BULLETIN

UNIVERSITY OF DEBRECEN

ACADEMIC YEAR 2021-2022

FACULTY OF PUBLIC HEALTH

MSc in Public Health

CHAPTER 1
INTRODUCTION

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.

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 Biostatistics and Bioinformatics
Department of Health Promotion
Department of Humatities for Health Care
Department of Intervention Epidemiology
Department of Habilitation Medicine
    Division of Public Health Medicine
Department of Physiotherapy
Department of Hospital Hygiene and Infection Control
Department of Health Management and Quality Assurance
    Unit of Leadership Training for Health Care

MISSION OF THE FACULTY OF PUBLIC HEALTH

The mission of the Faculty of Public Health of the University of Debrecen as the center of public health education in Hungary is to improve health of the population by developing and maintaining high- and internationally 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 the experience in education of physiotherapists at the University of Debrecen. 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 BSc in Dietetics programme start in the academic year 2021/22 at first.

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

RECTOR OF THE UNIVERSITY OF DEBRECEN	
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CHAPTER 3

ADMINISTRATIVE UNITS

EDUCATIONAL ORGANIZATIONAL OFFICE OF FACULTY OF PUBLIC HEALTH

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Agent&Marketing Coordinator	Tamás Zabán M.Sc.
Marketing Coordinator	Ms. Eszter Balázsy M.Sc.
	Ms. Dóra Mónus M.A.
Financial Coordinator	Ms. Rita Kovács J.D.
Agent Coordinator	József Harmati J.D.
Ranking and Marketing Coordinator	Ms. Zsófia Münnich M.Sc.
English Program Coordinators	Ms. Dóra Benkő (Admission, Visa Issues, BMC, US Loans)
	Ms. Regina Berei (Tuition fee, Financial certificates, Refunds)
	Ms. Marianna Gyuris (Admission, Visa issues, USMLE, MCCEE, Stipendium Hungaricum Scholarship, Wyckoff Heights)
	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

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Ms.	Blanka Besenyei
Ms.	Krisztina Ádámné Vágó
Ms.	Boglárka Vincze
Ms.	Dóra Lámfalusi-Németh M.Sc.

CHAPTER 5

UNIVERSITY CALENDAR

UNIVERSITY CALENDAR FOR THE MSC IN PUBLIC HEALTH PROGRAM
ACADEMIC YEAR 2021/2022

Academic year opening ceremony	5th September 2021 (Sunday)
1st semester Registration week	30th August –3rd September 2021(1 week)
1st semester study period	6th September 2021–10th December 2021(14 weeks)
Professional week	18th October 2021–22th October 2021(1 week)
1st semester exam period	13th December 2021–28th January 2022(7 weeks)
1st semester extension week	31th January 2022–4th February 2022(1 week)
2nd Semester Registration week	31th January 2022–4th February 2022(1 week)
2nd semester study period	7th February 2022–13h May 2022(14 weeks)
2nd semester exam period	16th May 2022–1st July 2022(7 weeks)
2nd semester extension week	4th July 2022–8th July 2022(1 weeks)
Graduation ceremony (plan)	24th June 2022 (Friday)

CHAPTER 6
ACADEMIC PROGRAMME FOR CREDIT SYSTEM

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

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

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

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

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

The general principles of the credit system are the following:

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 90 credits during their studies. Considering the recommended curriculum, this can be achieved in 3 semesters.

The pilot curricula show the recommended pacing of compulsory courses. The diploma work is worth 12 credits.

	1st year	Subject type: compulsory/elective	Lec	Sem	Pract	TOT	Cr	Ass	Pre-requirement
1st semester	Health informatics	compulsory	10		26	36	5	ESE	
	Biostatistics	compulsory	8		16	24	3	ESE	
	Epidemiology	compulsory	12		24	36	5	ESE	
	Health promotion	compulsory	40	18	26	84	11	ESE	
	Public health in developing countries	compulsory	10	20		30	5	ESE	Epidemiology
	Total:					**210**	**29**		
2nd semester	Environmental health	compulsory	40	28	16	84	11	ESE	
	Public health in developed countries	compulsory	38			38	5	ESE	Epidemiology
	Health policy	compulsory	60			60	8	ESE	
	Health management	compulsory	48			48	6	ESE	
	Elective subjects	elective					4	ESE	
	Field practice	compulsory				40	7	AW5	
	Total:					**270**	**41**		
	2nd year		**Lec**	**Sem**	**Pract**	**TOT**	**Cr**	**Ass**	**Pre-requirement**
3rd semester	Elective subjects	elective					8	ESE	
	Thesis					180	12		
	Total:					**180**	**20**		
	I-III Total					**704**	**90**		

Elective subjects		**Lec**	**Sem**	**Pract**	**TOT**	**Cr**	**Ass**
Basics of social psychology	elective	21			21	1	ESE
Gerontology and healthy ageing	elective	28			28	3	ESE
Data management in the healthcare setting	elective	8			8	1	ESE
Empowerment, engagement, social inclusion	elective	28			28	3	ESE

CHAPTER 7
ACADEMIC PROGRAMME

Subject: **HEALTH INFORMATICS**
Year, Semester: 1st year/1st semester
Number of teaching hours:
Practical: **36**

1st week
Information, data, knowledge, communication, codes, measures, interpretation in the field of Informatics / Health Informatics. Signal processing, biometrics, digital imaging, artificial intelligence.
Neptun: http://neptun.unideb.hu/?page=studeng
MOODLE: The e-learning system https://elearning.med.unideb.hu/?lang=en"
2nd week
Administration, dataflow, standards, quality assurance in the Health Care. Problems, errors possible causes, uncertainties and solutions. Information systems – possibilities
3rd week
Concepts of database systems, database and database manager, historical overview of its development, Requirements for information systems, Structure of data storage, Access to data, Application programs. Formation of the relational data model. New data storage, collection and processing procedures. (Big Data, Machine Learning, Data Mining, Artificial Intelligence, Block Chain)
4th week
MS WORD: DATA import. Insert and edit text, picture, table, textbox chart. Formatting Fonts and Paragraphs (MS WORD)
5th week
MS WORD: Cover page. Page/Section break, Header, Footer, Footnote, Endnote, Table of Contents, List of Figures, List of Tables, Number of characters / words (MS WORD)
6th week
MS WORD: practice (MS WORD)
7th week
MS PowerPoint: Insert and edit text, picture, table, textbox chart. Formatting Fonts and Paragraphs. Transits, Animations, Using Buttons (MS PowerPoint)
8th week
MS EXCEL: DATA export and import – text file / Selection of the cells – ranges / Filling the cells / Search, Find and Replace. / Order / Filters / 3D references / Functions (MS EXCEL)
9th week
MS EXCEL: statistical functions: COUNT(), COUNTIF(), AVERAGE(), AVERAGEIF(), SUM(),SUMIF(), MEDIAN(), MIN(), MAX() / IF(), VLOOKUP(), HLOOKUP(), INDEX(), MATCH() search tables. text functions: LEFT(), RIGHT(), MID(), LENGTH(), CONCATENATE(), Date and time functions TODAY() etc (MS EXCEL)
10th week
Excel Functions Exercises (Nested Functions) (MS EXCEL)

11th week
Pivot Tables: How to create Pivot Table, Group Pivot Table Items, Multi-level Pivot Table (MS EXCEL)
Pivot Tables: exercises, Pivot Table Report (MS EXCEL)
12th week
Data Protection and Databases, DBMS, Relational Database, MS ACCESS. Representation of the results. (MS ACCESS)
13th week
SQL language basics (MS ACCESS)
14th week
One table queries. DMBS, MS ACCESS. (MS ACCESS)
One table and multiple table queries. DBMS, MS ACCESS. Preparing Questionnaire. (MS ACCESS)
15th week
DBMS practice. + Reports (Processing databases with Excel and Access) (MS ACCESS, EXCEL)
16th week
TEST (Possibility of getting offered grade)

Requirements

Basic knowledge of concepts related to Health Informatics: Information processing, file management, data protection, text and data management, knowledge of health administration systems, health care organizations, knowledge of data quality aspects. Learn about code systems. Development of Word, Excel (functions, statements) and ACCESS skills.
Subject requirements:
- Class Attendance: Attendance to the practical classes is mandatory.
- Permitted absences: 3 occassions may be missed for practical classes. If you are missing more than 3 occassions, you will not receive a signature. If you do not have a signature, you will not receive a grade.
- Form and number of mid-year examination (s) (written, oral, moodle, etc.): Practical exam at the end of the course.
- planned week of mid-year examination (s): In the last 4 classes of the module
- form of end-of-semester examination (s) (written, oral, moodle, etc.): Solving a series of practical tasks in front of a computer
- condition (s) for obtaining a signature: Adherence to mandatory class attendance
Required reading (max. 1 or more per topic, but with chapters):
Robert E. Hoyt Ann K. Yoshihashi: Health Informatics: Practical Guide for Healthcare and Information Technology Professionals (Sixth Edition)
Ramona Nelson, Nancy Staggers: Health Informatics: An Interprofessional Approach, 1e 1st Edition
Dimitrios Zikos, Data Driven Health Informatics (Digital Lecture), 29.06.2021. https://www.academia.edu/39212760/Data_Driven_Health_Informatics_Digital_Lecture_Companion
E. Kékes, Gy. Surján, L. Balkányi, Gy. Kozmann: Health Informatics. Medicine, Bp. 2000.
Recommended reading:
Microsoft Support, Microsoft, 29.06.2021. (Word, Excel, ACCESS)
https://support.microsoft.com/hu-hu/office?ui=hu-hu&rs=hu-hu&ad=hu

Subject: **BIOSTATISTICS**
Year, Semester: 1st year/1st semester
Number of teaching hours:
Lecture: **12**
Practical: **24**

1th week
The role of medical statistics in public health; mathematical notation
2nd week
The role of medical statistics in public health; rules of power and root expressions
3rd week
The role of medical statistics in public health; logarithmic and exponential functions
4th week
The role of medical statistics in public health; transformations frequently used in medical statistics
5th week
Basic methods of analyzing categorical data
6th week
Descriptive statistics
7th week
Normality
8th week
Sample size estimation
9th week
Univariate analyses
10th week
Multivariate analyses
11th week
Multivariate analyses
12th week
Survival analyses
1th week
The role of medical statistics in public health; mathematical notation
2nd week
The role of medical statistics in public health; rules of power and root expressions
3rd week
The role of medical statistics in public health; logarithmic and exponential functions
4th week
The role of medical statistics in public health; transformations frequently used in medical statistics
5th week
Measures of infectiousness, dynamics of infection, vaccine efficacy
6th week
Measures of infectiousness, dynamics of infection, vaccine efficacy
7th week
Measures
8th week
Measures
9th week
Statistical software packages
10th week
Statistical software packages

11th week
Hypothesis testing; Confidence intervals
12th week
Parametric tests
13th week
Nonparametric tests
14th week
Multivariate analyses

Subject: **EPIDEMIOLOGY**
Year, Semester: 1st year/1st semester
Number of teaching hours:
Lecture: **28**
Practical: **56**

1th week
Introduction to epidemiology (epidemiological research: role, strategies, methods, prospects)
2nd week
History of epidemiology
3rd week
The process of the epidemiological investigations 1.
4th week
The process of the epidemiological investigations 2.
5th week
The role of epidemiology in public health
6th week
Measures describing the demographic characteristics of populations
7th week
Measures
8th week
Epidemiological studies
9th week
Systematic errors
10th week
Random error
11th week
Health monitoring
12th week
Methods used in analysing premature mortality, composite measures
13th week
Screening
14th week
Critical reading
1th week
The role of epidemiology in public health
2nd week
Measures
3rd week
Case-control
4th week
Cohort
5th week
Standardization
6th week
Preventive strategies
7th week
Screening
8th week

Vaccination
9th week
Epidemic curves
10th week
Selection bias
11th week
Inforamtion bias
12th week
Confounders
13th week
Critical reading
14th week
Consultation

Subject: **HEALTH POLICY**
Year, Semester: 1st year/1st semester
Number of teaching hours:
Lecture: **60**

1st week
Lecture: Introduction to health policy.
Terminology and definitions: Politics, policy, health system, health policy.
2nd week
Lecture: Actors of health policy.
The role of state.
3rd week
Lecture: Dimensions /values of health policy
HEALTH SYSTEMS
4th week
Lecture: Structure of health system, Public and private providers.
Public health services.
5th week
Lecture: Needs and demands in health care.
Health care financing.
6th week
Lecture: GLOBAL HEALTH key concepts.
Understanding WHO. New players in global governance for health.
7th week
Lecture: Health 2020- a European health strategy.
Human resources for health.
8th week
Lecture: Governance for health in the 21st century.
Key health challenges for developing countries.
9th week
Lecture: SDGs. Health security.
Lessons from Ebola outbreak.
10th week
Lecture: Citizen’s participation in health policy making. Interest (lobby) groups.
Policy vs administration, facts v. interests, convergences.

11th week
Lecture: Tackling social and economic determinants of health.
Equity in health.
12th week
Lecture: Health in All Policies.
Exams of topic based policies (alcohol).
13th week
Lecture: Process of policy developments
Health policy cycles.
14th week
Lecture: Health impact assessment.
Monitoring and evaluation.
Lecture: Communication (Effective Convincing Techniques, Persuasion skills).

Subject: **HEALTH MANAGEMENT**
Year, Semester: 1st year/1st semester
Number of teaching hours:
Lecture: **48**

1st week:
Lecture: (1-7) Introduction to Health Management
2nd week
Lecture: (8-15) Organizational Management. Strategic Management
3rd week
Lecture: (16-23) Evaluation of Health Services. Health Policy and Planning
4th week
Lecture: (24-31) Project Management. International Cooperation in Health
5th week
Lecture: (32-40) Health Management in the European Union. Global Health. Assessment

Subject: **HEALTH PROMOTION**
Year, Semester: 1st year/2nd semester
Number of teaching hours:
Lecture: **40**
Seminar: **18**
Practical: **26**

1st week
Lecture: Introduction to psychology
2nd week
Lecture: Basics of behavioural sciences 1
3rd week
Lecture: Basics of behavioural sciences 2
4th week
Lecture: Basics of behavioural sciences 3
5th week
Lecture: History and principles of health promotion.
Seminar: Infrastructure of health promotion
6th week
Lecture: Models of health
Seminar: Determinants of health. Student presentations
7th week
Lecture: Basics of communication
Seminar: Practice of communication
8th week
Lecture: Values & ethics in health promotion
Practical: Evaluation and evidence in health promotion
9th week
Lecture: Principles of community development
Seminar: Sources of scientific information
Practical: Advanced word processing
10th week
Seminar: Health education and behaviour change

11th week
Practical: Presentations on health topics
Practical: Development of professional identity
12th week
Lecture: Project planning and management 1
13th week
Seminar: Project planning and management 2
14th week
Practical: Project planning and management 3

Requirements

Attendance of the lectures and seminars is obligatory and is a precondition of signing the lecture book, maximum 3 absences are allowed in the semester. The subject leader may refuse to sign the lecture book if a student is absent more than twice in a semester even if he/she has an acceptable excuse.
Assessment is based on the completion of the following tasks:

- submission of a short paper on a topic related to Behavioural Sciences (individual task);
- oral presentation of pre-sent papers on the „Determinants of health" (individual task);
- oral presentation to a class of high school students on a health topic (individual task);
- planning and implementing a health promotion project (group task);
- write a summary based on evidence-based information in relevant databases and use advanced word processing to format it (individual task);
- written exam which will cover the topics of all lectures and seminars (individual task).

The final mark of the assessment will be compounded as the average of the marks given for the above tasks. The student must get at least a pass on each task.

Subject: **ENVIRONMENTAL HEALTH**
Year, Semester: 1st year/2nd semester
Number of teaching hours:
Lecture: **40**
Seminar: **28**
Practical: **16**

1st week
Lecture: Introduction to the module and discussion of teaching strategy
Scope of environmental health. (lecture)
Introduction to toxicology (lecture)
Global effects of environmental pollution (lecture)
2nd week
Lecture: Day 2
Air pollution and health (lecture)
Water pollution and health (lecture)
Nitrate/nitrite toxicity (seminar)
Arsenic toxicity (seminar)
3rd week
Lecture: Day 3
Waste management (lecture)

Toxicology of organic compounds (lecture)
Benzene toxicity (seminar)
Cyanide toxicity (seminar)
4th week
Lecture: Day 4
Heavy metals in the human environment (lecture)
Lead toxicity (seminar)
Cadmium toxicity (seminar)
Mercury toxicity (seminar)
5th week
Lecture: Day 5
Hazardous substances in the environment (lecture)
Seveso and its consequences (lecture)
Polyaromatic hydrocarbons (PAH) toxicity (seminar)
Chemical safety (lecture)
6th week
Lecture: 2week
Day 1
Housing and health (lecture)
Health hazards of radiation (lecture)
11. Radon toxicity (seminar)
12. Asbestos toxicity (seminar
7th week
Lecture: Day 2
Environmental monitoring (lecture)
Biological monitoring (lecture)
Genotoxicology (lecture)
Genotoxicology (lab. practice)
8th week
Lecture: Day 3
Introduction to occupational health (lecture)
Occupational diseases (lecture)
Health impact assessment of an industrial plant
Vinyl chloride toxicity (seminar)
Cholinesterase inhibiting pesticide toxicity (seminar)
9th week
Lecture: Day 4
Introduction to nutritional health (lecture)
Diet related chronic diseases (lecture)
Food poisoning, foodborne diseases (lecture)
Food safety (lecture)
10th week
Lecture: 3week
Day 1
Environmental risk assessment (lecture)
Environmental health policy (lecture, seminar)
Introduction to environmental epidemiology (lecture)
Case studies in environmental epidemiology (Students' presentations)

11th week
Lecture: Day 2
Drinking Water Treatment Plant (visit)
Waste Water Treatment Plant (visit)
Drinking Water Control Laboratory (visit)
12th week
Lecture: Day 3
Sanitation control of catering services (visit, Klinika)
Green building – Building energetics (DEM house visit)
13th week
Lecture: Day 4
Industrial plant - sanitation control (visit)
Food sanitation control (visit)
14th week
Lecture: Day 5
Air Control Laboratory (visit)
Radiation Control Laboratory (visit)

Requirements

The aim of the course is to make students be able to describe the principal concerns in environment and health (pollution of air, water, and land; the urban environment) to be familiar with the practice of modern environmental public health (air quality protection, water sanitation, food protection, safe and healthy housing, occupational health, injury prevention, risk assessment and risk communication) to understand the political and social contexts in which an environment and health policy is made, to show competence in critically evaluating and communicating research evidence in relation to environment and health issues.

Subject: **PUBLIC HEALTH IN DEVELOPED COUNTRIES**
Year, Semester: 1st year/2nd semester
Number of teaching hours:
Lecture: **38**

1st week
Lecture: (1-2) Major public health issues in developed countries (3-4) Characteristics of mortality (5-6) The Framingham study – background and general overview
2nd week
Lecture: (7-8) Genetics and public health in the 21st century (9-10) Methods used in genetic epidemiology (11-12) Epidemiology of malignant diseases (13-15) Screening and prevention of malignant diseases
3rd week
Lecture: (16-17) Epidemiology of metabolic diseases (18-19) Epidemiology of respiratory diseases (20-21)
Epidemiology of infectious diseases in developed countries (22-23) Epidemiology of cardiovascular diseases

4th week
Lecture: (24-25) Health interview survey (HIS). Health examination survey (HES) (26-27) WHO Health 2020 (28-30) Framingham study – students evaluation

Subject: **PUBLIC HEALTH IN DEVELOPING COUNTRIES**
Year, Semester: 1st year/2nd semester
Number of teaching hours:
Lecture: **10**
Seminar: **20**

1st week
Lecture: Introduction to the public health in developing countries
Seminar: Reading papers about issues of the developing world
2nd week
Lecture: Environmental burden of disease. Environmental risks and socio-economic status in developing countries
3rd week
Lecture: Urban health in developing countries
Seminar:
Pesticide poisoning: An outbreak among antimalarial workers
4th week
Lecture: Maternal and child nutrition
5th week
Lecture: Occupational health and safety problems in developing countries. Workplace hazards
Seminar: Chemical accidents in developing countries, Case study: the Bophal disaster
6th week
Lecture: Occupational health and safety problems of agriculture
7th week
Lecture: Traditional and emerging topical infectious diseases: malaria, yellow fever, leprosy and dengue fever
Seminar: Salmonella septicemia in Kenya
8th week
Lecture: Zika virus outbreak
9th week
Lecture: Ebola in Africa and its perspectives in health diplomacy
Seminar: Epidemiology and control of hepatitis B infection in developing countries
10th week
Lecture: Gastrointestinal diseases
11th week
Lecture: HIV/AIDS and sexually transmitted diseases
Seminar: HIV and AIDS surveillance
12th week
Lecture: Airborne infections
13th week
Lecture: Tuberculosis
Seminar: Student presentations

CHAPTER 8
REQUIRED ELECTIVE COURSES

Subject: **CLINICAL EPIDEMIOLOGY**
Year, Semester: 1st year/2nd semester
Number of teaching hours:
Lecture: **10**
Practical: **20**

1st week
Lecture: Introduction to clinical epidemiology
Practical: Studies of diagnostic and screening test
2nd week
Lecture: Introduction to clinical decision analysis
Practical:
The therapeutic threshold. The role of diagnostic tests
3rd week
Lecture: Estimating prior probability of the disease. Intervention research
Practical: Analysis of clinical trials
4th week
Lecture: Prognostic functions
Practical: Analysis of survival times

Subject: **EPIDEMIOLOGY STUDY DESIGN**
Year, Semester: 1st year/2nd semester
Number of teaching hours:
Lecture: **30**

1st week
Lecture: Measures of disease occurrence, Association measures
Descriptive epidemiology (part I)
2nd week
Lecture: Descriptive epidemiology (part II), Sample size estimation, Power calculation, bivariate analysis
3rd week
Lecture: Study design tasks I-VI.
4th week
Lecture: Writing study protocol, Design tasks, Student presentations

Subject: **PUBLIC HEALTH PROBLEMS OF DISADVANTAGED POPULATION**
Year, Semester: 1st year/2nd semester
Number of teaching hours:
Lecture: **17**
Seminar: **8**
Practice: **5**

1st week
Social and health inequalities.
2nd week
Health inequalities versus health inequities.
3rd week
Structural, contextual, socioeconomic determinants of health.
4th week
Indicators and sources of indicators to characterize health inequalities and their interpretation.
5th week
Disadvantage, social exclusion and their public health and consequences.
6th week
Major national and international studies on health inequalities and their critical interpretation
7th week
Strategies and programs to reduce health inequalities and improve social inclusion
8-14th week
Field experience in institutes and organizations working with disadvantaged groups.

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

1st week
Lecture:
Introduction to nutritional health. Nutritional deficiency diseases. Diet related chronic diseases
Nutritional epidemiology: dietary assessment
Discussion of exam/essay and presentations on epidemiological studies
2nd week
Lecture:
Food frequency questionnaires (FFQ)
Evaluation of dietary questionnaires
Nutritional assessment: Anthropometry and biomarkers
3rd week
Lecture:
Diet and cardiovascular diseases
Diet and cancer
Obesity epidemic. Diabetes prevention strategies
Dietary recommendations and guidelines. Nutritional policy
4th week
Lecture:
Food and nutrition policy for schools (WHO)
Model EU School Food Standard
Nutrition and Health Claims Legislation in the EU
5th week
Lecture:
Case studies in nutritional epidemiology (student presentations)
Consultations on essay

Subject: **OCCUPATIONAL HEALTH**
Year, Semester: 1st year/2nd semester
Number of teaching hours:
Lecture: **16**
Seminar: **14**

1st week
Lecture: Introduction to occupational health and safety
2nd week
Lecture: Physiology of work, fitness to work. Occupational hazard and risk
3rd week
Lecture: Prevention of occupational diseases. Environmental and biological monitoring
4th week
Seminar: Organizational structure of occupational health and safety, Occupational exposure limits
5th week
Lecture: Physical workplace hazards and their prevention

6th week
Seminar: Measurement and evaluation of occupational noise and heat exposure
Practical:
7th week
Lecture: Chemical workplace hazards and their prevention I-II
8th week
Seminar: Chemical safety. Measurement and evaluation of occupational chemical exposures
9th week
Lecture: Biological workplace hazards and their prevention
10th week
Lecture: Mechanical (ergonomic) workplace hazards and their prevention
11th week
Seminar: Occupational accidents, occupational safety
12th week
Lecture: Occupational psychosocial hazards, methods of stress prevention and control
13th week
Seminar: Occupational health and safety inspection, comprehensive evaluation of the work environment. Occupational risk assessment
14th week
Seminar: Workplace visit
Seminar: Student presentations

CHAPTER 9
LIST OF TEXTBOOKS

Health informatics:
Handbooks of MS Office applications, Internet sources.

Biostatistics:
Kirkwood B., Sterne J.: Essential medical statistics. Blackwell Science, Oxford, 2006.
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.
Selevin S.: Statistical analysis of epidemiological data.Oxford University Press, 2004.
Selevin S.: Statistical analysis of epidemiological data.Oxford University Press, 2004.
Krzanowski WJ: Principles of multivariate analysis – A users' perspective. Oxford Clarendon Press, 1990.

Health policy:
Tallinn Charter: Health Systems for Health and Wealth, http://www.euro.who.int/en/who-we-are/policy-documents/tallinn-charter-health-systems-for-health-and-wealth.WHO, 2008.
Health system financing: The path to universal coverage, The World Health Report, http://www.who.int/whr/2010/en/index.html.WHO, 2010.
Health in times of global economic crisis: implications for the WHO European Region, Meeting report http://www.euro.who.int/en/what-we-do/health-topics/Health-systems/health-systems-governance/publications/2009/health-in-times-of-global-economic-crisis-implications-for-the-who-european-region. Oslo, Norway, 2009.
Health policy responses to the financial crisis in Europe, Policy Summary 5, P. Mladovsky et al, http://www.euro.who.int/en/what-we-do/data-and-evidence/health-evidence-network-hen/publications/2012/health-policy-responses-to-the-financial-crisis-in-europe. WHO EURO, Observatory, HEN, 2012.
Sarah Thomson, Thomas Foubister and Elias Mossialos: Financing health care in the European Union. European Observatory on Health Systems and Policies, http://www.euro.who.int/__data/assets/pdf_file/0009/98307/E92469.pdf?ua=1. WHO, 2014.

Health promotion:
Kósa K. (ed.): Health promotion. Notes for MSc in Public Health students, Faculty of Public Health. University of Debrecen, 2017.
Notes of lectures and seminars.
Scriven A.: Promoting health: a practical guide. Revised edition of: Promoting health. 5th edition.2010. ISBN: 978 070 203 139 7.
Relevant information on the website of the WHO.

Clinical epidemiology:
Vokó Zoltán: Clinical epidemiology

Occupational health:
Aw TC, Gardiner K, Harrington JM: Occupational Health: Pocket Consultant. 5th ed. Blackwell, Oxford, 2007.
Levy BS, Wegman DH: Occupational Health. 3rd ed. Little, Brown and Company, Boston, 1995.

Raffe PAB, Adams PH, Baxter PJ, Lee WR: Hunter's Diseases of Occupation. 8th ed. Edward Arnold Publishers, London, 1994.
International Labour Organization. Encyclopaedia of Occupational Health and Safety. Online edition, available at: http://www.iloencyclopaedia.org. ILO, 2012.

Epidemiology study design:

Victor J. Schoenbach,Wayne D. Rosamond: Understanding the Fundamentals of Epidemiology-an evolving text. 2000. Pennsylvania Case Study-jegyzet, EPIET.

Public Health in Developing Countries:

Donaldson RJ, Donaldson LJ: Essential public health. 2nd edition. LibraPharm, 2000.

CHAPTER 10
TITLES OF THESES

Attila Nagy M.D., PhD

The prevalence of diabetes in a given area
Study design for diabetes monitoring

Gábor Bányai-Márton, MA

Thesis and TDK:

History of international health organizations
Bioterrorism and global health security

Klára Bíró, D.MD., PhD

Thesis and TDK:

Increasing expectations among healthcare consumers
Challenges for healthcare managers

Judit Zsuga, M.D. , PhD

Thesis and TDK

Workplace stress in health care
Performance and workplace stress

Klára Boruzs, MA, PhD.

Thesis and TDK:

Drug utilization in the world
The pharmaceutical industry's operation from viewpoint of the management
Drug utilization in the world
The pharmaceutical industry's operation from viewpoint of the management

Balázs Lukács, MSc, PhD.

Effect of physical activity on cardiovascular health in young adults
Falls in the elderly: risk factors and prevention

Anita Spisákné Balázs, PhD.

Assesment and treatment options for postural problems in school-age children
The role of pelvic floor muscle training during childbirth and postnatal recovery
Epidemiology, diagnosis and treatment of breast cancer
Study on the eating habits of secondary school students

Csilla Tatai, MSc

Eating disorders and the pychological aspects of nutrition
Mental disorders
Quality of life in chronic illnesses

Gergő József Szőllősi, MSc

Influenza vaccination coverage in Hungary based on the European Health Interview Survey
Investigation of the influencing factors of chronic kidney disease in Hungary based on the European Health Interview Survey
Investigation of the influencing factors of obesity

Emilia Zsanda, MSc

Evaluating and comparing fashion diets to healthy eating

Éva Csepregi, MSc

Assessment of ratio of spinal problems and improvement of posture and spinal mobility in young college students

Andrea Hunyadi, MSc, PhD

Development of eye-hand coordination with ball among preschool children
Development of balance and coordination skills in preschool age
Development of movement coordination among hearing-impaired children
Examination of hip joint movement and the effect of intense training among 13-14-year old children
The practice of proprioceptive training in the treatment of pes planus and its effect on posture among primary school students

Ágnes Tóth, MSc, PhD

Celiac disease and its causes
Nutritional consequences of celiac disease

László Kardos, MD, PhD

Cutoff optimization of classification systems by misclassification cost minimization (for students with a strong inclination towards mathematics and computer programming)

Róbert Bata, MSc

The processing of health related databases