

BULLETIN

UNIVERSITY OF DEBRECEN

ACADEMIC YEAR 2020-2021

FACULTY OF PUBLIC HEALTH

MSc in Public Health

EDUCATIONAL OFFICE FACULTY OF PUBLIC HEALTH

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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 thriving, and new possibilities are available for the diagnosis, prevention, prediction and treatment of 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 individual's 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 but also embody some very basic values. They are comprehensive; they take into consideration the whole patient, the individual (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 acquired. 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 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 health services; 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 level education are provided for 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, colorful educational environment, in which co-operation is apparent between

the individual faculties and colleges, the various postgraduate programmes as well as the molecular and medical biology educations.

HIGHER EDUCATION IN DEBRECEN

A Brief History

1235: First reference of 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 opening of the Medical Faculty.

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 a 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 as Debrecen became the mediator between the divided 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. 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 on the outskirts of Debrecen. This is the authentic Hungarian Plain without any notable elevations, with unique flora and fauna, natural phenomena (e.g. the Fata Morgana), and ancient animal husbandry traditions. The region is unmatched in Europe, no matter whether one considers its natural endowments or its historic and ethnographic traditions. A very lovely part of Debrecen is the “Nagyerdő” (“The Great Forest”), which is a popular holiday resort. Besides several cultural and tourist attractions, 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 foundation of Hungary (1896) when the institution 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 free-standing, 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 programme, the University was given the rights to issue scientific qualifications and new PhD programmes were also launched. Several new programmes (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 programmes (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 programmes – with specialized training for paramedics – will help balance out 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.

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.

International students study in English language. Entrance for certain courses of the Health College is possible on the basis of a special evaluation (scoring) and an entrance interview.

The syllabuses and classes of all courses correspond to European standards.

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 may join these PhD courses ("English PhD programme").

The accredited PhD programmes 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 programmes 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.

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').

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 launch of 5 different postgraduate and one graduate training programmes as well as the establishment of a doctoral programme were carried out by the teaching staff of the faculty with the effective support of the University of Debrecen. As a result of these efforts the Faculty became a unique, internationally recognized, and competitive training centre in Hungary. According to the Bologna process the Faculty has established and from 2006 and 2007 launched its Bachelor's and Master's training programmes in the field of public health and health sciences. With its 3 Bachelor's and 5 Master's training programmes with 6 Postgraduate courses, the Faculty of Public Health offers a rich variety of learning experience at present. There are two Doctoral programmes available since 2009.

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.

ORGANIZATIONAL STRUCTURE OF THE FACULTY OF PUBLIC HEALTH

Department of Biostatistics and Bioinformatics

Department of Health Promotion

Department of Humanities 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 centre of public health education in Hungary is to improve health of the population by developing and maintaining internationally recognized high quality training programmes, complying with the training needs of 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 programme 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.

Another bachelor programme 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 starts in the academic year 2021/22 at first.

The international MSc programmes (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. The best performing students can advance to the National Students' Scientific Conference held every second year. Another way for students to introduce their scientific findings is to write a scientific essay which is evaluated through a network of reviewers.

CHAPTER 2
ORGANISATION STRUCTURE

RECTOR OF THE UNIVERSITY OF
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CHAPTER 3

ADMINISTRATIVE UNITS

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Education Officer, Contact Person	Ms. Andrea Debreczeni
	Ms. Zita Nagy
	Ms. Andrea Szűcs
	Ms. Tímea Varga-Géber

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BMC Coordinator	Ms. Beáta Lontay M.Sc., Ph.D.
Manager Assistant	Ms. Márta Hajdu M.A.
Agent&Marketing Coordinator	Tamás Zabán M.Sc.
Marketing Coordinator	Ms. Eszter Balázs 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 5

UNIVERSITY CALENDAR

UNIVERSITY CALENDAR FOR THE MSC IN PUBLIC HEALTH PROGRAM ACADEMIC YEAR 2020/2021

Academic year opening ceremony	8 th September 2020 (Tuesday)
1 st semester Registration week	31 st August –4 th September 2020(1 week)
1 st semester study period	7 th September 2020–11 th December 2020(14 weeks)
1 st semester exam period	14 th December 2020–29 th January 2021(7 weeks)
1 st semester extension week	1 st –5 th February 2021(1 week)
2 nd Semester Registration week	1 st –5 th February 2021(1 week)
2 nd semester study period	8 th February 2021–14 th May 2021(14 weeks)
2 nd semester exam period	17 th May 2021–2 nd July 2021(7 weeks)
2 nd semester extension week	5 th July 2021–9 th July 2021(1 weeks)

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.

ENGLISH PROGRAM BULLETIN FOR MSC IN PUBLIC HEALTH

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			36	36	4	ESE	
	Biostatistics	compulsory	12		24	36	5	ESE	
	Epidemiology	compulsory	28		56	84	11	ESE	
	Health policy	compulsory	60			60	8	ESE	
	Health management	compulsory	48			48	6	ESE	
	Total:					264	34		
2nd semester	Health promotion	compulsory	40	18	26	84	11	ESE	
	Environmental health	compulsory	40	28	16	84	11	ESE	
	Public health in developed countries	compulsory	38			38	5	ESE	Epidemiology
	Public health in developing countries	compulsory	10	20		30	5	ESE	Epidemiology
	Elective subjects	elective				60	8	ESE	
	Total:					296	40		
	2nd year		Lec	Sem	Pract	TOT	Cr	Ass	Pre- requirement
3rd semester	Elective subjects	elective				30	4	ESE	
	Thesis					180	12		
	Total:					210	16		
	I-III Total					770	90		

Elective subjects		Lec	Sem	Pract	TOT	Cr	Ass
Clinical epidemiology	elective	10		20	30	4	ESE
Epidemiological study deAi	elective	30			30	4	ESE
Public health problems of disadvantaged population	elective	17	8	5	30	4	ESE
Nutritional health	elective	30			30	4	ESE
Occupational health	elective	16	14		30	4	ESE

CHAPTER 7 ACADEMIC PROGRAMME

Subject: **HEALTH INFORMATICS**

Year, Semester: 1st year/1st semester

Number of teaching hours:

Practical: **36**

Information, data. Interpretation in the field of Health Care System. Health and economic data. Digital imaging. Signal processing, biometrics, artificial intelligence. Health care: data security and protection – data types, data management. Health care: data, legal and relevant sources, availability of data (WHO)

Administration, dataflow, standards, quality assurance in the Health Care. Problems, errors possible causes, uncertainties and solutions. Information systems – possibilities

Classification, code systems, nomenclature, conversions. ICD, Procedure codes, SNOMED, TNM, RCC, metacode, bar code, QR code, PID, solution provider ID, economic data codes. Graphs, UMLS, GRAIL. Statistical models. Usage and value.

MS WORD: DATA import. Insert and edit text, picture, table, textbox chart. Formatting Fonts and Paragraphs (MS WORD)

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)

MS WORD: practice (MS WORD)

MS PowerPoint: Insert and edit text, picture, table, textbox chart. Formatting Fonts and Paragraphs. Transits, Animations, Using Buttons (MS PowerPoint)

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)

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)

Excel Functions Exercises (Nested Functions) (MS EXCEL)

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)

Data Protection and Databases, DBMS, Relational Database, MS ACCESS. Representation of the results. (MS ACCESS)

SQL language basics (MS ACCESS)

One table queries. DMBS, MS ACCESS. (MS ACCESS)

One table and multiple table queries. DBMS, MS ACCESS. Preparing Questionnaire. (MS ACCESS)

DBMS practice. + Reports (Processing databases with Excel and Access) (MS ACCESS, EXCEL)

TEST (Possibility of getting offered grade)

Requirements

Class attendance is the condition of getting signature. 30% of the classes can be missed (10 classes). You can get an offered grade if you complete a Test at the end of the course OR get a grade in the examination period.

Subject: **BIOSTATISTICS**

Year, Semester: 1st year/1st semester

Number of teaching hours:

Lecture: **12**

Practical: **24**

1st week:

Lecture: Measures of infectiousness, dynamics of infection, vaccine efficacy 1.

Practical:

Introduction to using Stata 1.

Introduction to using Stata 2.

2nd week:

Lecture: Measures of infectiousness, dynamics of infection, vaccine efficacy 2.

Practical:

Principles of computerized data tables I. (Data and variable types, measurement scales) 1.

Principles of computerized data tables I. (Data and variable types, measurement scales) 2.

3rd week:

Lecture: Probability and random variables, probability distributions, density functions 1.

Practical:

Principles of computerized data tables I. (Data and variable types, measurement scales) 3.

Principles of computerized data tables I. (Data and variable types, measurement scales) 4.

4th week:

Lecture: Probability and random variables, probability distributions, density functions 2.

Practical:

Principles of computerized data tables II. (Graphical and numerical methods of summarizing data) 1.

Principles of computerized data tables II. (Graphical and numerical methods of summarizing data) 2.

5th week:

Lecture: The role of medical statistics in public health; mathematical notation 1.

Practical:

Principles of computerized data tables II.

(Graphical and numerical methods of summarizing data) 3.

Principles of computerized data tables II.

(Graphical and numerical methods of summarizing data) 4.

6th week:

Lecture: The role of medical statistics in public health; rules of power and root expressions 2.

Practical:

Basic methods of analyzing continuous data 1.

Basic methods of analyzing continuous data 2.

7th week:

Lecture: The role of medical statistics in public health; logarithmic and exponential functions 3.

Practical:

Basic methods of analyzing continuous data 3.

Basic methods of analyzing continuous data 4.

8th week:

Lecture: The role of medical statistics in public health; transformations frequently used in medical statistics 4.

Practical:

Basic methods of analyzing categorical data 1.

Basic methods of analyzing categorical data 2.

9th week:

Lecture: Measures of infectiousness, dynamics of infection, vaccine efficacy 3.

Practical:

Basic methods of analyzing categorical data 3.

<p>Basic methods of analyzing categorical data 4.</p> <p>10th week: Lecture: Measures of infectiousness, dynamics of infection, vaccine efficacy 4. Practical: Basic methods of analyzing count data 1. Basic methods of analyzing count data 2.</p> <p>11th week: Lecture: Assignment 1.</p>	<p>Practical: Basic methods of analyzing incidence 1. Basic methods of analyzing incidence 2.</p> <p>12th week: Lecture: Assignment 2. Practical: Basic methods of analyzing incidence 3. Basic methods of analyzing incidence 4.</p>
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The students are expected to know the presumptions of application of standard biostatistical processes, to be able to identify the method by which a certain question can be answered, to implement the required analysis, to draw the statistical inference and interpret the results from the statistical analyses.

Subject: **EPIDEMIOLOGY**

Year, Semester: 1st year/1st semester

Number of teaching hours:

Lecture: **28**

Practical: **56**

1st week:

Introduction to epidemiology
(epidemiological research: role, strategies, methods, prospects)

The process of the epidemiological investigations 1.

The role of epidemiology in public health

Measures describing the demographic characteristics of populations

Critical appraisal of short articles 1.

Critical appraisal of short articles 2.

Critical appraisal of short articles 3.

2nd week:

Measures 1.

Epidemiological studies 1.

Cohort studies

Intervention studies

Random error, selection bias

3rd week:

Case control studies 1.

Case control studies 2.

Confounding- 1.

Confounding 2.

4th week:

Information bias 1.

Information bias 2.

Causality

Random error, selection bias 1.

Random error, selection bias 2.

5th week:

Registries

Surveillance

Screening 1.

Screening 2.

Monitoring 1.

6th week:

Methods used in analysing premature mortality, composite measures 1.

Methods used in analysing premature mortality, composite measures 2.

Screening 1.

Screening 2.

Critical appraisal of short articles

7th week:

Preventive strategies 1.
Preventive strategies 2.
Preventive strategies 3.
Preventive strategies 4.
The process of the epidemiological investigations 2.

8th week:

Measures 2.
Measures 3.
Epidemiological studies 2.
Monitoring 2.
Measures 4.
Course summary 1.
Course summary 2.
Course summary 3.
Course summary 4

9th week:

Measures 5.
Case control studies 3.
Case control studies 4.
Cohort studies 2.

10th week:

Describing health status of groups 1.
Describing health status of groups 2.
Standardisation 1.
Standardisation 2.

11th week:

Cohort studies 3.
Confounding and information bias 1.
Confounding and information bias 2.
Confounding and information bias 3.

Confounding and information bias 4.

12th week:

Case studies 1.
Case studies 2.
Case studies 3.
Case studies 4.
Distributions frequently used in medical statistics: Point estimation 1.
Distributions frequently used in medical statistics: Point estimation 2.
Distributions frequently used in medical statistics: Point estimation 3.
Distributions frequently used in medical statistics: Point estimation 4.

13th week:

Hypothesis testing; Confidence intervals 1.
Hypothesis testing; Confidence intervals 2.
Hypothesis testing; Confidence intervals 3.
Hypothesis testing; Confidence intervals 4.

14th week:

Regression methods 1.
Regression methods 2.
Regression methods 3.
Regression methods 4.
Regression methods 5.
Regression methods 6.
Regression methods 7.
Regression methods 8.
Regression methods 9.
Regression methods 10.
Comparison and analysis of routine data 1.
Comparison and analysis of routine data 2.
Presentations of students' assignment 1.
Presentations of students' assignment 2.

Requirements

Participation in seminars and practices is obligatory. In the case of more than two absences signature is refused. During the course, a mark will be offered to the students on the base of classroom task, homework, and test.

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)	Case studies in environmental epidemiology (Students' presentations)
Biological monitoring (lecture)	
Genotoxicology (lecture)	
Genotoxicology (lab. practice)	
8th week:	11th week:
Lecture: Day 3	Lecture: Day 2
Introduction to occupational health (lecture)	Drinking Water Treatment Plant (visit)
Occupational diseases (lecture)	Waste Water Treatment Plant (visit)
Health impact assessment of an industrial plant	Drinking Water Control Laboratory (visit)
Vinyl chloride toxicity (seminar)	12th week:
Cholinesterase inhibiting pesticide toxicity (seminar)	Lecture: Day 3
	Sanitation control of catering services (visit, Klinika)
9th week:	Green building – Building energetics (DEM house visit)
Lecture: Day 4	
Introduction to nutritional health (lecture)	13th week:
Diet related chronic diseases (lecture)	Lecture: Day 4
Food poisoning, foodborne diseases (lecture)	Industrial plant - sanitation control (visit)
Food safety (lecture)	Food sanitation control (visit)
10th week:	14th week:
Lecture: 3week	Lecture: Day 5
Day 1	Air Control Laboratory (visit)
Environmental risk assessment (lecture)	Radiation Control Laboratory (visit)
Environmental health policy (lecture, seminar)	
Introduction to environmental epidemiology (lecture)	

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: **NUTRITIONAL HEALTH**

Year, Semester: 1st year/2nd semester

Number of teaching hours:

Lecture: **16**

Seminar: **14**

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

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prevention	methods of stress prevention and control
10th week: Lecture: Mechanical (ergonomic) workplace hazards and their prevention	13th week: Seminar: Occupational health and safety inspection, comprehensive evaluation of the work environment. Occupational risk assessment
11th week: Seminar: Occupational accidents, occupational safety	14th week: Seminar: Workplace visit Seminar: Student presentations
12th week: Lecture: Occupational psychosocial hazards,	

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.

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

Klára Bíró PhD.

Thesis:

Increasing expectations among healthcare consumers
Challenges for healthcare managers

László Kardos PhD.

Thesis:

Cutoff optimization of classification systems on the principle of
misclassification burden minimization

Ágnes Tóth PhD.

Thesis:

Magnetic Resonance Imaging of Bones and Joints

Balázs Lukács PhD.

Thesis:

Study of the incidence, causes and consequences of falls in the elderly
Interventions to prevent falls in elderly

Éva Csepregi MSc

Thesis:

Assessment of posture among physiotherapy students