc.

(3rd year, Medical Anthropology, Medical Sociology)

Péter Kakuk M.A., Ph.D.

(4th year, Bioethics)

Ms. Judit Molnár M.A., Ph.D.

(3rd year Medical Psychology, 5th year Pharmaceutical Psychology)

Roland Tisljár M.A., Ph.D.

(1st year, Basics of Behavioural Sciences, Communication)

**DEPARTMENT OF FAMILY AND OCCUPATIONAL MEDICINE, FACULTY OF PUBLIC HEALTH**

Móricz Zs. Krt. 22., Debrecen, 4032, Tel: +36-52-25-52-52

E-mail: csotanszek@sph.unideb.hu, Web: www.fam.med.unideb.hu www.nk.unideb.hu

Full Professor, Head of Department

Imre Rurik M.D., M.Sc., Ph.D., D.Sc.

Professor Emeritus

István Ilyés M.D., M.Sc., Ph.D.

Assistant Professor

Zoltán Jancsó M.D., Ph.D.

Assistant Lecturer

Ms. Anna Nánási M.D.

Ms. Judit Szidor M.D.

Ms. Hajnalka Tamás M.D.

Ms. Tímea Ungvári M.Sc.

László Róbert Kolozsvári M.D., Ph.D.

Clinical Specialist

Ms. Emőke Lengyel M.D.

Ms. Izabella Szilágyi M.D.

Ms. Erzsébet Tóth M.D.

Undergraduate educational officer

Ms. Tímea Ungvári M.Sc.

Postgraduate educational officer

Ms. Anna Nánási M.D.

Other Invited Lecturers

István Erdei M.D.

János Hintalan M.D.

Ms. Eszter Kovács M.D.

Ms. Hajnalka Márton M.D.

Csaba Sárkány M.D.

Attila Simay M.D., Ph.D.

(Hon. Associate Professor)

Péter Szerze M.D.

Ms. Margit Szövetes M.D.



**DEPARTMENT OF HEALTH MANAGEMENT AND QUALITY ASSURANCE, FACULTY OF PUBLIC HEALTH**

Nagyerdei krt. 98., Debrecen, 4032, Tel: 06-52-255-052  
E-mail: lepp.anett@med.unideb.hu, Web: www.emmt.unideb.hu

Associate Professor, Head of Department	Ms. Klára Bíró D.M.D., Ph.D.
Associate Professor	Ms. Judit Zsuga M.D., Ph.D.
Assistant Lecturer	Gábor Bányai-Márton J.D. Ms. Klára Boruzs MBA
Assistant	Ms. Anett Lepp
Strategic Advisor	
Research Assistant	Csaba Papp M.D., M.Sc., PhD Viktor Dombrádi jr M.Sc.

**DEPARTMENT OF HYGIENE AND INFECTION CONTROL, FACULTY OF PUBLIC HEALTH**

Nagyerdei krt. 98., Debrecen, 4032, Tel: +36-52-255-795  
E-mail: orosip@med.unideb.hu, Web: www.nk.unideb.hu

Associate Professor, Head of Department	Ms. Piroska Orosi M.D., Ph.D.
Staff Member	Ms. Ágnes Borbély M.D. Ms. Judit Kecskés

**DEPARTMENT OF PHYSIOTHERAPY, FACULTY OF PUBLIC HEALTH**

Kassai str. 26., Debrecen, 4028, Tel: 36-52-512-732  
E-mail: cseri.julianna@sph.unideb.hu, Web: http://nk.unideb.hu

Associate Professor, Head of Department	Ms. Ilona Veres-Balajti M.Sc., Ph.D.
College Professor, Coordinator of BSc in Physiotherapy Program	Ms. Julianna Cseri M.D., Ph.D.
Assistant Professor	Balázs Lukács M.Sc., Ph.D. Ms. Zsuzsanna Némethné Gyurcsik M.Sc., Ph.D. Ms. Andrea Váncsa M.D., Ph.D.
Assistant Lecturer	Ms. Zsuzsa Lábiscsák-Erdélyi M.Sc. Ms. Judit Pálincás M.Sc.
Invited Lecturer	Ms. Katalin Papp M.Sc., Ph.D. Imre Semsei Ph.D., D.Sc. Zoltán Szentkereszty M.D.
Practice Teacher	Ms. Adrienne Tóthmartinez M.D.
Instructor	Ms. Éva Csepregi M.Sc. Ms. Éva Anett Csuhai Ms. Petra Major

PhD student	Ms. Hajnalka Petrika M.Sc.
Academic Advisor	Ms. Zsuzsanna Némethné Gyuresik M.Sc., Ph.D.

**DEPARTMENT OF PREVENTIVE MEDICINE, FACULTY OF PUBLIC HEALTH**

Kassai út 26/b, Debrecen, 4028, Tel: +36-52-417-267

www.nk.unideb.hu

Full Professor, Head of Department	Ms. Róza Ádány M.D., Ph.D., D.Sc.
Associate Professor, Head of Division Public Health Medicine	István Kárpáti M.D., Ph.D.
Full professor, Head of Biomarker Analysis Division	Ms. Margit Balázs M.Sc., Ph.D., D.Sc.
Associate Professor, Head of Biostatistics and Epidemiology Division	János Sándor M.D., Ph.D.
Associate Professor	Balázs Ádám M.D., M.Sc., Ph.D. Ms. Helga Bárdos M.D., M.Sc., Ph.D. Sándor Szűcs M.Sc., Ph.D.
Assistant Professor	Ervin Árnias M.Sc., Ph.D. Ms. Éva Bíró M.D., Ph.D. Ms. Szilvia Fialat M.D., Ph.D. Ms. Orsolya Varga M.D., Ph.D.
Assistant Lecturer	Tibor Jenei Tamás Köbling M.D. Attila Csaba Nagy M.D., Ph.D. Károly Nagy Ph.D. László Pál Ph.D. Gábor Rác M.D.
Resident	Gergely Fürjes M.D. Ms. Márta Füzi M.D.
Invited Lecturer	Ms. Dóra Kölesné Dezső M.D. György Juhász M.D. József Legoza M.D.
Hungarian Academy of Sciences University of Debrecen Public Health Research Group Fellow	Ms. Judit Diószegi M.D., PhD
Research Assistant	Ms. Tímea Kiss M.Sc. Ms. Viktória Koroknai M.Sc. Ms. Nóra Kovács M.Sc. Péter Pikó M.Sc.

PhD Student

István Szász M.Sc.  
Ms. Valéria Vinczéné Sipos M.Sc.  
Edafiogho Peter Eseroghene M.Sc.  
Ms. Krisztina Jámbor M.Sc.  
Ms. Beáta Soltész M.Sc.  
Gergő József Szöllősi M.Sc.  
Ferenc Vincze M.Sc.  
Ms. Orsolya Bujdosó M.Sc.  
Ms. Gabriella Péntes M.Sc.  
Szabolcs Lovas M.Sc.

**CHAPTER 5**  
**UNIVERSITY CALENDAR**

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UNIVERSITY CALENDAR FOR THE BSC IN PUBLIC HEALTH PROGRAM  
ACADEMIC YEAR 2017/2018

1<sup>ST</sup> SEMESTER

	Registration week	Course	Examination Period
BSc in Public Health	September 4-8., 2017. (1 week)	September 11 – December 22., 2017 (15 weeks)	December 27., 2017 – February 9., 2018 (7 weeks)

2<sup>ND</sup> SEMESTER

	Registration week	Course	Examination Period
BSc in Public Health	February 5-9., 2018 (1 week)	February 12 –May 25., 2018. (15 weeks)	May 28 – July 13.,2018 (7 weeks)

Orientation meeting (planned): September 8., 2017. 10.00 am

## **CHAPTER 6**

### **ACADEMIC PROGRAMME FOR CREDIT SYSTEM**

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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:

According to the credit regulations, students should obtain an average of 30 credits in each semester

The criterion of obtaining 1 credit is to spend some 30 hours (including both contact and noncontact hours) studying the given subject.

Credit(s) can only be obtained if students pass the exam on the given subject.

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, and includes 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.

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.

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.

The diploma work is worth 22 credits.

**Compulsory courses for the 1. year**

Sem	Subjects	Neptun code	L	S	P	Exam	Crd	Prerequisites of taking the subject
1	Bioethics	NK_PH_BIOE	15			ESE	2	None
1	Communication	NK_PH_COMM17	15		15	ESE	2	None
1	Ecology	NK_PH_ECO	30	15		ESE	4	None
1	First aid	NK_PH_FAID17	15		15	AW5	2	None
1	Health informatics I.	NK_PH_HINF1	10		20	AW5	2	None
1	General principles of Nursing and Clinical Medicine	NK_PH_NCM	15		15	AW5	2	None
1	Mathematical basics of biostatistics	NK_PH_MATBST		15	45	AW5	3	None
1	Medical latin	NK_PH_LAT17			30	AW5	2	None
1	Philosophy	NK_PH_PHIL	15			ESE	1	None
1	Basic Psychology	NK_PH_BPSY	30			ESE	2	None
1	Basic Sociology	NK_PH_BSOC	15			ESE	1	None
1	Basic of Pedagogy	NK_PH_PEDA2_	15			ESE	1	None
1	Health Antropology	NK_PH_HANT	30			ESE	2	None
1	Work safety and fire protection	NK_PH_WSFP		15		AW5	1	None

**Compulsory courses for the 1. year**

<b>Sem</b>	<b>Subjects</b>	<b>Neptun code</b>	<b>L</b>	<b>S</b>	<b>P</b>	<b>Exam</b>	<b>Crd</b>	<b>Prerequisites of taking the subject</b>
2	Anatomy	NK_PH_ANAT	30		30	ESE	6	Medical latin
2	Biostatistics	NK_PH_BIOST2	15		30	ESE	5	Mathematical basics of biostatistics
2	Biology, Cell Biology	NK_PH_CELLBI	30			ESE	2	None
2	Genetics and molecular biology	NK_PH_GEN1	15			ESE	2	None
2	Health informatics II.	NK_PH_HINF2	10		20	AW5	2	Health informatics I
2	Health psychology	NK_PH_HPSY17	15			ESE	1	Basic Psychology
2	Health sociology	NK_PH_HSOC4	30			ESE	3	Basic Sociology
2	History of public health	NK_PH_HIST	15			AW5	2	None
2	Hungarian Language I.	NK_PH_HUNG11			30	SIGN	0	.
2	Introduction to public health	NK_PH_INPH2	15			ESE	1	None
2	Basics of economy and management	NK_PH_BEM	30			ESE	2	None



**Compulsory courses for the 2. year**

<b>Sem</b>	<b>Subjects</b>	<b>Neptun code</b>	<b>L</b>	<b>S</b>	<b>P</b>	<b>Exam</b>	<b>Crd</b>	<b>Prerequisites of taking the subject</b>
1	Basic Biochemistry	NK_PH_BBIOCH17	15	15		ESE	3	Genetics and mol. biology
1	Basic epidemiology	NK_PH_BEPI	15	15		ESE	5	Biostatistics
1	Microbiology I.	NK_PH_BMIC1	30			ESE	4	None
1	Immunology	NK_PH_IMM	30			ESE	3	Biology, Cell biology
1	Introduction to law I.	NK_PH_ILAW1	15	15		ESE	2	None
1	Physiology	NK_PH_PHYS4	30	15		ESE	5	Anatomy
1	Hungarian language II.	NK_PH_HUNG22			30	Sign	0	Hungarian language I.
1	Public health medicine I.	NK_PH_MED1	30		30	ESE	6	Anatomy
1	Clinical propedeutics	NK_PH_CPROP	15		15	ESE	2	General principles of nursing and clinical medicine

**Compulsory courses for the 2. year**

<b>Sem</b>	<b>Subjects</b>	<b>Neptun code</b>	<b>L</b>	<b>S</b>	<b>P</b>	<b>Exam</b>	<b>Crd</b>	<b>Prerequisites of taking the subject</b>
2	Biochemistry	NK_PH_BIOCH4	10	5		ESE	1	Basic biochemistry
2	Environmental health	NK_PH_ENVH	30	30		ESE	6	Ecology, Physiology
2	Epidemiology of communicable and non-communicable diseases I.	NK_PH_EPIC4	15	45		ESE	6	Basic Epidemiology
2	Introduction to law II.	NK_PH_LAW2	15	15		ESE	3	Introduction to law I.
2	Public health medicine II.	NK_PH_MED4	30		30	ESE	6	Public health medicine I.
2	Microbiology II.	NK_PH_BMIC2	30	30		ESE	4	Microbiology I.
2	Terrestrial environment protection	NK_PH_TERR	20			AW5	2	Ecology

**Compulsory courses for the 3. year**

<b>Sem</b>	<b>Subjects</b>	<b>Neptun code</b>	<b>L</b>	<b>S</b>	<b>P</b>	<b>Exam</b>	<b>Crd</b>	<b>Prerequisites of taking the subject</b>
1	Health promotion and health policy	NK_PH_HPHP	15		30	ESE	4	Introduction to public health; Introduction to law II.
1	Epidemiology of communicable and non-communicable diseases II.	NK_PH_EPIC2	15	30		ESE	4	Epidemiology of communicable and non-communicable diseases I., Microbiology II.
1	Health care law I.	NK_PH_HLAW1	15		15	ESE	3	Introduction to law II.
1	Occupational health	NK_PH_OCC	30	24	6	ESE	6	Basic epidemiology, Environmental health
1	Pharmacology	NK_PH_PHARM	30			ESE	3	Biochemistry
1	Public health medicine III.	NK_PH_MED5	30		30	ESE	6	Public health medicine II.
1	Aquatic environmental protection	NK_PH_AQWA	20			AW5	2	Ecology

**Compulsory courses for the 3. year**

<b>Sem</b>	<b>Subjects</b>	<b>Neptun code</b>	<b>L</b>	<b>S</b>	<b>P</b>	<b>Exam</b>	<b>Crd</b>	<b>Prerequisites of taking the subject</b>
2	Child and adolescent health	NK_PH_CAH	30			ESE	3	None
2	Field and laboratory practice I.	NK_PH_FLAB1			180	AW5	8	Basic epidemiology; Health promotion and health policy
2	Health care law II.	NK_PH_HCLAW2	15		15	ESE	3	Health care law I.
2	Public health medicine IV.	NK_PH_PMED4	30		30	ESE	6	Public health medicine III.; Immunology
2	Gerontology	NK_PH_GER	30			ESE	2	None
2	Basics of dietetics	NK_PH_BDIET	15		15	ESE	2	None
2	Research methodology	NK_PH_RMET	30			ESE	2	None
2	Professional Hungarian I.	NK_PH_PHUN1			60	ESE	3	None

**Compulsory courses for the 4. year**

<b>Sem</b>	<b>Subjects</b>	<b>Neptun code</b>	<b>L</b>	<b>S</b>	<b>P</b>	<b>Exam</b>	<b>Crd</b>	<b>Prerequisites of taking the subject</b>
1	Field and laboratory practice II.	NK_PH_FLAB2			180	AW5	8	Field and laboratory practice I.
1	Health care law III.	NK_PH_HLAW3	15		15	ESE	3	Health care law II.
1	Health promotion	NK_PH_HPROM17	10		20	ESE	4	Health promotion and health policy
1	Nutritional health and food safety	NK_PH_NUTR1	15	30		ESE	5	Microbiology II.
1	Thesis I.	NK_PH_THESIS1			180	AW5	8	Field and laboratory practice I.
1	Health promotion in primary care	NK_PH_HPPC			15	AW5	1	Health promotion and health policy
1	Professional Hungarian II.	NK_PH_PHUN2			60	ESE	3	Professional Hungarian I.

**Compulsory courses for the 4. year**

<b>Sem</b>	<b>Subjects</b>	<b>Neptun code</b>	<b>L</b>	<b>S</b>	<b>P</b>	<b>Exam</b>	<b>Crd</b>	<b>Prerequisites of taking the subject</b>
2	Field and laboratory practice III.	NK_PH_FLAB3			180	ESE	8	Field and laboratory practice II.
2	Health care law IV.	NK_PH_HLAW4	15		15	ESE	3	Health care law III.
2	Thesis II.	NK_PH_THESIS2			60	ESE	14	Thesis I.
2	Applied epidemiology	NK_PH_APEPI	15		15	ESE	3	Basic epidemiology
2	Basics of quality assurance	NK_PH_BQASS6	15	15		ESE	2	None

## CHAPTER 7 ACADEMIC PROGRAMME

### Department of Emergency Medicine

Subject: **FIRST AID**

Year, Semester: 1st year/1st semester

Number of teaching hours: **30**

Lecture: **15**

Practical: **15**

**1st week:**

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

**2nd week:**

**Lecture:** Unconsciousness; airway obstruction; airway opening maneuvers.

**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

**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:** Burning, first aid in burning diseases, shock.

**6th week:**

**Practical:** AVPU, ABCDE approachment.

**7th week:**

**Practical:** Recognition of unconsciousness, recovery position, airway management.

**8th week:**

**Practical:** Practicing the ventilation.

**9th week:**

**Practical:** Complex CPR training, usage of AED.

**10th week:**

**Practical:** Practical exam.

**11th week:**

**Practical:** Types of bleeding, bleeding control, hypovolaemic shock, Trendelenburg position.

**12th week:**

**Practical:** Distortions and extended soft-tissue injuries, bandage for fixation with special triangle, stifneck, dessault bandage, fixation of finger and hand fractures, usage of siplint.

**13th week:**

**Practical:** Basic trauma care.

**14th week:**

**Practical:** Consultation, written test.

**Self Control Test**

**15th week:**

**Lecture:** Intoxication, guideline of poisoning toxicology, typical intoxications, special sings, first aid.

#### Requirements

Condition of signing the Lecture book: Attendance at practices is compulsory. The tutor may refuse to sign the Lecture book if the student is absent from the practicals more than twice in a semester. Missed practicals should be made up after consultation with the tutor. Facilities for a maximum of 2 make-up practicals are available at the Ambulance Center in Debrecen. The current knowledge of

students will be tested twice in each semester driving a written test.

## Department of Foreign Languages

Subject: **HUNGARIAN LANGUAGE I.**

Year, Semester: 1st year/2nd semester

Number of teaching hours: **30**

Practical: **30**

**1st week:**

**Practical:** 1. lecke (Greetings, the alphabet, numbers 0-20, colours, everyday expressions)

**2nd week:**

**Practical:** 2. lecke (Nationalities, languages, numbers 21-29)

**3rd week:**

**Practical:** 3. lecke, 4. lecke (Names of places, the days of the week, numbers 30-100, the time, hány óra van?, Test Your Knowledge 1)

**4th week:**

**Practical:** 5. lecke (adjectives and adverbs, verbs expressing activities 1, times of day, hány órákor?, numbers 1000-1000000000)

**5th week:**

**Practical:** 6. lecke (verbs expressing activities 2, everyday expressions, ordinal numbers)

**6th week:**

**Practical:** 7. lecke (Revision 1 Units 1-6)

**7th week:**

**Practical:** Midterm test

**8th week:**

**Practical:** 8. lecke (everyday objects, food and

drink, adverbs of frequency)

**9th week:**

**Practical:** 9. lecke (Food, drink, fruit, vegetables, the menu, ordering in a restaurant, shopping in the market, the uses of tessék)

**10th week:**

**Practical:** 10. lecke (the weather, the seasons and months, clothes)

**11th week:**

**Practical:** 11. lecke (Test Your Knowledge 2) , 12. lecke I. rész (body parts)

**12th week:**

**Practical:** 12. lecke II.rész (adjectives and descriptions, accessories) , 13. lecke (jobs, places, personal details and filling in a form, family relations)

**13th week:**

**Practical:** 14. lecke (Revision 2 Units 8-13)

**14th week:**

**Practical:** End term test

**15th week:**

**Practical:** Oral exam

### Requirements

Requirements of the course: Attending language classes is compulsory. Students should not be absent from more than 10 percent of the classes. If a student is late it is considered as an absence. If a student misses more than two occasions, the final signature may be refused and the student must repeat the course.

Absentees can make up the missed classes in the same week. Maximum one language class may be made up with another group. Students have to ask for the teacher's written permission (by e-mail) 24 hours in advance. Students can attend any class (make up or regular) only if they take their course book with them.



The teacher evaluates active participation in each class. Students are not supposed to share course books in the classes therefore if they fail to bring the course book to the class for the second time the attendance is refused.

Testing, evaluation

In each Hungarian language course, students must sit for 2 written language tests and an oral exam. A further minimum requirement is the knowledge of 200 words per semester divided into 10 word quizzes. There are five word quizzes before and another five after the midterm test. If students fail or miss any word quizzes they cannot start their written test and have to take a vocabulary exam that includes all 100 words before the midterm and end term tests. A word quiz can be postponed by a week and students can take it only with their own teacher. Students can get bonus points (5-5%) by taking two extra quizzes containing 20 sentences each before the midterm and end term tests. The sentences are taken from the units of the course book.

The oral exam consists of a role-play from a list of situations covered in the course book. If students fail the oral exam, they fail the whole course. The results of the written tests and the oral exam are combined and averaged.

Based on the final score the grades are given as follows.

<b>Final score</b>	<b>Grade</b>
0-59	fail (1)
60-69	pass (2)
70-79	satisfactory (3)
80-89	good (4)
90-100	excellent (5)

If the final score of the written tests is below 60, the student can take a written remedial exam once covering the whole semester's material.

**Course book:** See the website of the Department of Foreign Languages: [ilekt.med.unideb.hu](http://ilekt.med.unideb.hu).

Audio files to the course book, oral exam topics and vocabulary minimum lists are also available on the website.

Subject: **MEDICAL LATIN**

Year, Semester: 1st year/1st semester

Number of teaching hours: **30**

Practical: **30**

**1st week:**

**Practical:** Class introduction and Chapter 1  
Introduction to medical terminology

**2nd week:**

**Practical:** Chapter 2: Anatomical positions,  
planes and directions

**3rd week:**

**Practical:** Chapter 3: Parts of the body

**4th week:**

**Practical:** Grammar 1: Basic elements of Latin  
grammar

**5th week:**

**Practical:** Chapter 4: Greek roots

**6th week:**

**Practical:** Chapter 5: Regions

**7th week:**

**Practical:** Formation of adjectives

**8th week:**

**Practical:** Revision, Mid-term Test  
**Self Control Test**

**9th week:**

**Practical:** Chapter 6: Skeletal system I

<b>10th week:</b> <b>Practical:</b> Skeletal system II, Plural forms	prefixes related to numerals and quantities; Latin numerals
<b>11th week:</b> <b>Practical:</b> Chapter 7: Joints	<b>14th week:</b> <b>Practical:</b> Revision 2 – , End-term Test <b>Self Control Test</b>
<b>12th week:</b> <b>Practical:</b> Complex adjectives	<b>15th week:</b> <b>Practical:</b> Evaluation
<b>13th week:</b> <b>Practical:</b> Chapter 8 Muscles Latin and Greek	

### Requirements

By the end of the term students should:

- know the vocabulary pertaining to 1) the anatomical positions, 2) planes and directions; 3) the body parts; 4) the bones and the skeleton; 5) the body regions; 6) the bone connections; 7) the muscular system;
- understand basic grammatical terms like Singular, Plural, Nominative, Genitive, etc.;
- be able to use Latin nouns in both Singular Nominative and Genitive as well as Plural forms
- be able to use Latin adjectives in concord with the nouns in adjective phrases
- be able to understand prefixes related to numerals and quantities
- be able to form adjectives from Latin nouns;
- be able to understand and actively use several Latin and Greek prefixes and suffixes relating to medical terminology.

## Department of Internal Medicine

Subject: **GENERAL PRINCIPLES OF 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.

**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.

**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.

**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:**

**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:**

**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.

**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).

**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.

**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.

**11th week:**

**Lecture:** Physical examination of the respiratory and cardiovascular system.

**12th week:**

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

**13th week:**

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

**14th week:**

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

**15th week:**

**Lecture:** Final tutorial – consultation

### Requirements

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 Preventive Medicine, Faculty of Public Health

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 (Atmosphere, Hydrosphere, Lithosphere) Biosphere and Noosphere.

**Seminar:** Mountain Sickness

**2nd week:**

**Lecture:** The general effects of environmental pollution (deforestation, desertification, loss of biological diversity, acid precipitation, global

warming, depletion and degradation of terrestrial aquifers, depletion of stratospheric ozone layer)  
**Seminar:** Global warming and its health impacts – „Six Degrees Could Change the World”

**3rd week:**

**Lecture:** . The origin and evolutionary history of life on planet Earth.

**Seminar:** The Large Hadron Collider.

**4th 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.

**5th week:**

**Lecture:** The organism and its environment – Part II. The biotic environment. Intraspecific relationships (within species). Interspecific relationships (between species). Co-evolution. Determining niches. Fundamental and realised niches. Niche overlap and species coexistence. Gause’s competitive exclusion principle.

**Seminar:** Relationships between species: African trypanosomes.

**6th week:**

**Lecture:** Population ecology. Properties of population (defining 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.

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

**7th week:**

**Lecture:** Concept of the ecosystem. Components of ecological systems and essential processes. Ecosystems energetic. 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:** Bacteria as Multicellular Organisms.

**8th week:**

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

**Seminar:** Coral reef in danger.

**9th week:**

**Lecture:** National Parks of Hungary– Part I.

**Seminar:** Big Forest of Debrecen and Lesser Mole Rat Reserve of Hajdúbagos.

**10th week:**

**Lecture:** National Parks of Hungary– Part II. (Fertő-Hanság National Park, Danube-Drava National Park, Körös-Maros National Park, Balaton Uplands National Park, Danube-Ipoly National Park, Órség National Park).

**Seminar:** Orchid habitat restoration and preservation.

**11th week:**

**Lecture:** Biogeochemical cycles. Gaseous cycles and sedimentary cycles. Biomes. The world’s terrestrial biomes.

**Seminar:** Water ecosystems.

**12th week:**

**Lecture:** Sociobiology. The advantages and disadvantages of group living. Optimal group size. Evolution of helping behaviour. The unit of selection and social systems. Human sociobiology.

**Seminar:** Social life of ants.

**13th 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.

**Seminar:** Genetically modified organisms.

**14th week:**

**Lecture:** Microbial ecology – Part I.: History of microbial ecology. Object and task of microbial ecology. Whittaker (1969): the five kingdom system. Whose (1978): classification of living

organisms. Bergey's Manual of Systematic of Bacteriology. The main groups of microorganisms: Archeae, Eubacteria, Eucaria (Protozoa, Algae, Fungi, Lichens). Diversity of metabolism in microorganisms.

**Seminar:** Origin of the Earth's atmosphere.

**15th week:**

**Lecture:** Microbial ecology – Part II.: 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 environment protection.

**Seminar:** Industrially important bacteria.

Subject: **HEALTH INFORMATICS I.**

Year, Semester: 1st year/1st semester

Number of teaching hours: **30**

Lecture: **10**

Practical: **20**

**1st week:**

**Lecture:** Information and data management. The concepts of data and information. The basic algorithms of data management. The concept of coding, its different approaches, its advantages and disadvantages, code-refreshing. The fundamentals of database management, data models, the concept of database. The operators of database management. Handling data with database programs (MS Access).

**2nd week:**

**Lecture:** The fundamentals of health classification. The widely used health classification systems: BNO, WHO, SNOMED.

**3rd week:**

**Lecture:** The networks of informatics, long distance data management. Health and public health, online and offline data bases. Data and information retrieval.

**4th week:**

**Lecture:** Health and public health data administration. Health and public health data and information systems data flow and data exchange Health and public health data bases.

**5th week:**

**Lecture:** Library information systems: MEDLINE, PUBMED, CD-ROM-ok multimedia systems. Health and public health libraries,

online and offline data collection in these libraries and databases.

**6th week:**

**Practical:** Database management: the fundamentals of database management, knowledge and data transfer between spreadsheet and database manager programs.

**7th week:**

**Practical:** Data retrieval from health and public health databases, formulating queries on the query grid of MS Access I.

**8th week:**

**Practical:** Data retrieval from health and public health databases, formulating queries on the query grid of MS Access II.

**9th week:**

**Practical:** Creating and normalizing data tables and data bases. Designing forms and reports.

**10th week:**

**Practical:** Presenting demo health and public health systems.

**11th week:**

**Practical:** The fundamentals of space and graphic informatics, the application of them in health and public health routine.

**12th week:**

**Practical:** The legal and ethical questions of data protection and privacy, the rules of handling these data.

**13th week:**

**Practical:** Handling digital data, the problem of data security. The systems and methods of data protection both hardware and software.

**14th week:**

**Practical:** Scientific data retrieval and collection. Searching in online and offline libraries. The selection of appropriate hardware

and software tools, data and knowledge transfer in health and computer related problem solving I.

**15th week:**

**Practical:** Scientific data retrieval and collection. Searching in online and offline libraries. The selection of appropriate hardware and software tools, data and knowledge transfer in health and computer related problem solving II. Handling in and presenting presentations in the indicated subject.

Subject: **MATHEMATICAL BASICS OF BIOSTATISTICS**

Year, Semester: 1st year/1st semester

Number of teaching hours: **60**

Seminar: **15**

Practical: **45**

**1st 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 week:**

**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

Subject: **PHILOSOPHY**

Year, Semester: 1st year/1st semester

Number of teaching hours: **15**

Lecture: **15**

**1st week:**

**Lecture:** Oxford Concise Medical Dictionary

**2nd week:**

**Lecture:** Martin Heidegger: What is Metaphysics?

**3rd week:**

**Lecture:** Rudolf Carnap: The Elimination of Metaphysics Through Logical Analysis of Language

**4th week:**

**Lecture:** Rudolf Carnap: The Elimination of Metaphysics Through Logical Analysis of Language

**5th week:**

**Lecture:** The Philosophical Questions of Health and Disease 1.

**6th week:**

**Lecture:** The Philosophical Questions of Health and Disease 2.

**7th week:**

**Lecture:** The Philosophical Questions of Health and Disease 3.

**Self Control Test**

**8th week:**

**Lecture:** The Philosophical Questions of Health and Disease 4.

### Requirements

This lecture is to provide the audience with a concise, yet overall introduction into the history and most basic concepts of the Western philosophical thought. A more particular and practical emphasis is placed to assist future health experts in addressing the philosophical questions of life sciences, most prominently public health.

## Institute of Behavioural Sciences, Faculty of Public Health

Subject: **BIOETHICS**

Year, Semester: 1st year/1st semester

Number of teaching hours: **15**

Lecture: **15**

**1st week:**

**Lecture:** Introduction to modern ethics. The basics of bioethics

**2nd week**

**Lecture:** The relationship between morality,

ethics, professional ethics and the law.

**3rd week**

**Lecture:** Ethical theories and principles

**4th week**

**Lecture:** Patients' Rights

**5th week**

**Lecture:** Confidentiality and privacy in healthcare

**6th week**

**Lecture:** Autonomy and self-determination

**7th week**

**Lecture:** Ethics of clinical research

**8th week**

**Lecture:** Ethics of animal experimentation

**9th week**

**Lecture:** Ethics at the beginning of life

**10th week**

**Lecture:** Ethics and end-of-life decision-making

**11th week**

**Lecture:** Ethics of organ transplantation

**12th week**

**Lecture:** Ethical theory and moral judgement

**13th week**

**Lecture:** Ethical case presentation

**14th week**

**Lecture:** Ethical case presentation

**15th week**

**Lecture:** Consultation

### 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.

Subject: **COMMUNICATION**

Year, Semester: 1st year/1st semester

Number of teaching hours: **30**

Lecture: **15**

Practice: **15**

**1st week:**

**Lecture:** Introduction to the concept of communication. Channels of communication. Verbal and non-verbal communication. The main non-verbal channels.

**2nd week:**

**Lecture:** The helping relationship. Influencing factors, principles. The role of empathy in the communication.

**3rd week:**

**Lecture:** Aggressive, passive and assertive communication. Effective communication

techniques

**4th week:**

**Lecture:** The importance of communication with people in different situations. Difficulties in communication situations. Persuasive communication.

**5th week:**

**Lecture:** Communication Disorders. Special issues in communication. Management of the conflicts occurred during the helping relationship. Communication with the elderly.



Communication with impaired persons.  
 Communication with the 'difficult' patient.  
 Communication with acute patients.

**Practical:**

Discussing the semester's tasks, the conditions of getting a mark, preparation for the field practice. Getting acquainted, introduction. Expectations and fears.

**6th week:**

**Practical:**

Review of the basic concepts of communication, communication channels.

**7th week:**

**Practical:**

Verbal and non-verbal communication.

**8th week:**

**Practical:**

Empathy, problems of empathy, active listening. Collaborative communication.

**9th week:**

**Practical:**

Significance of the first impression. Analysis of our own communication styles. Aggressive, passive and assertive communication. Persuasive communication.

**10th week:**

**Practical:**

Film – the doctor.

**11th week:**

**Practical:**

Film – analyzing its communicational aspect.

**12th week:**

**Practical:**

Field practice – observation (no course).

**13th week:**

**Practical:**

Persuasive communication Effective communications techniques. Presentation of the field practice and feedbacks.

**14th week:**

**Practical:**

Presentation of the field practice and feedbacks.

**15th week:**

**Practical:**

Presentation of the field practice. Closing the semester, semester-review. Feedbacks. Written exam.

Subject: **BASIC PSYCHOLOGY**

Year, Semester: 1st year/1st semester

Number of teaching hours: **30**

Lecture: **30**

**1st week:**

**Lecture:** Introduction

**2nd week:**

**Lecture:** Nature of psychology: main fields, theories and methods.

**3rd week:**

**Lecture:** Early attachment, mother-child bonding. Intimate relationships in adulthood.

**4th week:**

**Lecture:** Phases of psychological development. The newborn's skills. Cognitive development in

childhood.

**5th week:**

**Lecture:** Normative life crises (Erikson). The course of dying. Death, grief.

**6th week:**

**Lecture:** Learning and conditioning: different approaches of learning. Classical and operant conditioning.

**7th week:**

**Lecture:** Motivation: rewards and incentives, urges, homeostasis, hunger and sexuality

**8th week:**

**Lecture:** Emotions: arousal, expression of emotions, reactions to emotional states, aggression.

**9th week:**

**Lecture:** Personality: psychoanalytic, behavioral and phenomenological approach.

**10th week:**

**Lecture:** Stress and coping: stress-provoking events, psychological and physiological reactions to stress. The effects of stress on health. Coping skills.

**11th week:**

**Lecture:** Social behavior: attitudes, attraction, obedience, resistance and identification. Collective decisions.

**12th week:**

**Lecture:** Biopsychosocial model. Health behaviors: definition, demographic determinants. The model of health beliefs, variables influencing health attitudes.

**13th week:**

**Lecture:** Illness behaviors: definition, the experience of illness, patient role. Representations and benefits of illness. Illness cognitions.

**14th week:**

**Lecture:** Illness as crisis. Chronic illness, hospitalization.

**15th week:**

**Lecture:** Methods of psychotherapy: dynamic, behavioral and cognitive methods.

**Requirements**

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

Subject: **BASIC 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

### Requirements

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

## Department of Foreign Languages

Subject: **HUNGARIAN LANGUAGE II.**

Year, Semester: 2nd year/1st semester

Number of teaching hours: **30**

Practical: **30**

**1st week:**

**Practical:** 1. lecke (Introducing yourself, meeting someone)

**2nd week:**

**Practical:** 2. lecke (jobs, general places in town)

**3rd week:**

**Practical:** 3. lecke (speaking about someone's week, arranging a meeting)

**4th week:**

**Practical:** 4. lecke (The family tree)

**5th week:**

**Practical:** 5. lecke (body parts, basic symptoms)

**6th week:**

**Practical:** Revision

**7th week:**

**Practical:** Midterm test

**8th week:**

**Practical:** 6. lecke (Nekem van / I have, possessive pronouns)

**Self Control Test**

**9th week:**

**Practical:** 7. lecke (Comparative and superlative forms of adjectives, comparison)

**10th week:**

**Practical:** 8. lecke (Daily routine)

**11th week:**

**Practical:** 9. lecke (Free time)

**12th week:**

**Practical:** 10. lecke (Past tense 1), 11. lecke (Past tense 2)

**13th week:**

**Practical:** Revision

**14th week:**

**Practical:** Revision, End term test

**Self Control Test**

**15th week:**

**Practical:** Oral exam

## Requirements

### Requirements of the course:

#### Attendance

Attending language classes is compulsory. Students should not be absent from more than 10 percent of the classes. If a student is late it is considered as an absence. If a student misses more than two occasions, the final signature may be refused and the student must repeat the course.

Absentees can make up the missed classes in the same week. Maximum one language class may be made up with another group. Students have to ask for the teacher's written permission (by e-mail) 24 hours in advance. Students can attend any class (make up or regular) only if they take their course book with them.

The teacher evaluates active participation in each class. Students are not supposed to share course books in the classes therefore if they fail to bring the course book to the class for the second time the attendance is refused.

#### Testing, evaluation

In each Hungarian language course, students must sit for 2 written language tests and an oral exam. A further minimum requirement is the knowledge of 200 words per semester divided into 10 word quizzes. There are five word quizzes before and another five after the midterm test. If students fail or miss any word quizzes they cannot start their written test and have to take a vocabulary exam that includes all 100 words before the midterm and end term tests. A word quiz can be postponed by a week and students can take it only with their own teacher. Students can get bonus points (5-5%) by taking two extra quizzes containing 20 sentences each before the midterm and end term tests. The sentences are taken from the units of the course book.

The oral exam consists of a role-play from a list of situations covered in the course book. If students fail the oral exam, they fail the whole course. The results of the written tests and the oral exam are combined and averaged.

Based on the final score the grades are given as follows.

Final score	Grade
0-59	fail (1)
60-69	pass (2)
70-79	satisfactory (3)
80-89	good (4)
90-100	excellent (5)

If the final score of the written tests is below 60, the student can take a written remedial exam once covering the whole semester's material.

**Course book:** See the website of the Department of Foreign Languages: [ilekt.med.unideb.hu](http://ilekt.med.unideb.hu).

Audio files to the course book, oral exam topics and vocabulary minimum lists are also available on the website.

## Department of Preventive Medicine, Faculty of Public Health

Subject: **ANATOMY**

Year, Semester: 1st year/2nd semester

Number of teaching hours: **60**

Lecture: **30**

Practical: **30**

**1st week:**

**Lecture:** E1: Covering and lining epithelia

E2: Glandular epithelium

E3: Connective tissues

**Practical:**

Histology of epithelial tissues

**2nd week:**

**Lecture:** E1: Adipose tissue. Cartilage

E2: Bone. Bone formation.

E3: Muscle tissue

**Practical:**

Histology: Connective tissue

**3rd week:**

**Lecture:** E1: Blood vessels

E2: Blood

E3: Bone marrow and blood formation

**Practical:**

Histology: Adipose tissue, cartilage, bone

**4th week:**

**Lecture:** E1: Histology of lymphatic organs I.

E2: Histology of lymphatic organs II.

E3: Fertilization. Cleavage.

**Practical:**

Histology: Bone formation. Muscle tissue.

**5th week:**

**Lecture:** E1: Gastrulation, formation of the mesoderm

E2: Differentiation of the ectoderm and mesoderm

E3: Differentiation of the endoderm, folding of the embryo

**Practical:**

Histology: Blood vessels. Blood. Bone marrow. Blood formation

**6th week:**

**Lecture:** E1: Fetal membranes. Placenta. The fetal period. Twins.

E2: Anatomical terminology.

E3: Osteology and anthropology – introduction.

**Practical:**

Histology of lymphatic organs

**7th week:**

**Lecture:** E1: The upper limb

E2: The lower limb

E3: The skull and the back.

**Practical:**

Anatomy: Upper and lower limbs.

**Self Control Test**

**8th week:**

**Lecture:** E1: Anatomy of the head and neck

E2: Nasal and oral cavities.

E3: The pharynx and the larynx

**Practical:**

Anatomy of the head, neck and back

**9th week:**

**Lecture:** E1: The heart I.

E2: The heart II.

E3: The trachea, lungs and pleura.

**Practical:**

Anatomy of the heart and the respiratory system

**10th week:**

**Lecture:** E1: Histology of the lung

E2: Development of the lung and heart

E3: Circulatory system. The vascular system of the embryo.

**Practical:**

Histology of the respiratory system

**11th week:**

**Lecture:** E1: Development and general organization of the alimentary system

E2: The esophagus. The stomach

E3: Small and large intestines

**Practical:**

Anatomy of the alimentary system

**12th week:**

**Lecture:** E1: The pancreas. The liver I.

E2: The liver II. The system of the portal vein.

E3: The peritoneum. The retroperitoneum

**Practical:**

Histology of the alimentary system

**13th week:**

**Lecture:** E1: Neuroendocrine system. The hypothalamo-hypophyseal axis

E2: Pineal body, thyroid gland, parathyroid gland, adrenal gland

E3: The kidney

**Practical:**

Histology of the endocrine system

**14th week:**

**Lecture:** E1: The urinary system

E2: Male genital organs I.

E3: Male genital organs II.

**Practical:**

Anatomy of the urogenital apparatus

**15th week:**  
**Lecture:** E1: Female genital organs I.  
 E2: Female genital organs II.  
 E3: Development of the urogenital system  
**Practical:**

Histology of the kidney and genital organs

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

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

**2nd week:**  
**Lecture:** Basic data management, types of variables  
**Practical:** Data management 1

**9th week:**  
**Lecture:** Comparing more means  
**Practical:** One-way analysis of variance (ANOVA)

**3rd week:**  
**Lecture:** Presenting data by measures and charts  
**Practical:** Data management 2

**10th week:**  
**Lecture:** Probability, proportion, odds  
**Practical:** Rank tests (Mann-Whitney-Wilcoxon, Kruskal-Wallis, Wilcoxon sign-rank test)

**4th week:**  
**Lecture:** Theoretical basics of interval estimation  
**Practical:** Theoretical basics of interval estimation

**11th week:**  
**Lecture:** Estimating a probability  
**Practical:** Estimating a proportion by exact binomial distribution and z-test

**5th week:**  
**Lecture:** Estimating the population mean  
**Practical:** Estimating the population mean

**12th week:**  
**Lecture:** Comparing two independent proportions, the relationship with measures in epidemiology  
**Practical:** Analyzing the association of two categorical variables

**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

**13th week:**  
**Lecture:** Simple linear regression  
**Practical:** Simple linear regression

**7th week:**  
**Lecture:** Statistical inference by interval estimation and/or hypothesis testing  
**Practical:** Z-test and one-sample t-test of mean

**14th week:**  
**Lecture:** Multiple linear regression  
**Practical:** Multiple linear regression

**8th week:**  
**Lecture:** Comparing two means, two-sample t-test, paired t-test

**15th week:**  
**Lecture:** Survival tables, Kaplan-Meier 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

Subject: **GENETICS AND MOLECULAR BIOLOGY**

Year, Semester: 1st year/2nd semester

Number of teaching hours: **15**

Lecture: **15**

**5th week:**

**Self Control Test**

**7th week:**

**Lecture:** Introduction to genetics. Genes as units of biological information. Transcription and translation.

**8th week:**

**Lecture:** DNA replication. Genes and alleles. Mendel's laws. Dominant and recessive inheritance, understanding X chromosome inheritance.

**9th week:**

**Lecture:** Mutation and DNA repair. Inheritance of genes in population (polygenic and monogenic) Family tree analysis. Mutagenic effects and damages. The Ames test.

**Self Control Test**

**10th week:**

**Lecture:** The structure of DNA. DNA

transcription to RNA. Transcriptomes. Genetic code. Non-coding RNAs.

**11th week:**

**Lecture:** DNA polymorphisms. Gene regulations. Epigenetics.

**12th week:**

**Lecture:** Recombinant DNA technology and the use in medicine and biology. Genomic techniques in basic science and diagnosis.

**13th week:**

**Lecture:** Inherited diseases. The genetic background of cancer development and progression.

**14th week:**

**Lecture:** The Human Genome Project.  
**Self Control Test**

Subject: **HEALTH PSYCHOLOGY**

Year, Semester: 1st year/2nd semester

Number of teaching hours: **15**

Lecture: **15**

**1st week:**

**Lecture:** Basics of Health psychology

**2nd week:**

**Lecture:** Factors influencing health status

**3rd week:**

**Lecture:** Humor, Optimism, Physical Health

**4th week:**

**Lecture:** Positive Psychology

**5th week:**

**Lecture:** Depression, Suicide, Anxiety

**6th week:**

**Lecture:** Health Anxiety, Somatization

**7th week:**

**Lecture:** Pain - psychological aspects of pain, definitions and theories

**8th week:**

**Lecture:** Pain - the role of psychology in pain treatment

**9th week:**

**Lecture:** Burnout in helping professions

**10th week:**

**Lecture:** Prevention and treatment of burnout

**11th week:**

**Lecture:** Health risk behaviours: tobacco, alcohol dependence

Subject: **HISTORY OF PUBLIC HEALTH**

Year, Semester: 1st year/2nd semester

Number of teaching hours: **15**

Lecture: **15**

**1st week:**

**Lecture:** Introduction and definitions

**2nd week:**

**Lecture:** World epidemics in history (I) Pestis and Lepra

**3rd week:**

**Lecture:** World epidemics in history (II) TB, Pox, Influenza

**4th week:**

**Lecture:** Development of isolation system of infected patients

**5th week:**

**Lecture:** Academic achievement of Ignác Semmelweis

**6th week:**

**Lecture:** History of hand hygiene in the light the present practice

**7th week:**

**Lecture:** History of public health

**12th week:**

**Lecture:** Health risk behaviours: drug dependence, sexual behaviour

**13th week:**

**Lecture:** Health risk behaviours: gambling, internet addiction

**14th week:**

**Lecture:** Health risk behaviours: eating disorders, obesity, exercise dependence

**15th week:**

**Lecture:** Mindfulness (demonstration)

**8th week:**

**Lecture:** Famous people in Hung. public health

**9th week:**

**Lecture:** Hungarian public health law in 1876.

**10th week:**

**Lecture:** History of occupational health control

**11th week:**

**Lecture:** Eradication of Ancylostomiasis among mineworkers of Selmecebánya

**12th week:**

**Lecture:** History of the science of nutrition

**13th week:**

**Lecture:** Changing of habits in food consumption in Hungary

**14th week:**

**Lecture:** History of Health Promotion

**15th week:**

**Lecture:** History of teaching of healthy lifestyle



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:** Definition of health and its determinants

**3rd week:**

**Lecture:** Public health: successes, failures and challenges in the 21st century

**4th week:**

**Lecture:** Monitoring and analyzing health state: options and methods

**5th week:**

**Lecture:** Relation between health and economy

**6th week:**

**Lecture:** Theory and practice in health promotion

**7th week:**

**Lecture:** Levels of prevention

**8th week:**

**Lecture:** Organizational structure for public health services in Hungary

**9th week:**

**Lecture:** Global indicators of health state I.

**10th week:**

**Lecture:** Global indicators of health state II.

**11th week:**

**Lecture:** Public health databases

**12th week:**

**Lecture:** North Karelia Program

**13th week:**

**Lecture:** Screening programs

**14th week:**

**Lecture:** Public health programmers

**15th week:**

**Lecture:** WHO Health 2020

## Division of Cell Biology

Subject: **BIOLOGY, CELL BIOLOGY**

Year, Semester: 1st year/2nd semester

Number of teaching hours: **30**

Lecture: **30**

**1st week:**

**Lecture:** 1-2. Cell structure

**2nd week:**

**Lecture:** 3-4. Chemical Compounds of the Cell

**3rd week:**

**Lecture:** 5-6. Membranes, membrane transport

**4th week:**

**Lecture:** 7-8. Ion Channels, Membrane Potential, Calcium homeostasis

**5th week:**

**Lecture:** 9-10. Vesicular Structures and Transport

**6th week:**

**Lecture:** Self Control Test 1  
**Self Control Test**

**7th week:**

**Lecture:** 13-14. Signal Transduction

**8th week:**

**Lecture:** 15-16. The Nucleus, DNA and Chromatin Structure

**9th week:**

**Lecture:** 17-18. Cell Cycle, Meiosis, Mitosis

**10th week:**

**Lecture:** 19-20. Mitochondrion, Cell-Cell Contacts

**Self Control Test**

**11th week:**

**Lecture:** 21-22. Cytoskeleton, Motility

**12th week:**

**Lecture:** self control test 2.

**13th week:**

**Lecture:** 25-26. consultation

**14th week:**

**Lecture:** pre-exam

**Self Control Test**

**15th week:**

**Lecture:** 29-30. consultation

### 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.

Writing the tests is not compulsory. Making up a missed test is not possible. Please have some kind of ID with picture (student card, passport, driving license, etc.) with you. Without that, it is not allowed to write the test.

All self-controls (and exams) consist of two parts. The first part is a Minimal (M, 15 minutes), the second is an Extended (E, 30 minutes) part, which are evaluated jointly. Part M contains True/False type questions and basic definitions (based on the key words). Students must start with part M and it will be collected after 15 minutes. Part E contains True/False, triple True/False and a series of mini-essays based on the key words provided during the semester. Part E is only evaluated if the score on part M is at least 50%.

Self-control scores are calculated along the formulas below (percentage results on the test and essay parts are denoted by M and E).

First self-control: if  $M \geq 50\%$  or more,  $D1 = M + E$

Second self-control: if  $M \geq 50\%$  or more,  $D2 = M + E$

Grade based on self-controls is offered according to the final score (F), which is calculated as  $F = (D1 + D2) / 4$  (after the 2nd test):

Excellent (5): above 85%

Good (4): between 75-84%

Satisfactory (3): between 55-74%

Pass (2): between 45-54%

Fail (1): below 45%

If this score does not convert to a passing, or better grade, we still offer bonus points:  $B = (D1 + D2) / 40$ .

In general, *it is a good strategy to prepare for the self-controls*, as it is possible to pass the course by preparing for half of the whole material at a time, and, even if a passing grade is not offered, bonuses are allocated that help improve the final grade either at the pre-exam or at the exams.

## Institute of Behavioural Sciences, Faculty of Public Health

Subject: **HEALTH SOCIOLOGY**

Year, Semester: 1st year/2nd semester

Number of teaching hours: **30**

Lecture: **30**

**1st week:**

**Lecture:** Introduction to sociology of health, revision of basic sociological concepts and the sociological perspective

**2nd week:**

**Lecture:** Theories of disease causation, the social determinants of health and disease

**3rd week:**

**Lecture:** Society and changing patterns of disease, historical and cross regional perspectives.

**4th week:**

**Lecture:** Sociology and public health, economy and health policy. The sociology of poverty-inequality and health

**5th week:**

**Lecture:** Social structure and health-gender, age and ethnicity

**6th week:**

**Lecture:** Case studies: morbidity and mortality in Nigeria, China, Hungary and the UK from the sociological perspective

**7th week:**

**Lecture:** Health behaviour and illness behaviour, the case of chronic illness

**8th week:**

**Lecture:** The sociology of health care organisations

**9th week:**

**Lecture:** Informal health care, community care and self help

**10th week:**

**Lecture:** Medicalisation

**11th week:**

**Lecture:** Deviance, sick role, anomie and stigma

**12th week:**

**Lecture:** Sociological research methods, measuring health outcomes, the anatomy of research articles

**13th week:**

**Lecture:** The socio-cultural aspects of the AIDS epidemic in Africa

**14th week:**

**Lecture:** Summary, conclusions

**15th week:**

**Lecture:** Final test

**Self Control Test**

## Department of Foreign Languages

Subject: **PROFESSIONAL HUNGARIAN I.**

Year, Semester: 3rd year/2nd semester

Number of teaching hours: **60**

Practical: **60**

**1st week:**

**Practical:** 1. fejezet: Emlékszik?

**2nd week:**

**Practical:** 1. fejezet: Emlékszik? / Tegezés-  
Önözés

**3rd week:**

**Practical:** 2. fejezet: Tegezés-Önözés

**4th week:**

**Practical:** 3. fejezet: Élelmiszerek 1.

**5th week:**

**Practical:** 4. fejezet: Élelmiszerek 2.

**6th week:**

**Practical:** 5. fejezet: Étkezések, étteremben 1.

**7th week:**

**Practical:** 6. fejezet: Étkezések étteremben 2.

**8th week:**

**Practical:** 7. fejezet: Összefoglalás, midterm test

**9th week:**

**Practical:** 8. fejezet: A városban 1.

**10th week:**

**Practical:** 9. fejezet: A városban 2.

**11th week:**

**Practical:** 10. fejezet: Édes otthon 1.

**12th week:**

**Practical:** 11. fejezet: Édes otthon 2.

**13th week:**

**Practical:** 12. fejezet: Összefoglalás

**14th week:**

**Practical:** 13. fejezet: Preparing for the oral exam, end term test

**15th week:**

**Practical:** Oral exam

### Requirements

Requirements of the course:

Attendance

Attending language classes is compulsory. Students should not be absent from more than 10 percent of the classes. If a student is late it is considered as an absence. If a student misses more than two occasions, the final signature may be refused and the student must repeat the course.

Absentees can make up the missed classes in the same week. Maximum one language class may be made up with another group. Students have to ask for the teacher's written permission (by e-mail) 24 hours in advance. Students can attend any class (make up or regular) only if they take their course book with them.

The teacher evaluates active participation in each class. Students are not supposed to share course books in the classes therefore if they fail to bring the course book to the class for the second time the attendance is refused.

Testing, evaluation

In each Hungarian language course, students must sit for 2 written language tests and an oral exam. A further minimum requirement is the knowledge of 200 words per semester divided into 10 word quizzes. There are five word quizzes before and another five after the midterm test. If students fail or miss any word quizzes they cannot start their written test and have to take a vocabulary exam that

includes all 100 words before the midterm and end term tests. A word quiz can be postponed by a week and students can take it only with their own teacher. Students can get bonus points (5-5%) by taking two extra quizzes containing 20 sentences each before the midterm and end term tests. The sentences are taken from the units of the course book.

The oral exam consists of a role-play from a list of situations covered in the course book. If students fail the oral exam, they fail the whole course. The results of the written tests and the oral exam are combined and averaged.

Based on the final score the grades are given as follows.

<b>Final score</b>	<b>Grade</b>
0-59	fail (1)
60-69	pass (2)
70-79	satisfactory (3)
80-89	good (4)
90-100	excellent (5)

If the final score of the written tests is below 60, the student once can take a written remedial exam once covering the whole semester's material.

**Course book:** See the website of the Department of Foreign Languages: [ilekt.med.unideb.hu](http://ilekt.med.unideb.hu).

## Department of Health Management and Quality Assurance, Faculty of Public Health

Subject: **INTRODUCTION TO LAW I.**

Year, Semester: 2nd year/1st semester

Number of teaching hours: **30**

Lecture: **15**

Seminar: **15**

**1st week:**

**Lecture:** Concept of law, evolution of legal thinking

**Seminar:** Evolution of legal thinking

**2nd week:**

**Lecture:** Legal norm

**Seminar:** Branches of law

**3rd week:**

**Lecture:** Legal relationship

**Seminar:** Legislation

**4th week:**

**Lecture:** Legal liability

**Seminar:** Types of legislation

**5th week:**

**Lecture:** Law system

**Seminar:** Applicability, enforceability, validity

**6th week:**

**Lecture:** The state

**Seminar:** Branches of power

**7th week:**

**Lecture:** Force of Law

**Seminar:** Sovereignty

**8th week:**

**Lecture:** Legal interpretation

**Seminar:** Government control

**9th week:**

**Lecture:** Law enforcement

**Seminar:** Ministers, members of government

**10th week:**

**Lecture:** Theories of state formation

**Seminar:** Inviolability

**11th week:**

**Lecture:** The constitutional court

**Seminar:** Constitutionality

**12th week:**

**Lecture:** State functions

**Seminar:** Protection of fundamental rights

**13th week:**

**Lecture:** The judicial system

**Seminar:** Judges

**14th week:**

**Lecture:** Three branches of government

**Seminar:** Compliance and violation of law

**15th week:**

**Lecture:** The institutions of collective labour law

**Seminar:** Subjects and content

## Department of Immunology

Subject: **IMMUNOLOGY**

Year, Semester: 2nd year/1st semester

Number of teaching hours: **30**

Lecture: **30**

**1st week:**

**Lecture:** Tissues/organs of the immune system: Functions of central lymphoid organs. Functions of peripheral lymphoid organs. Features of antigens. Cellular and humoral immunity - Direct and indirect interactions.

**2nd week:**

**Lecture:** Cellular component of the immune system: The development of the major lineages of blood cells.

**3rd week:**

**Lecture:** Antigen recognition (non-specific of specific): Antigen recognition and effector functions of innate immune system. Antigen recognition and effector functions of adaptive immune system.

**4th week:**

**Lecture:** T cells; types and functions: Development of T-lymphocytes, TCR variability. Structure of TCR. Cytotoxic T cells. Helper and regulatory T cells.

**5th week:**

**Lecture:** The collaboration between innate and adaptive immunity - I. Mechanism of antigen presentation: Structure of MHC molecules. Immunological synapse - Coreceptors and costimulatory molecules.

**6th week:**

**Lecture:** Triggering of immune response by B cells: Development of B-lymphocytes, BCR variability. Antibody production by plasma cells. Effector functions of secreted antibodies (neutralization, opsonization, phagocytosis).

**7th week:**

**Lecture:** Structure of antibodies: Production of various antibody isotypes and their functions. Affinity maturation, somatic recombination, isotype switching.

**8th week:**

**Lecture:** The collaboration between innate and adaptive immunity – II. Professional antigen presenting cell mediated T cell polarization. Effect of cytokines on innate immune response.

**9th week:**

**Lecture:** Effector functions of T cells. T cell priming and activation of effector T lymphocytes. Cooperation of T and B cells. T cell-independent and Tcell-dependent B cell activation.

**10th week:**

**Lecture:** The immune response to intracellular pathogens. Immune response to viral infection. The immune response to extracellular pathogens.

**11th week:**

**Lecture:** Inflammation. Chemokine mediated

migration of leukocytes.

**12th week:**

**Lecture:** Immunological memory.

**13th week:**

**Lecture:** Passive and active immunisation.

**14th week:**

**Lecture:** Hypersensitivity reactions.

**15th week:**

**Lecture:** Consultation

## Department of Medical Imaging

Subject: **BASIC BIOCHEMISTRY**

Year, Semester: 2nd year/1st semester

Number of teaching hours: **30**

Lecture: **15**

Seminar: **15**

**1st week:**

**Lecture:** Energy in biology. Oxidative phosphorylation. PDH complex. The citric acid cycle and its regulation. The mitochondrial genome.

**2nd week:**

**Lecture:** Carbohydrate metabolism I. Introduction. Digestion and absorption of carbohydrates. Main pathways of the carbohydrate metabolism, central role of glucose. Absorption and transport of monosaccharides. Carbohydrate metabolism in various tissues. Glycolytic pathway and its regulation. Gluconeogenesis.

**3rd week:**

**Lecture:** Carbohydrate metabolism II. Glycogen in liver and muscle. Degradation and synthesis of glycogen. Regulation of glycogen synthesis and degradation.

**4th week:**

**Lecture:** Carbohydrate metabolism III. Pentose phosphate pathway. Metabolism of galactose and fructose. Metabolism of glucuronic acid. Inherited diseases in the carbohydrate metabolism.

**5th week:**

**Lecture:** Lipid metabolism I. Introduction. Lipid metabolism during well feed stage. Synthesis of fatty acids. Synthesis of triacyl-glycerols and its regulation.

**6th week:**

**Lecture:** Lipid metabolism II. Lipid metabolism during starvation, oxidation of fatty acids (beta oxidation). Ketone bodies. Lipid and carbohydrate metabolism during starvation and well feed state. Biochemistry of diabetes mellitus.

**7th week:**

**Lecture:** Lipid metabolism III. The mevalonate metabolic pathway. Synthesis of cholesterol. Excretion of cholesterol. Steroid hormones. Bile acids. Vitamin D.

**8th week:**

**Lecture:** self-control test I. Week 1-7.

**Self Control Test (topics of 1st-7th weeks)**

**9th week:**

**Lecture:** Lipid metabolism IV. Lipoproteins in blood plasma. Cholesterol transport in the body. Biochemical explanation of elevated blood cholesterol level.

**10th week:**

**Lecture:** Amino acid metabolism I. Formation and utilization 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. . Formation and elimination of ammonia in the body. Nitrogen transport between the tissues.

**11th week:**

**Lecture:** Amino acid metabolism II. The urea cycle and its regulation. Decarboxylation and carboxylation reactions in the amino acid metabolism. C1 transfer and transmethylation, related enzyme and vitamin deficiencies. Fate of the carbon skeleton of amino acids: glucogenic and ketogenic amino acids. Examples: degradation of isoleucine and valine, phenylalanine and related enzyme deficiencies (PKU). Precursor functions: NO, creatine, polyamines, carnitine, catecholamines.

**12th week:**

**Lecture:** Nucleotides metabolism I. 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. Gout.

**13th week:**

**Lecture:** Nucleotides metabolism II. De novo synthesis of pyrimidine nucleotides. Regulation of pyrimidine nucleotide synthesis. Salvage pathways for the pyrimidines. Degradation of pyrimidine nucleotides.

**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. Carbohydrates and lipids. Pathological mechanisms in obesity. Vitamins: structure and biochemical functions. Relationship between the biochemical functions and the symptoms of deficiency.

**15th week:**

**Lecture:** self-control test Week 9-14.

**Self Control Test (topics of 7-14th weeks)**

**Requirements**

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 and assay questions. Grade will be offered on the base of the collected points for all those students, who collected at least 50% of points: pass (2) for 50%-64%; satisfactory (3) for 65%-74%; good (4) for 75%-85%; excellent (5) for 86%-100%. Those students who want to get a better grade can take an exam. Those, who did not collect 50%, have to take a written exam in the exam period.

The end of semester exam is a written one and consists of similar test and assay questions to those of self-control tests. 50 percent is needed to get a passing mark, and the grade increases as shown above.

Attendance at the lectures is highly recommended. Attendance at seminars is mandatory. The signature of the Lecture Book is refused if a student is absent from more than 2 seminars. Seminars will be given by the lecturer (or his/her colleague) based on the previous week's lecture material. Additional possibilities for consultation are provided by the lecturer on Thursdays between 15 and 16 pm. in her office.

Lecture presentations with short explanations are available on the web page of: [https://elearning.med.unideb.hu/Faculty of Medicine/ Department of Medical Imaging/Radiológia Nem Önálló Tanszék-Biokémia/Basic Biochemistry](https://elearning.med.unideb.hu/Faculty%20of%20Medicine/Department%20of%20Medical%20Imaging/Radiologia%20Nem%20Onallo%20Tanszek-Biokemia/Basic%20Biochemistry)



## Department of Medical Microbiology

Subject: **MICROBIOLOGY I.**

Year, Semester: 2nd year/1st semester

Number of teaching hours: **30**

Lecture: **30**

Subject: **MICROBIOLOGY II.**

Year, Semester: 2nd year/2nd semester

Number of teaching hours: **30**

Lecture: **30**

Seminar: **30**

**1st week:**

**Lecture:** The microbial world. 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

### 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 Physiology

Subject: **PHYSIOLOGY**

Year, Semester: 2nd year/1st semester

Number of teaching hours: **45**

Lecture: **30**

Seminar: **15**

**1st week:**

**Lecture:** Membrane transport mechanisms; cell-cell communication; humoral regulation of cell function; Ligands, ligand-binding receptors, signalization pathways. Basis of the excitatory processes, resting potential, local response, action potential. Propagation of the action potential, synaptic function.

**Seminar:** Introduction to Moodle system.

Course requirements.

**2nd week:**

**Lecture:** Compartmentalization of body fluids; blood as a circulating body fluid; plasma and formed elements (red blood cells, white blood cells, platelets). Blood typing. Haemostasis.

**Seminar:** Membrane transport mechanisms, electric characteristics of the cell membrane. Synaptic function.

**3rd week:**

**Lecture:** 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.

**Seminar:** Compartmentalization of body fluids.

The blood as a circulating body fluid.

Homeostasis.

**4th week:**

**Lecture:** Characteristics of peripheral circulation; principles of haemodynamics; functional characteristics of blood vessels; vascular tone; main determinants of arterial blood pressure.

**Seminar:** Cardiac functions

**5th week:**

**Lecture:** Regulation of visceral functions; common and different features of sympathetic and parasympathetic regulation; characteristics of the connections between autonomic nerves

and the innervated structures. Integrated function of the sympathetic nervous system and the adrenal medulla. Neural and humoral regulation of the cardiovascular system.

**Seminar:** Characteristics of the peripheral circulation.

**6th week:**

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

**Seminar:** 1st mid-semester test

**Self Control Test (Topics: cell physiology, blood, circulation)**

**7th week:**

**Lecture:** Function of the digestive system. Motor and secretory function of the gastrointestinal tract; digestion, absorption

**Seminar:** Function of the respiratory system

**8th week:**

**Lecture:** Nutrition (food requirements, regulation of food intake); energy balance, thermoregulation.

**Seminar:** Function of the digestive system.

**9th week:**

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

**Seminar:** Quantitative and qualitative aspects of diet. Thermoregulation and energy balance.

**10th week:**

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

**Seminar:** 2nd mid-semester test

**Self Control Test (Topics: respiration,**

**gastrointestinal system, kidney)**

**11th week:**

**Lecture:** Thyroid hormones (T3 and T4); endocrine regulation of basal metabolic rate. Physiological effects of corticosteroids. Significance of the ionized calcium concentration in the blood; regulation of calcium handling. PTH and calcitonin.

**Seminar:** Basics of the hormonal regulation.

**12th week:**

**Lecture:** Endocrine function of the pancreas; significance and complex hormonal regulation of blood glucose level

**Seminar:** Complex hormonal regulation of the intermediate metabolism.

**13th week:**

**Lecture:** Sexual hormones. Overview of the complex neural regulation. Somatic and autonomic nervous system; voluntary and reflex

regulation

**Seminar:** Osteoporosis. Abnormal blood glucose level.

**14th week:**

**Lecture:** Sensory function of the nervous system. Physiological basis of vision and hearing. Motor function of nervous system: function of skeletal muscles, neural regulatory mechanisms.

**Seminar:** Function of skeletal muscles, neural regulatory mechanisms

**15th week:**

**Lecture:** Summary.

**Seminar:** 3rd mid-semester test

**Self Control Test (Topics: hormonal and neural regulation)**

**Requirements**

Signature of Lecture Book

Attendance at lectures and seminars is compulsory. The signature of the Lecture Book may be refused for the semester in the cases of absences from more than two seminars.

Evaluation during the semester

The knowledge of students will be tested 3 times per semester using a written test system (mid-semester tests). Participation is compulsory.

Examination

The semester is closed by the end-semester exam (ESE) covering the topics of all lectures, seminars. It is not compulsory to take the ESE if the average of mid-semesters test reaches or higher than the passing limit (55%) and none of the individual tests' results are less than 40%.

The mark based on the average score of mid-semester tests is calculated according to the following table:

0 – 54 % fail (1)

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. A and B chances are written tests, C chance is oral presentation.

Actual information is available on the website of the Department of Physiology: <http://phys.dote.hu/index.php?action=oldal&process=showpage&id=46>

The contact hours are completed by an e-learning module containing the course material and assessments.

The e-learning module is available at: <https://elearning.med.unideb.hu/course/view.php?id=434>

The e-learning module is aimed to support the effective learning process. The lectures cannot be

substituted by e-learning activity. You can collect bonus points by fulfilment of different tasks in the module.

10% of the scores can be achieved in the e-learning module. The bonus points (maximum 10% of total) are added to the average score achieved in mid-term tests or ESE, if there is no performance below 40% and the average score is at least 55% without bonus points.

## Department of Preventive Medicine, Faculty of Public Health

Subject: **BASIC EPIDEMIOLOGY**

Year, Semester: 2nd year/1st semester

Number of teaching hours: **30**

Lecture: **15**

Seminar: **15**

**1st week:**

**Lecture:** Epidemiology — Definition, functions, and characteristics

**Seminar:** Epidemiologic milestone

**2nd week:**

**Lecture:** Studying populations - basic demography

**Seminar:** Demographic measures

**3rd week:**

**Lecture:** The Phenomenon of Disease

**Seminar:** The Phenomenon of Disease

**4th week:**

**Lecture:** Measuring Disease and Exposure

**Seminar:** Measuring Disease and Exposure

**5th week:**

**Lecture:** Standardization of rates and ratios

**Seminar:** Practicing standardization

**6th week:**

**Lecture:** Relating risk factors

**Seminar:** Measures of Risk factors to health

**7th week:**

**Lecture:** Analytic study design

**Seminar:** Analytic study designs

**8th week:**

**Lecture:** Causal inference

**Seminar:** Causal inference

**9th week:**

**Lecture:** Sources of error

**Seminar:** Control for errors

**10th week:**

**Lecture:** Multicausality — Confounding

**Seminar:** Confounding factor

**11th week:**

**Lecture:** Multicausality — Effect modification

**Seminar:** Effect modifiers

**12th week:**

**Lecture:** Multicausality — Analysis approaches

**Seminar:** Basic analitic measures

**13th week:**

**Lecture:** Data analysis and interpretation

**Seminar:** Data interpretation

**14th week:**

**Lecture:** Practical aspects of epidemiologic research

**Seminar:** Study design

**15th week:**

**Lecture:** Role of epidemiology

**Seminar:** Concluding remarks

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

Subject: **HEALTH INFORMATICS II.**

Year, Semester: 1st year/2nd semester

Number of teaching hours: **30**

Lecture: **10**

Practical: **20**

**1st 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  
**Self Control Test**

**9th week:**

**Practical:** Some use of library in formation system details: MEDLINE, PUBMED, CD-ROM, and multimedia systems

**10th week:**

**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  
**Self Control Test**

Subject: **PUBLIC HEALTH MEDICINE I.**

Year, Semester: 2nd year/1st semester

Number of teaching hours: **60**

Lecture: **30**

Practical: **30**

**1st week:**

**Lecture:** Clinical diagnosis History, physical examination, investigations Laboratory diagnosis, Imaging techniques, Functional tests

**2nd week:**

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

**3rd week:**

**Lecture:** Haematological diseases. Anaemia, myeloproliferative diseases

**4th week:**

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

**5th week:**

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

**6th week:**

**Lecture:** Metabolic diseases. Diabetes, Hyperlipidaemia, Gout, Porphyria

**7th week:**

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

**8th week:**

**Lecture:** Infectious diseases. Acute and chronic

infectious diseases

**9th week:**

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

**10th week:**

**Lecture:** Endocrinological diseases

**11th week:**

**Lecture:** Diseases of the kidney

**12th week:**

**Lecture:** Neurological diseases

**13th week:**

**Lecture:** Psychiatry. Psychosis, schizophrenia, alcoholism, delirium.

**14th week:**

**Lecture:** Paediatric diseases. Dental diseases

**15th week:**

**Lecture:** The fundamentals of surgery. The operating theatre and surgical procedures

## Department of Foreign Languages

Subject: **PROFESSIONAL HUNGARIAN II.**

Year, Semester: 4th year/1st semester

Number of teaching hours: **60**

Practical: **60**

**1st week:**

**Practical:** 1. fejezet: Emlékszel?

**2nd week:**

**Practical:** 1. fejezet: Emlékszel ? / 2. fejezet: Testrészek 1.

**3rd week:**

**Practical:** 2. fejezet: Testrészek 2.

**4th week:**

**Practical:** 3. fejezet: Tünetek

**5th week:**

**Practical:** 4. fejezet: Gyógyszerek

**6th week:**

**Practical:** 5. fejezet: Klinikák és szakorvosok

**7th week:**

**Practical:** 6. fejezet: Lassítsunk egy kicsit!

**8th week:**

**Practical:** 7. fejezet: Összefoglalás, midterm test

**9th week:**

**Practical:** 8. fejezet: Szoktál kanapészörfölteni?

**10th week:**

**Practical:** 9. fejezet: Jó és rossz szokások

**11th week:**

**Practical:** 10. fejezet: Instrukció

**12th week:**

**Practical:** 11. fejezet: Tessék mondani!

**13th week:**

**Practical:** 12. fejezet: Anamnézis

**14th week:**

**Practical:** 13. fejezet: Összefoglalás / Preparing for the oral exam, end term test

**15th week:**

**Practical:** Oral exam

### Requirements

#### Attendance

Attending language classes is compulsory. Students should not be absent from more than 10 percent of the classes. If a student is late it is considered as an absence. If a student misses more than two occasions, the final signature may be refused and the student must repeat the course.

Absentees can make up the missed classes in the same week. Maximum one language class may be made up with another group. Students have to ask for the teacher's written permission (by e-mail) 24 hours in advance. Students can attend any class (make up or regular) only if they take their course book with them.

The teacher evaluates active participation in each class. Students are not supposed to share course books in the classes therefore if they fail to bring the course book to the class for the second time the attendance is refused.

#### Testing, evaluation

In each Hungarian language course, students must sit for 2 written language tests and an oral exam. A further minimum requirement is the knowledge of 200 words per semester divided into 10 word quizzes. There are five word quizzes before and another five after the midterm test. If students fail or miss any word quizzes they cannot start their written test and have to take a vocabulary exam that includes all 100 words before the midterm and end term tests. A word quiz can be postponed by a week and students can take it only with their own teacher. Students can get bonus points (5-5%) by taking two extra quizzes containing 20 sentences each before the midterm and end term tests. The sentences are taken from the units of the course book.

The oral exam consists of a role-play from a list of situations covered in the course book. If students fail the oral exam, they fail the whole course. The results of the written tests and the oral exam are combined and averaged.

Based on the final score the grades are given as follows.

#### Final score

0-59

60-69

70-79

80-89

90-100

#### Grade

fail (1)

pass (2)

satisfactory (3)

good (4)

excellent (5)

If the final score of the written tests is below 60, the student once can take a written remedial exam once covering the whole semester's material.

Course book: See the website of the Department of Foreign Languages: [ilekt.med.unideb.hu](http://ilekt.med.unideb.hu).

## Department of Health Management and Quality Assurance, Faculty of Public Health

Subject: **INTRODUCTION TO LAW II.**

Year, Semester: 2nd year/2nd semester

Number of teaching hours: **30**

Lecture: **15**

Seminar: **15**

**1st week:**

**Lecture:** Basic laws, the Fundamental law

**Seminar:** Equality before the law

**2nd week:**

**Lecture:** Civil, political and personal rights

**Seminar:** Discrimination

**3rd week:**

**Lecture:** Personality rights

**Seminar:** Protection of reputation

**4th week:**

**Lecture:** Introduction to business law

**Seminar:** Business ethics

**5th week:**

**Lecture:** Corporations

**Seminar:** Starting a business

**6th week:**

**Lecture:** Property law

**Seminar:** Proprietary, possession

**7th week:**

**Lecture:** Nature of real propertyi

**Seminar:** Nonpossessory interests

**8th week:**

**Lecture:** Sale of Property

**Seminar:** Adverse possession

**9th week:**

**Lecture:** Estates in real property

**Seminar:** Land use regulation

**10th week:**

**Lecture:** Introduction to contracts

**Seminar:** Contractual Capacity

**11th week:**

**Lecture:** Liability and negligence

**Seminar:** Sales and product liability

**12th week:**

**Lecture:** Valid and void agreements

**Seminar:** Conclusion to contracts

**13th week:**

**Lecture:** Types of contracts

**Seminar:** Contracts in writing

**14th week:**

**Lecture:** Agency

**Seminar:** Relationship of principal and agent

**15th week:**

**Lecture:** Law of torts

**Seminar:** Intentional torts

## Department of Medical Imaging

Subject: **BIOCHEMISTRY**

Year, Semester: 2nd year/2nd semester

Number of teaching hours: **15**

Lecture: **10**

Seminar: **5**



**1st week:**

**Lecture:** Biochemistry of the liver. Biotransformation. Ethanol metabolism, biochemical consequences of ethanol consumption.

**Seminar:** Introduction

**2nd week:**

**Lecture:** Metabolism of red blood cells. Hemoglobin; structure, function and regulation. Pathological forms of hemoglobin. Serum proteins. Synthesis of hem, regulation of the synthesis in eukariotic cells. Degradation of hem: formation, conjugation and excretion of bile pigments. Disorders in hem metabolism. Iron transport, storage and distribution in the human body. Molecular regulation of the iron level in cells: stability of transferrin receptor and ferritin mRNA, IRE binding protein.

**Seminar:** Biochemistry of liver, biotransformation

**3rd week:**

**Lecture:** Cellular, humoral and vascular aspects

of blood clotting. Structure, activation, adhesion and aggregation of thrombocytes. Classification of blood clotting factors and their role. Blood clotting in the test tube and in the body. Role of thrombocytes and the vascular endothel. Limiting factors, inhibitors and activators of blood coagulation. Fibrinolysis.

**Seminar:** Metabolism iron, hem

**4th week:**

**Lecture:** Biochemistry of the extracellular matrix: function, main components: glucosaminoglycans and proteoglycans, collagens, elastin, adhesion proteins. Synthesis and degradation of collagens.

**Seminar:** Biochemistry of ECM and blood clotting

**5th week:**

**Seminar:** Sport biochemistry

**Self Control Test**

### Requirements

Compulsory reading:

Lecture presentations with short explanations are available on the web page of [https://elearning.med.unideb.hu/Faculty\\_of\\_Medicine/Department\\_of\\_Diagnostic\\_Imaging/Radiológia\\_Nem\\_Önálló\\_Tanszék-Biokémia/Biochemistry](https://elearning.med.unideb.hu/Faculty_of_Medicine/Department_of_Diagnostic_Imaging/Radiológia_Nem_Önálló_Tanszék-Biokémia/Biochemistry)

Achievement during the semester will be evaluated in term of points.

During the semester points can be collected for the self-control test from the material of the lectures. Self control test consist of simple and multiple choice test questions and assay questions. Grade will be offered on the base of the collected points for all those students, who collected at least 50% of points: pass (2) for 50%-64%; satisfactory (3) for 65%-74%; good (4) for 75%-85%; excellent (5) for 86%-100%. Those students who want to get a better grade can take an exam. Those, who did not collect 50% have to take a written exam in the exam period.

The end of semester exam is a written one and consists of similar test and assay questions to those of self-control test. 50 percent is needed to get a passing mark, and the grade increases as shown above.

Requirements:

Attendance at the lectures is highly recommended. Attendance at seminars is mandatory. The signature of the Lecture Book may be refused if a student is absent from more than 1 seminars.

Prerequisites: Basic Biochemistry

## Department of Preventive Medicine, Faculty of Public Health

Subject: **ENVIRONMENTAL HEALTH**

Year, Semester: 2nd year/2nd semester

Number of teaching hours: **60**

Lecture: **30**

Seminar: **30**

**1st week:**

**Lecture:** Scope of environmental health

**Seminar:** Introduction to the seminar work, requirement of the subjects, instructions for preparing power point presentation by the 14th week of the semester

**2nd week:**

**Lecture:** Introduction to toxicology

**Seminar:** The disaster of Seveso – case study

**3rd week:**

**Lecture:** Air pollution and health

**Seminar:** The London smog of December 1952 – case study

**4th week:**

**Lecture:** Water pollution and health

**Seminar:** Environmental arsenic poisoning – case study

**5th week:**

**Lecture:** Impacts of soil contamination on human health

**Seminar:** Environmental cadmium poisoning – case study

**6th week:**

**Lecture:** Health effects of non-ionising radiation and electromagnetic fields

**Seminar:** Mobile phones use and brain cancer risk

**7th week:**

**Lecture:** Health effects of ionising radiation and radioactive substances

**Seminar:** Nuclear accidents and protecting the general public

**8th week:**

**Lecture:** Health effects of noise and vibration

**Seminar:** Midterm test

**9th week:**

**Lecture:** Health effects of noise and vibration

**Practical:** Chemical and microbiological examination of drinking water (laboratory practice for small group)

**10th week:**

**Lecture:** Principles of occupational health

**Practical:** Chemical and microbiological examination of drinking water (laboratory practice for small group)

**11th week:**

**Lecture:** Hazardous substances in the environment

**Seminar:** Environmental PCB poisoning – case study

**12th week:**

**Lecture:** Body defence against the adverse effects of environmental exposures

**Seminar:** Environmental lead poisoning – case study

**13th week:**

**Lecture:** Health implications of waste and hazardous waste

**Seminar:** Chemical safety

**14th week:**

**Lecture:** Global environmental health problems

**Seminar:** Student presentations I.

**15th week:**

**Lecture:** Environmental justice and environmental health policy

**Seminar:** Student presentations II.

Subject: **EPIDEMIOLOGY OF COMMUNICABLE AND NON-COMMUNICABLE DISEASES I.**

Year, Semester: 2nd year/2nd semester

Number of teaching hours: **60**

Lecture: **15**

Seminar: **45**

**1st week:**

**Lecture:** Introduction to the epidemiology of infectious diseases

**Practical:** (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:** The basics of statistical inference. The basics of sample size calculation

**6th 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

**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:** Epidemiology of gastrointestinal diseases 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)

Subject: **PUBLIC HEALTH MEDICINE II.**

Year, Semester: 2nd year/2nd semester

Number of teaching hours: **60**

Lecture: **30**

Practical: **30**

**1st week:**

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

**2nd week:**

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

**3rd week:**

**Lecture:** Haematological diseases. Anaemia, myeloproliferative diseases

**4th week:**

**Lecture:** 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

**5th week:**

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

**6th week:**

**Lecture:** Metabolic diseases. Diabetes, Hyperlipidaemia, Gout, Porphyria

**7th week:**

**Lecture:** Diseases of the pulmonary system.

Bronchial asthma, Chronic obstructive pulmonary disease

**8th week:**

**Lecture:** Infectious diseases. Acute and chronic infectious diseases

**9th week:**

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

**10th week:**

**Lecture:** Endocrinological diseases

**11th week:**

**Lecture:** Diseases of the kidney

**12th week:**

**Lecture:** Neurological diseases

**13th week:**

**Lecture:** Psychiatry. Psychosis, schizophrenia, alcoholism, delirium

**14th week:**

**Lecture:** Paediatric diseases. Dental diseases

**15th week:**

**Lecture:** The fundamentals of surgery. The operating theatre and surgical procedures

## Department of Health Management and Quality Assurance, Faculty of Public Health

Subject: **HEALTH CARE LAW I.**

Year, Semester: 3rd year/1st semester

Number of teaching hours: **30**

Lecture: **15**

Practical: **15**

**1st week:**

**Lecture:** Development of medical officer service's regulation

**Practical:** Sources of administrative law

**2nd week:**

**Lecture:** Medical officer service in the state administration system

**Practical:** Principles of public administration

**3rd week:**

**Lecture:** Power and territorial system of the medical officer service

**Practical:** Types of cases

**4th week:**

**Lecture:** Population health management

**Practical:** Administrative sanctioning measures

**5th week:**

**Lecture:** Public health management

**Practical:** Nonsuit

**6th week:**

**Lecture:** Environmental and settlement health management

**Practical:** Evidence

**7th week:**

**Lecture:** Administrative tasks related to the deceased

**Practical:** Termination

**8th week:**

**Lecture:** Workplace aerosol exposure (dusts, fibers)

**Practical:** Agency

**9th week:**

**Lecture:** Control of the food chain

**Practical:** Case study

**10th week:**

**Lecture:** Rights and obligations of the food chain actors

**Practical:** Case study

**11th week:**

**Lecture:** State's responsibility in the food chain control

**Practical:** Documents, public documents, official certificates

**12th week:**

**Lecture:** Administration tasks of the food chain supervisory authority

**Practical:** Sanctions of public administration

**13th week:**

**Lecture:** Occupational health management

**Practical:** Deadlines

**14th week:**

**Lecture:** Administration and coordination tasks of the health administration bodies

**Practical:** Medical practices – GPs' clusters (GPC)

**15th week:**

**Lecture:** Minimum requirements of health care services

**Practical:** Administrative control

## 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

### Requirements

Attendance at lectures is highly recommended, since the topics in examination cover the lectured topics. During the semester two obligatory test is required to fulfil. You have to take ESE during the examination period.

## Department of Preventive Medicine, Faculty of Public Health

Subject: **APPLIED EPIDEMIOLOGY**

Year, Semester: 4th year/2nd semester

Number of teaching hours: **30**Lecture: **15**Practical: **15****1st week:****Lecture:** Evolution of epidemiological methods**Practical:** Evolution of epidemiological methods**2nd week:****Lecture:** Experimental and observational approaches**Practical:** Experimental and observational approaches**3rd week:****Lecture:** Defining study questions**Practical:** Defining study questions**4th week:****Lecture:** Model preparation**Practical:** Model preparation**5th week:****Lecture:** Most frequently used study designs**Practical:** Most frequently used study designs**6th week:****Lecture:** Statistical inference**Practical:** Statistical inference**7th week:****Lecture:** Statistics in epidemiology (95% confidence interval)**Practical:** Statistics in epidemiology (95% confidence interval)**8th week:****Lecture:** Statistics in epidemiology (t-test, chi-square test, ANOVA)**Practical:** Statistics in epidemiology (t-test, chi-square test, ANOVA)**9th week:****Lecture:** Statistics in epidemiology (risk/odds ratio, Mantel-Haenszel odds ratio)**Practical:** Statistics in epidemiology (risk/odds ratio, Mantel-Haenszel odds ratio)**10th week:****Lecture:** Statistics in epidemiology (linear, logistic and Cox regression)**Practical:** Statistics in epidemiology (linear, logistic and Cox regression)**11th week:****Lecture:** Statistics in epidemiology (standardization)**Practical:** Statistics in epidemiology (standardization)**12th week:****Lecture:** Evaluating validity (confounding factors)**Practical:** Evaluating validity (confounding factors)**13th week:****Lecture:** Evaluating validity (selection bias)**Practical:** Evaluating validity (selection bias)**14th week:****Lecture:** Evaluating validity (measurement bias)**Practical:** Evaluating validity (measurement bias)**15th week:****Lecture:** Answering study question and practical conclusions**Practical:** Answering study question and practical conclusions

Subject: **BASICS IN HEALTH PROMOTION AND POLICY**

Year, Semester: 3rd year/1st semester

Number of teaching hours: **45**

Lecture: **15**

Practical: **30**

**1st week:**

**Lecture:** Basics and values in policy. Policy networks and subsystems.

**2nd week:**

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

**3rd week:**

**Lecture:** The policy process. Health policy analysis.

**4th week:**

**Lecture:** Healthy public policies. Health impact assessment.

**5th week:**

**Lecture:** Goals and functions of health care systems. Preventive and curative care.

**6th week:**

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

**7th week:**

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

**8th week:**

**Lecture:** Priority setting in health care.

Performance measurement.

**9th week:**

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

**10th week:**

**Lecture:** The international arena of public health policy.

**11th week:**

**Lecture:** The concept of health promotion. Political decisions in health.

**12th week:**

**Lecture:** Defining and measuring health in health care and health promotion.

**13th week:**

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

**14th week:**

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

**15th week:**

**Lecture:** National and international infrastructure of health promotion.

### 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.



Subject: **EPIDEMIOLOGY OF COMMUNICABLE AND NON-COMMUNICABLE DISEASES II.**

Year, Semester: 3rd year/1st semester

Number of teaching hours: **45**

Lecture: **15**

Seminar: **30**

**1st week:**

**Lecture:** Vaccinations, Vaccines

**Seminar:** Vaccine efficacy

**2nd week:**

**Lecture:** Emerging and re-emerging infectious diseases. 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:** The screening systems. 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:** The epidemiology and prevention of accidents. Basics of health economics

**15th week:**

**Lecture:** Epidemiology and prevention of musculoskeletal disorders

**Seminar:** Basics of health economics

Subject: **OCCUPATIONAL HEALTH**

Year, Semester: 3rd year/1st semester

Number of teaching hours: **60**

Lecture: **30**

Seminar: **24**

Practice: **6**

**1st week:**

**Lecture:** Introduction to occupational health; History and the subject of occupational medicine and hygiene

**Seminar:** Organizational structure of occupational health

**2nd week:**

**Lecture:** Physiology of work, safety of working process

**Seminar:** Criteria, classification and reporting of occupational diseases

**3rd week:**

**Lecture:** 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)

**Seminar:** Mutagenicity 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:** Occupational psychosocial hazards

**Seminar:** Workplace communication (situation exercise)

**13th week:**

**Lecture:** Occupational health and safety inspection, comprehensive evaluation of the work environment; occupational risk assessment

**Seminar:** Preparation of occupational hygiene reports (case study)

**14th week:**

**Lecture:** Occupational health and safety evaluation of industrial processes I

**Seminar:** Preparation for student presentations

**15th week:**

**Lecture:** Occupational health evaluation of industrial processes II.

**Seminar:** Student presentations

Subject: **PUBLIC HEALTH MEDICINE III.**

Year, Semester: 3rd year/1st semester

Number of teaching hours: **60**

Lecture: **30**

Practical: **30**

**1st week:**

**Lecture:** Important gynecological disorders (STDs, gynecological neoplasms, infertility). Causes, prevention and treatment options.

**Practical:** General gynecological examination. Taking a proper gynecological history. The most common complaints in gynecology.

**2nd week:**

**Lecture:** Important gynecological disorders (contraception, the basics of sexual education).

**Practical:** General gynecological examination. Imaging techniques and laboratory tests in gynecology. Contraceptive methods. The basics of infertility. Preparing for the child.

**3rd week:**

**Lecture:** Important disorders in obstetrics (Premature birth. Complications, prevention and treatment)

**Practical:** General obstetrical examination. Taking a proper obstetrical history. Obstetrical check-ups.

**4th week:**

**Lecture:** Different types of gastrointestinal infections (gastroenteritis)

**5th week:**

**Lecture:** Hepatitis

**6th week:**

**Lecture:** Nosocomial infections

**7th week:**

**Lecture:** The commonest disorders and causes of death in Pediatrics, Prevention in Pediatrics

**Practical:** Case reports

**8th week:**

**Lecture:** Oncology in Pediatrics, Prevention and rehabilitation

**Practical:** Case reports

**9th week:**

**Lecture:** Diseases of the periodontium

**Practical:** Prevention of periodontal disorders

**10th week:**

**Lecture:** The commonest disorders in Dentistry (caries)

**Practical:**

Dental screening, prevention and treatment

**11th week:**

**Lecture:** The commonest types of malignancies, risk factors and social effects.

**Practical:**

Case presentations connected to lecture topics between

**12th week:**

**Lecture:** Prevention and diagnosis in Oncology

**Practical:**

Case presentations connected to lecture topics between

**13th week:**

**Lecture:** Clinical features and treatment options of the commonest malignancies (breast cancer, lung cancer, prostate cancer, colic cancer)

**Practical:**

Case presentations connected to lecture topics between

**14th week:**

**Lecture:** Palliation. Miracle drugs in Oncology

**Practical:**

Case presentations connected to lecture topics between

**15th week:**

**Lecture:** The physiology of seeing. The commonest disorders of the eye

**Practical:**

Physical and instrumental examinations in Ophthalmology

## Department of Family and Occupational Medicine, Faculty of Public Health

Subject: **CHILD AND ADOLESCENT HEALTH**

Year, Semester: 3rd year/2nd semester

Number of teaching hours: **30**

Lecture: **30**

**1st week:**

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

**2nd week:**

**Lecture:** Child health services: organisation, place in the health care system, tasks and activities

**3rd week:**

**Lecture:** Development infants, children and adolescents. Methods of the assessment.

**4th week:**

**Lecture:** Infant feeding and nutrition in childhood and adolescence.

**5th week:**

**Lecture:** Primary prevention infants, children and adolescents.

**6th week:**

**Lecture:** Childhood surveillance and screening.

**7th week:**

**Lecture:** Continuous care of children with chronic diseases.

**8th week:**

**Lecture:** Care of infants, children, adolescents

with special needs.

**9th week:**

**Lecture:** Physical activity and physical education.

**10th week:**

**Lecture:** Obesity and its consequences in childhood and adolescence.

**11th week:**

**Lecture:** Smoking in childhood and adolescence.

**12th week:**

**Lecture:** Alcohol and drug abuse in childhood and adolescence.

**13th week:**

**Lecture:** Puberty, its disturbances and adolescents' sexuality.

**14th week:**

**Lecture:** Psychological problems and harmful behaviours in adolescence.

**15th week:**

**Lecture:** Health improvement in childhood and adolescence: health education, health protection

## Department of Health Management and Quality Assurance, Faculty of Public Health

Subject: **HEALTH CARE LAW II.**

Year, Semester: 3rd year/2nd semester

Number of teaching hours: **30**

Lecture: **15**

Practical: **15**

<p><b>1st week:</b>  <b>Lecture:</b> Principles of health care law  <b>Practical:</b> The role of the state</p> <p><b>2nd week:</b>  <b>Lecture:</b> System of health services  <b>Practical:</b> Role of the government and society</p> <p><b>3rd week:</b>  <b>Lecture:</b> Health care system, primary care, outpatient and inpatient care, other health services  <b>Practical:</b> Authority</p> <p><b>4th week:</b>  <b>Lecture:</b> Professional requirements of health services  <b>Practical:</b> Operating principles</p> <p><b>5th week:</b>  <b>Lecture:</b> Health care organization and management  <b>Practical:</b> Law and ethics</p> <p><b>6th week:</b>  <b>Lecture:</b> Public health  <b>Practical:</b> Possibilities of enforcement</p> <p><b>7th week:</b>  <b>Lecture:</b> Health promotion, family and women's care, youth health care, sports health care, environment and settlement health, food and nutrition health  <b>Practical:</b> Criminal and civil sanctions</p> <p><b>8th week:</b>  <b>Lecture:</b> Radiation Health, occupational health, infectious disease control  <b>Practical:</b> Research Involving Human Gametes</p>	<p>and Embryos</p> <p><b>9th week:</b>  <b>Lecture:</b> Patients' rights and obligations  <b>Practical:</b> Rules and conditions of medical sterilization</p> <p><b>10th week:</b>  <b>Lecture:</b> Rights and duties of health care workers  <b>Practical:</b> Procedures of authority</p> <p><b>11th week:</b>  <b>Lecture:</b> Medical research on humans  <b>Practical:</b> Supporting and enforcing health-oriented legislation</p> <p><b>12th week:</b>  <b>Lecture:</b> Special procedures related to human reproduction, research involving human embryos and gametes, sterilization  <b>Practical:</b> Administration and coordination</p> <p><b>13th week:</b>  <b>Lecture:</b> Treatment and care of psychiatric patients  <b>Practical:</b> Medical inspection</p> <p><b>14th week:</b>  <b>Lecture:</b> Organ and tissue transplantation, blood provision  <b>Practical:</b> Health development</p> <p><b>15th week:</b>  <b>Lecture:</b> Provisions related to the deceased, disaster medical care  <b>Practical:</b> Tobacco taxation</p>
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## Department of Preventive Medicine, Faculty of Public Health

Subject: **BASICS OF QUALITY ASSURANCE**  
 Year, Semester: 4th 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:** Prioritizing 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.

### Requirements

Regular attending for the course

Presentation of a quality improvement project

Examination: Written form

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 environmental 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 pharmaceuticals

Subject: **PUBLIC HEALTH MEDICINE IV.**

Year, Semester: 3rd year/2nd semester

Number of teaching hours: **60**

Lecture: **30**

Practical: **30**

**1st week:**

**Lecture:** Clinical diagnosis History, physical examination, investigations Laboratory diagnosis, Imaging techniques, Functional tests

**2nd week:**

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

**3rd week:**

**Lecture:** Haematological diseases Anaemia, myeloproliferative diseases

**4th week:**

**Lecture:** 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

**5th week:**

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

**6th week:**

**Lecture:** Metabolic diseases Diabetes, Hyperlipidaemia, Gout, Porphyria

**7th week:**

**Lecture:** Diseases of the pulmonary system

Bronchial asthma, Chronic obstructive pulmonary disease

**8th week:**

**Lecture:** Infectious diseases Acute and chronic infectious diseases

**9th week:**

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

**10th week:**

**Lecture:** Endocrinological diseases

**11th week:**

**Lecture:** Diseases of the kidney

**12th week:**

**Lecture:** Neurological diseases

**13th week:**

**Lecture:** Psychiatry Psychosis, schizophrenia, alcoholism, delirium

**14th week:**

**Lecture:** Paediatric diseases Dental diseases

**15th week:**

**Lecture:** The fundamentals of surgery The operating theatre and surgical procedures

## Department of Health Management and Quality Assurance, Faculty of Public Health

Subject: **HEALTH CARE LAW III.**

Year, Semester: 4th year/1st semester

Number of teaching hours: **30**

Lecture: **15**

Practical: **15**

**1st week:**

**Lecture:** Evolution of the welfare state and social service systems

**Practical:** Procedures and systems

**2nd week:**

**Lecture:** Health care as part of the social system

**Practical:** E-admin

**3rd week:**

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

**Practical:** Basic principles

**4th week:**

**Lecture:** Institutional social care and management

**Practical:** Budget

**5th week:**

**Lecture:** European Social Charter and its Rules

**Practical:** Links with health and public health law

**6th week:**

**Lecture:** The evolution of social insurance systems

**Practical:** Links with health and public health law

**7th week:**

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

**Practical:** Links with health and public health law

**8th week:**

**Lecture:** Accident insurance benefits in Hungary

and in Western Europe

**Practical:** European unity

**9th week:**

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

**Practical:** Procedures

**10th week:**

**Lecture:** Health insurance benefits provided in nature

**Practical:** EU legislation

**11th week:**

**Lecture:** International health organizations

**12th week:**

**Lecture:** Pension insurance systems in Western Europe

**Practical:** Basic principles of hiring

**13th week:**

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

**Practical:** Elements of the contract

**14th week:**

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

**Practical:** Limitation and special rules

**15th week:**

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

**Practical:** Liability for damages



## Department of Preventive Medicine, Faculty of Public Health

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 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 environmental 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 pharmaceuticals

Subject: **HEALTH PROMOTION**

Year, Semester: 4th year/1st semester

Number of teaching hours: **30**

Lecture: **10**

Practical: **20**

**1st week:**

**Lecture:** History and principles of health promotion.

**2nd week:**

**Lecture:** Determinants of health: policy.

**3rd week:**

**Practical:** Determinants of health: environment and health care.

**4th week:**

**Practical:** Determinants of health: behaviour of individuals and groups. Models of health

**5th week:**

**Lecture:** Life course in health: childhood and adult health.

**6th week:**

**Practical:** Determinants of health: communities.

**7th week:**

**Practical:** Community development.

**8th week:**

**Lecture:** Models of behaviour change.

**9th week:**

**Practical:** Behaviour change: motivation and skill improvement.

**10th week:**

**Practical:** Behaviour change among adolescents: peer education.

**11th week:**

**Practical:** Health promotion at settings.

**12th week:**

**Practical:** Basics of project planning.

**13th week:**

**Practical:** Public health projects.

**14th week:**

**Lecture:** Public health problems of disadvantaged populations.

**15th week:**

**Practical:** Group presentations

Subject: **NUTRITIONAL HEALTH AND FOOD SAFETY**

Year, Semester: 4th year/1st semester

Number of teaching hours: **45**

Lecture: **15**

Seminar: **30**

**1st week:**

**Lecture:** Introduction to nutritional health

**Seminar:** Nutrition risk screening questionnaire

**2nd week:**

Lecture: Nutrients and energy metabolism

Seminar: Food balance sheets

**3rd week:**

Lecture: Energy and protein requirements

Seminar: Energy practice 1. Energy expenditure

**4th week:**

Lecture: Dietary assessment

Seminar: Energy practice 2. Energy intake

**5th week:**

Lecture: Obesity epidemic

Seminar: Assessment of nutritional status.

Anthropometry

**6th week:**

Lecture: Nutritional deficiency disorders

Seminar: Prevention of nutritional deficiency disorders (project planning, small group work)

**7th week:**

Lecture: Diet and cardiovascular diseases

Seminar: Diet and prevention of chronic non-communicable diseases (poster presentation, small group work)

**8th week:**

Lecture: Diet and cancer

Seminar: Diet, macro- and micronutrients in health promotion 1. (student ppt presentations and

discussion)

**9th week:**

Lecture: Diabetes prevention strategies

Seminar: Diet, macro- and micronutrients in health promotion 2. (student ppt presentations and discussion)

**10th week:**

Lecture: Dietary guidelines

Seminar: Food competition day. (Food preparation and nutrient calculation of dishes)

**11th week:**

Lecture: Food safety. HACCP systems

Seminar: Food processing, preservations, food additives and regulations

**12th week:**

Lecture: Epidemiology of foodborne diseases

Seminar: Foodborne outbreak investigations (case study)

**13th week:**

Lecture: Food allergy and intolerance

Seminar: Food hygiene

**14th week:**

Lecture: Genetically modified food products

Seminar: Food law.

**15th week:**

Lecture: Food choice

Seminar: Consultation

### Requirements

Attendance on lectures and seminars is obligatory. If the number of absences from the seminar is more than two, the lecture book cannot be signed. Exam: written test, which assessed on five grade scale. Evaluation: less than 50% fail (1), 50-60% pass (2), 60-70% satisfactory (3), 70-80% good (4), more than 80% excellent (5).

Subject: **THESIS I.**

Year, Semester: 4th year/1st semester

Number of teaching hours:

Practical: **180**

## Department of Health Management and Quality Assurance, Faculty of Public Health

Subject: **HEALTH CARE LAW IV.**

Year, Semester: 4th year/2nd semester

Number of teaching hours: **30**

Lecture: **15**

Practical: **15**

**1st week:**

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

**Practical:** Special rules

**2nd week:**

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

**Practical:** Career plan

**3rd week:**

**Lecture:** Subjects and establishment of civil service legal relationship

**Practical:** Disciplinary procedures

**4th week:**

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

**Practical:** Salary

**5th week:**

**Lecture:** Career development of civil servants

**Practical:** The social security and health insurance system

**6th week:**

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

**Practical:** Legal tools

**7th week:**

**Lecture:** Remuneration of civil servants

**Practical:** Legal tools

**8th week:**

**Lecture:** Liability of civil servants, disciplinary liability

**Practical:** Tasks

**9th week:**

**Lecture:** Civil servant's liability for damages

**Practical:** Tasks

**10th week:**

**Lecture:** Employer's liability for damages

**Practical:** Protecting interests - Chambers

**11th week:**

**Lecture:** Termination of the civil service legal relationship 1

**Practical:** The patient, as a person

**12th week:**

**Lecture:** Termination of the civil service legal relationship 2

**Practical:** Dignity

**13th week:**

**Lecture:** Civil service legal disputes

**Practical:** Mediation

**14th week:**

**Lecture:** Special conditions of employment in the civil service

**Practical:** The system of representation

**15th week:**

**Lecture:** The institutions of collective labour law

**Practical:** Court cas

Subject: **BASICS OF ECONOMY AND MANAGEMENT**

Year, Semester: 1st 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 labor 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. Interdependence 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 week:**

**Lecture:** Effective communication in connection

with tenders in the projects' preparatory, effectuate and later stages.

**11th week:**

**Lecture:** Tendering possibilities in public health nowadays.

**12th week:**

**Lecture:** Quality control 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.

### Requirements

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 required 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 Preventive Medicine, Faculty of Public Health

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 environmental 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 pharmaceuticals

Subject: **THESIS II.**

Year, Semester: 4th year/2nd semester

Number of teaching hours: **60**

Practical: **60**

## Department of Physiotherapy, Faculty of Public Health

Subject: **RESEARCH METHODOLOGY**

Year, Semester: 3rd year/2nd semester

Number of teaching hours: **30**

Lecture: **30**

**1st week:**

**Lecture:** The principles of scientific inquiry.  
Validity, reliability, precision of research

**2nd week:**

**Lecture:** Types and process of scientific research

**3rd week:**

**Lecture:** Ethics of science

**4th week:**

**Lecture:** Methods of quantitative research I

**5th week:**

**Lecture:** Methods of quantitative research II

**6th week:**

**Lecture:** Methods of qualitative research

**7th week:**

**Lecture:** Orientation in the library

**8th week:**

**Lecture:** Orientation in the scientific literature I

**9th week:**

**Lecture:** Orientation in the scientific literature II

**10th week:**

**Lecture:** Study design

**11th week:**

**Lecture:** Collecting data, measurements, observations

**12th week:**

**Lecture:** Data storage, processing, and analysis

**13th week:**

**Lecture:** Interpreting, presenting and publishing results. Evidence-based practice

**14th week:**

**Lecture:** Rules of scientific publication

**15th week:**

**Lecture:** Rules of presentation. Requirements of degree thesis

### Requirements

Attendance at lectures is highly recommended, since the topics in examination cover the lectured topics. E-learning course contains the course material.

The course is closed by a written end of semester exam (ESE). The grading scale is as follows:

<54%: (1) fail

55-64%: (2) pass

65-74%: (3) satisfactory

75-84%: (4) good

85-100%: (5) excellent

The course supported by an e-learning module. The attendance at lectures cannot be replaced by the e-learning activity! 10% of the scores in the ESE can be achieved in the e-learning module. The bonus points are added to the score achieved in the written exam above 55%. The „fail” cannot be improved by bonus points.

## Department of Preventive Medicine

Subject: **TERRESTRIAL ENVIRONMENTAL PROTECTION**

Year, Semester: 2nd year/2nd semester

Number of teaching hours: **20**

Lecture: **20**

**1st week**

**Lecture:**

Introduction to terrestrial environmental protection. The fields and activities of environmental protection.

**2nd week**

**Lecture:**

Human impacts on the Biosphere. Examination of global environmental problems. The Limits to Growth - Meadow's World Models.

**3rd week**

**Lecture:**

Scope and definition of sustainable development. Agenda 21: Programme of action for sustainable development.

**4th week**

**Lecture:**

Composition and structure of the Earth's Atmosphere. Air pollution. Main pollutants and sources. Natural cleaning process of the Atmosphere.

**5th week**

**Lecture:**

Major anthropogenic sources of air pollution. Sulphurous and photochemical smog. Different methods of prevention and control of air pollution.

**6th week**

**Lecture:**

Temperature changes. Effects of recent climate change. Responses to global warming. Effects of air pollutants on different organisms. Economic damages caused by air pollution.

**7th week**

**Lecture:**

Emissions of chemicals leading to acidification. Acid deposition. Adverse effects of acid precipitation. Prevention methods.

**8th week**

**Lecture:**

Identification of ozone. The history and importance of the ozone layer. The ozone hole and its causes. Consequences of ozone layer depletion.

**9th week**

**Practice:**

Renewable energy technologies: wind power, hydropower, solar energy, biomass, geothermal energy.

**10th week**

**Lecture:**

Soil protection. The main causes of soil pollution. Environmental impacts of intensive farming. Types of fertilizer. Environmental effects of fertilizer use. Definition of pesticide. Classification, environmental- and health effects of pesticides.

**11th week**

**Lecture:**

Waste types (state, source, environmental threats). Composition of waste. The major problems caused by waste production. Waste management (prevention and waste minimisation; reuse and recycling; methods of disposal).

**12th week**

**Lecture:**

Concept of sound. Sound pressure level, frequency and propagation. The acoustic environment. Health effects of noise. Noise control.

**13th week**

**Practice:**

Visit to the Botanic Garden, University of Debrecen.

**14-15th week**

**Practice:**

Student presentations.

**Requirements**

Attendance on the lectures is highly recommended, participation in practices is obligatory. Furthermore, during the semester students should give an oral presentation from a freely chosen topic in the fields of terrestrial environmental protection by using the scientific literature. Attendance of the practices and a well-made presentation are preconditions of fulfilling the requirements.

Examination: At the end of the semester, students are required to take a Final Exam. The exam includes 15 multiple choice test questions and 5 short questions (20 x 2 points). The control tests, including the topics of the lectures and practices, will be given during the semester

Subject: **AQUATIC ENVIRONMENTAL PROTECTION**

Year, Semester: 3rd year/1st semester

Number of teaching hours: **20**

Lecture: **20**

**1st week**

**Lecture:**

Introduction to aquatic environmental protection.

**2nd week**

**Lecture:**

Hydrosphere. Water distribution on Earth. Hydrologic cycle and its components.

**3rd week**

**Lecture:**

Water management. Concept of water resources management. Water demands and water use.

Static and dynamic water resources

**4th week**

**Lecture:**

Water quality I: Water quality indicators: physical, chemical and biological parameters. Biological water quality classification (trophity, halobity, saprobity, toxicity). Water quality protection.

**5th week**

**Practice:**

Water quality II: Evaluation of water toxicity by test organisms: Algal growth inhibition test, Daphnia acute immobilization test, Fish acute toxicity test and Seed germination (*Sinapis alba*) test.

**6th week**

**Lecture:**

The EU Water Framework Directive (WFD). Objectives and implementation of WFD.

**7th week**

**Lecture:**

Characterization of surface and groundwater resources. Principal sources and causes of

water pollution. General categories of water contaminants. Control of water pollution.

**8th week**

**Lecture:**

Definition and requirements of drinking water. Drinking water production.

**9th week**

**Lecture:**

Definition of wastewater. Types and characteristics of wastewater. Wastewater treatment.

**10th week**

**Lecture:**

Cultural eutrophication. Causes of eutrophication. Eutrophication processes. Controlling eutrophication.

**11th week**

**Lecture:**

Wetlands. Characteristics of these habitats and the main causes of their destruction. Reservoirs of biodiversity.

**12th week**

**Lecture:**

The main international conferences on the protection of the environment from Stockholm to present days. The Ramsar Convention.

**13th week**

**Practice:**

Visit to the Surface Water Treatment Plant in Balmazújváros.

**14-15th week**

**Practice:** Student presentations



**Requirements:**

Attendance on the lectures is highly recommended, participation in practices is obligatory. Furthermore, during the semester students should give an oral presentation from a freely chosen topic in the fields of terrestrial environmental protection by using the scientific literature. Attendance of the practices and a well-made presentation are preconditions of fulfilling the requirements.

**Examination**

At the end of the semester, students are required to take a Final Exam. The exam includes 15 multiple choice test questions and 5 short questions (20 x 2 points). The control tests, including the topics of the lectures and practices, will be given during the semester.

Subject: **CLINICAL PROPEDEUTICS**

Year, Semester: 2nd year/1st semester

Number of teaching hours: **30**

Lecture: **15**

Practice: **15**

**1st week**

The behaviour of the staff in the medical and health care services

**2nd week**

Anamnesis, general physical examination

**3rd week**

Inspection, palpation, percussion, auscultation

**4th week**

Measurement of body temperature, body mass index and blood pressure

**5th week**

Radiology methods

**6th week**

Invasive and non-invasive instrumental examinations in cardio pulmonology

**7th week**

Methods of nuclear medicine

**8th week**

Laboratory diagnostic procedures

**9th week**

Physical examination of the abdomen

**10th week**

Ascites, vomitus, diarrhoea, obstipation

**11th week**

Reasons and recognition of the acute abdomen syndrome

**12th week**

Examination of the urogenital tract

**13th week**

Basic investigations of the movement and nervous systems

**14-15th week**

Practicals give possibilities for individual trainings in the basic methods

Subject: **WORK SAFETY AND FIRE PROTECTION**

Year, Semester: 1st year/1st semester

Number of teaching hours: **15**

Seminar: **15**

Subject: **BASICS OF PEDAGOGY**

Year, Semester: 1st year/1st 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

## Department of Behavioural Sciences

Subject: **HEALTH ANTHROPOLOGY**

Year, Semester: 1st year/1st semester

Number of teaching hours: **30**

Lecture: **30**

**1st week:**

Lecture: Introduction, methods, tasks

**2nd week:**

Lecture: The importance of an anthropological perspective in public health

**3rd week:**

Lecture: Methods of approach I.: science vs. hermeneutics

**4th week:**

Lecture: Methods of approach II: modern vs. postmodern

**5th week:**

Lecture: How culture can influence disease and health issues

**6th week:**

Lecture: Relationship between CAM and biomedicine I.

**7th week:**

Lecture: Relationship between CAM and biomedicine II

**8th week:**

Lecture: Body concepts in cultural perspectives

**9th week:**

Lecture: Medicalization in cultural context

**10th week:**

Lecture: Medicalization and health care systems II.

**11th week:**

Lecture: Pain and suffering in cultural context

**12th week:**

Lecture: The aspects and meanings of death and dying

**13th week:**

Lecture: Mental health in cultural context I.

**14th week:**

Lecture: Mental health in cultural context II.

**15th week:**

Lecture: Summary

Subject: **GERONTOLOGY**

Year, Semester: 3rd year/2nd semester

Number of teaching hours: **30**

Lecture: **20**

**1st week:**

**Lecture:** Basic terms of gerontology

**2nd week:**

**Lecture:** Gerontology in mirror of statistics I:  
Process of aging of individuals

**3rd week:**

**Lecture:** Gerontology in mirror of statistics  
II: Tendencies of mortality

**4th week:**

**Lecture:** Systemic approach of gerontology

**5th week:**

**Lecture:** Biogerontology: the basics

**6th week:**

**Lecture:** Biogerontology: aging theories

**7th week:**

**Lecture:** Biogerontology: experimental  
gerontology

**8th week:**

**Lecture:** Biogerontology: aging and diseases

**9th week:**

**Lecture:** Geriatrics: Physiological as well as  
pathological alterations due to aging I

**10th week:**

**Lecture:** Geriatrics: Physiological as well as  
pathological alterations due to aging II

**11th week:**

**Lecture:** Social gerontology:  
Gerontopsychology

**12th week:**

**Lecture:** Social gerontology: Aspects of the  
society regarding aging

**13th week:**

**Lecture:** Prevention and aging

**14th week:**

**Lecture:** Possibilities for the slowing down  
of the aging process

**15th week:**

**Lecture:** Repetition, discussion

**Requirements**

Attendance at lectures is highly recommended, since the topics in examination cover the lectured topics. Students are encouraged to prepare and present own presentations from the topics.

ESE will be carried out as a written exam. The final score will be evaluated on the basis of the written exam and the personal activity during the semester.

Subject: **BASICS OF DIETETICS**

Year, Semester: 3rd year/2nd semester

Number of teaching hours: **30**

Lecture: **15**

Practice: **15**

**1st week**

Introduction to dietetic nutrition; basic definitions; energy and food requirements; nutrients (proteins, fats, carbohydrates; vitamins, minerals)

**2nd week**

Characteristics of the nutrition of the Hungarian population

**3rd week**

Principles of the healthy nutrition; food pyramid

**4th week**

Food product knowledge; cereals; vegetables, fruits, milk products; meats, fats, oils, sweeties, drinks – their importance in the nutrition physiology

**5th week**

Undernourishment and its consequences

**6th week**

Metabolic syndrome, its dietetic treatment; diet in the diseases of the movement system; vegetarian diets

**7th week**

Diet in pregnancy and lactation

**8th week**

Practice: Calculation of the energy and nutrient content of foods

**9th week**

Kitchen technologies for health prevention

**10th week**

Construction and evaluation of a health protective diet

**11th week**

Possibilities of roboration: Diet in obesity and diabetes mellitus.

**12th week**

Dietetic treatment of osteoporosis

**13th week**

Patient health education

**14th week**

Practice

**15th week**

Practice

Subject: **HEALTH PROMOTION IN PRIMARY CARE**

Year, Semester: 4th year/1st semester

Number of teaching hours: **15**

Practice: **15**

**1st week:**

Practical: Introduction to health promotion. Determinants of health: environment and health care

**2nd week:**

Practical: History and principles of health promotion. Determinants of health: policy

**3rd week:**

Practical: Health promotion at settings. Prevention

**4th week:**

Practical: Prevention. Project, program, strategy. Basics of project planning

**5th week:**

Practical: Public health projects

**6th week:**

Practical: Physiotherapist in the healthcare system

**7th week:**

Practical: Physiotherapy in the primary care

**Requirements**

Attendance at practices is compulsory. If you miss more than 2 practical hours, the signature of the Lecture Book may be refused.

**CHAPTER 8**  
**LIST OF TEXTBOOKS**

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**Introduction to Biophysics I:**

Serway/Vuille: College Physics. 10th edition. Cengage Learning, 2014. ISBN: 978-1285737027.  
Gáspár R.: Physics for BMC students. University of Debrecen

**Hungarian Language:**

Gerő Ildikó-Kovács Judit: Színesen magyarul. 2017.

**Introduction to Biology I:**

Sadava, Hillis, Heller, Berenbaum: Life: The Science of Biology. 10th edition. Sinauer Macmillan, 2013. ISBN: 978-1-4641-4124-9.

**Introduction to Biophysics II:**

Serway/Vuille: College Physics. 10th edition. Cengage Learning, 2014. ISBN: 978-1285737027.  
Gáspár R.: Physics for BMC students. University of Debrecen

**Introduction to Biology II:**

Sadava, Hillis, Heller, Berenbaum: Life: The Science of Biology. 10th edition. Sinauer Macmillan, 2013. ISBN: 978-1-4641-4124-9.

**Introduction to Biophysics:**

Serway/Vuille: College Physics. 10th edition. Cengage Learning, 2014. ISBN: 978-1285737027.

**Introduction to Medical Chemistry:**

McMurry, J., Fay, R.C.: Chemistry. 7th edition. Pearson Education, 2015. ISBN: 978-0321943170.  
F., Erdődi, Cs., Csontos: Organic Chemistry for Premedical Students. University of Debrecen, 2011.

**Introduction to Biology:**

Sadava, Hillis, Heller, Berenbaum: Life: The Science of Biology. 10th edition. Sinauer Macmillan, 2013. ISBN: 978-1-4641-4124-9.

**1st year**

**Basics of Informatics:**

Handbooks of MS Office applications, Internet sources.

**Psychology:**

Seegerstrale, U., Peter Molnár: Non-verbal communication: where nature meets culture. .  
Lawrence Erlbaum Associate, Mahwah, New Jersey, 1997.

Hergenhahn, B. R.: An Introduction to the History of Psychology. 7th edition. Cengage Learning, 2013. ISBN: 978-1133958093.

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

**Communication skills:**

Pilling János: Medical Communication. Medicina Könyvkiadó, 2011. ISBN: 9789632263359.

Csabai, M. and Molnar, P.: Health, Illness and Care. A Textbook of Medical Psychology. Springer, Budapest, 2000.

Seegerstrale, U., Peter Molnár: Non-verbal communication: where nature meets culture. Lawrence Erlbaum Associate, Mahwah, New Jersey, 1997.

### **Bioethics:**

Tom L. Beauchamp and James F. Childress: The principles of biomedical ethics. 7th edition, (chapter given at the lectures) ISBN: 9780199924585. 2012.

### **First aid:**

Kindersley D.: First Aid Manual .10th edition. Dorling Kindersley Publishers Ltd, 2011. ISBN: 9781-4053-6214-6.

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. ISBN: 1-405-33537-8.

Van de Velde S, et al: European first aid guidelines. Resuscitation, 72:240-51.2007.

József Betlehem: First Things to Be Done in Emergencies – Providing First Aid for Health Professionals. Medicina Könyvkiadó Zrt., 2012.

### **Hungarian Language I:**

Gerő Ildikó-Kovács Judit: Színesen magyarul.2017.

### **Introduction to Nursing and Clinical Medicine:**

Perry, A. G., Potter, P. A: Fundamentals of Nursing. 7th. Mosby Inc, 2008. ISBN: 9780-3230-4828-6.

Bickley, L. S.: Bates' Guide to Physical Examination and History Taking. 11th edition. Lippincott Williams & Wilkins, 2012. ISBN: 1-6091-3762-0.

Perry, A. G., Potter, P. A: Clinical Nursing Skills and Techniques. 7th. Mosby Inc, 2009. ISBN: 0-3230-5289-4.

Jarvis, C.: Physical Examination and Health Assessment. 6th. Saunders, 2011. ISBN: 1-4377-0151-5.

Jarvis, C.: Student Laboratory Manual for Physical Examination & Health Assessment. 6th edition. Saunders, 2011. ISBN: 1-4377-1445-5.

### **Sociology:**

Weitz, R.: The Sociology of Health, Illness, and Health Care: A Critical Approach. 6th. Wadsworth Publishing, 2012. ISBN: 1-1118-2879-2.

Denny, E., Earle, S.: Sociology for Nurses. 2nd edition. Polity Press, 2009. ISBN: 0-7456-4625-5. <http://www.sociologyofhealth.net>.

### **Ecology:**

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

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

Schowalter T.D.: Insect Ecology: An Ecosystem Approach. Fourth Edition. Elsevier, London, 2016. ISBN: 9780128030332.

Smith R. L: Ecology and Field Biology. Harper Collins College Publishers, New York, 1996. ISBN: 9780065009767.

All topics of the lectures and seminars.

### **Mathematical basics of biostatistics:**

L.J. Donaldson, R. J. Donaldson: Essential Public Health Medicine. Kluwer Academic Publishers, 2003.

J.M. Last : A Dictionary of Epidemiology. Oxford University Press, 2001.

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

### **Health informatics:**

Handbooks of MS Office applications, Internet sources.

### **Medical latin:**

Répás László: Basics of Medical Terminology, Latin and Greek Origins I. Répás László, 2016.

Martin, E.: Oxford Concise Medical Dictionary. 9th. Oxford University Press, 2015. ISBN: 978-0199-6878-17.

### **Philosophy:**

Gaardner, J.: Sophie's World: A Novel About the History of Philosophy. Reprint edition. Farrar, Straus and Giroux, 2007. ISBN: 0-5223-5934-8.

Additional Reading: Dawson, A. (ed): Public Health Ethics: Key Concepts and Issues in Policy and Practice. New York, NY. Cambridge University Press, 2011. ISBN: 978-0521689366.

### **Introduction to public health:**

Mary-Jane Schneider: Introduction to Public Health, Second Edition, Rensselaer, New York, 2006. Kluwer Academic Publishers, 2003.

J.M. Last : A Dictionary of Epidemiology. Oxford University Press, 2001.

### **Cell Biology:**

Alberts B., Bray, D., Hopkin, K., Johnson, A., Lewis, J., Raff, M., Roberts, K., Walter, P.: Essential Cell Biology. 4th edition. Garland Science, 2014. ISBN: 978-0-8153-4455-1.

### **Basic anatomy:**

Moore, K. L., Agur, A. M. R.: Essential Clinical Anatomy. 5th edition. Lippincott Williams & Wilkins, 2014. ISBN: 1-4511-8749-1.

Sadler, T. W.: Langman's Medical Embryology. 12th edition. Lippincott Williams & Wilkins, 2012. ISBN: 978-1-4511-4461-1.

Sobotta: Atlas of Human Anatomy I.-II.. 14th edition. Urban & Schwarzenberg, . ISBN: 978-0-443-10349-0.

A. Birinyi (Ed): Anatomy. 2nd. University of Debrecen, 2008.

L.P. Gartner: Concise Histology. Saunders, Elsevier, 2011. ISBN: 978-0-7020-3114-4.

### **Biostatistics:**

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

Swinscow TDV, Campbell MJ: Statistics at Square One.

(<http://resources.bmj.com/bmj/readers/statistics-at-square-one/>).

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

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

### **Health (& Library) informatics I:**

Handbooks of MS Office applications. Internet sources.



### **Genetics and molecular biology:**

Hartl D. L.: Essential Genetics: A Genomics Perspective. 6th edition. Jones & Bartlett Publishers, 2014. ISBN: 978-1-4496-8688-8.

All the materials presented on lectures are compulsory.

Alberts B., Bray, D., Hopkin, K., Johnson, A., Lewis, J., Raff, M., Roberts, K., Walter, P.: Essential Cell Biology. 4th edition. Garland Science, 2014. ISBN: 978-0-8153-4455-1.

<https://www.genome.gov/10001772/all-about-the-human-genome-project-hgp/>.

### **Hungarian Language II:**

Györfy Erzsébet, Ph.D.: Hogy s mint? I. .2013.

### **Health sociology:**

Barry, A-M. – Yuill, Ch. : Understanding the Sociology of Health SAGE. , 2012. ISBN: (Chapters 1., 2.). Helman, C. G. : Culture, Health and Illness. CRC Press.(Chapter 1.), .

K. White: An Introduction to the Sociology of Health and Illness. 2nd edition. SAGE Publications Ltd, 2009. ISBN: 978-1412918794.

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

### **History of public health:**

Dr Darányi Gyula: Közegészségtan I-IV. kötet .

Dr. Kertai Pál: Megelőző orvostan A népegészségügy elméleti alapjai. Medicina Kiadó, Budapest, 1999.

## **2nd year**

### **Introduction to law I:**

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

Jeffrey F. Beatty: Introduction to Business Law. Cengage Advantage Books, 2010.

Lucy Jones: Introduction to Business Law. Oxford University Press, 2013.

Richard A. Mann, Barry S. Roberts: Smith and Roberson's Business Law. Cengage Learning, 2011.

### **Physiology:**

Koeppen, B. M., Stanton, B. A.: Berne & Levy Physiology. 7th edition. Elsevier, 2017. ISBN: 9-78032339394-2. Hall, J. E.: Guyton and Hall Textbook of Medical Physiology.

13rd edition. Saunders, 2015. ISBN: 1-4557-7005-1.

### **Public health medicine I:**

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

### **Basic epidemiology:**

Rothman, K.J. : Epidemiology: An Introduction. 2nd edition. Oxford University Press, 2012. ISBN: 0-1997-5455-1.

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.

### **Basic microbiology:**

Levinson, W.: Review of Medical Microbiology and Immunology. 10th edition. McGraw-Hill Medical, 2008. ISBN: 0-071-49620-3.

### **Health (& Library) informatics II:**

Parker, J.C., Thorson, E.: Health Communication in the New Media Landscape. 1st edition. Springer Publishing Company, 2008. ISBN: 978-0-826-10122-8.

Greenhalgh T.: How to Read a Paper: The Basic of Evidence Based Medicine. 3rd edition. Wiley-Blackwell, 2006. ISBN: 1-405-13976-5.

### **Basic Biochemistry:**

Ferrier, D.R.: Biochemistry. 6th edition. Lippincott Williams and Wilkins, 2013. ISBN: 1-4511-7562-0.

Devlin, T. M.: Textbook of Biochemistry with Clinical Correlations. 7th edition. John Wiley & Sons, 2010. ISBN: 0-470-28173-1.

Berg J.M., Tymoczko, J. L., Stryer, L.: Biochemistry. 7th edition. W. H. Freeman, 2010. ISBN: 1-4292-2936-5.

### **Professional Hungarian I:**

Fodor Marianna - Rozman Katalin: Beszék magyarul?! I.2016. ISBN: 978-963-12-6413-5.

### **Basics of research methodology:**

Keshav,S.: How to Read a Paper.

URL: <http://ccr.sigcomm.org/online/files/p83-keshavA.pdf>

Ashby, M.: How to Write a Paper.

URL: <http://www-mech.eng.cam.ac.uk/mmd/ashby-paper-V6.pdf>

### **Modern morphological methods and possible applications:**

<http://www.pcrlinks.com/generalities/introduction.htm>.

Pinkel D., Albertson DG.: Comparative genomic hybridization. Annual Review of Genomics and Human Genetics (6: 331-54.). 2005.

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. (566 (3): 209-29.). 2004.

Player A, Barrett JC, Kawasaki ES.: Laser capture microdissection, microarrays and the precise definition of a cancer cell. Expert Rev Mol Diagn. (4 (6): 831-40.). 2004.

Feuk L., et al.: Structural variation in the human genome. Nat Rev Genet. (7 (2): 85-97.)

[http://microscopy.unc.edu/Resources/Leica-lmd/Application\\_Letter\\_Microdissection.pdf](http://microscopy.unc.edu/Resources/Leica-lmd/Application_Letter_Microdissection.pdf). 2006.

### **Environmental protection:**

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.

Whitacre D.M. (ed.): Reviews of Environmental Contamination and Toxicology. Vol. 223.. Springer, New York, 2013.

Mihelcic, J.; Zimmerman, J.B.: Environmental Engineering: Fundamentals, Sustainability, Design. 2nd edition. John Wiley and Sons, New York, 2014.

**Internet in medicine:**

<http://www.med20course.com>.

**Immunology:**

Gogolák P., Koncz G.: Short textbook of Basic Immunology.

**Introduction to law II:**

Jeffrey F. Beatty: Introduction to Business Law. Cengage Advantage Books, 2010.

Lucy Jones: Introduction to Business Law. Oxford University Press, 2013.

Richard A. Mann, Barry S. Roberts: Smith and Roberson's Business Law. Cengage Learning, 2011.

**Environmental health:**

Power points slides of the lectures and seminars available at: [www.nepegeszseg.hu/pdf](http://www.nepegeszseg.hu/pdf).

Dade W. Moeller: Environmental Health. 4th edition. Harvard University Press, USA, 2011.

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

**Public health medicine II:**

McPhee St. J., Papadakis, M.: Current Medical Diagnosis and Treatment.

55th edition. McGraw-Hill Incorporated, 2015. ISBN: 0-0718-4509-7.

**Epidemiology of communicable and non-communicable diseases I:**

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

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

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

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

**Professional Hungarian II:**

Fodor Marianna-Rozman Katalin: Beszélék magyarul?! II.2017. ISBN: 978-963-12-7760-9.

**Health impact assessment:**

Health Impact Assessment: a practical guidance. IPHI (Institute of Public Health in Ireland), Dublin, 2003.

**Clinical audit:**

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

**Biochemistry:**

Devlin, T. M.: Textbook of Biochemistry with Clinical Correlations. 7th edition. John Wiley & Sons, 2010. ISBN: 0-470-28173-1.

Berg J.M., Tymoczko J.L., Stryer L.: Biochemistry. 5th edition. New York: W H Freeman, 2002. ISBN: 0-7167-3051-0.

Harvey, Ferrier: Biochemistry. 6th edition. Lippincott Williams and Wilkins, 2011.

### 3rd year

#### **Pharmacology:**

Katzung, B. G.: Basic and Clinical Pharmacology. 13th edition. McGraw-Hill Education, 2014. ISBN: 0-0718-2505-3.

Trevor, A. J., Katzung B. G., Masters S. B. : Katzung & Trevor's Pharmacology: Examination & Board Review. 11th edition. McGraw-Hill Education, 2015. ISBN: 0-0718-2635-1.

#### **Basics in health promotion and policy:**

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

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

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

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

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

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 University Press, Oxford, 2004.

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

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.

#### **Public health medicine III:**

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

#### **Epidemiology of communicable and non-communicable diseases II:**

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

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

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

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

#### **Occupational health:**

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

Aw TC, Gardiner K, Harrington JM: Occupational Health: Pocket Consultant. 5th ed. Blackwell, Oxford, 2007.

#### **Health care law I:**

Patyi A, Rixer A: Hungarian Public Administration and Administrative Law. Schenk Verlag, 2014.

J. Stuart Showalter: The Law of Healthcare Administration. Health Administration Press, 2017.

Donna Hammaker: Health Care Management and the Law: Principles and Applications. Delmar

Cengage, 2011.

Lucy Jones: Introduction to Business Law. Oxford University Press, 2013.

### **Introduction to the general laboratory practice:**

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.

### **Applied epidemiology:**

R. Beaglehole, R. Bonita, T. Kjellström: Basic epidemiology. World Health Organization, Geneva , 1993.

Kenneth J. Rothman, Timothy L. Lash, Sander Greenland: Modern Epidemiology. Lippincott Williams and Wilkins,, 2008. ISBN: 1451190050.

Wolfgang Ahrens, Iris Pigeot: Handbook of Epidemiology. Springer, 2014. ISBN: 978-0-387-09833-3.

### **Health care law II:**

J. Stuart Showalter: The Law of Healthcare Administration. Health Administration Press, 2017.

Marcia A. Lewis: Medical Law, Ethics, & Bioethics for the Health Professions. F.A. Davis Company, 2012.

André Pieter den Exter: Health Care Law-making in Central and Eastern Europe,3. Review of a Legal Theoretical Model. Intersentia. 2002.

Kerry J. Breen: Good Medical Practice: Professionalism, Ethics and Law. Cambridge University Press, 2010.

### **Basics of quality assurance:**

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

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

### **Public health medicine IV:**

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

### **Field and laboratory practice I.:**

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

### **Child and adolescent health:**

The slides of lectures. Relevant information on the website of the WHO, CDC, UNICEF, UpToDate.

## **4th year**

### **Health care law III:**

Donna Hammaker: Health Care Management and the Law: Principles and Applications. Delmar Cengage, 2011.

Tamara K. Hervey, Jean V. McHale: Health Law and the European Union. Cambridge University Press, 2004.

J. Stuart Showalter: The Law of Healthcare Administration. Health Administration Press, 2017.

André Pieter den Exter: Health Care Law-making in Central and Eastern Europe, 3. Review of a Legal Theoretical Model. Intersentia. 2002.

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### **Health promotion:**

Notes of lectures and seminars.

Scriven A.: Promoting health: a practical guide. Revised edition of: Promoting health 5<sup>th</sup> edition. 2010. ISBN: 978 070 203 139 7.

Relevant information on the website of the WHO.

### **Nutritional health and food safety :**

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.) <http://www.who.int/dietphysicalactivity/publications/trs916/en/>. WHO, Geneva, 2003.

From farm to fork. Safe food for Europe's consumers. European Communities, 2004

[http://ec.europa.eu/dgs/health\\_food-safety/information\\_sources/docs/from\\_farm\\_to\\_fork\\_2004\\_en.pdf](http://ec.europa.eu/dgs/health_food-safety/information_sources/docs/from_farm_to_fork_2004_en.pdf)

### **Field and laboratory practice II:**

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

### **Health system management:**

Thomas Bodenheimer: Understanding Health Policy. Fifth Edition. 2008.

James W. Henderson: Health Economics and Policy. 2008.

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.

### **Health care law IV:**

Lawrence O. Gostin: Public Health Law: Power, Duty, Restraint. California/Milbank Books, 2008.

Lawrence O. Gostin: Public Health Law and Ethics.

A Reader California/Milbank Books, 2002.

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Lucy Jones: Introduction to Business Law. Oxford University Press, 2013.

### **Field and laboratory practice III:**

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

**CHAPTER 9**  
**TITLES OF THESES**

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**Department of Family and Occupational Medicine, Faculty of Public Health**

**László Róbert Kolozsvári, MD**

Advantages of computer-aided diagnosis in primary care  
Work related stress and burnout amongst healthcare workers  
Health impairment related to occupational hazards

**Tímea Ungvári, MSc**

Psychosocial etiological factors in the workplace  
Stress, as a risk factor in the working environment  
Effects of burnout on work efficiency

**Zoltán Jancsó, MD**

Cardiovascular risk factors and risk assessment  
Continuing care of patients with high cardiovascular risk in primary care

**Anna Nánási, MD**

The family physician as gatekeeper  
Physical, mental and social aspects of aging

**Department of Preventive Medicine, Faculty of Public Health**

**Balázs Ádám, MD**

Investigation of workplace hazards  
Occupational diseases  
Genotoxic exposures in the work- and ambient environment  
Health impact assessment of policies, programmes and projects

**János Sándor, MD**

Evaluation of chronic care for hypertension in general medical practice  
Evaluation of chronic care for diabetes mellitus in general medical practice  
Evaluation of chronic care for adult overweighted in general medical practice  
Evaluation of chronic care for adult smokers in general medical practice

**Sándor Szűcs, PhD**

Mortality due to environmental risk factors in European countries  
Burden of diseases attributed to environmental risk factors in European countries

**Helga Bárdos, MD**

Gene-environment interactions and obesity (systematic review)  
The effect of school based health promotion programs on nutrition (systematic review)  
The effect of neighborhood environment on physical activity and diet (systematic review)  
Analysis of factors affecting risk perceptions (study)  
Prevalence of obesity (trend analysis)

**Szilvia Fialat, MD**

Genomic determinants of cardiovascular diseases

**Éva Bíró, MD**

Health-related behaviours among adolescents  
Mental health of students

**László Pál, PhD**

Pesticide use in developed and developing countries

**Károly Nagy, PhD**

Genetic epidemiology of obesity (literature review)

**Department of Behavioural Sciences, Faculty of Public Health**

**Attila Bánfalvi, PhD**

Medicalization and its social-cultural context  
Changing attitudes towards human phenomena in Western medicine  
Prolongation of life as a modern Western project  
Contemporary problems of Psy-complex  
Health and disease in cultural context

**Péter Kakuk, PhD**

Ethical institutions in healthcare  
Research ethical questions in public health research  
Challenges of scientific integrity  
Ethical dilemmas of confidentiality in healthcare  
Ethical issues in genetics  
The ethical governance of scientific publications

**Sándor Kömúves, PhD**

End of Life Decisions

**Department of Health Management and Quality Assurance, Faculty of Public Health**

**Klára Bíró, DMD, PhD**

Increasing expectations among healthcare consumers  
Challenges for healthcare managers  
Patient safety and staff safety in hospitals  
Work environment within hospitals  
Genomic applications through the lens of health policy

**Gábor Bányai-Márton, PhD**

History of international health organizations  
Tobacco control in developing countries  
Bioterrorism and global health security  
Right to Health for refugees

**Judit Zsuga, MD**

Workplace stress in health care  
Performance and workplace stress



**Klára Boruzs, MSc**

Drug utilization in the world

The pharmaceutical industry's operation from viewpoint of the management

**Viktor Dombrádi, MSc**

Quality management in hospitals