BULLETIN

UNIVERSITY OF DEBRECEN

FACULTY OF PUBLIC HEALTH

BSc in Physiotherapy

COORDINATING CENTER FOR INTERNATIONAL EDUCATION
# Table of Content

INTRODUCTION .................................................................................................................. 3

ORGANIZATION STRUCTURE ............................................................................................ 11

ADMINISTRATIVE UNITS .................................................................................................... 16

DEPARTMENTS OF THE FACULTY OF PUBLIC HEALTH .................................................... 19

FACULTY OF MEDICINE - DEPARTMENTS OF BASIC SCIENCES .................................... 25

CLINICAL DEPARTMENTS .................................................................................................. 37

UNIVERSITY CALENDAR ...................................................................................................... 51

ACADEMIC PROGRAM FOR CREDIT SYSTEM .................................................................... 53

ACADEMIC PROGRAM FOR THE 1ST YEAR ....................................................................... 69

ACADEMIC PROGRAM FOR THE 2ND YEAR ...................................................................... 101

ACADEMIC PROGRAM FOR THE 3RD YEAR ..................................................................... 133

ACADEMIC PROGRAM FOR THE 4TH YEAR ..................................................................... 159

ELECTIVE COURSES ........................................................................................................... 173

LIST OF TEXTBOOKS ......................................................................................................... 197

TITLES OF THESES .............................................................................................................. 211
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, colorful 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
INTRODUCTION

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
ENGLISH PROGRAM BULLETIN BSC IN PHYSIOTHERAPY

tutors.

Medical Activity at the Faculty of Medicine

The Faculty of Medicine is not only the second largest medical school in Hungary, but it is also one of the largest Hungarian hospitals, consisting of 49 departments; including 18 different clinical departments with more than 1,800 beds. It is not only the best-equipped institution in the area but it also represents the most important health care facility for the day-to-day medical care in its region.

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

It is also of importance that the University of Debrecen has a particularly fruitful collaboration with the Nuclear Research Institute of the Hungarian Academy of Sciences in Debrecen, allowing the coordination of all activities that involve the use of their cyclotron in conjunction with various diagnostic and therapeutic procedures (e.g. Positron Emission Tomography 'PET').

Scientific Research at the Faculty of Medicine

Scientific research is performed both at the departments for basic sciences and at the laboratories of clinical departments. The faculty members publish about 600 scientific papers every year in international scientific journals. According to the scientometric data, the Faculty is among the 4 best of the more than 80 Hungarian research institutions and universities. Lots of scientists reach international recognition, exploiting the possibilities provided by local, national and international collaborations. Internationally acknowledged research areas are Biophysics, Biochemistry, Cell Biology, Immunology, Experimental and Clinical Oncology, Hematology, Neurobiology, Molecular Biology, Neurology, and Physiology. The scientific exchange program involves numerous foreign universities and a large proportion of the faculty members are actively involved in programs that absorb foreign connections (the most important international collaborators are from Belgium, France, Germany, Italy, Japan, the UK and the USA).

HISTORY OF THE FACULTY OF PUBLIC HEALTH

The first Faculty of Public Health in Hungary was established by the decision of the Hungarian Government on 1st December 2005, by the unification of the School of Public Health, the Department of Preventive Medicine, the Department of Family Medicine and the Department of Behavioral Sciences of the University of Debrecen.

Becoming an independent faculty of the University of Debrecen (presently uniting 15 different faculties) was preceded by a 10-year period of development. Establishment and launching of 5 different postgraduate and one graduate training programs as well as the establishment of a doctoral program were carried out by the teaching staff of the faculty with the effective support of the University of Debrecen. As a result of these efforts the Faculty became a unique, internationally recognized and competitive training center in Hungary. According to the Bologna process the Faculty has established and from 2006 and 2007 launched its bachelor and master training programs in the field of public health and health sciences. With its 2 bachelor, 5 master training programs and 6 postgraduate courses, the Faculty of Public Health offers a rich variety of learning experience at present. 2 doctoral programs are available since 2009.
Close cooperation with several faculties of the University of Debrecen guided the process of becoming a faculty, and the Faculty also became an internationally recognized workshop of public health research.

ORGANISATION STRUCTURE OF THE FACULTY OF PUBLIC HEALTH

Department of Preventive Medicine
Division of Biomarker Analysis
Division of Biostatistics and Epidemiology
Division of Health Promotion
Division of Public Health Medicine
Department of Family and Occupational Medicine
Department of Behavioural Sciences
Division of Clinical and Health Psychology
Division of Humanities for Health Care
Department of Health Management and Quality Assurance
Department of Hospital Hygiene and Infection Control
Department of Physiotherapy
School of Public Health (as postgraduate training centre)

MISSION OF THE FACULTY OF PUBLIC HEALTH

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

BSC IN PHYSIOTHERAPY PROGRAM AT THE FACULTY OF PUBLIC HEALTH

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

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

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

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

Outstanding students may present their work at the local Students’ Scientific Conference.
organized by the Council of the Students’ Scientific Association annually. Best performing students can advance to the National Students’ Scientific Conference held every second year. Another way for students to introduce their scientific findings is to write a scientific essay which is evaluated through a network of reviewers.
# CHAPTER 2
## ORGANIZATION STRUCTURE

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<th>RECTOR OF THE UNIVERSITY OF DEBRECEN</th>
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<tbody>
<tr>
<td>Rector</td>
<td>Zoltán Szilvássy M.D., Ph.D., D.Sc.</td>
</tr>
<tr>
<td>Address</td>
<td>4032 Debrecen, Egyetem tér 1.</td>
</tr>
<tr>
<td>Phone</td>
<td>+36-52-416-060</td>
</tr>
<tr>
<td>Phone/fax</td>
<td>+36-52-416-490</td>
</tr>
<tr>
<td>E-mail</td>
<td><a href="mailto:rector@unideb.hu">rector@unideb.hu</a></td>
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<tr>
<th>COORDINATING CENTRE FOR INTERNATIONAL EDUCATION</th>
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<tbody>
<tr>
<td>Director</td>
<td>Attila Jenei M.Sc., Ph.D.</td>
</tr>
<tr>
<td>Address</td>
<td>4032, Debrecen, Nagyerdei krt. 94.</td>
</tr>
<tr>
<td>Phone</td>
<td>+36-52-258-058</td>
</tr>
<tr>
<td>Fax</td>
<td>+36-52-414-013</td>
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<tr>
<td>E-mail</td>
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<th>FACULTY OF MEDICINE</th>
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<tr>
<td>Dean</td>
<td>László Mátyus M.D., Ph.D., D.Sc.</td>
</tr>
<tr>
<td>Address</td>
<td>4032, Debrecen, Nagyerdei krt. 98.</td>
</tr>
<tr>
<td>Phone</td>
<td>+36-52-258-086</td>
</tr>
<tr>
<td>Fax</td>
<td>+36-52-255-150</td>
</tr>
<tr>
<td>E-mail</td>
<td><a href="mailto:dekan@med.unideb.hu">dekan@med.unideb.hu</a></td>
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<td><strong>Vice-Dean of Scientific Affairs</strong></td>
<td>László Virág M.D., Ph.D., D.Sc.</td>
</tr>
<tr>
<td><strong>Address</strong></td>
<td>4032, Debrecen, Nagyerdei krt. 98.</td>
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<tr>
<td><strong>Phone</strong></td>
<td>+36-52-417-345</td>
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<td><strong>Fax</strong></td>
<td>+36-52-412-566</td>
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<td><a href="mailto:dekan@med.unideb.hu">dekan@med.unideb.hu</a></td>
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<tr>
<td><strong>Dean’s advisor</strong></td>
<td>Endre Nagy M.D., Ph. D., D.Sc.</td>
</tr>
<tr>
<td><strong>Address</strong></td>
<td>4032, Debrecen, Nagyerdei krt. 98.</td>
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CHAPTER 3

ADMINISTRATIVE UNITS

EDUCATIONAL ORGANIZATIONAL OFFICE OF FACULTY OF PUBLIC HEALTH
Kassai str. 28, Debrecen, 4028, Tel: 52-512-765/77408
E-mail: belgyar.zsuzsa@sph.unideb.hu, Web: http://nk.unideb.hu

Head
Ms. Zsuzsa Nagy-Belgyár (maternity leave)
Ms. Lilla Bucskuné Almási (expletive person)

Education Officer, Contact Person
Mr. Róbert Bata
Ms. Zsuzsa Flóra Péter
Ms. Andrea Debreczeni (maternity leave)
Ms. Timea Géber

COORDINATING CENTER FOR INTERNATIONAL EDUCATION
Nagyerdei krt. 94., Debrecen, 4032
Telephone: +36-52-258-058 Fax: +36-52-414-013
E-mail: info@edu.unideb.hu, Web: www.edu.unideb.hu

Director
Prof. Attila Jenei Ph.D.

Program Coordinator
Prof. Ferenc Erdődi Ph.D, D.Sc.

BMC Coordinator
Ms. Beáta Lontay Ph.D.

Manager Assistants
Ms. Anna Kapitány M.Sc.
Ms. Andrea Tiba B.Sc.

Contract&Marketing Coordinator
Ábrahám Gergely Varga J.D.

Financial Coordinator
Ms. Rita Kovács J.D.

Agent Coordinator
József Harmati J.D.

English Program Coordinators
Ms. Dóra Benkő B.A.
(Admissions, Visa issues, BMC)

Ms. Adrienn Gagna-Szakó M.Sc.
(Admissions, BMC, US Loans, Wyckoff HMC Applications)

Ms. Anett Galvácsi M.A
(Tuition fee, Financial Certificates, Refunds, USMLE Coordinator)

Ms. Katalin Györe M.A.
(Admissions, Visa issues, BMC)

Ms. Krisztina Németh M.Sc.
(Bulletin)

Ms. Enikő Sallai M.Sc.
(Tuition fee, Health Insurance)

Ms. Bella Brigitta Szilágyi M.A.
(Stipendium Hungaricum Coordinator)

IT Project Coordinator

Imre Szücs B.Sc.
CHAPTER 4

DEPARTMENTS OF THE FACULTY OF PUBLIC HEALTH

INSTITUTE OF BEHAVIOURAL SCIENCES, FACULTY OF PUBLIC HEALTH
Nagyerdei krt. 98., Debrecen, 4032, Tel: +36-52-255-594
Web: http://mti.dote.hu

Associate Professor, Head of Department  Ms. Karolina Kósa M.D., M.Sc., Ph.D.
Associate Professor, Head of Division of Clinical And Health Psychology  Ms. Ildikó Kuritár Szabó M.A., Ph.D.
Associate Professor, Head of Division of Humanities For Health Care  Attila Bánsalvi M.A., Ph.D., C.Sc.
Professor Emeritus  Péter Molnár M.D., D.Sc.
Associate Professor  Antal Bugán M.A., Ph.D.
Assistant Professor  Ms. Mónika Andrejkovics M.A., Ph.D.
                                      Péter Kakuk M.A., Ph.D.
                                      Ms. Judit Molnár M.A., Ph.D.
                                      Roland Tisljár M.A., Ph.D.
Assistant Lecturer  János Kristóf Bodnár M.A., Ph.D.
                                      Sándor Köműves M.A., Ph.D.
                                      Ms. Eszter Tisljár - Szabó M.A., Ph.D.
Psychologist  Ms. Beáta Kovács-Tóth M.A.
Invited Lecturer  Bence Döbrössy M.A.
Intern  Ms. Bernadett Bodor M.Sc.
                                      Ms. Katalin Mária Dallos M.Sc.
                                      Ms. Márta Erdei M.Sc.
                                      Ms. Bernadett Hidegh M.Sc.
                                      Ms. Éva Knapek M.Sc.
                                      Ms. Katalin Merza M.A.
                                      Ms. Erika Nagy M.Sc.
                                      Ms. Anna Eszter Rácz M.Sc.
PhD Student  Dániel Balajthy M.Sc.
                                      Ms. Amanda Illés M.Sc.
                                      Szabócs Kató M.Sc.
                                      Ms. Orsolya Micskei M.Sc.
                                      Ms. Brigitta Munkácsi M.Sc.
                                      Ms. Anikó Nagy M.Sc.
DEPARTMENTS OF THE FACULTY OF PUBLIC HEALTH

Academic Advisor
Ms. Mónika Andrejkovics M.A., Ph.D. (4th year, Behavioural Medicine, Behavioural Science Final Exam)
Attila Bátfalvi M.A., Ph.D., C.Sc. (3rd year, Medical Anthropology, Medical Sociology)
Péter Kakuk M.A., Ph.D. (4th year, Bioethics)
Ms. Judit Molnár M.A., Ph.D. (3rd year Medical Psychology, 5th year Pharmaceutical Psychology)
Roland Tisljár M.A., Ph.D. (1st year, Basics of Behavioural Sciences, Communication)

DEPARTMENT OF FAMILY AND OCCUPATIONAL MEDICINE, FACULTY OF PUBLIC HEALTH
Móricz Zs. Krt. 22., Debrecen, 4032, Tel: +36-52-25-52-52
E-mail: csotanszek@sph.unideb.hu, Web: www.fam.med.unideb.hu www.nk.unideb.hu

Full Professor, Head of Department
Imre Rurik M.D., M.Sc., Ph.D., D.Sc.
Professor Emeritus
István Ilyés M.D., M.Sc., Ph.D.
Assistant Professor
Zoltán Jancsó M.D., Ph.D.
Assistant Lecturer
Ms. Anna Nánási M.D.
Ms. Judit Szidor M.D.
Ms. Hajnalka Tamás M.D.
Ms. Timea Ungvári M.Sc.
Senior Lecturer
László Róbert Kolozsvári M.D., Ph.D.
Clinical Specialist
Ms. Emőke Lengyel M.D.
Ms. Izabella Szilágyi M.D.
Ms. Erzsébet Tóth M.D.
Undergraduate educational officer
Ms. Timea Ungvári M.Sc.
Postgraduate educational officer
Ms. Anna Nánási M.D.
Other Invited Lecturers
István Erdei M.D.
János Hintalan M.D.
Ms. Eszter Kovács M.D.
Ms. Hajnalka Márton M.D.
Csaba Sárkány M.D.
Attila Simay M.D., Ph.D.
(Hon. Associate Professor)
Péter Szerze M.D.
Ms. Margit Szövetes M.D.

DEPARTMENT OF HEALTH MANAGEMENT AND QUALITY ASSURANCE,
FACULTY OF PUBLIC HEALTH
Nagyerdei krt. 98., Debrecen, 4032, Tel: 06-52-255-052
E-mail: lepp.anett@med.unideb.hu, Web: www.emmt.unideb.hu

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

DEPARTMENT OF HYGIENE AND INFECTION CONTROL, FACULTY OF
PUBLIC HEALTH
Nagyerdei krt. 98., Debrecen, 4032, Tel: +36-52-255-795
E-mail: orosip@med.unideb.hu, Web: www.nk.unideb.hu

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

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

Associate Professor, Head of Department
Ms. Ilona Veres-Balajti M.Sc., Ph.D.
College Professor, Coordinator of BSc in Physiotherapy Program
Ms. Julianna Cseri M.D., Ph.D.
Assistant Professor
Balázs Lukács M.Sc., Ph.D.
Ms. Zsuzsanna Némethné Gyurcsik M.Sc., Ph.D.
Ms. Andrea Váncsa M.D., Ph.D.
Assistant Lecturer
Ms. Zsuzsa Lábiscsák-Erdélyi M.Sc.
Ms. Judit Pálinkás M.Sc.
### DEPARTMENTS OF THE FACULTY OF PUBLIC HEALTH

**Invited Lecturer**
- Ms. Katalin Papp M.Sc., Ph.D.
- Imre Semsei Ph.D., D.Sc.
- Zoltán Szentkereszty M.D.
- Ms. Adrienne Tóthmartinez M.D.

**Practice Teacher**
- Ms. Éva Csepregi M.Sc.

**Instructor**
- Ms. Éva Anett Csuhai

**PhD student**
- Ms. Hajnalka Petrika M.Sc.

**Academic Advisor**
- Ms. Zsuzsanna Némethné Gyurcsik M.Sc., Ph.D.

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

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

**Full Professor, Head of Department**
- Ms. Róza Ádány M.D., Ph.D., D.Sc.

**Associate Professor, Head of Division**
- István Kárpáti M.D., Ph.D.

**Full professor, Head of Biomarker Analysis Division**

**Associate Professor, Head of Biostatistics and Epidemiology Division**
- János Sándor M.D., Ph.D.

**Associate Professor, Head of Health Promotion Division**
- Ms. Karolina Kósa M.D., M.Sc., Ph.D.

**Associate Professor, Head of Dep. of Hygiene and Infection Control**
- Ms. Piroska Orosi M.D., Ph.D.

**Associate Professor**
- Balázs Ádám M.D., M.Sc., Ph.D.
- Ms. Helga Bárdos M.D., M.Sc., Ph.D.
- Sándor Gödény M.D., Ph.D.
- Sándor Szűcs M.Sc., Ph.D.

**Assistant Professor**
- Ervin Árnyas M.Sc., Ph.D.
- Ms. Éva Bíró M.D., Ph.D.
- Ms. Szilvia Fiatal M.D., Ph.D.
- Ms. Orsolya Varga M.D., Ph.D.

**Assistant Lecturer**
- Tibor Jenei
- Tamás Köbling M.D.
- Attila Csaba Nagy M.D., Ph.D.
- Károly Nagy Ph.D.
- László Pál Ph.D.
- Gábor Rácz M.D.
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<tr>
<td>Resident</td>
<td>Ms. Judit Diószegi M.D.</td>
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<tr>
<td></td>
<td>Gergely Füri M.D.</td>
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<tr>
<td></td>
<td>Ms. Márta Füzi M.D.</td>
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<td>Ms. Dóra Kölesné Dezső M.D.</td>
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<tr>
<td>Invited Lecturer</td>
<td>György Juhász M.D.</td>
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<tr>
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<td>József Legoza M.D.</td>
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<tr>
<td>Hungarian Academy of Sciences University of Debrecen Public Health Research Group Fellow</td>
<td>Ms. Szilvia Ecsedi M.Sc., Ph.D.</td>
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<td>Rühl Ralph M.D., Ph.D.</td>
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<tr>
<td>Research Assistant</td>
<td>Ms. Timea Kiss M.Sc.</td>
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<td>Ms. Viktória Koroknai M.Sc.</td>
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<td>Péter Pikó M.Sc.</td>
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<td>Ms. Valéria Vinczéné Sipos M.Sc.</td>
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<tr>
<td>PhD Student</td>
<td>Ms. Orsolya Csenteri M.Sc.</td>
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<td>Viktor Dombrádi Jr M.Sc.</td>
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<td>Ms. Andrea Lukács M.Sc.</td>
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<td>Ms. Beáta Soltész M.Sc.</td>
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<td>Ferenc Vincze M.Sc.</td>
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# CHAPTER 5

## FACULTY OF MEDICINE - DEPARTMENTS OF BASIC SCIENCES

### DEPARTMENT OF ANATOMY, HISTOLOGY AND EMBRYOLOGY

Nagyerdei krt. 98., Debrecen, 4032, Tel: +36-52-255-567
Web: http://www.anat.dote.hu

<table>
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<th>Position</th>
<th>Name</th>
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<tr>
<td>Associate Professor, Head of the Department</td>
<td>Péter Szücs M.D., Ph.D.</td>
</tr>
<tr>
<td>Full Professor, Head of Oral Anatomy Division</td>
<td>Ms. Klára Matesz M.D., Ph.D., D.Sc.</td>
</tr>
<tr>
<td>Full Professor</td>
<td>Miklós Antal M.D., Ph.D., D.Sc.</td>
</tr>
<tr>
<td>Professor Emeritus</td>
<td>István Földes M.D., Ph.D., D.Sc.</td>
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<td>László Módis M.D., Ph.D., D.Sc.</td>
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<td>György Székely M.D., Ph.D., D.Sc., M.H.A.Sc.</td>
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<td>Associate Professor</td>
<td>Andráss Birinyi M.Sc., Ph.D.</td>
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<td>Szabolcs Felszeghy Ph.D., D.D.S.</td>
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<td>Ervin Wolf M.Sc., Ph.D.</td>
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<td>Assistant Professor</td>
<td>Ms. Róza Zákány M.D., Ph.D.</td>
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<tr>
<td>Postgraduate Lecturer</td>
<td>Ms. Krisztina Holló M.Sc., Ph.D.</td>
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<td>Tamás Juhász M.Sc., Ph.D.</td>
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<td>Csaba Matta M.Sc., Ph.D.</td>
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<td>Zoltán Mészár M.Sc., Ph.D.</td>
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<td>Ms. Cintia Angel M.Sc.</td>
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<td>Ms. Zsófia Antal M.D., Ph.D.</td>
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<td>Ms. Anita Balázs M.Sc., Ph.D.</td>
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<td>Botond Gaál M.Sc., Ph.D.</td>
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<td>Ms. Krisztina Hegedűs M.Sc.</td>
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<td>Zoltán Hegyi M.Sc., Ph.D.</td>
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<td>Ms. Edina Karanyecz M.Sc.</td>
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<td>Ms. Szilvia Keeskés M.Sc., Ph.D.</td>
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<td>Ms. Annamária Kenyeres M.Sc.</td>
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<td>Ms. Lívia Kicska M.Sc.</td>
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<td>Ms. Gréta Kis M.Sc.</td>
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Ms. Ildikó Papp M.Sc., Ph.D.
Ms. Éva Rácz M.Sc., Ph.D.
Ms. Zsanett Sólyom M.Sc.
Ms. Csilla Somogyi M.Sc.
Ms. Ildikó Wéber M.Sc., Ph.D.

Junior Scientific Officer
Ms. Nóra Dobrosi M.Sc.
László Ducza M.Sc.
Zsolt Kocsis M.D.
Roland Takács M.Sc.

Invited Lecturer
Gary Kish M.D.

Course Director
Tamás Juhász M.Sc., Ph.D.
(Macroscopic Anatomy)
Zoltán Kisvárday M.Sc., Ph.D., D.Sc.
(Neurobiology)
Ervin Wolf M.Sc., Ph.D.
(Histology and Embryology)

PhD Student
Ms. Klaudia Dócs M.Sc.
Ms. Javdani Fariba M.D.
Ms. Andrea Gajtkó M.Sc.
Tibor Hajdú M.D.
Ms. Andrea Hunyadi M.Sc.
Mohit Srivastava M.Sc.
Ms. Rita Varga M.Sc.

Academic Advisor for 1st year medical and dental students
Ms. Gréta Kis M.Sc.

Academic Advisor for 2nd year medical and dental students
Ms. Mónika Szakadát M.Sc.

DEPARTMENT OF BIOCHEMISTRY AND MOLECULAR BIOLOGY
Nagyerdei krt. 98., Debrecen, 4032, Tel: +36-52-416-432
E-mail: tokes@med.unideb.hu, Web: http://bmbi.med.unideb.hu

Full Professor, Head of Department
József Tőzsér M.Sc., Ph.D., D.Sc.

Head of Dental Biochemistry Division
Ms. Zsuzsa Szondy M.D., Ph.D., D.Sc.

Full Professor
Endre Barta M.Sc., Ph.D.
László Fésüs M.D., Ph.D., D.Sc., M.H.A.Sc.
Ms. Mónika Fuxreiter M.Sc., Ph.D., D.Sc.
László Nagy M.D., Ph.D., M.H.A.Sc.
<table>
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<th>Name</th>
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<tr>
<td>Pál Botó M.Sc.</td>
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<tr>
<td>Ms. Zsófia Budai M.Sc.</td>
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<td>Ms. Mária Csumita M.Sc.</td>
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<td>Tamás Csuth M.Sc.</td>
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<td>Erik Czipa M.Sc.</td>
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<td>Ms. Katalin Dánielné Sándor M.Sc.</td>
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<td>Ms. Eszter Deák M.D., M.Sc.</td>
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<td>Norbert Duró M.Sc.</td>
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<td>Ms. Ergulen Elvan M.Sc.</td>
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<tr>
<td>Ms. Edina Erdős M.Sc.</td>
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<td>Ms. Lívia Gazda M.Sc.</td>
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<tr>
<td>Ms. Mária Golda M.Sc.</td>
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<td>László Halász M.Sc.</td>
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<td>Szabolcs Hetey M.Sc.</td>
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<td>Attila Horváth M.Sc.</td>
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<tr>
<td>József Horváth M.Sc.</td>
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<tr>
<td>Ms. Monroy Ixchelt Cuaranta M.Sc.</td>
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<tr>
<td>Ms. Bernadett Jakob M.Sc.</td>
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<tr>
<td>Károly Jambrovics M.Sc.</td>
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<td>Gergely Joós M.D.</td>
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<td>Gergő Kalló M.Sc.</td>
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<tr>
<td>Norbert Kassay M.Sc.</td>
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<tr>
<td>Thangarajan Kiruphagaran M.Sc.</td>
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<tr>
<td>Ms. Ágnes Klusóczki M.Sc.</td>
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<tr>
<td>Ms. Lílla Ozgyin M.Sc.</td>
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<tr>
<td>Andreas Patsalos M.Sc.</td>
</tr>
<tr>
<td>Ms. Rashmi Rashmi M.Sc.</td>
</tr>
<tr>
<td>Tibor Sághy M.Sc.</td>
</tr>
<tr>
<td>Ms. Mária Szatmári Tóth M.Sc.</td>
</tr>
<tr>
<td>Ms. Zsófia Szojka M.Sc.</td>
</tr>
<tr>
<td>Ms. Erika Takács M.Sc.</td>
</tr>
<tr>
<td><strong>Academic Advisor</strong></td>
</tr>
<tr>
<td>Ms. Szilvia Tökés M.Sc., Ph.D.</td>
</tr>
<tr>
<td>(E-mail: <a href="mailto:tokessz@dote.hu">tokessz@dote.hu</a>, Ext.:64439)</td>
</tr>
</tbody>
</table>
DEPARTMENT OF BIOPHYSICS AND CELL BIOLOGY
Egyetem tér 1., Debrecen, 4032

Full Professor, Head of Department
János Szöllősi M.Sc., Ph.D., D.Sc.

Full Professor
Attila Jenei M.Sc., Ph.D.
György Vereb M.D., Ph.D., D.Sc.

Professor Emeritus
Sándor Damjanovich M.D., Ph.D., D.Sc., M.H.A.Sc.

Associate Professor
Zsolt Bacsó M.D., Ph.D.

Assistant Professor
Zsolt Fazekas M.Sc., Ph.D.
Péter Hajdu M.Sc., Ph.D.

Assistant Lecturer
Ms. Ágnes Tóth M.Sc., Ph.D.

Research Fellow
Ms. Beáta Mészáros M.Sc., Ph.D.
Ms. Ágnes Nagyné Dr. Szabó M.Sc., Ph.D.
Pál Pap M.Sc., Ph.D.
Ms. Timea Váradi M.Sc., Ph.D.
Ms. Barbara Zsebik M.Sc., Ph.D.

Junior Research Fellow
Tamás Kovács M.D.
László Ujlaky-Nagy M.D.
Ms. Julianna Volkó M.Sc.

Biologist
Gábor Szalóki M.Sc.

Bioimaging expert
Gábor Mocsár M.Sc.

PhD Student
András Balajthy M.D.
Csaba Bankó M.Sc.
István Csomós M.Sc.
Ms. Ágota Csóti M.Sc.
Ms. Erfaneh Firouzi Niaki D.Pharm.
Ms. Timea Hajdu M.Sc.
Péter Nánási M.D.
Zoltán Dénes Pethő M.D.
István Rebenku M.Sc.
Ms. Timea Szendi-Szatmári M.Sc.
Szabolcs Tarapcsák M.Sc.
Gábor Tóth M.D.
Ms. Orsolya Vörös M.Sc.
Ms. Florina Zákány M.D.

Visiting Lecturer
László Bene M.Sc., Ph.D.
DEPARTMENT OF FOREIGN LANGUAGES
Nagyerdei krt. 98., Debrecen, 4032, Tel: +36-52-258-030
E-mail: ilekt@med.unideb.hu, Web: ilekt.med.unideb.hu

Head of Department
Ms. Judit Lampéné Zsiros M.A., Ph.D.
Teacher
Ms. Anna Balóné Jóna M.A.
Ms. Mariann Fodor M.D., Ph.D.
Ms. Ildikó Gerő M.A.
Ms. Mariann Gulyásné Szitás M.A.
Ms. Jusztina J. Nagy M.A.
Ms. Judit Kovács M.A.
Ms. Éva Kövesi M.A.
Ms. Mónika Krasznai M.A.
Ms. Zsuzsa Lívia Mezei M.A.
László Répás M.A.
Ms. Katalin Rozman M.A.
Tecumseh Stretch M.A.

Academic Advisor
László Répás M.A.

DEPARTMENT OF IMMUNOLOGY
Egyetem tér 1., Debrecen, 4032, Tel: +36-52-417-159
Web: www.immunology.unideb.hu

Full Professor, Head of Department
Tamás Biró M.D., Ph.D., D.Sc.
Full Professor
Ms. Éva Rajnavölgyi M.Sc., Ph.D., D.Sc.
Associate Professor
Attila Bácsi M.Sc., Ph.D.
Árpád Lányi M.Sc., Ph.D.
Assistant Lecturer
Ms. Zsófia Agod M.Sc.
Ms. Tünde Fekete M.Sc., Ph.D.
Attila Szabó M.Sc., Ph.D.
Ms. Aliz Varga M.Sc., Ph.D.
Research Fellow
Péter Gogolák M.Sc., Ph.D.
Gábor Koncz M.Sc., Ph.D.
Ms. Kitti Pázmándi M.Sc., Ph.D.
INSTITUTE OF SPORT SCIENCE OF UNIVERSITY OF DEBRECEN
Móricz Zs. krt. 22., Debrecen, 4032, Tel: +36-52-411-600/54436
E-mail: sport@med.unideb.hu

Head of Department  László Balogh M.D.
Lecturer          Ms. Katalin Jóna M.Sc.
                  Miklós Magyart M.A.
                  Ágoston Nagy Ph.D.
                  Ms. Katalin Varga M.Sc.

DEPARTMENT OF MEDICAL MICROBIOLOGY
Nagyerdei krt. 98., Debrecen, 4032, Tel: +36-52-255-425
E-mail: mikro@dote.hu, Web: go.unideb.hu

Associate Professor, Head of Department  József Kónya M.D., Ph.D.
Professor Emeritus                  Lajos Gergely M.D., Ph.D., D.Sc.
Associate Professor                  László Majoros M.D., Ph.D.
                  Ms. Judit Szabó M.D., Ph.D.
                  György Veress M.Sc., Ph.D.
Assistant Professor                  Ms. Eszter Csoma M.Sc., Ph.D.
                  Gábor Kardos M.D., Ph.D.
                  Ms. Krisztina Szarka M.Sc., Ph.D.
Assistant Lecturer                  Ms. Zsuzsanna Dombrádi M.Sc., Ph.D.
                  Ms. Eszter Gyöngyösi M.Sc., Ph.D.
                  Renátó Kovács M.Sc., Ph.D.
                  Ms. Brigitta László M.Sc., Ph.D.
Research Fellow                  Ms. Anita Szalmás M.Sc., Ph.D.
Biologist                        Ms. Cecília Misztai M.Sc.
<table>
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<tr>
<td>Resident</td>
<td>Levente Szakács M.Sc.</td>
</tr>
<tr>
<td>Specialist</td>
<td>Ms. Evelin Bukta M.D.</td>
</tr>
<tr>
<td>Academic Advisor of Faculty of Medicine</td>
<td>Ms. Anita Kozák M.D.</td>
</tr>
<tr>
<td>Academic Advisor of Faculty of Dentistry</td>
<td>György Veress M.Sc., Ph.D.</td>
</tr>
<tr>
<td>PhD Student</td>
<td>Ms. Aliz Bozó M.Sc.</td>
</tr>
<tr>
<td>Academic Advisor of Faculty of Pharmacy</td>
<td>Ms. Dorottya Franyó M.Sc.</td>
</tr>
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**DEPARTMENT OF PATHOLOGY**

Nagyerdei krt. 98., Debrecen, 4032, Tel: +36-52-255-245
Web: pathol.med.unideb.hu

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<th>Position</th>
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<tr>
<td>Full Professor, Head of Department</td>
<td>Gábor Méhes M.D., D.Sc.</td>
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<td>Academic Advisor</td>
<td>Ms. Sarolta Molnár M.D.</td>
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<td>Csaba Molnár M.D.</td>
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</table>

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DEPARTMENT OF PHARMACOLOGY AND PHARMACOTHERAPY
Nagyerdei krt. 98., Debrecen, 4032, Tel: +36-52-255-009
Web: http://pharmacology.med.unideb.hu

Full Professor, Head of Department  Zoltán Szilvássy M.D., Ph.D., D.Sc.
Administration officer  Ms. Oxána Kiszil J.D.
Ms. Andrea Szalai B.Sc., M.Sc.
Associate Professor  Ms. Ilona Benkő M.D., Ph.D.
Béla Juhász D.Pharm., Dr. habil., Ph.D.
Róbert Pórszász M.D., Dr. habil., MBA, Ph.D.
József Szentmiklósi M.D., Ph.D.
Assistant Professor  Attila Megyeri M.D., Ph.D.
Assistant Lecturer  Ms. Ágnes Cseppentő M.D.
Balázs Varga D.Pharm., Ph.D.
Senior Research Fellow  József Németh M.Sc., Ph.D.
Research Fellow  Ms. Zsuzsanna Gál M.Sc., Ph.D.
Ms. Rita Kiss M.D., Ph.D.
Nutricionist  Ms. Katalin Szabó M.Sc.
Chemist  Lajos Veress M.Sc.
Molecular Biologist  Ms. Diána Kovács M.Sc., Ph.D.
PhD Student  Ms. Mariann Bombicz D.Pharm.
Ms. Beáta Lelesz M.Sc.
Dániel Priksz D.Pharm.
Junior Lecturer  Ms. Mariann Bombicz D.Pharm.
Ms. Andrea Kurucz M.D.
Academic Advisor  Róbert Pórszász M.D., Dr. habil., MBA, Ph.D.

DEPARTMENT OF PHYSIOLOGY
Nagyerdei krt. 98., Debrecen, 4012, Tel: +36-52-255-575
Web: http://phys.dote.hu

Full Professor, Head of Department  László Csernoch M.Sc., Ph.D., D.Sc.
Full Professor, Head of Sport Physiology Division  János Magyar M.D.,Ph.D.,D.Sc.
Full Professor, Head of Dental Physiology and Pharmacology Division  Péter Nánási M.D., Ph.D., D.Sc.
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<td>János Fodor M.Sc., Ph.D.</td>
<td></td>
</tr>
<tr>
<td>PhD Student</td>
<td>Ms. Ágnes Angyal M.Sc.</td>
<td></td>
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<td>Norbert Balogh M.Sc.</td>
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<td>Gergő Kovács M.Sc.</td>
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<td>Arnold Markovics M.Sc.</td>
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<td>Imre Lőrinc Szabó M.D.</td>
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<td>Roland Veress M.Sc.</td>
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</tr>
</tbody>
</table>
János Vincze M.D.

Research Advisor

István Jóna M.Sc., Ph.D., D.Sc.

Staff Member

Ms. Ágnes Borbély M.D.

Ms. Judit Kecskés
CHAPTER 6

CLINICAL DEPARTMENTS

DEPARTMENT OF CARDIOLOGY
Nagyerdei krt. 98., Debrecen, 4032, Tel: +36-52-255-928

Chairman
István Édes M.D., Ph.D., D.Sc.

Division of Cardiology
Móricz Zs. krt. 22., Debrecen, 4032, Tel: +36-52-255-928
E-mail: edes@dote.hu, Web: http://en.debkard.hu

Full Professor, Head of Department
István Édes M.D., Ph.D., D.Sc.

Full Professor
Zoltán Csanádi M.D., Ph.D.

Associate Professor
Zsolt Kőszegi M.D., Ph.D.

Assistant Professor
Ms. Judit Barta M.D., Ph.D.
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Cardiologist
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Gábor Sándorfi M.D.
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Ms. Ágnes Balogh M.D., Ph.D.
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Gergő Szilágyi M.D.

Educational Advisor
Ms. Judit Barta M.D., Ph.D.

Division of Cardiac Surgery
Móricz Zs. krt. 22., Debrecen, 4032, Tel: +36-52-255-306

Associate Professor, Head of Division
Tamás Szerafin M.D., Ph.D.
Professor Emeritus
Árpád Péterffy M.D., D.Sc.
Assistant Lecturer
Tamás Debreceni M.D.
Ms. Andrea Molnár M.D., Ph.D.
Chief Physician
Ambrus Horváth M.D.
Clinical Assistant
Tamás Maros M.D.
Lehel Palotás M.D.
József Simon M.D.
István Szentkirályi M.D.
Candidate Clinical Assistant
Péter Csizmadia M.D.
András Durkó M.D.
Resident
Ákos Attila Berczi M.D.
**DEPARTMENT OF INTERNAL MEDICINE**  
Nagyerdei krt. 98., Debrecen, 4032, Tel: +36-52-255-525

Full Professor, Head of Department  
György Paragh M.D., Ph.D., D.Sc.

Education Officer, Contact Person  
Péter Fülöp M.D., Ph.D.

---

**DIVISION OF EMERGENCY MEDICINE**  
Nagyerdei krt. 98., Debrecen, 4032, Tel: +36-52-411-717/50190  
E-mail: ujvarosy.andras@mentok.hu

Associate Professor, Head of Division  
Zoltán Szabó M.D., Ph.D.

Associate Professor  
István Lőrincz M.D., Ph.D.

Assistant Professor  
Ms. Dóra Ujvárosy M.D.

Candidate Clinical Assistant  
Tamás Köbling M.D.

Resident  
Zoltán Szegedi M.D.

Invited Lecturer  
Ms. Timea Boros M.D.

Gergely Nagy M.D.

Tamás Ötvös M.D.

Ms. Margit Petrus M.D.

Zoltán Szatmári M.D.

Sándor Szima M.D.

---

**DIVISION OF METABOLISM**  
Nagyerdei krt. 98., Debrecen, 4032, Tel: +36-52-255-600

Full Professor, Head of Division of Metabolism  
György Paragh M.D., Ph.D., D.Sc.

Full Professor  
Dénes Páll M.D., Ph.D., D.Sc.

Associate Professor  
Zoltán Balogh M.D., Ph.D.

Péter Fülöp M.D., Ph.D.

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Ms. Éva Katona M.Sc.

Ms. Miklós Káplár M.D., Ph.D.
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<td>Péter Koncsos M.D.</td>
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<td>Tamás Köbling M.D.</td>
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<td>Ms. Ildikó Seres M.Sc., Ph.D.</td>
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<tr>
<td>Candidate Clinical Assistant</td>
<td>Ms. Regina Esze M.D.</td>
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<td>Balázs Mata M.D.</td>
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<tr>
<td>PhD Student</td>
<td>Ms. Anita Szentpéteri</td>
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<td>Ms. Viktória Varga</td>
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**Division of Public Health Medicine**

Nagyerdei krt. 98., Debrecen, 4012

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<tr>
<td>Associate Professor, Head of Division</td>
<td>István Kárpáti M.D., Ph.D.</td>
</tr>
<tr>
<td>Assistant Lecturer</td>
<td>Tamás Köbling M.D.</td>
</tr>
</tbody>
</table>
Division of Rheumatology
Nagyerdei krt. 98., Debrecen, 4032, Tel: +36-52-255-091
E-mail: reuma.titkarsag@med.unideb.hu, Web: www.rheumatology.hu

Full Professor, Head of Division
Zoltán Szekanecz M.D., Ph.D., D.Sc.

Full Professor
Ms. Gabriella Szűcs M.D., Ph.D.

Associate Professor
Sándor Szántó M.D., Ph.D.

Assistant Professor
Ms. Szilvia Szamosi M.D., Ph.D.

Assistant Lecturer
Ms. Nóra Bodnár M.D.
Ms. Edit Végh M.D.

Clinical Specialist
Ms. Katalin Gulyás M.D.
Ms. Ágnes Horváth M.D.
Ms. Zsófia Pethő M.D.

Resident
Ms. Ágnes Kovács Ph.D.
Ms. Boglárka Soós M.D.

DEPARTMENT OF NEUROLOGY
Móricz Zs. str. 22., Debrecen, 4032, Tel: +36-52-255-255
E-mail: iroda@med.unideb.hu ; csiba@med.unideb.hu

Full Professor, Head of Department
László Csiba M.D., Ph.D., D.Sc.

Full Professor
István Fekete M.D.

Professor Emeritus
Ferenc Mechler M.D., Ph.D., D.Sc.

Associate Professor
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Ms. Tünde Magyar M.D., Ph.D.
László Oláh M.D., Ph.D.

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Bertalan Vámossy M.D.

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Clinical Assistant
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Ms. Edina Kovács M.D.
Ms. Katalin Szabó M.Sc.
Candidate Clinical Assistant
Szabolcs Farkas M.D., Ph.D.
Gergely Hofgárt M.D.
Ms. Kitti Bernadett Kovács M.D.

Resident
Ms. Lilla Rácz M.D.

PhD Student
Ms. Aletta Harmann M.D.
Ms. Csilla Vér

DEPARTMENT OF OBSTETRICS AND GYNECOLOGY
Nagyerdei krt. 98., Debrecen, 4032, Tel: +36-52-255-144
E-mail: gyvarga@med.unideb.hu

Full Professor, Head of Department
Róbert Póka M.D., Dr. habil., Ph.D.

Full Professor
Zoltán Hernádi M.D., Ph.D., D.Sc.
Zoltán Tóth M.D., Ph.D., D.Sc.

Professor Emeritus
Antal Borsos M.D., Ph.D., D.Sc.
László Lampé M.D., Ph.D., D.Sc.

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Tamás Major M.D., Ph.D.
Ms. Olga Török M.D., Ph.D.

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Alpár Gábor Juhász M.D., Ph.D.
Zoárd Krasznai M.D., Ph.D.
Rudolf Lampé M.D., Ph.D.
Csaba Móré M.D., Ph.D.
Tamás Sápy M.D., Ph.D.
Ms. Szilvia Vad M.D., Ph.D.

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Péter Daragó M.D.
Tamás Deli M.D., Ph.D.
János Lukács M.D.
Péter Török M.D., Ph.D.

Biologist
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Ms. Ildikó Zsupán M.Sc.

Clinical Assistant
István Argay M.D.
Balázs Erdődi M.D.
Ms. Ágnes Farkas M.D.
István Fekete M.D.
Ms. Judit Kerepesi M.D.
Bence Kozma M.D.
László Orosz M.D.
Jashanjeet Singh M.D.
Candidate Clinical Assistant
Péter Damjanovich M.D.
Ms. Eszter Maka M.D.
Szabolcs Molnár M.D.
Gergő Orosz M.D.
Resident
Levente Barna M.D.
Ms. Szilvia Csehely M.D.
Zsolt Farkas M.D.
Ms. Orsolya Nagyházi M.D.
Ms. Mónika Orosz M.D.
Ms. Lilla Ördög M.D.
Attila Sipos M.D.
Psychologist
Ms. Zsuzsa Török M.A., Ph.D.
Academic Advisor (IV. Year)
Tamás Szilveszter Kovács M.D., Ph.D.
Academic Advisor (VI. year)
Tamás Major M.D., Ph.D.

DEPARTMENT OF ORTHOPEDIC SURGERY
Nagyerdei krt. 98., Debrecen, 4032, Tel: +36-52-255-815
E-mail: zjonas@med.unideb.hu, Web: www.ortopedia.dote.hu

Full Professor, Head of Department
Zoltán Csernátény M.D., Ph.D., D.Sc.
Professor Emeritus
János Rigó M.D., Ph.D.
Kálmán Szepesi M.D., Ph.D., D.Sc.
Assistant Professor
Zoltán Jónás M.D.
János Szabó M.D.
Assistant Lecturer
Tamás Banzó M.D.
Gyula Győrfi
Zsolt Hunya M.D.
Zoltán Karácsonyi M.D.
László Kiss M.D.
Henrik Rybaltovszki M.D.
Ms. Csenge Szeverényi M.D.

Clinical Assistant

István Soltész M.D.

DEPARTMENT OF PEDIATRICS
Nagyerdei krt. 98., Debrecen, 4032, Tel: +36-52-411-717/55289
E-mail: mogyoros@med.unideb.hu, Web: www.pediatrics.dote.hu

Full Professor, Head of Department
György Balla M.D., Ph.D., D.Sc.

Full Professor, Head of Division of Pediatric Haematology and Oncology
Csongor Kiss M.D., Ph.D., D.Sc.

Full Professor
Ms. Ilma Korponay-Szabó M.D., Ph.D.

Associate Professor, Head of Division of General Pediatrics
Gábor Mogyorós M.D., Ph.D.

Associate Professor, Head of Division of Pediatric Emergency Care
Ms. Rita Káposzta M.D., Ph.D.

Associate Professor
István Csízy M.D., Ph.D.

Associate Professor
Ms. Ilona György M.D., Ph.D.

Ms. Gábor Mogyorós M.D., Ph.D.

Ms. Béla Nagy M.D., Ph.D.

Ms. Éva Nemes M.D., Ph.D.

Ms. Tamás Szabó M.D., Ph.D.

Ms. István Szegedi M.D., Ph.D.

Assistant Professor
Ms. Enikő Felszeghy M.D., Ph.D.

Assistant Lecturer
Ms. Andrea Berkes M.D., Ph.D.

Ms. Ágnes Papp M.D.

István Pataki M.D.

László Sasi Szabó M.D.

Emeritus
Ms. Éva Oláh M.D., Ph.D., D.Sc.

Senior Lecturer
Ms. Andrea Nagy M.D.

Clinical Assistant
Zsolt Bene M.D.

Gábor Garai M.D.

Imre Gáspár M.D.

Ms. Éva Juhász M.D.

Ms. Orsolya Kadenczki M.D.

Ms. Erzsébet Ilona Lakatos M.D.
Ms. Ágnes Magyar M.D.
Ms. Edina Mák M.D.
Zsolt Reiger M.D.

Resident
Ms. Edina Bányász M.D.
Ms. Bernadett Biró M.D.
Ms. Beáta Bujdosó M.D.
Ms. Anita Gertrud Czifra M.D.
Ms. Klára Erdei M.D.
Ms. Boglárka Fehér M.D.
Ms. Anita Grabicza M.D.
Ms. Réka Jancsik M.D.
Péter Juhász M.D.
Ms. Nóra Kicska M.D.
Ms. Eszter Kovács M.D.
András Kretzer M.D.
Ms. Lilla Macsi M.D.
Ms. Katalin Nagy M.D.
Ms. Helga Perényi M.D.
Ms. Boglárka Schvarckopf M.D.
Ms. Orsolya Somodi M.D.
Ms. Vivien Stercel M.D.
Levente Szabó M.D.
Ms. Lilla Szegedi M.D.
Ms. Anna Szőllős M.D.
Ms. Flóra Ujhelyi M.D.
Ms. Zsuzsa Zele M.D.

Psychologist
Ms. Erika Tizedes

Academic Advisor
Ms. Enikő Felszeghy M.D., Ph.D.

DEPARTMENT OF PHYSICAL MEDICINE AND REHABILITATION
Nagyerdei krt. 98., Debrecen, 4032, Tel: +36-52-255-942
E-mail: orfmt@med.unideb.hu, Web: http://rehabilitacio.med.unideb.hu

Head of Department, Associate Professor
Zoltán Jenei M.D., Ph.D.

Associate Professor
Ms. Zsuzsanna Vekerdy-Nagy M.D., Ph.D. habil. (retired)

Clinical Specialist
Ms. Ágnes Bajusz-Leny M.D.
Resident
Ms. Adél Nagy M.D.
Ms. Lilla Szabó M.D.

Neuro-psychologist
Ms. Györgyi Lente M.Sc.

Psychologist
Ms. Noémi Zsuzsanna Kovács M.Sc.

Speech Therapist
Ms. Noémi Fejér M.A.
Ms. Ildikó Mózesné Kapocska M.A.
Ms. Adrienn Polonkai M.A.

Physiotherapist
Ms. Szabina Antal M.A.
Ms. Zsuzsa Bodnár M.A.
Ms. Kitti Boros, M.A.
Ms. Bettina Burgond M.A.
Ms. Andrea Györfiné Jánossy M.A.
Ms. Anna Kövérmény Kóta M.A.
Ms. Gabriella Nagy M.A.
Ms. Szabina Nagy M.A.
Ms. Éva Anna Szabados M.A.

Physiotherapist, Occupational therapist and Rehabilitation expert
Ms. Zsófia Hőgye M.A.

Rehabilitation expert
Ms. Gabriella Nagy M.A.

Social Worker
Ms. Julianna Kavaleczné Ilyés M.A.

IT Specialist
Ms. Beáta Alíz Dézsi M.Sc.

Social Educator
Ms. Szilvia Baksa, M.A.

PhD Student
Ms. Judit Horváth M.D.
Ms. Adél Nagy M.D.
Ms. Anna Sárközi M.D.

DEPARTMENT OF PSYCHIATRY
Nagyerdei krt. 98., Debrecen, 4012, Tel: +36-52-255-240

Head of Department
Ede Frecska M.D., M.A., Ph.D.

Associate Professor
Ms. Anikó Égerházi M.D., Ph.D.

Assistant Professor
Roland Berecz M.D., Ph.D.
Ms. Theodóra Glaub M.D.

Assistant Lecturer
Csaba Móré E. M.D., Ph.D.

Clinical Assistant
Gábor Andrássy M.D.
Ms. Edina Cserép M.D.
Attila Kovács
Ms. Erzsébet Magyar M.D.
Ms. Katalin Tolvay M.D.
Resident
Ágoston Gajdos M.D.
Balázs Jeges M.D.
Ms. Annamária Nagy M.D.
Bence Szerdahelyi M.D.
Psychologist
Ms. Éva Gasparik M.A.
Ms. Lili Kövér M.A.
Ms. Emese Kulcsár M.A.
Ms. Ella Molnár M.A.
Ms. Andrea Ritz M.A.
Academic Advisor
Ms. Réka Stébel

DEPARTMENT OF PULMONOLOGY
Nagyerdei krt. 98., Debrecen, 4032, Tel: +36-52-255-222

Full Professor, Head of Department
Ms. Mária Szilasi M.D., Ph.D.
Assistant Professor
Imre Varga M.D., Ph.D.
Assistant Lecturer
Ms. Andrea Fodor M.D.
Tamás Kardos M.D.
Ms. Angéla Mikáczó M.D.
Ms. Anna Sárközi M.D.
Attila Vaskó M.D.
Chief Physician
László Brugós M.D., Ph.D.
Clinical Assistant
Ms. Melinda Lajtos M.D.
Attila Lieber M.D.
Zoltán Örlös M.D.
Ms. Zsuzsa Papp M.D.
Ms. Ildikó Szűcs M.D.
Candidate Clinical Assistant
Attila Makai M.D.
Responsible for Educational Matters
Ms. Regina Szabó-Szűcs M.D.
Ms. Andrea Fodor M.D.
**DEPARTMENT OF TRAUMATOLOGY AND HAND SURGERY**
Bartók Béla út 2-26., Debrecen, 4031, Tel: +36-52-419-499, +36-52-511-780  
E-mail: dbtrauma@med.unideb.hu

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<td>Associate Professor, Head of Department</td>
<td>Béla Turchányi M.D., Ph.D.</td>
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<td>Professor Emeritus</td>
<td>Károly Fekete M.D., Ph.D.</td>
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<tr>
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<tr>
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<td>János Bagyó M.D.</td>
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<td>József Balázs M.D.</td>
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Márton Árpád Fésüs M.D.
László Gubik M.D.
Ádám Kristóf Gulyás M.D.
Gergely Huszanyik M.D.
Dávid Kovács M.D.
Csaba Körei M.D.
Zoltán Mikó M.D.
Márton József Séber M.D.

Consultant

István Szarukán M.D.
CHAPTER 7
UNIVERSITY CALENDAR
FOR 2016/2017 ACADEMIC YEAR

OPENING CEREMONY: September 11, 2016

1st SEMESTER
REGISTRATION WEEK: 5th September - 9th September, 2016

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<th>Examination Period</th>
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<td>BSc in Physiotherapy</td>
<td>December 27, 2016 - February 10, 2017</td>
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<td>BSc in Public Health</td>
<td>(7 weeks)</td>
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<td>September 12 - December 23,</td>
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2nd SEMESTER
REGISTRATION WEEK: 6th February - 17th February, 2017

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<td>BSc in Public Health</td>
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<td>February 13 - May 26, 2017</td>
<td>(15 weeks)</td>
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<td>(15 weeks)</td>
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CHAPTER 8

ACADEMIC PROGRAM 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 240
credits during their studies. Considering the recommended curriculum, this can be achieved in four years.

The pilot curricula show the recommended pacing of compulsory courses. If these courses are carefully supplemented with credits obtained from the necessary number of required elective and optional courses, students can successfully accumulate the credits required for their degree within 8 semesters.

The diploma work is worth 20 credits.

Internship (supervised practices) in the final year is compulsory.

Regulations concerning the training of students in the credit system prescribe a minimum amount of credits for certain periods as outlined in the Regulations of Training and Examination (RTE).

Although Physical Education and Summer Internship (controlled practices) are not recognized by credits, they have to be completed to get the final degree (see the rules outlined in the Information section about the conditions).
### Compulsory courses for the 1. year

<table>
<thead>
<tr>
<th>Sem</th>
<th>Subjects</th>
<th>Neptun code</th>
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## Compulsory courses for the 1. year

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## Compulsory courses for the 2. year

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<td>30</td>
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<td>Kinesiology I</td>
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### Required elective courses for the 2. year

<table>
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<tr>
<th>Sem</th>
<th>Subjects</th>
<th>Neptun code</th>
<th>L</th>
<th>S</th>
<th>P</th>
<th>Exam</th>
<th>Crd</th>
<th>Prerequisites of taking the subject</th>
</tr>
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<tbody>
<tr>
<td>2</td>
<td>Health Sociology</td>
<td>NPHYS_HSCN_04</td>
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<td>ESE</td>
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<td>Basics of Sociology</td>
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<tr>
<td>2</td>
<td>Special Methods in Physiotherapy I - Aesthetic Body Forming Gymnastics</td>
<td>NPHYS_ABF_04</td>
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<td>Kinesiology II</td>
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<td>2</td>
<td>Tools in Physiotherapy VII - Wii</td>
<td>NPHYS_WII_04</td>
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<td>Kinesiology II, Cardiorespiratory and Exercise Physiology</td>
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### Required elective courses for the 3. year

<table>
<thead>
<tr>
<th>Sem</th>
<th>Subjects</th>
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<th>Exam</th>
<th>Crd</th>
<th>Prerequisites of taking the subject</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>Special Methods in Physiotherapy II - Autostretching</td>
<td>NPHYS_AST_05</td>
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<td>Mobilization-Manual Techniques I</td>
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<tr>
<td>1</td>
<td>Special Methods in Physiotherapy IV - Lymph drainage</td>
<td>NPHYS_LYD_05</td>
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<td>2</td>
<td>Internal Medicine for Physiotherapists I</td>
</tr>
<tr>
<td>1</td>
<td>Sports Physiotherapy and Medicine IV - Taping Techniques</td>
<td>NPHYS_TTS_07</td>
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<td>1</td>
<td>Physiotherapy of the Movement System I, Rheumatology for Physiotherapists II</td>
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<tr>
<td>1</td>
<td>Sports Physiotherapy and Sports Medicine IX - Pilates</td>
<td>NPHYS_PIL_05</td>
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<td>Mobilization-Manual Techniques I</td>
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## Required elective courses for the 3. year

<table>
<thead>
<tr>
<th>Sem</th>
<th>Subjects</th>
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<th>Exam</th>
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<th>Prerequisites of taking the subject</th>
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<tbody>
<tr>
<td>2</td>
<td>Sports Physiotherapy and Medicine III -</td>
<td>NPHYS_SPT_06</td>
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<td>Traumatology and Intensive Therapy for Physiotherapists I</td>
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<td>Sports Physiotherapy</td>
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<td>Tools in Physiotherapy III - PNF in Practice</td>
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<td>Mobilization-Manual Techniques II</td>
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<td>Tools in Physiotherapy IV - Orthotics-</td>
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<td>AW5</td>
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<td>Orthopedics for Physiotherapists, Rheumatology for Physiotherapists I, Traumatology and Intensive</td>
</tr>
<tr>
<td></td>
<td>Prosthetics</td>
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<td></td>
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<td>Therapy for Physiotherapists I</td>
</tr>
<tr>
<td>2</td>
<td>Tools in Physiotherapy V - Sling Suspension</td>
<td>NPHYS_SSF_06</td>
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<td>AW5</td>
<td>1</td>
<td>Orthopedics for Physiotherapists, Rheumatology for Physiotherapians I, Traumatology for Physiotherapists I</td>
</tr>
</tbody>
</table>
### Required elective courses for the 4. year

<table>
<thead>
<tr>
<th>Sem</th>
<th>Subjects</th>
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<th>S</th>
<th>P</th>
<th>Exam</th>
<th>Crd</th>
<th>Prerequisites of taking the subject</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Psychosomatics</td>
<td>NPHYS_PSS_07</td>
<td>15</td>
<td>ESE</td>
<td></td>
<td></td>
<td>1</td>
<td>Internal Medicine for Physiotherapists I</td>
</tr>
<tr>
<td>1</td>
<td>Special Methods in Physiotherapy V - Klapp’s Methods</td>
<td>NPHYS_KLM_07</td>
<td>15</td>
<td>AW5</td>
<td></td>
<td></td>
<td>1</td>
<td>Physiotherapy of Movement the System - PT in Orthopedics and Traumatology I</td>
</tr>
<tr>
<td>1</td>
<td>Sports Physiotherapy and Sports Medicine IV - Taping Techniques</td>
<td>NPHYS_TTS_07</td>
<td>15</td>
<td>AW5</td>
<td></td>
<td></td>
<td>1</td>
<td>Rheumatology for Physiotherapists II, Physiotherapy of Movement System - PT in Orthopedics and Traumatology I</td>
</tr>
</tbody>
</table>
CHAPTER 9

ACADEMIC PROGRAM FOR THE 1ST YEAR

Department of Anatomy, Histology and Embryology

Subject: ANATOMY I
Year, Semester: 1st year/1st semester
Number of teaching hours:
Lecture: 42
Seminar: 15
Practical: 15

1st week:
Seminar: Anatomical terminology. Terms of positions and directions. The parts of the human body
Practical: Positions and directions, the parts of the human body

2nd week:
Lecture: The muscular system - general introduction. Histology of the cartilage. The bones of the upper limb.
Seminar: The bones of the upper limb - discussion
Practical: The bones of the upper limb - demonstration and practice

3rd week:
Lecture: Histology of the bone. Development and growth of the bone. The joints of the upper limb
Seminar: The joints of the upper limb

4th week:
Lecture: Histology of the skeletal muscle. The muscles of the upper limb. Brachial plexus
Practical: The muscles of the upper limb.

5th week:
Lecture: Innervation and blood vessels of the upper limb. Action of muscles of the shoulder and the arm.
Practical: Nerves and blood vessels of the upper limb

6th week:
Lecture: Action of individual muscles and muscle groups of the forearm and the hand. Cardinal symptoms of injuries to nerve of the upper limb, paralysis of different muscle groups. Bones of the pelvic girdle.
Seminar: Action of individual muscles and muscle groups of the upper limb

7th week:
Seminar: Bones of the lower limb - discussion
Practical: Bones of the lower limb - demonstration and practice
Self-control Test (Written midterm examination of the upper limb)

8th week:
Lecture: Joints of the lower limb. Muscles of the lower limb
Seminar: Joints of the lower limb

9th week:
Practical: Muscles of the lower limb

10th week:
Lecture: Action of individual muscles and muscle groups of the hip and the thigh, leg and the foot. Cardinal symptoms of injuries to nerves of the lower limb: paralysis of different muscle groups
Practical: Nerves and blood vessels of the lower limb
<table>
<thead>
<tr>
<th>11th week:</th>
<th>14th week:</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>12th week:</th>
<th>15th week:</th>
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</thead>
</table>

**Self-control Test (Written midterm exam of the lower limb)**

<table>
<thead>
<tr>
<th>13th week:</th>
<th>14th week:</th>
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<table>
<thead>
<tr>
<th>14th week:</th>
<th>15th week:</th>
</tr>
</thead>
</table>

**Self-control Test (Written midterm exam of the trunk and head)**

### Requirements

Requirements: The presence in practices, seminars and lectures will be recorded. The head of the department may refuse to sign the Lecture Book if a student is absent from more than two practices in one semester even if he/she has an acceptable reason.

Rules of examinations:

Midterm examinations: Three midterm written examinations will be held on the 7th, 12th and 15th weeks. The written exams cover the topics of lectures, seminars and practices of the semester. Participation on the midterm examination is compulsory.

End-semester examinations: The end-semester exam is an oral exam that covers the topics of lectures and practices of the semester and consists of the following topics: 1. Upper limb 2. Lower limb 3. Head, neck and trunk

Registration and postponement: through the NEPTUN system

### Department of Foreign Languages

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

<table>
<thead>
<tr>
<th>1st week:</th>
<th>2nd week:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Practical: Organization of the course</td>
<td>Practical: Introduction, the Hungarian alphabet, pronunciation rules</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>2nd week:</th>
<th>3rd week:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Practical: Introduction, the Hungarian alphabet, pronunciation rules</td>
<td>Practical: Ki vagy? (Who are you?) Personal pronouns</td>
</tr>
</tbody>
</table>
**4th week:**
Practical: Jó napot kívánok! (Greetings, formal and informal, basic situations)

**5th week:**
Practical: Számok (Numbers, phone numbers)

**6th week:**
Practical: Time expressions

**7th week:**
Practical: Pénz (Money, banknotes, ordinal numbers, how much? how many?)

**8th week:**
Practical: Revision. Mid-term test.

**9th week:**
Practical: Hogy vagy? (How are you?)

**10th week:**
Practical: Milyen nyelven beszélsz? (What language do you speak?, nationalities)

**11th week:**
Practical: Mit csinálsz? (What are you doing? verb conjugation)

**12th week:**
Practical: Hová mész ma este? (Where are you going tonight? Past, present, future, where …to?)

**13th week:**

**14th week:**
Practical: Revision. End-term test.

**15th week:**
Practical: Oral minimum requirement exam.

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**Requirements**

Attendance: Language class attendance is compulsory. The maximum percentage of allowable absences is 10% which is a total of 2 out of the 15 weekly classes. Students arriving late for the classes are not allowed to enter the class. Being late is counted as an absence. If the number of absences is more than two, the final signature is refused and the student must repeat the course. Students are required to bring the textbook or other study material given out for the course with them to each language class. Active participation is evaluated by the teacher in every class. If students’ behavior or conduct does not meet the requirements of active participation, the teacher may evaluate their participation with a "minus" (-). If a student has 5 minuses, the signature may be refused due to the lack of active participation in classes.

Testing, evaluation: In each Hungarian language course, students must sit for 2 written language tests and a short minimal oral exam. A further minimum requirement is the knowledge of 200 words per semester announced on the first week. There is a (written or oral) word quiz in the first 5-10 minutes of the class, every week. If a student has 5 or more failed or missed word quizzes he/she has to take a vocabulary exam that includes all 200 words along with the oral exam. The results of word quizzes may modify the end-semester evaluation. The oral exam consists of a role-play randomly chosen from a list of situations announced in the beginning of the course. Failing the oral exam results in failing the whole course. The result of the oral exam is added to the average of the mid-term and end-term tests.

Based on the final score the signature is refused below 60%. If the final score is below 60, the student once can take an oral remedial exam covering the whole semester’s material.

Consultation classes: In each language course once a week students may attend a consultation class with one of the teachers of that subject in which they can ask their questions and ask for further explanations of the material covered in that week. These classes are optional.

Course book: See the website of the department.
Website: Oral exam topics and vocabulary minimum lists are available from the website of the Department of Foreign Languages: http://ilekt.med.unideb.hu.

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

**1st week:**  
Practical: The Latin and Greek alphabet and pronunciation; Basic terminology of health sciences

**2nd week:**  
Practical: Planes and directional terms in anatomical terminology; Latin adjectives

**3rd week:**  
Practical: The parts of the body. Latin and Greek words and word roots.

**4th week:**  
Practical: Genitive case and plural forms of Latin nouns.

**5th week:**  
Practical: The skeleton of human body; basic terms of osteology; names of bones; an etymological approach. Word formation: adjective suffixes.

**6th week:**  
Practical: Regions. Adjective formation.

**7th week:**  
Practical: Revision. Mid-term test.

**8th week:**  
Practical: Joints, movements.

**9th week:**  
Practical: Clinical terms related to bones and joints; Greek equivalents of Latin word roots;

**10th week:**  
Practical: Complex adjectives, prefixes.

**11th week:**  
Practical: Muscles.

**12th week:**  
Practical: Clinical terms of muscular system

**13th week:**  
Practical: Cardiovascular system.

**14th week:**  
Practical: Revision. End-term test

**15th week:**  
Practical: Assessment and evaluation.

**Requirements**

Attendance: Language class attendance is compulsory. The maximum percentage of allowable absences is 10 % which is a total of 2 out of the 15 weekly classes. Students arriving late for the classes are not allowed to enter the class. Being late is counted as an absence. If the number of absences is more than two, the final signature is refused and the student must repeat the course. Students are required to bring the textbook or other study material given out for the course with them to each language class. Active participation is evaluated by the teacher in every class. If students’ behavior or conduct does not meet the requirements of active participation, the teacher may evaluate their participation with a "minus" (-). If a student has 5 minuses, the signature may be refused due to the lack of active participation in classes.

Testing, evaluation: In each Latin language course, students must sit for 2 written language tests. A further minimum requirement is the knowledge of 300 words per semester announced on the first
week. There is a (written or oral) word quiz in the first 5-10 minutes of the class, every week. If a student has 5 or more failed or missed word quizzes he/she has to take a vocabulary exam that includes all 300 words along with the oral exam. The results of word quizzes are added to the average score of the written tests.

Based on the final score the grades are given according to the following table:

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

If the final score is below 60, the student once can take an oral remedial exam covering the whole semester’s material.

Consultation classes: In each language course once a week students may attend a consultation class with one of the teachers of that subject in which they can ask their questions and ask for further explanations of the material covered in that week. These classes are optional.

Website: Minimum vocabulary lists and further details are available on the website of the Department of Foreign Languages: http://ilekt.med.unideb.hu

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**Department of Medical Microbiology**

Subject: BASIC MICROBIOLOGY

Year, Semester: 1st year/1st semester

Number of teaching hours:

Lecture: 30

1st week:

Lecture: The microbial word, cell-mediated and antibody-mediated (humoral) immunity, active and passive immunization; organization of the immune system; cells and molecules involved in immune response; antibacterial and antiviral immunity; vaccines

2nd week:

Lecture: Laboratory diagnosis of bacterial and viral infections, sterilization and disinfection; rules for collecting clinical specimens; microscopic examination; aerobic and anaerobic cultivation; precipitation, agglutination and complement activation; enzyme-linked immunosorbent assay (ELISA), fluorescent-antibody assay

3rd week:

Lecture: Structure of bacterial cells, essential and nonessential components, exotoxins and endotoxins, non-toxic virulence factors; cell walls of Gram-positive and Gram-negative bacteria; virulence factors (capsule, enzymes, exotoxins and endotoxins)

4th week:

Lecture: Overview of the major Gram positive bacteria; Staphylococci, Streptococci, Bacillus, Clostridia; zoonosis; epidemiology and clinical findings; laboratory diagnosis

5th week:

Lecture: Overview of the major Gram negative bacteria; Enterobacteriaceae and non-fermentative Gram-negative bacilli; zoonotic
infections; epidemiology and clinical findings; laboratory diagnosis

6th week:
Lecture: Bacterial respiratory tract diseases, skin and soft tissue infections caused by bacteria; Mycobacterium tuberculosis, Corynebacterium diphtheriae, Bordetella pertussis, Streptococcus pneumonia, Haemophylus influenzae, Legionella pneumonia, Mycoplasma pneumonia, Staphylococcus aureus, Streptococcus pyogenes, Clostridium perfringens

7th week:
Lecture: Sexually transmitted bacterial diseases. Central nervous system diseases caused by bacteria; Neisseria gonorrhoeae, Treponema pallidum, Chlamydia trachomatis, Neisseria meningitidis, Escherichia coli, Streptococcus pneumoniae, Streptococcus agalactiae, Listeria monocytogenes, Leptospira

8th week:
Lecture: General mycology; medically important fungi; general properties of fungi; dermatomycoses, subcutaneous mycoses, systemic and opportunistic mycoses; clinical diagnosis

9th week:
Lecture: The structure and classification of viruses; the pathogenesis of viral diseases; DNA and RNA viruses; viral growth cycle; transmission; portal of entry; viral vaccines

10th week:
Lecture: Respiratory tract infections caused by viruses; Adenovirus, Influenza virus, Parainfluenza virus, Respiratory syncytial virus, Rubella virus, Measles virus, Mumps virus, Rhinovirus, Coronavirus, Coxsackie virus

11th week:
Lecture: Agents of viral gastroenteritis; hepatitis viruses; viral enteritides (Rota-, Astro-, Calici-, Coronaviruses); Hepatitis A and E viruses, Hepatitis B, C, and D viruses

12th week:
Lecture: Agents of viral skin rash; congenital virus infections; Rubella virus. Measles virus, Human parvovirus B19, Herpes simplex virus 6, Varicella zoster virus, Cytomegalovirus, Coxsackie virus, Hepatitis B and C viruses, HIV virus, Human papillomavirus

13th week:
Lecture: The protozoal diseases; Intestinal protozoa (Entamoeba and Giardia), Blood and tissue protozoa (Trypanosoma, Plasmodium and Toxoplasma)

14th week:
Lecture: Helminths, Ectoparasites; Tenia, Schistosoma, Ascaris, Ancylostoma, Toxocara, Trichinella, Wuchereria, Onchocerca, Dracunculus. Pediculus humanus, Sarcoptes scabiei, Phthirus pubis

15th week:
Lecture: Consultation

Requirements
The attendance at lectures is highly recommended, since the topics of the end of semester examination cover the lectured topics.

Department of Physiotherapy, Faculty of Public Health

Subject: BASICS OF PHYSIOTHERAPY
Year, Semester: 1st year/1st semester
Number of teaching hours:
Lecture: 30
Practical: 30
**1st week:**
Lecture: Introduction to physiotherapy
Practical: Making somebody aware stretching and relaxation. Warm-up exercises

**2nd week:**
Lecture: History of physiotherapy from the ancient times to the end of 20th century
Practical: Trunk exercises in a laying position

**3rd week:**
Lecture: The spread and development of European trends in Hungary; the spread of physiotherapy in different clinical fields and its social trends
Practical: Limb exercises in a laying position

**4th week:**
Lecture: Main elements of the physiotherapy education. National and international professional organizations in physiotherapy
Practical: Practice of exercises

**5th week:**
Lecture: Team work for the restoration of function. Connection between physio-therapy and other fields of movement therapy (adapted physical educators, conductors, somato-educators), similarities and differences
Practical: Teaching the correct sitting position. Different types of sitting positions

**6th week:**
Lecture: Physical basis of the movement. Kinematics, equilibrium, performance
Practical: Exercises in sitting position

**7th week:**
Lecture: Biological basis of the movement. Active and passive elements of the movement system
Practical: Climbing positions, exercises in this position

**8th week:**
Lecture: Stimulus, reaction, regulation of the movement
Practical: Exercises in kneeling and semi-kneeling positions

**9th week:**
Lecture: Possibilities for the training of muscles. Performance, fatigue
Practical: Practice of exercises

**10th week:**
Lecture: Movements in the space. Planes, axes
Practical: Teaching the correct standing. Straight and round flexion of the trunk

**11th week:**
Lecture: Orientation, kinesthesia
Practical: Exercises in a standing position

**12th week:**
Lecture: Applicable postures in the training programs
Practical: Exercises to prepare of walk, walking exercises

**13th week:**
Lecture: Principles of a general training in physiotherapy
Practical: Coordination exercises in different positions

**14th week:**
Lecture: Schematic representation of the movement
Practical: Assessment of practical knowledge

**15th week:**
Lecture: Summary, consultation
Practical: Assessment of practical knowledge

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**Requirements**

This is a key course in your development as a student in Physiotherapy program. Attendance at lectures is highly indispensable for acquiring the knowledge required to pass. Attendance at practices is compulsory. If you miss more than 4 practical hours, the signature of the Lecture Book may be refused. To fulfil the requirements in practice is a precondition of taking the ESE.

End of Semester Exam: written examination graded as follows:
Subject: GENERAL PRINCIPLES IN HEALTH CARE AND NURSING  
Year, Semester: 1st year/1st semester  
Number of teaching hours:  
Lecture: 15  
Practical: 15

1st week:  
Lecture: System of definitions and philosophy of nursing; nursing theories; nursing models

2nd week:  
Lecture: Basic human needs; assessment of the basic human needs; data collection; patient observation

3rd week:  
Lecture: The planning of the nursing; the goals and the implementation of the nursing plan; nursing protocols and standards

4th week:  
Lecture: Rules of the nursing documentation; ethical and legal aspects of nursing

5th week:  
Lecture: Physiological breathing; needs of the rest and movements and their gratification; needs of nutrition, water and fluid balance and their gratification; suitable clothes and physiological body temperature

6th week:  
Lecture: Defecation and micturition; hygienic needs; needs of communication and information

7th week:  
Lecture: Higher needs; needs of the safety; the unconscious patient; postoperative nursing tasks; aseptic and hygienic environment

8th week:  
Lecture: How to take care of a dying patient

9th week:  
Practical: Scene of the nursing; structure of a hospital unit; observation of the patient; measurement of vital parameters

10th week:  
Practical: Nursing diagnosis and preparing of the nursing plan; maintenance of the patient’s personal hygiene; beds and bed-making; methods of bed-making; general and specific instructions for the bed-making

11th week:  
Practical: Patient medication; personal and objective conditions of feeding; artificial feedings; feeding with tube
12th week:
Practical: Tools for collecting urine and feces; the planning and evaluation of the safety for patient

13th week:
Practical: Summary and repetition

Requirements
The attendance at lectures is highly recommended, since the topics of the end of semester examination cover the lectured topics. The attendance at practical hours is obligatory. The signature in the Lecture Book may be refused if a student is absent from the practice more than twice even due to an acceptable reason.

Department of Preventive Medicine, Faculty of Public Health

Subject: BASICS OF INFORMATICS
Year, Semester: 1st year/1st semester
Number of teaching hours:
Lecture: 10
Practical: 50

1st week:
Lecture: (1-2) History of computers. Principles of computers’ operation (data handling, measures, hardware, software). Components of PCs: hardware / software operating systems, applications - types, categories. Software licenses.
Practical: (1-2) Components of PCs: hardware - input, output, storage, memory/software - operating systems, applications. Install/uninstall: hardware and software.

2nd week:
Lecture: (3) Data files, types, connection between data storing files, operation with data files. Compressing files. Malicious softwares - virus, Trojan, spyware, scareware, etc. (4) Concepts and function of operation systems, basics of Windows. Electronic data storage (concepts of data, file, directory, extensions)

3rd week:
Practical: (5) Networks (6) Internet.

4th week:
Lecture: (7) Self-control test - theoretical part.

Self-Control Test (Theory)

5th week:
Lecture: (8) Design of sheets, data preparation. Entering data, import data, export data. Charts - types, properties, settings

6th week:
7th week:
Practical: (17-20) Functions: COUNT, COUNTA, COUNTIF, ROOT, SQUARE, IF, OR, AND, VLOOKUP, HLOOKUP. Embedded functions. Charts.

8th week:

9th week:

10th week:

11th week:
Lecture: (9) MS Word. Text editors, document editor applications - freeware, commercial, online editors. Importing data. Saving the document - file types, extensions
Self-Control Test (Excel)

12th week:

13th week:

14th week:
Practical: (43) PowerPoint. Inserting pictures, changing properties (size, position, ratio). Inserting media, table, charts (44-46) Combined work: Excel - tables and calculations. Inserting the results into a Word file, and creating a Presentation.

15th week:
Practical: (47-48) Combined work: Excel - tables and calculations. Inserting the results into a Word file, and creating a Presentation. (49-50) Self-control test
Self-Control Test (Word & PowerPoint)

Requirements
Requirements to acknowledge the semester: The participation at practical and theoretical hours is compulsory. Not more than 6-hour absent is tolerated. The lesson can be substituted in the other group (if it is available) depending on the capacity of the computer room. The students have to use the computers and softwares installed in the computer room of the Faculty of Public Health. It is prohibited to use other electronic or communication devices in the computer lab. It is prohibited to install any softwares by the students.

Exemption opportunity: if the student submits acceptable certification of the completion of a course on basic informatics, and demonstrates the defined level of knowledge on computer usage on the first week of the semester, the student will be exempted from the contact hours and the mid-term exam(s) of the successfully fulfilled session(s) of the course.

Mid-term assessments: The students have to write test of each topics in the computer room of the Faculty of Public Health. The average of the grades is the final grade. If the grade is fail (1), the
student must repeat the test - only one chance on the 15th week of the actual semester.

## Department of Biophysics and Cell Biology
### Division of Biophysics

**Subject:** BIOPHYSICS  
**Year, Semester:** 1st year/1st semester  
**Number of teaching hours:**  
**Lecture:** 12  
**Seminar:** 20

<table>
<thead>
<tr>
<th><strong>1st week:</strong></th>
<th><strong>7th week:</strong></th>
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<tbody>
<tr>
<td>Seminar: (1-3) Biostatistics: Set theory, definition and properties of probability, conditional probability, medical applications of conditional probability (specificity, sensitivity, positive and negative predictive value)</td>
<td>Lecture: (3-4) Mechanics of fluids and gases, physics of circulation and respiration</td>
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<tr>
<th><strong>2nd week:</strong></th>
<th><strong>8th week:</strong></th>
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<tbody>
<tr>
<td>Seminar: (4-6) Biostatistics: Random variable, properties of distributions, Binomial, Poisson and normal distributions</td>
<td>Lecture: (5-6) Random variable, properties of distributions, Binomial, Poisson and normal distributions</td>
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<tr>
<th><strong>3rd week:</strong></th>
<th><strong>9th week:</strong></th>
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<tbody>
<tr>
<td>Seminar: (7-9) Biostatistics: Sampling, representative sample, unbiased estimation, central limit theory, sample statistics (mean, median, mode, standard deviation, standard error of the mean), theory of statistical tests, the z-test</td>
<td>Lecture: (7-8) Random variable, properties of distributions, Binomial, Poisson and normal distributions</td>
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<tr>
<th><strong>4th week:</strong></th>
<th><strong>10th week:</strong></th>
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<tbody>
<tr>
<td>Seminar: (10-12) Biostatistics: Statistical tests: one-sample t-test, t-tests (two-sample, paired), F-test; confidence intervals</td>
<td>Lecture: (5-6) Random variable, properties of distributions, Binomial, Poisson and normal distributions</td>
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<tr>
<th><strong>5th week:</strong></th>
<th><strong>11th week:</strong></th>
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<tbody>
<tr>
<td>Seminar: (13-14) Biostatistics: Performing statistical tests using computer, practice</td>
<td>Lecture: (7-8) Random variable, properties of distributions, Binomial, Poisson and normal distributions</td>
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<tr>
<th><strong>6th week:</strong></th>
<th><strong>12th week:</strong></th>
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<tbody>
<tr>
<td>Lecture: (1-2) Mechanics of solid bodies, biomechanics</td>
<td>Lecture: (9-10) Random variable, properties of distributions, Binomial, Poisson and normal distributions</td>
</tr>
<tr>
<td>Seminar: Biostatistics SCT</td>
<td>Lecture: (5-6) Random variable, properties of distributions, Binomial, Poisson and normal distributions</td>
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**Self-Control Test (Midterm Exam of Biostatistics)**

<table>
<thead>
<tr>
<th><strong>7th week:</strong></th>
<th><strong>13th week:</strong></th>
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<tbody>
<tr>
<td>Self-Control Test (Midterm Exam of Biostatistics)</td>
<td>Lecture: (11-12) Medical imaging methods</td>
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<tr>
<th><strong>8th week:</strong></th>
<th><strong>14th week:</strong></th>
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</thead>
<tbody>
<tr>
<td>Lecture: Grade offering test of Biophysics</td>
<td>Lecture: (19-20) Biophysics: material of lectures 5 and 6</td>
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<tr>
<th><strong>9th week:</strong></th>
<th><strong>15th week:</strong></th>
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<tbody>
<tr>
<td>Lecture: Grade offering test of Biophysics</td>
<td>Lecture: (15-16) Biophysics: material of lectures 1 and 2</td>
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<tr>
<th><strong>10th week:</strong></th>
<th><strong>15th week:</strong></th>
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<tbody>
<tr>
<td>Lecture: Grade offering test of Biophysics</td>
<td>Lecture: (15-16) Biophysics: material of lectures 1 and 2</td>
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<tr>
<th><strong>11th week:</strong></th>
<th><strong>15th week:</strong></th>
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<tbody>
<tr>
<td>Lecture: Grade offering test of Biophysics</td>
<td>Lecture: (15-16) Biophysics: material of lectures 1 and 2</td>
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<tr>
<th><strong>12th week:</strong></th>
<th><strong>15th week:</strong></th>
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<tbody>
<tr>
<td>Lecture: Grade offering test of Biophysics</td>
<td>Lecture: (15-16) Biophysics: material of lectures 1 and 2</td>
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<tr>
<th><strong>13th week:</strong></th>
<th><strong>15th week:</strong></th>
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<tbody>
<tr>
<td>Lecture: Grade offering test of Biophysics</td>
<td>Lecture: (15-16) Biophysics: material of lectures 1 and 2</td>
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<tr>
<th><strong>14th week:</strong></th>
<th><strong>15th week:</strong></th>
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<tbody>
<tr>
<td>Lecture: Grade offering test of Biophysics</td>
<td>Lecture: (15-16) Biophysics: material of lectures 1 and 2</td>
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<tr>
<th><strong>15th week:</strong></th>
<th><strong>15th week:</strong></th>
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<tbody>
<tr>
<td>Lecture: Grade offering test of Biophysics</td>
<td>Lecture: (15-16) Biophysics: material of lectures 1 and 2</td>
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</table>
Academic Program for the 1st Year

Requirements

The course gives an introduction to the physical foundations of biomechanics and physiological processes, medical imaging techniques, diagnostic and therapeutic tools of medical physics. It explains the operation principles of some modern instruments used in diagnosis and therapy. The statistics module describes basic concepts of mathematical probability, distributions and statistical analysis methods.

The exam covers all the material of the semester. It includes the lecture materials and the corresponding chapters of the book. The exam is a written test, in which about 20% of the points is from biostatistics problems. Students achieving at least 70% on the biostatistics test will receive exemption from the biostatistics part of the final exam and get maximum points for this part. The same rules apply to repeated exams.

Division of Emergency Medicine

Subject: FIRST AID
Year, Semester: 1st year/1st semester
Number of teaching hours:
Lecture: 12
Practical: 18

1st week:
Lecture: Definition of “first aid”; first aid levels; time factor; behavior of first responder in the field; the emergency call

2nd week:
Lecture: Unconsciousness; airway obstruction; airway opening maneuvers; Gábor maneuver

3rd week:
Lecture: Death as a process; determining of clinical death; the different oxygen demand of the brain depending on age; establishing unconsciousness or death; assessment of vital signs; assessment of breathing, circulation, pupils and muscle tone

4th week:
Lecture: Reanimation on the spot – organization problems; the theory of CPR; complications during the CPR; effect, results and success during CPR

5th week:
Lecture: Burning; first aid in burning diseases; shock. CPR training without equipment

6th week:
Practical: Examination of breathing and circulation; the chest-thrust; airway opening maneuvers; the recovery position (Gábor maneuver)

7th week:
Practical: Practicing the chest compression
Practicing the ventilation

8th week:
Practical: CPR training without equipment

9th week:
Practical: CPR training, two-rescuer method

10th week:
Practical: Practical examination

11th week:
Practical: Bleeding control with direct pressure and pressure point techniques; bandages and fixation; equipments, tools and maneuvers; general rules of provisory injury therapy; pressure bandage for controlling of arterial and venous bleeding on the spot
<table>
<thead>
<tr>
<th>12th week:</th>
<th>14th week:</th>
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<tbody>
<tr>
<td>Practical: Bandages for head, nose; ears, eyes; chin, body and extremities; practicing the bandages</td>
<td>Practical: Practice Self-control Test</td>
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<tr>
<th>13th week:</th>
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<tbody>
<tr>
<td>Practical: First aid in fractures, luxation, distortions and extended soft-tissue injuries; bandage for fixation with special triangle; Schantz collar; stifneck; Dessault bandage; fixation of finger and hand fractures; usage of Kramer splint and pneumatic splint</td>
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**Requirements**

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

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**Institute of Behavioral Sciences, Faculty of Public Health**

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

<table>
<thead>
<tr>
<th>1st week:</th>
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<tbody>
<tr>
<td>Lecture: Introduction</td>
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<th>2nd week:</th>
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<tr>
<td>Lecture: Nature of psychology: main fields, theories and methods.</td>
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<th>3rd week:</th>
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<th>5th week:</th>
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<tr>
<td>Lecture: Normative life crises (Erikson). The course of dying. Death, grief.</td>
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<th>6th week:</th>
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<tr>
<td>Lecture: Learning and conditioning: different approaches of learning. Classical and operant conditioning.</td>
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<th>7th week:</th>
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<tr>
<td>Lecture: Motivation: rewards and incentives, urges, homeostasis, hunger and sexuality (Maslow).</td>
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<th>8th week:</th>
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<tbody>
<tr>
<td>Lecture: Emotions: arousal, expression of emotions, reactions to emotional states, aggression.</td>
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<tr>
<th>9th week:</th>
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<tbody>
<tr>
<td>Lecture: Personality: psychoanalytic, behavioral and phenomenological approach.</td>
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<th>10th week:</th>
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skills.

11th week:
Lecture:

12th week:
Lecture: Biopsychosocial model. Health behaviors: definition, demographic determinants. The model of health beliefs, variables influencing health attitudes.

13th week:

14th week:
Lecture: Illness as crisis. Chronic illness, hospitalization.

15th week:
Lecture: Methods of psychotherapy: dynamic, behavioral and cognitive methods.

Requirements

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

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

1st week:
Lecture: Introduction to sociology and to the module

2nd week:
Lecture: Definition of health; gender and health

3rd week:
Lecture: Social class and health; ethnicity and health

4th week:
Lecture: Families and changing family relationships

5th week:
Lecture: Social forces, health and illness

6th week:
Lecture: The social distribution of illness

7th week:
Lecture: The experience of illness, social contexts

8th week:
Lecture: Disability and chronic illness

9th week:
Lecture: Mental health and mental illness

10th week:
Lecture: The profession of medicine

11th week:
Lecture: Other health care providers

12th week:
Lecture: Patients and practitioners

13th week:
Lecture: Main scopes of social policy in general and in Hungary I
**ENGLISH PROGRAM BULLETIN BSC IN PHYSIOTHERAPY**

**14th week:**
Lecture: Main scopes of social policy in general and in Hungary II

**15th week:**
Lecture: Repetition, discussion

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

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

**1st week:**  
Lecture: The emergence of bioethics; the basic features of this discipline

**2nd week:**  
Lecture: The nature of ethical decision making in clinical context

**3rd week:**  
Lecture: The principles of modern bioethics

**4th week:**  
Lecture: Paternalism and anti-paternalism in modern bioethics

**5th week:**  
Lecture: Patients’ rights (in Hungary and in other countries)

**6th week:**  
Lecture: Informed consent; informing the patients in a new communicative environment. The ethical aspects of living with disabilities

**7th week:**  
Lecture: The Hippocratic tradition in health care ethics

**8th week:**  
Lecture: End-of-life decisions

**9th week:**  
Lecture: Basic questions in contemporary research ethics

**10th week:**  
Lecture: Ethics of new biotechnologies

**11th week:**  
Lecture: The ethical aspects of physiotherapeutic practice

**12th week:**  
Lecture: Ethics and medical anthropology of disability

**13th week:**  
Lecture: Ethics of nursing

**14th week:**  
Lecture: Basic questions in public health ethics

**15th week:**  
Lecture: Summary and consultation

**Requirements**
Attendance in the lectures is required. Usable understanding of the core theoretical concepts and conceptions is required as well as the knowledge on the actual patients’ rights regulation.
Subject: PHILOSOPHY  
Year, Semester: 1st year/1st semester  
Number of teaching hours:  
Seminar: 15

1st week:  
Lecture: Introduction – Plato’s Metaphor of the Cave

2nd week:  
Lecture: M. Heidegger: What is Metaphysics?

3rd week:  
Lecture: What is Metaphysics?

4th week:  
Lecture: R. Carnap: Overcoming Metaphysics through the Logical Analysis of Language

5th week:  
Lecture: R. Carnap: Overcoming Metaphysics through the Logical Analysis of Language

6th week:  
Lecture: Philosophical Problems of Health and Disease I

7th week:  
Lecture: Philosophical Problems of Health and Disease II  
**Self-control Test**

**Requirements**  
Attendance at seminars is compulsory. The signature of Lecture Book will be refused if you are absent more than twice.

Institute of Sport Science of University of Debrecen

Subject: PHYSICAL EDUCATION I  
Year, Semester: 1st year/1st semester  
Number of teaching hours:  
Practical: 30

1st week:  
Spare time sports: body building, badminton, floorball, Pilates, Speed Minton, cardio-workout etc.

**Requirements**  
The subject is a criterion condition for getting Certificate of Completion.  
Registering for the Physical Education courses:  
Step 1: register in Neptun system – you have to choose course  
Step 2: you have to come in the P.E. Department (Móricz Zsigmond körút 22, 3rd Youth Hostel) to choose sport course.  
If you have any question don’t hesitate to ask: nvkata@med.unideb.hu
Department of Anatomy, Histology and Embryology

Subject: ANATOMY II
Year, Semester: 1st year/2nd semester
Number of teaching hours:
Lecture: 53
Seminar: 15
Practical: 7

1st week:

2nd week:

3rd week:
Lecture: (9) Blood. (10) Bone marrow and blood formation. (11) Histology of the lymphatic organs. (12) Cellular and molecular bases of the immunity
Seminar: (1-2) General embryology.

4th week:
Lecture: (13-14) Heart. (15) Circulatory system, the vascular system of the embryo
Seminar: (3-4) General histology

5th week:
Lecture: (16) The nasal cavity, the pharynx and the larynx, the mediastinum. (17) The trachea, lungs and pleura. (18) The histology of the respiratory system
Seminar: (5) The anatomy of the heart
Practical: (1) The anatomy of the heart
Self-control Test (Witten midterm exam of general embryology and histology.)

6th week:
Lecture: (19) The oral cavity, salivary glands, teeth. (20) The esophagus, the stomach, small and large intestines. (21) The pancreas, the liver. (22) The kidney
Seminar: (6) The anatomy of the respiratory system
Practical: (2) The anatomy of the respiratory system.

7th week:
Lecture: (23) The urinary system. (24) Male genital organs. (25) Female genital organs, the menstrual cycle. (26) The perineum; the mammary gland
Seminar: (7) The anatomy of alimentary system
Practical: (3) The anatomy of alimentary system

8th week:
Lecture: (27) The development of the nervous system – neurohistogenesis. (28) The histology of the nervous system. (29) Axonal transport; degeneration and regeneration in the nervous system. (30) The chemical synapses
Seminar: (8) The anatomy the urogenital apparatus
Practical: (4) The anatomy the urogenital apparatus

9th week:
Lecture: (31) Parts of the nervous system, the ventricles. (32) The meninges, blood supply of the brain, the cerebrospinal fluid. (33) The structure and nerves of the spinal cord.
Self-control Test (Oral midterm exam (Cardiovascular, respiratory, alimentary and urogenital systems).

10th week:
Lecture: (34) The structure of the brainstem, the nuclei of cranial nerves. (35) The diencephalon. (36) The forebrain. (37) The cerebellum
Seminar: (9) Structure of the spinal cord and spinal nerves
Practical: (5) Gross anatomy of the spinal cord
11th week:
Lecture: (38) General principles of the somatosensory system, the skin. (39) Somatovisceral sensory functions. (40) The somatomotor system. (41) Roles of the spinal cord in the coordination of movements, the motor unit
Seminar: (10) Structure of the brainstem and cranial nerves
Practical: (6) Gross anatomy of the brainstem and cerebellum

12th week:
Lecture: (42) The parts of the motor system. (43) The pyramidal pathways, roles of cerebellum in the coordination of movements. (44) The autonomic nervous system. (45) The limbic system
Seminar: (11-12) Structure of the diencephalon and cerebrum

13th week:
Lecture: (46) The monoaminergic system, neuroendocrine regulation. (47) The hypothalamo-hypophyseal system. (48) The endocrine glands. (49) The taste and olfactory systems
Seminar: (13-14) Motor functions of the nervous system

14th week:
Lecture: (50) The eye. (51) The visual system. (52) The auditory system. (53) The vestibular system
Seminar: (15) The sensory organs
Practical: (7) The sensory organs

15th week:
Self-control Test (Midterm oral exam of the neuroendocrine system and sensory organs.)

Requirements

Prerequisite: Anatomy I

Requirements:
The presence in practices, seminars and lectures will be recorded. The head of the department may refuse to sign the Lecture Book if a student is absent from more than two practices in one semester even if he/she has an acceptable reason.

Midterm examinations:
Three midterm examinations will be held during the semester on the 5th, 9th and 15th weeks. The first exam will be written, the second and the third will be oral. The exams cover the topics of lectures, seminars and practices of the semester. The midterm exams will be evaluated with scores from 1 to 10. Five grade evaluation of the overall academic performance of the student at the end of the semester: At the end of the semester the overall academic performance (OAP) of the students will be evaluated with a five grade mark (OAP mark) on the basis of the following rules: The performance of the students on the midterm examinations will be evaluated separately on each Self-control. To obtain a pass or better OAP mark the student has to collect at least 60% of the total score on all Self-controls. If the student does not reach the 60% limit from all parts, the OAP mark is fail (1). If the midterm performance of the student is at least 60% from all parts, the scores of the three parts will be added and the OAP mark will be calculated on the basis of the following

<table>
<thead>
<tr>
<th>Scores</th>
<th>Grade</th>
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<tbody>
<tr>
<td>18-20</td>
<td>pass (2)</td>
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<tr>
<td>21-23</td>
<td>satisfactory (3)</td>
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<tr>
<td>24-26</td>
<td>good (4)</td>
</tr>
<tr>
<td>27-30</td>
<td>excellent (5)</td>
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</table>
End-semestr exam:
Those students who have got a fail (1) mark have to sit for the end-semestr exam, but the student will be examined only from those parts from which he/she did not reach the 6-point limit on the midterm examinations. The first exam is an “A” chance exam. The end-semestr exam is an oral exam that covers the topics of lectures, seminars and practices of the semestr and consists of the following topics:

1. General embryology and histology
2. The visceral organs
3. Nervous system, sensory organs, endocrine system

If the student, on the basis of his/her performance on the midterm examinations, earn an exemption (collecting at least 6 points) from one or two parts of the end-semestr exam, the results of the midterm examinations will be converted into partial end-semestr marks in the following way:

<table>
<thead>
<tr>
<th>Scores</th>
<th>Grade</th>
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<tbody>
<tr>
<td>6</td>
<td>pass (2)</td>
</tr>
<tr>
<td>7</td>
<td>satisfactory (3)</td>
</tr>
<tr>
<td>8</td>
<td>good (4)</td>
</tr>
<tr>
<td>9-10</td>
<td>excellent (5)</td>
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</table>
# Department of Foreign Languages

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

<table>
<thead>
<tr>
<th>Week</th>
<th>Practical</th>
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<tbody>
<tr>
<td>1st week</td>
<td>Repetition and revision of 1st semester topics</td>
</tr>
<tr>
<td>2nd week</td>
<td>Mit kérsz? (What would you like? In a buffet)</td>
</tr>
<tr>
<td>3rd week</td>
<td>Formal and informal style, Accusative suffixes</td>
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<tr>
<td>4th week</td>
<td>Kérsz egy kávét? (Would you like a coffee?, Adjective forming suffixes)</td>
</tr>
<tr>
<td>5th week</td>
<td>Tud, akar, szeret, szeretne (Can, want, like, would like)</td>
</tr>
<tr>
<td>6th week</td>
<td>Word formation, infinitives</td>
</tr>
<tr>
<td>7th week</td>
<td>Milyen idő van ma? (Weather)</td>
</tr>
<tr>
<td>8th week</td>
<td>Revision, Mid-term test</td>
</tr>
<tr>
<td>9th week</td>
<td>Irregular verbs</td>
</tr>
<tr>
<td>10th week</td>
<td>Postán, vasútállomáson (At the post office, train station)</td>
</tr>
<tr>
<td>11th week</td>
<td>Mit eszünk ma este? (Food and cooking; negation)</td>
</tr>
<tr>
<td>12th week</td>
<td>Tetszik a ruhád (Colors, possessive suffixes)</td>
</tr>
<tr>
<td>13th week</td>
<td>Az emberi test. Milyen szeme van?</td>
</tr>
<tr>
<td>14th week</td>
<td>Revision, End-term test</td>
</tr>
<tr>
<td>15th week</td>
<td>Oral minimum requirement exam.</td>
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</table>

**Requirements**

**Prerequisite:** Hungarian Language I  
**Attendance:** Language class attendance is compulsory. The maximum percentage of allowable absences is 10% which is a total of 2 out of the 15 weekly classes. Students arriving late for the classes are not allowed to enter the class. Being late is counted as an absence. If the number of absences is more than two, the final signature is refused and the student must repeat the course. Students are required to bring the textbook or other study material given out for the course with them to each language class. Active participation is evaluated by the teacher in every class. If students’ behavior or conduct does not meet the requirements of active participation, the teacher may evaluate their participation with a "minus" (-). If a student has 5 minuses, the signature may be refused due to the lack of active participation in classes.

**Testing, evaluation:** In each Hungarian language course, students must sit for 2 written language tests and a short minimal oral exam. A further minimum requirement is the knowledge of 200 words per semester announced on the first week. There is a (written or oral) word quiz in the first 5-10 minutes.
of the class, every week. If a student has 5 or more failed or missed word quizzes he/she has to take a vocabulary exam that includes all 200 words along with the oral exam. The results of word quizzes are added to the average score of the written tests. The oral exam consists of a role-play randomly chosen from a list of situations announced in the beginning of the course. Failing the oral exam results in failing the whole course. The result of the oral exam is added to the average of the mid-term and end-term tests.

Based on the final score the signature is refused below 60%. If the final score is below 60, the student once can take an oral remedial exam covering the whole semester’s material.

Consultation classes: In each language course once a week students may attend a consultation class with one of the teachers of that subject in which they can ask their questions and ask for further explanations of the material covered in that week. These classes are optional.

Course book: See the website of the department.

Website: Oral exam topics and vocabulary minimum lists are available from the website of the Department of Foreign Languages: http://ilekt.med.unideb.hu.

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

Subject: ECONOMICS
Year, Semester: 1st year/2nd semester
Number of teaching hours:
Lecture: 15

1st week:
Lecture: Subject, method and the short history of Economics

2nd week:
Lecture: The concept of economic agents

3rd week:
Lecture: National income

4th week:
Lecture: The market mechanisms: the analysis of demand and supply

5th week:
Lecture: Comparative static analysis

6th week:
Lecture: The concept of the product-, money- and labor market

7th week:
Lecture: The instruments of economic policy: fiscal and monetary policy I

8th week:
Lecture: The instruments of economic policy: fiscal and monetary policy II

9th week:
Lecture: The role of the Central Bank

10th week:
Lecture: Development of banks and the financial system I

11th week:
Lecture: Development of banks and the financial system II

12th week:
Lecture: The functions of financial intermediary

13th week:
Lecture: Current issues of the Hungarian economy I
<table>
<thead>
<tr>
<th>14th week:</th>
<th>15th week:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lecture: Current issues of the Hungarian economy II</td>
<td>Lecture: Consultation</td>
</tr>
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</table>

**Requirements**

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

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

<table>
<thead>
<tr>
<th>1st week:</th>
<th>9th week:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lecture: Systems of law, sources of law</td>
<td>Lecture: Physicians’ rights and obligations</td>
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<thead>
<tr>
<th>2nd week:</th>
<th>10th week:</th>
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</thead>
<tbody>
<tr>
<td>Lecture: The legal system, environment</td>
<td>Lecture: Professional liability and malpractice</td>
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<tr>
<th>3rd week:</th>
<th>11th week:</th>
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<tbody>
<tr>
<td>Lecture: Human rights, the right to health</td>
<td>Lecture: Medical liability</td>
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<tr>
<th>4th week:</th>
<th>12th week:</th>
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</thead>
<tbody>
<tr>
<td>Lecture: Law and courts</td>
<td>Lecture: Ethic in the health care workplace</td>
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<tr>
<th>5th week:</th>
<th>13th week:</th>
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<tbody>
<tr>
<td>Lecture: Law in the medical workplace</td>
<td>Lecture: Bioethics</td>
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<th>6th week:</th>
<th>14th week:</th>
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<tbody>
<tr>
<td>Lecture: Management of medical information</td>
<td>Lecture: EU health strategies</td>
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<tr>
<th>7th week:</th>
<th>15th week:</th>
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</thead>
<tbody>
<tr>
<td>Lecture: The medical record, informed consent</td>
<td>Lecture: Summary, consultation</td>
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<tr>
<th>8th week:</th>
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</thead>
<tbody>
<tr>
<td>Lecture: Physician-patient relationship, patients' rights</td>
</tr>
</tbody>
</table>

**Requirements**

Prerequisite: none.

Attendance at lectures is highly recommended, since the topics in examination cover the lectured topics. You have to take ESE during the examination period.
Subject: INTRODUCTION TO MANAGEMENT  
Year, Semester: 1st year/2nd semester  
Number of teaching hours:  
Lecture: 15

1st week:  
Lecture: Introduction to management

2nd week:  
Lecture: Strategic management

3rd week:  
Lecture: Identifying values, setting and attaining goals

4th week:  
Lecture: Time management issues

5th week:  
Lecture: How to delegate

6th week:  
Lecture: How to deal with conflict - conflict management issues

7th week:  
Lecture: Basics of quality management

8th week:  
Lecture: How to get your point across - the art of presentation

9th week:  
Lecture: Management, leadership, and employee empowerment

10th week:  
Lecture: Performance assessment

11th week:  
Lecture: Motivating employees and building teams

12th week:  
Lecture: Human resource management: finding and keeping the best employees; dealing with employee-management issues and relationships

13th week:  
Lecture: Labor law from the perspectives of management

14th week:  
Lecture: Entrepreneurship and starting a small business

15th week:  
Lecture: Consultation

Requirements

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

Department of Orthopedic Surgery

Subject: BIOMECHANICS  
Year, Semester: 1st year/2nd semester  
Number of teaching hours:  
Lecture: 20  
Seminar: 10

1st week:  
Lecture: The histological structure of bones, bone forming cells. Biomechanical examination, morphology and rheology of bones

2nd week:  
Lecture: Fracture and healing of bones. The biomechanics of fracture healing. The function
and morphology of skeletal muscle

3rd week:
Lecture: The definition and history of biomechanics

4th week:
Lecture: Tissue mechanics. Static examination of bones

5th week:
Lecture: The skeleton as a system of organs. Bone and aging

6th week:
Lecture: Bone formation, bone development. The modeling and remodeling of bones. Laws of biomechanics

7th week:
Lecture: Introduction to research projects based on biomechanical examination

8th week:
Lecture: Introduction to research projects based on biomechanical measurement

9th week:
Lecture: Practical demonstration in the biomechanical laboratory

10th week:
Lecture: Consultation

11th week:
Seminar: Introduction to Moodle course.

12th week:
Seminar: Medical application of metal foams. Searching the literature and description of products.

13th week:
Seminar: The effect of spinal rod loosening. Searching the literature and description of products.

14th week:
Seminar: Discussion of results in the searching the literature and products. Presentation of findings.

15th week:
Seminar: Discussion of results in the searching the literature and products. Presentation of findings.

Requirements

The prerequisite of subject is Biophysics.

The attendance at lectures is strongly suggested, the attendance at seminars is compulsory. If you have more than 4-hour absence at seminars (consultations) or do not show activity in the e-learning module, the signature will be refused.

E-learning program:
It is compulsory to join the e-learning program. This program provides an opportunity for students to deepen their understanding of Biomechanics. The e-learning module is designated as seminar in the curriculum, it means that the participation in the e-learning activity and in the consultations is compulsory to everybody.

At the end of semester you take a written ESE. The grade will be defined as the avarage of your e-learning scores and the exam scores according to the scale below

- 0-54%: fail (1)
- 55-64%: pass (2)
- 65-74%: satisfactory (3)
- 75-84%: good (4)
- 85-100%: excellent (5)
If your score in the examination is less than 55% there is no further calculation, the grade is fail (1).

Department of Physiotherapy, Faculty of Public Health

Subject: KINESIOLOGY I
Year, Semester: 1st year/2nd semester
Number of teaching hours:
Lecture: 30
Seminar: 30
Practical: 60

1st week:
Lecture: Kinematics, introduction to kinetics; description of motion, planes and axes; definition of forces, vectors, gravitational force. Introduction to statics and dynamics; muscle forces: total force vector, lever system, force components
Seminar: Review of the anatomy of the trunk muscles, general rules of physical exercises, body positions used in the physiotherapy. Practical: Examination: Physiotherapeutic methods, principles and rules in the physiotherapy; Analysis: General rules of physical exercises, body positions used in the physiotherapy

2nd week:
Lecture: Materials in human joints; general properties of connective tissue; complexity of joint design and function; elements of muscle structure and function
Seminar: Movement terminology rudiments: elongation, isometric and isotonic muscle contractions, synergisms. Fundamentals in physical examination
Practical: Examination: Physiotherapeutic methods, principles and rules in the physiotherapy; Analysis: General rules of physical exercises, body positions used in the physiotherapy

3rd week:
Lecture: The vertebral column - general structure and function: the mobile segment, a typical vertebra, the intervertebral disk, articulation, ligaments and joint capsules. Function: kinematics and kinetics

4th week:
Seminar: Examinations in pathological states, based on James Cyriax's theory
Practical: Examination: Assessment of active and passive range of motion. Physiological and pathological end feels; Analysis: Active exercises of the truncal flexors in different positions by taking the principle of gradation into consideration: with and without instruments, in pairs

5th week:
Lecture: Structure and function of the sacral region: sacroiliac and symphysis pubis articulation
Seminar: Anamnesis and inspection of the pelvis
Practical: Examination: Physical examination of the pelvis; Analysis: Strengthening exercises of the truncal flexors launched from supine position, and on oblique desk

6th week:
Lecture: Effect of muscles on lumbar and sacral regions
Seminar: Anamnesis and inspection of the lumbar spine
Practical: Examination: Physical examination of the lumbar spine; Analysis: Active exercises of the truncal extensors in different positions by taking the principle of gradation into consideration: with and without instruments, in pairs

7th week:
Lecture: Structure and function of the thoracic region: typical thoracic vertebra, articulations, kinematics and kinetics
Seminar: Analyzing movements of trunk rotators and lateral flexors in different positions
Practical: Examination: Examinations of pathological signs in the lumbar region; differential diagnostics; Analysis: Strengthening exercises of the truncal extensors launched from prone position, on all fours, creeping-, kneeling-, standing positions, and on oblique desk

8th week:
Lecture: Structure and function of the thoracic region: typical thoracic vertebra, articulations, kinematics and kinetics
Seminar: Repetition
Practical: Examination: Repetition; Analysis: Active exercises of the truncal extensors in different positions by taking the principle of gradation into consideration: with and without instruments, in pairs

9th week:
Lecture: Diaphragm, muscles associated with rib cage. Respiratory function
Seminar: Physical examination of the thoracic spine Anamnesis and inspection of the thoracic spine
Practical: Examination: Physical examination of the neck: anamnesis and inspection; Analysis: Active exercises of the lateral truncal flexors and rotators with and without instruments, exercises in pairs

10th week:
Lecture: Structure and function of the cervical region: typical cervical vertebra, articulations, kinematics and kinetics. Atlanto-occipital and atlanto-axial joints
Seminar: Physical examination of the thoracic spine
Practical: Examination: Examination of the thoracic spine in pathological conditions; Analysis: Active exercises of the truncal rotators in different positions by taking the principle of gradation into consideration: with and without instruments, in pairs

11th week:
Lecture: Effect of muscles on the cervical regions
Seminar: Physical examination of the neck: anamnesis and inspection
Practical: Examination: Physical examination of the neck; Analysis: Strengthening exercises of the lateral truncal flexors and rotators with and without instruments, exercises in pairs

12th week:
Lecture: The temporo-mandibular joint: articular surfaces, disk, capsules and ligaments; mandibular motion and muscular control
Seminar: Examination of the neck in pathological states
Practical: Examination: Examination of the neck in pathological states; Analysis: Repetition

13th week:
Lecture: Components of the shoulder complex: sternoclavicular, acromio-clavicular, scapulo-thoracic and gleno-humeral joints
Seminar: Repetition
Practical: Examination: Repetition; Analysis: Repetition

14th week:
Lecture: Structure and function of the gleno-humeral joints. Static and dynamic stabilization
Seminar: Practice exam
Practical: Examination: Practice exam; Analysis: Practice exam

15th week:
Lecture: Integrated function of the shoulder complex
Seminar: Practice exam
Practical: Examination: Practice exam; Analysis: Practice exam
Requirements

Prerequisite: Anatomy I, Basics of Physiotherapy

Attendance at lectures is highly recommended, since the topics in examination cover the lectured topics. Attendance at seminars and practices is compulsory. If you miss more than 2 seminars or practices per modules, the signature may be refused.

Examination: The ESE consists of three components: (1) the theoretical component can be achieved by taking 3 mid-semester examinations. The average of the three results gives the grade from the theoretical part. If any of the partial grades is fail, the theoretical grade is fail. (2) the result of the module entitled Examination of movement system can be achieved by taking 2 mid-semester examinations consisting of written and oral parts (anatomy and basic kinesiology). To pass the written part is an indispensable condition for the oral exam. The limit is 60%. At the end of the semester the third written examination contains the general rules of patient examination, also with the limit of 60%. The three scores will be averaged as the partial grade of the Examination of movement system module. The grade “fail” can be improved once during the examination period. (3) The third partial grade derives from the theoretical and practical examinations involving topics in the Functional analysis of movements. The grade “fail” can be improved once during the examination period. If the partial grades are at least „pass”, an ESE grade will be offered by averaging the three partial grades. If you missed the offered grade you can take an ESE consisting of only the part(s) that you failed. From the topics of movement examination and analysis of movements the exam is an oral one, the theoretical knowledge will be asked in a written examination (in the case of the A and B chances). The C chance examination contains both written and oral parts. If any of the partial grades is fail, the final grade is fail.

Department of Preventive Medicine, Faculty of Public Health

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

1st week:
Lecture: Introduction to molecular genetics; structure of the DNA molecule; the genetic code

2nd week:
Lecture: DNA replication and recombination

3rd week:
Lecture: Genes and alleles; Mendel’s laws; genotype and phenotype

4th week:
Lecture: he chromosomal basis of heredity. Human cytogenetics; chromosomes; chromosome alterations

5th week:
Lecture: Transformation and transduction; molecular mechanisms of crossing over.
Summary lectures, consultation
Self-Control Test

6th week:
Lecture: Molecular genetics of gene expression; molecular mechanism of gene regulation

7th week:
Lecture: Mutations and DNA repair; the role of mutations in the development and progression of diseases

8th week:
Lecture: Genetic polymorphisms; the role of
genetic polymorphisms in the predisposition of different diseases

9th week:
Lecture: Molecular evolution and population genetics; the genetic basis of complex inheritance
Self-Control Test

10th week:
Lecture: The genetic origin of cancer
Self-Control Test

11th week:
Lecture: Introduction to genetic engineering; application of recombinant DNA technology in biotechnology and medicine

12th week:
Lecture: Nucleic acid manipulations I. Polymerase chain reaction

13th week:
Lecture: New molecular biological techniques in the diagnosis of diseases; molecular targeted therapies

14th week:
Lecture: The Human Genome Program (overview, advantages and results)
Self-Control Test

15th week:
Lecture: Summary of lectures; Consultation

Requirements

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

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

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

Division of Cell Biology

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

1st week:
Lecture: (1-2) Cell structure

2nd week:
Lecture: (3-4) Chemical Compounds of the Cell

3rd week:
Lecture: (5-6) Membranes, membrane transport

4th week:
Lecture: (7-8) Ion Channels, Membrane Potential, Calcium homeostasis

5th week:
Lecture: (9-10) Vesicular Structures and Transport

6th week:
Lecture: Self-control test 1
Self-control Test (Topics in the lecture 1-10)

7th week:
Lecture: (13-14) Signal Transduction

8th week:
Lecture: (15-16) The Nucleus, DNA and Chromatin Structure

9th week:
Lecture: (17-18) Cell Cycle, Meiosis, Mitosis

10th week:
Lecture: (19-20) Mitochondrion, Cell-Cell Contacts

11th week:
Lecture: (21-22) Cytoskeleton, Motility

12th week:
Lecture: Self-control test 2

Self-control Test (Topics in the lecture 11-22)

13th week:
Lecture: (25-26) Consultation

14th week:
Lecture: Pre-exam

Self-control Test (Pre-exam)

15th week:
Lecture: (29-30) Consultation

Requirements

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

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

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

First self-control: if M=50% or more, D1=M+E
Second self-control: if M=50% or more, D2=M+E

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

Excellent (5): above 85%
Good (4): between 75-84%
Satisfactory (3): between 55-74%
Pass (2): between 45-54%
Fail (1): below 45%

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

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

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

1st week:
Lecture: Introduction to the concept of communication. Channels of communication. Verbal and non-verbal communication. The main non-verbal channels.

2nd week:
Lecture: The helping relationship. Influencing factors, principles. The role of empathy in the communication.

3rd week:
Lecture: Aggressive, passive and assertive communication. Effective communication techniques

4th week:
Lecture:
The importance of communication with people in different situations. Difficulties in communication situations. Persuasive communication.

5th week:
Lecture: Communication Disorders. Special issues in communication. Management of the conflicts occurred during the helping relationship. Communication with the elderly. Communication with impaired persons. Communication with the 'difficult' patient. Communication with acute patients.
Practical:
Discussing the semester’s tasks, the conditions of getting a mark, preparation for the field practice. Getting acquainted, introduction. Expectations and fears.

6th week:
Practical: Review of the basic concepts of communication, communication channels.

7th week:
Practical: Verbal and non-verbal communication.

8th week:
Practical: Empathy, problems of empathy, active listening. Collaborative communication.

9th week:
Practical: Significance of the first impression. Analysis of our own communication styles. Aggressive, passive and assertive communication. Persuasive communication.

10th week:
Practical: Film – the doctor.

11th week:
Practical: Film – analyzing its communicational aspect.

12th week:
Practical: Field practice – observation (no course).

13th week:
Practical: Persuasive communication. Effective communications techniques. Presentation of the field practice and feedbacks.

14th week:
Practical: Presentation of the field practice and feedbacks.
15th week:
Practical: Presentation of the field practice.
Closing the semester, semester-review.
Feedbacks. Written exam.

Requirements
Attendance at lectures is highly recommended, at practical hours is compulsory. If there are more than 2 absences from practical hours, the module coordinator refuses the signature of the Lecture Book.

Institute of Sport Science of University of Debrecen
Subject: PHYSICAL EDUCATION II
Year, Semester: 1st year/2nd semester
Number of teaching hours:
Practical: 30

Topics

Requirements
The subject is a criterion condition for getting Certificate of Completion.

Registering for the Physical Education courses:
Step 1: register in Neptun system – you have to choose course
Step 2: you have to come in the P.E. Department (Móricz Zsigmond körút 22, 3rd Youth Hostel) to choose sport course
If you have any question don’t hesitate to ask: nvkata@med.unideb.hu
CHAPTER 10

ACADEMIC PROGRAM FOR THE 2ND YEAR

Department of Biochemistry and Molecular Biology

Subject: BASIC BIOCHEMISTRY
Year, Semester: 2nd year/1st semester
Number of teaching hours:
Lecture: 30
Seminar: 15

1st week:

2nd week:

3rd week:
Lecture: Carbohydrate metabolism II. Glycogen in liver and muscle. Degradation and synthesis of glycogen. Regulation of glycogen synthesis and degradation.

4th week:

5th week:

6th week:

7th week:

8th week:
Lecture: Self-control test I. Week 1-7.

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

9th week:

10th week:

11th week:
Lecture: Amino acid metabolism II. The urea cycle and its regulation. Decarboxylation and
carboxylation reactions in the amino acid metabolism. C1 transfer and transmethylation, related enzyme and vitamin deficiencies. Fate of the carbon skeleton of amino acids: glucogenic and ketogenic amino acids. Examples: degradation of isoleucine and valine, phenylalanine and related enzyme deficiencies (PKU). Precursor functions: NO, creatine, polyamines, carnitine, cathecolamines.

12th week:

13th week:

Requirements

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

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

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

Lecture presentations with short explanations are available on the web page of the department: (http://bmbi.med.unideb.hu).

(Downloads/educational in English/Physiotherapists/Basic Biochemistry/2016)
Subject: BIOCHEMISTRY  
Year, Semester: 2nd year/2nd semester  
Number of teaching hours:  
Lecture: 10  
Seminar: 5  

| 1st week: |  

| 2nd week: |  

| 3rd week: |  

| 4th week: |  

| 5th week: |  

**Self-control Test**

**Requirements**

Prerequisite: Basic Biochemistry

Attendance at the lectures is highly recommended. Attendance at seminars is obligatory. The signature of the Lecture Book may be refused if a student is absent from more than 1 seminar. Achievement during the semester will be evaluated in terms of points. During the semester points can be collected for the self-control tests from the material of the lectures. Self-control tests consist of simple and multiple choice test questions and assay questions. Grade will be offered on the base of the collected points for all those students, who collected at least 50% of points: pass (2) for 50%-64%; satisfactory (3) for 65%-74%; good (4) for 75%-85%; excellent (5) for 86%-100%. Those students who want to get a better grade can take an exam. Those, who did not collect 50% have to take a written exam in the exam period.

The end of semester exam is a written one and consists of similar test and assay questions to those of self-control tests. 50 percent is needed to get a passing mark, and the grade increases as shown above.
Subject: HUNGARIAN LANGUAGE III  
Year, Semester: 2nd year/1st semester  
Number of teaching hours:  
Practical: 30

<table>
<thead>
<tr>
<th>Week</th>
<th>Practical Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st week</td>
<td>Repetition. Pretest.</td>
</tr>
<tr>
<td>2nd week</td>
<td>Bemutatkozás (létige ismétlése)</td>
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<tr>
<td>3rd week</td>
<td>Foglalkozások (igék, helyragok ismétlése)</td>
</tr>
<tr>
<td>4th week</td>
<td>A családom (birtokos személyragok ismétlése)</td>
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<tr>
<td>5th week</td>
<td>Emberek leírása (test, melléknevek)</td>
</tr>
<tr>
<td>6th week</td>
<td>Emberek leírása (test, birtoklás ismétlése)</td>
</tr>
<tr>
<td>7th week</td>
<td>Összehasonlítás</td>
</tr>
<tr>
<td>8th week</td>
<td>Revision. Mid-term test</td>
</tr>
<tr>
<td>9th week</td>
<td>Napirend</td>
</tr>
<tr>
<td>10th week</td>
<td>Szabadidő, időjárás</td>
</tr>
<tr>
<td>11th week</td>
<td>Hobbi, sport (gyakoriság)</td>
</tr>
<tr>
<td>12th week</td>
<td>Mit csináltál tegnap?</td>
</tr>
<tr>
<td>13th week</td>
<td>Milyen volt a hétvégéd?</td>
</tr>
<tr>
<td>14th week</td>
<td>Revision. End-term test.</td>
</tr>
</tbody>
</table>

**Requirements**

Prerequisite: Hungarian Language II

Attendance: Language class attendance is compulsory. The maximum percentage of allowable absences is 10% which is a total of 2 out of the 15 weekly classes. Students arriving late for the classes are not allowed to enter the class. Being late is counted as an absence. If the number of absences is more than two, the final signature is refused and the student must repeat the course.

Students are required to bring the textbook or other study material given out for the course with them to each language class. Active participation is evaluated by the teacher in every class. If students’ behavior or conduct does not meet the requirements of active participation, the teacher may evaluate their participation with a "minus" (-). If a student has 5 minuses, the signature may be refused due to the lack of active participation in classes.

Testing, evaluation: In each Hungarian language course, students must sit for 2 written language tests and a short minimal oral exam. A further minimum requirement is the knowledge of 200 words per semester announced on the first week. There is a (written or oral) word quiz in the first 5-10 minutes of the class, every week. If a student has 5 or more failed or missed word quizzes he/she has to take a vocabulary exam that includes all 200 words along with the oral exam. The results of word quizzes are added to the average score of the written tests. The oral exam consists of a role-play randomly chosen from a list of situations announced in the beginning of the course. Failing the oral exam results in the failure of the course.
in failing the whole course. The result of the oral exam is added to the average of the mid-term and end-term tests. Based on the final score the signature is refused below 60%. If the final score is below 60, the student once can take an oral remedial exam covering the whole semester’s material.

Consultation classes: In each language course once a week students may attend a consultation class with one of the teachers of that subject in which they can ask their questions and ask for further explanations of the material covered in that week. These classes are optional.

Course book: See the website of the department.

Website: Oral exam topics and vocabulary minimum lists are available from the website of the Department of Foreign Languages: http://ilekt.med.unideb.hu.

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Department of Physiology

Subject: NEUROPHYSIOLOGY
Year, Semester: 2nd year/1st semester
Number of teaching hours:
Lecture: 15
Seminar: 10
Practical: 3

1st week:
Lecture: Basic neuronal functions: resting potential and excitatory processes; function of neuronal networks; sensory receptors; properties of impulse propagation, synaptic transmission, effectors; injury of nerves, regeneration
Seminar: Discussion of clinical relations (injury, direct and indirect stimulation of muscles)

2nd week:
Lecture: Somatosensory function of CNS: psychological and psychophysical basic definitions; deep sensation; proprioception
Seminar: Function of the sensory cortex; disorders of sensory function

3rd week:
Lecture: Somatomotor function of CNS: reflex activity at different levels; proprioceptive and exteroceptive spinal cord reflexes; injury of spinal cord, acute and remaining consequences
Seminar: Somatosensory function of CNS

4th week:
Lecture: Reflex control of posture, the vestibular apparatus as receptor structure; distribution of muscle tone
Seminar: Somatomotor function of CNS

Self-control Test (Elementary neural processes, Sensory function of CNS)

5th week:
Lecture: Role of the brainstem in the movement regulation; cortical mechanisms; role of the cerebellum in the coordination of movement; dysfunction of motoric system at various level of regulation
Seminar: Posture and coordination

6th week:
Lecture: Skeletal muscles as effectors: motor unit; electric properties of skeletal muscle; characteristics of mechanical response; regulation of muscle tone; neuromuscular synaptic transmission; myasthenia gravis; dysfunctions of skeletal muscles with myogenic and neurogenic origin; denervation and inactivity atrophy

7th week:
Lecture: Electric activity of the brain cortex: ECG. Higher functions of the cerebral cortex: wakefulness and sleeping; consciousness; emotional processes; learning, memory, cogitation, fantasy
Practical: Neurological examinations

8th week:
Lecture: Consultation
Self-control Test (Motor function of the CNS)

Requirements

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

E-learning course is attached to the contact hours. You can collect scores in the e-learning module. At the end of the semester you take an end-semester exam (ESE) consisting of a written and an oral part. The scores collected in the e-learning module will be taken into consideration in the evaluation of the test. The final grade will be the average results of the written and oral parts. Further information about the e-learning program will be announced during the first lecture.

The selected topics in Neurophysiology are constitutive parts of the comprehensive examination "Basics of Health Sciences".

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

1st week:
Lecture: Membrane transport mechanisms; humoral regulation of cell function; significance of the membrane potential in the regulation of cell function
Seminar: Introduction to physiology, requirements; general overview of the structure and function of the cell membrane; role of membrane defects in the pathomechanism of diseases

2nd week:
Lecture: Compartmentalization of body fluids; blood as a circulating body fluid; plasma and formed elements
Seminar: Types of anemia; redistribution of body fluid compartments in pathological conditions

3rd week:
Lecture: Blood typing; hemostasis; mechanisms against bleeding; definition and significance of homeostasis; homeostatic parameters
Seminar: Clinical significance of blood typing, Rh+ incompatibility; disturbed hemostasis; anticoagulant agents

4th week:
Lecture: Cardiovascular physiology: electrical and contractile properties of the heart; impulse generation and conduction; basics and diagnostic significance of electrocardiography; the heart as a pump; the cardiac cycle; neural and humoral regulation of cardiac function
Seminar: Starling mechanism as a compensatory mechanism in normal and pathological conditions, analysis of normal electrocardiogram

5th week:
Lecture: Cardiovascular physiology: characteristics of peripheral circulation; principles of haemodynamics; functional characteristics of blood vessels; vascular tone; main determinant of arterial blood pressure; reflex and humoral control of blood pressure and redistribution of cardiac output
Seminar: Discussion of lectured topics focused on the blood pressure and its regulation

6th week:
Lecture: Respiratory physiology: mechanics of breathing; alveolar ventilation; gas transport in the blood; neural and chemical
control of breathing
Seminar: Discussion of lectured topics focused on the static and dynamic respiratory parameters

7th week:
Lecture: Motor and secretory function of the gastrointestinal tract; digestion, absorption; nutrition (food requirements, regulation of food intake); energy balance, thermoregulation
Seminar: Discussion of lectured topics completed with pathophysiologic relations

8th week:
Lecture: General aspects of renal function; glomerular filtration; types of tubular transport processes; characteristic parameters of the renal function: glomerular filtration rate (GFR), filtration fraction (FF), clearance (C) and extraction coefficient (E); principles of the volume and osmoregulation; characteristics of the salt and water reabsorption; pH regulation; role of the respiration and excretion in the acid-base balance; micturition
Seminar: The role of the kidney in the homeostatic regulation

9th week:
Lecture: Hormonal regulation; paracrine and endocrine mechanisms; hypothalamo-hypophyseal system; neurohormones and tropic hormones
Seminar: General overview of the hormonal regulation; relationships of neural and humoral regulation

10th week:
Lecture: Thyroid hormones (T3 and T4); endocrine regulation of intermediate metabolism and basal metabolic rate; physiological effects of corticosteroids
Seminar: Hormonal regulation of cellular metabolism, especially the metabolism of skeletal muscle cells

11th week:
Lecture: Significance of the ionized calcium concentration in the blood; regulation of calcium handling; endocrine function of the pancreas; significance and regulation of blood glucose level
Seminar: Tetania; hypo- and hyperglycemia

12th week:
Lecture: Sexual hormones; somatic and autonomic nervous system; introduction to neural control; voluntary and reflex regulation
Seminar: Genital and extra genital effects of sexual steroids

13th week:
Lecture: Sensory function of the nervous system; stimulus, receptor, conduction of excitation; cortical processing; physiological basis of vision and hearing; motor function of nervous system: function and regulation of skeletal muscles (cortical, subcortical and spinal levels of regulation, coordinative function of cerebellum)
Seminar: Summary of somatic neural regulation

14th week:
Lecture: Regulation of visceral functions; common and different features of sympathetic and parasympathetic regulation; integrated function of the sympathetic nervous system and the adrenal medulla
Seminar: Summary of the neural control of visceral functions

15th week:
Lecture: Summary, consultation
Seminar: Consultation

Requirements

Signature of Lecture Book:
Attendance at lectures is strongly recommended and at seminars is compulsory. The signature of the Lecture Book may be refused for the semester in the cases of absences from more than two seminars. The repeaters are not exempted automatically from attending the seminars, you must apply for exam course if you have technical problems regarding the attending the seminars.

For continuous updates on all education-related matters, please check the departmental web-site
The lectures of Physiology are listed at the web site of the Department of Physiology (http://phys.dote.hu)

Evaluation during the semester:

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

Examination:

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

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

0 – 54 % fail (1)
55 – 64 % pass (2)
65 – 74 % satisfactory (3)
75 – 84 % good (4)
85 – 100 % excellent (5)

If one is not satisfied with this result, (s)he may participate in ESE during the examination period. A and B chances are written tests, C chance is oral exam.

Department of Physiotherapy, Faculty of Public Health

Subject: BASICS OF HEALTH SCIENCES
Year, Semester: 2nd year/1st semester
Number of teaching hours:

1st week:
Topics:
Morphological and functional characterization of the cells, types of tissues
1. Definition of the cell, the tissue, the organ and the system of organs; the cell as a morphological and functional unit; structure of the cell membrane, characterization of the transport processes
2. Epithelial tissue: morphological and functional characterization
3. Connective tissue: fibers, matrix, cells; types of connective tissues; morphological and functional characterization of muscle tissues
Body fluid compartments, internal environment, homeostasis
4. Body fluid compartments; structure and permeability of the capillary wall; characteristics of the transcapillary transport processes
5. Internal environment of the cells; definition and significance of homeostasis; controlled (homeostatic) parameters; thermoregulation; hyperthermia, fever
6. The blood as circulating body fluid: formed elements and plasma; histology of the blood; bone marrow; hematopoiesis; erythropoietin mechanism; functions of plasma proteins
7. Function of the red blood cells, structure of hemoglobin, mechanism of the oxygen and carbon dioxide transport
8. Anemia: iron-deficient and pernicious anemia
9. Degradation of hemoglobin, jaundice; portal circulation of the liver; entero-hepatic circulation of the biliary pigments
10. Aspecific and specific defense mechanisms; basic definitions in immunology: antigen, antibody, cellular and humoral immune response, immunity and immunization; vaccination

11. AB0 and Rh blood groups: antigens, antibodies; incompatible transfusion, Rh incompatibility; Structure and function of the circulatory system

12. Structure of the circulatory system; the heart, the systemic circulation and the pulmonary circulation; characterization of the internal transport of materials; fetal circulation

13. Structure of the human heart; morphological description and functional characterization of the impulse generating and conducting elements; basis of the electrocardiography, diagnostic significance of the ECG

14. Characterization of the cardiac muscle function; the heart as a pump; stroke volume and cardiac output

15. The fibrous frame of the heart, orifices, valves: morphology and function; heart sounds and murmurs, vitium and its hemodynamic consequence

16. Regulation of the cardiac output; Starling mechanism; autonomic neural regulation (morphological and functional aspects)

17. The own vessels of the heart; features of the coronary circulation; disorders of the cardiac blood supply

18. Cardiac insufficiency, cardiac decompensation, symptoms of the left and right insufficiency

19. Types of the blood vessels; definition, origin, significance, and components of the vascular tone; elasticity of the wall (morphologic background and functional aspects), changes in aging; resistance and capacity vessels; development and characteristics of the pulse waves

20. Changes in the arterial blood pressure parallel to the cardiac cycle; pulse pressure, mean arterial pressure – definitions and significance; factors determining the mean arterial pressure; blood pressure measurement

21. Neural and humoral regulation of the arterial blood pressure; innervation of vessels; cerebral regions involved in the regulation of blood pressure and distribution; morphological basis of the reflex regulation

22. Hypertension, hypotonia, arteriosclerosis and its risk factors

23. Morphological characteristics of the veins; structure of the lymphatic system; characteristics of the venous and lymphatic circulation, abnormalities

24. Cerebral circulation; production and circulation of the cerebrospinal fluid; blood-liquor and blood-brain barriers; regulation of cerebral circulation; disturbances. Structure and function of the respiratory system

25. Structure of the respiratory system; mechanics of breathing (respiratory muscles, innervation, changes in the intrapulmonary and intrapleural pressures); lung volumes (tidal volume, vital capacity, residual volume); anatomical and functional dead spaces

26. Alveolar gas exchange (morphological background and mechanism); relationship of pulmonary circulation and breathing

27. Transport of respiratory gases; mechanism of the gas transport between the blood and the tissues (internal breathing)

28. Dynamic respiratory parameters; pathologic changes in the restrictive and the obstructive pulmonary diseases; determining factors of the airway resistance, abnormalities

29. Cerebral regions taking part in the regulation of respiration, automatic and voluntary regulation of the respiration; pneumothorax, artificial respiration. Structure and function of the gastrointestinal tract

30. Morphological characterization; blood supply, especially the portal circulation, enteric nervous system and gastrointestinal hormones

31. Parts of the GI tract, structure of the wall; the intestinal smooth muscle; basic movements of the GI tract; masticatory muscles, innervation; anatomy and innervation of the pharynx and the esophagus; mechanism of the mastication and the swallow; vomit as a defensive reflex
32. Morphological characterization of the rectum; sphincters, innervation; hemorrhoid veins, their functional significance; mechanism of defecation, active and passive incontinence

33. Anatomy of the stomach, the pancreas and the small intestines; secretory function of the GI, regulation of the juice production

34. Gross and fine structure of the liver and bile ducts; role of the bile in the digestion; summary of the hepatic function; damage of the liver with alcoholic origin, hepatic cirrhosis, hepatic insufficiency

35. Structure of the intestinal wall, circulation and absorption; obstipation and diarrhea. Structure and function of the excretory system, role of the kidney in the homeostasis

36. Macroscopic anatomy of the kidney, structure of the nephron; blood supply of the kidney; features of the renal circulation; regulation of the circulation; urinary pathways

37. Renal Plasma Flow (RPF), Glomerular Filtration Rate (GFR), Filtration Fraction (FF) and Extraction Coefficient (E); the clearance principle

38. Structure of the Malpighian corpuscle; mechanism of the glomerular ultrafiltration; composition of the ultrafiltrate; regulation of GFR

39. Morphological characteristics of the renal tubules; characterization of tubular transport processes (glucose transport, PAH transport), Na+ and water reabsorption

40. Role of the kidney in the regulation of water and electrolyte balance; structure of JGA, hormone-dependent processes in the collecting duct; morphological basis of the aldosteron and ADH production

41. Mechanism of the micturition; vegetative reflex arch and voluntary control; active and passive incontinence; renal insufficiency, azotemia and uremia. Hormonal regulation

42. System of the endocrine glands; hypothalamo-hypophyseal system; definition of hormones, general characterization of the hormonal effects at cellular level

43. Structure and function of the thyroid gland; effects of thyroid hormones; hypo- and hyperfunction; hormonal regulation of growth (effects of the GH, thyroid hormones and sexual steroids); gigantism and nanism

44. Endocrine pancreas; adrenal cortex and medulla; hormonal regulation of the blood glucose concentration; diabetes mellitus

45. Hormone-producing cells in the ovary and testis; spermatogenesis, oogenesis; hormonal regulation of the sexual functions

46. Relationships of the nervous system and the hormonal regulation; stress reactions and adaptation. Structure and function of the movement system, neural control of the skeletal muscle function

47. Bones: structure, types, accessory elements; connections of the bones; structure, types and movements of the joints

48. Types of the cartilage; structure and function

49. Bone tissue, ossification, growth, remodeling

50. Bone as calcium store; hormonal regulation of the calcium balance; hormonal control of the growth in length (GH, thyroid hormones, sexual steroids)

51. Structure and function of the skeletal muscles; neuromuscular junction; motor unit

52. Types and connections of the vertebrae; curvatures and movements of the spinal column

53. Bones, joints, muscles, vessels and nerves of the shoulder girdle

54. Structure of the pelvis; structure and movements of the hip joint, hip muscles

55. Bones, joints, muscles, blood supply and innervation of the lower extremities

56. Bones and joints of the chest; respiratory muscles, respiratory movements

57. Bones, joints and muscles of the trunk; mimic and masticatory muscles, their innervation

58. Main parts of the nervous system; spinal cord and brain nerves

59. Histology of the nervous system; degeneration and regeneration in the nervous
system; chemical synapse

60. Sensory function of the CNS; somato-visceral sensory system

61. Hierarchy of the motor system; motor tracts, centers; pyramidal and extrapyramidal tracts – morphology and function

62. Reflex and voluntary control of the movements; paralysis; extrapyramidal disorders

63. Gross anatomy and fine structure of the cerebellum; role of the cerebellum in the regulation of movements

64. Vestibular apparatus, role in the regulation of posture

65. Spinal cord reflexes (somatic and vegetative), definition and regulation of the muscle tone

66. Structure and the function of the autonomic nervous system

Requirements

Pre-requisite for taking comprehensive exam is to absolve the Physiology, Cardiorespiratory and Exercise Physiology and Neurophysiology subjects.

It is recommended to take the examination at the end of the 3rd semester; the date should not be later than the end of the 6th semester. The components of the comprehensive exam are the written and oral examinations. The written examination covers a complex assessment containing multiple choice questions and identification of charts. If the score is higher than 50%, the student will be exempted from the oral part of the examination, but there is a possibility to take it. The offered mark will be constructed as follows: < 50 % fail (1), 50 – 62% pass (2), 63 – 74% satisfactory (3), 75 – 87% good (4), 88 – 100% excellent (5).

Subject: CARDIORESPIRATORY AND EXERCISE PHYSIOLOGY
Year, Semester: 2nd year/1st semester
Number of teaching hours:
Lecture: 15
Seminar: 5
Practical: 12

8th week:
Lecture: Impulse generation and conduction in the heart in normal and pathological conditions; myogenic and neural regulation of cardiac output; factors affecting cardiac performance; role of Starling mechanism in pathologic conditions
Practical: Discussion of clinical relations (disorders of impulse generation and conduction); analysis of abnormal ECG records

9th week:
Lecture: Main features of coronary circulation; oxygen consumption and physical work. Aspects of cardiac performance; metabolic demand for physical activity
Practical: Analysis of abnormal ECG records

10th week:
Lecture: Regional circulation in resting condition (pulmonary circulation, cerebral flow, blood supply of skeletal muscles; renal and splanchnic circulation)
Practical: Pulse qualities, blood pressure measurement, heart sound; changes in cardiovascular parameters during physical activity, restoration

11th week:
Lecture: Regional circulation during physical activity, redistribution of cardiac output. Characteristics of circulation and changes in the flow during physical exercise in the skeletal muscle vessels
Practical: Case studies
12th week:
Lecture: Microcirculatory system, effects of physical exercise on its function; venous circulation, improvement the venous return by physical exercise
Seminar: Summary: neural and humoral factors acting on the precapillary vessels

13th week:
Lecture: Mechanical aspects of respiration; resistance of airways; static and dynamic respiratory parameters; factors affecting respiratory minute volume; effects of physical exercise on respiration
Practical: Obstructive and restrictive respiratory disorders, pathophysiology, analysis of respiratory parameters during physical activity

14th week:
Lecture: Alveolar gas exchange in normal and pathological conditions; chemical and neural regulation of respiration; energetic aspects of physical work; metabolic changes during physical activity; physical activity and thermoregulation
Seminar: Normal and pathological breathing patterns; long term adaptation of cardiorespiratory system to physical activity
Practical: Case studies

15th week:
Lecture: Consultation
Seminar: Evaluation of the e-learning activity.

Requirements

Prerequisite: Anatomy II

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

E-learning course is attached to the contact hours. You can collect scores in the e-learning module. At the end of the semester you take an end-semester exam (ESE) consisting of a written and an oral part. The scores collected in the e-learning module will be taken into consideration in the evaluation of the test. The final grade will be the average results of the written and oral parts. Further information about the e-learning program will be announced during the first lecture.

The selected topics in Cardiorespiratory and Exercise Physiology are constitutive parts of the comprehensive examination “Basics of Health Sciences”.

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

1st week:
Lecture: Basic terms of gerontology

2nd week:
Lecture: Gerontology in mirror of statistics I: Process of aging of individuals

3rd week:
Lecture: Gerontology in mirror of statistics II: Tendencies of mortality

4th week:
Lecture: Systemic approach of gerontology

5th week:
Lecture: Biogerontology: the basics

6th week:
Lecture: Biogerontology: aging theories

7th week:
Lecture: Biogerontology: experimental gerontology
8th week:
Lecture: Biogerontology: aging and diseases

9th week:
Lecture: Geriatrics: Physiological as well as pathological alterations due to aging I

10th week:
Lecture: Geriatrics: Physiological as well as pathological alterations due to aging II

11th week:
Lecture: Social gerontology: Gerontopsychology

12th week:
Lecture: Social gerontology: Aspects of the society regarding aging

13th week:
Lecture: Prevention and aging

14th week:
Lecture: Possibilities for the slowing down of the aging process

15th week:
Lecture: Repetition, discussion

Requirements

Prerequisite: Basics of Sociology

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

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

Subject: INTRODUCTION TO CLINICAL MEDICINE
Year, Semester: 2nd year/1st semester
Number of teaching hours:
Lecture: 30
Practical: 15

1st week:
Lecture: The history of nursing and medicine

2nd week:
Lecture: The physician’s behavior; the patient and health care staff relationship; the professional secrecy

3rd week:
Lecture: Symptoms of diseases. History taking: family history, previous diseases, present complaints

4th week:
Lecture: General medical physical examination (inspection, palpation, percussion, auscultation); body temperature, fever; body mass index (BMI)

5th week:
Lecture: Clinical laboratory: pathology, clinical microbiology, clinical bio-chemistry, hematology

6th week:
Lecture: The role of noninvasive and invasive diagnostic tests in the diagnosis (electrocardiography, nuclear medicine techniques, etc.)

7th week:
Lecture: Medical imaging techniques (x-ray, ultrasound, MRI, PET, CT etc), and different forms of endoscopy

8th week:
Lecture: Physical examination of the respiratory and cardiovascular system
Practical: History taking, case record; calculation
of BMI

9th week:
Lecture: Physical examination of the abdomen and the urogenital system
Practical: Physical examination of the chest, arterial blood pressure measurements, examination of peripheral arteries and veins. Pulse quality

10th week:
Lecture: Physical examination of the locomotor system
Practical: Physical examination of the abdomen (gastro-intestinal system, liver and spleen) and the urogenital system

11th week:
Lecture: Physical examination of the nervous system
Practical: Physical examination of the locomotor system

12th week:
Lecture: Importance of medical consultation
Practical: Physical examination of the nervous system

13th week:
Lecture: Medical diagnosis, types of diagnosis, hospital course, hospital discharge summary
Practical: Physical examination of the skin, the lymph nodes, the oral cavity, the eyes, the breasts and axillae

14th week:
Lecture: Medical treatment and patients care, follow-up
Practical: Physical examination of the head, the neck, and the thyroid gland

15th week:
Lecture: Final tutorial – consultation
Practical: Practical examination

Requirements
Prerequisites: General Principles in Health Care and Nursing, Anatomy II
Attendance at lectures is highly recommended, since the topics in examination cover the lectured topics. Attendance at practices is compulsory. If you missed more than 2 practices, the signature may be refused. To pass the practical examination is the indispensable condition for signature of Lecture Book.

Subject: KINESIOLOGY II
Year, Semester: 2nd year/1st semester
Number of teaching hours:
Lecture: 30
Seminar: 15
Practical: 120

1st week:
Lecture: The elbow complex. Structure of the humero-ulnar and humero-radial articulations; surfaces, axis of motion, joint capsules, ligaments and muscle action
Seminar: Review of the anatomy of the upper limb
Practical: Examination: Physical examination of the shoulder and the shoulder girdle; Analysis: Active exercises of the shoulder in different positions

2nd week:
Lecture: Structure of the superior and inferior radio-ulnar articulations. Surfaces, axis of motion, joint capsules, ligaments, stability and muscle action. Relationship to the hand and wrist
Seminar: General rules of physical exercises on extremities
Practical: Examination: Examination of the
shoulder in pathological cases; Analysis: Active exercises of the elbow in different positions

3rd week:
Lecture: The wrist complex: Structure of the radio-carpal and mid-carpal joints. Surfaces, axis of motion, joint capsules, ligaments and muscle action. Stability and instability
Seminar: Analyzing movements of the muscles of the upper limb I
Practical: Examination: Physical examination of the elbow; Analysis: Active exercises of the wrist in different positions

4th week:
Lecture: The hand complex: Structure of the carpo-metacarpal, metacarpo-phalangeal and interphalangeal joints. Surfaces, axis of motion, joint capsules, ligaments and muscle action; stability and instability; flexor and extensor mechanisms
Seminar: Analyzing movements of the muscles of the upper limb II
Practical: Examination: Examination of the elbow in pathological states; Analysis: Active exercises of the hand and thumb in different positions

5th week:
Lecture: Structure of the thumb
Practical: Examination: Physiological and pathological examination of the wrist and hand; Analysis: Repetition

6th week:
Lecture: Axes of the lower extremities
Seminar: Review of the anatomy of the lower limb
Practical: Examination: Physiological axes and their deviations: examination and differential diagnosis; Analysis: Active exercises of the hip in different positions

7th week:
Lecture: The ankle and foot complex: plantar arches – structure and function
Practical: Examination: Physiological examination of the ankle and plantar arches; Analysis: Active gait exercises

8th week:
Lecture: The ankle and foot complex: ankle, subtalar and transverse tarsal joints. Action of muscles
Practical: Examination: Examination of the ankle and plantar arches in pathological states; Analysis: Repetition

9th week:
Lecture: The knee complex: structure, function and muscles. Stabilizers of the knee
Practical: Examination: Physical examination of the knee; Analysis: Active exercises of the knee

10th week:
Lecture: Patello-femoral joint: surface, joint congruence, motion, stability
Practical: Examination: Examination of the knee in pathological states; Analysis: Active exercises of the ankle and foot

11th week:
Lecture: The ankle and foot complex: plantar arches – structure and function
Seminar: Analyzing movements of the muscles of the lower limb I
Practical: Examination: Physical examination of the hip; Analysis: Active exercises of the hip in different positions

12th week:
Lecture: The ankle and foot complex: ankle, subtalar and transverse tarsal joints. Action of muscles
Seminar: Analyzing movements of the muscles of the lower limb II
Practical: Examination: Hip joint pathology; Analysis: Active exercises of the hip in different positions

13th week:
Lecture: Static and dynamic posture. Analysis of standing posture
Practical: Examination: Examination of the posture and gait. Summary; Analysis: Summary of analysis of the upper limb and lower limb, consultation

14th week:
Lecture: Locomotion: kinematics, kinetics

115
Practical: Examination: Practical exam; Analysis: Practical exam

15th week:
Lecture: Pathological gaits

Requirements

Prerequisite: Kinesiology I

Attendance at lectures is highly recommended, since the topics in examination cover the lectured topics. Attendance at seminars and practices is compulsory. If you missed more than 2 seminars or practices per modules, the signature may be refused.

Examination: The ESE consists of 2 components: (1) the theoretical component can be achieved by taking an ESE as a written examination (2) the practical knowledge will be assessed by oral examination. The oral exam is allowed only after passing the minimum requirement of a written exam. The limit is 60%.

Department of Preventive Medicine, Faculty of Public Health

Subject: BASICS OF RESEARCH METHODOLOGY
Year, Semester: 2nd year/1st semester
Number of teaching hours:
Lecture: 30

1st week:
Lecture: The principles of scientific inquiry. Validity, reliability, precision of research

2nd week:
Lecture: Ethics of science

3rd week:
Lecture: Types of scientific research

4th week:
Lecture: Methods of quantitative research I

5th week:
Lecture: Methods of quantitative research II

6th week:
Lecture: Methods of qualitative research

7th week:
Lecture: Orientation in the scientific literature I

8th week:
Lecture: Orientation in the scientific literature II
Requirements

Prerequisite: Basics of Informatics

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

Examination: written

Subject: PROFESSIONAL HUNGARIAN LANGUAGE I
Year, Semester: 2nd year/2nd semester
Number of teaching hours:
Practical: 45

1st week:
Practical: Revision

2nd week:
Practical: Pretest

3rd week:
Practical: 6. lecke Melyik a jobb?

4th week:
Practical: 6. lecke Melyik a jobb?

5th week:
Practical: 7. lecke Napirend

6th week:
Practical: 7. lecke Napirend

7th week:
Practical: Revision. Mid-term test

8th week:
Practical: 8. lecke Szabadidő
Self-control Test

9th week:
Practical: 8. lecke Szabadidő

10th week:
Practical: 9. lecke Hol voltál tegnap?

11th week:
Practical: 9. lecke Hol voltál tegnap?

12th week:
Practical: 10. lecke Mit csináltál tegnap?

13th week:
Practical: 10. lecke Mit csináltál tegnap?

14th week:
Practical: Revision. Endterm test Self-control Test

15th week:
Practical: Assessment and evaluation

Requirements

Prerequisite: Hungarian Language III, Kinesiology II

Attendance: Language class attendance is compulsory. The maximum percentage of allowable absences is 10 % which is a total of 2 out of the 15 weekly classes. Students arriving late for the classes are not allowed to enter the class. Being late is counted as an absence. If the number of absences is more than two, the final signature is refused and the student must repeat the course. Students are required to bring the textbook or other study material given out for the course with them to each language class. Active participation is evaluated by the teacher in every class. If students’ behavior or conduct does not meet the requirements of active participation, the teacher may evaluate their participation with a "minus" (-). If a student has 5 minuses, the signature may be refused due to
the lack of active participation in classes.

Testing, evaluation: In each Hungarian language course, students must sit for 2 written language tests and a short minimal oral exam. A further minimum requirement is the knowledge of 200 words per semester announced on the first week. There is a (written or oral) word quiz in the first 5-10 minutes of the class, every week. If a student has 5 or more failed or missed word quizzes he/she has to take a vocabulary exam that includes all 200 words along with the oral exam. The results of word quizzes are added to the average score of the written tests. The oral exam consists of a role-play randomly chosen from a list of situations announced in the beginning of the course. Failing the oral exam results in failing the whole course. The result of the oral exam is added to the average of the mid-term and end-term tests. Based on the final score the signature is refused below 60%. If the final score is below 60, the student once can take an oral remedial exam covering the whole semester’s material.

Consultation classes: In each language course once a week students may attend a consultation class with one of the teachers of that subject in which they can ask their questions and ask for further explanations of the material covered in that week. These classes are optional.

Course book: See the website of the department.

Website: Oral exam topics and vocabulary minimum lists are available from the website of the Department of Foreign Languages: http://ilekt.med.unideb.hu.

Department of Pathology

Subject: PATHOLOGY
Year, Semester: 2nd year/2nd semester
Number of teaching hours:
Lecture: 30

1st week:
Lecture: The general definition of pathology; adaptive reactions of tissues and cells

2nd week:
Lecture: Cell-death: apoptosis, necrosis, and autophagy

3rd week:
Lecture: Inflammation: general properties of inflammatory reactions

4th week:
Lecture: Acute and chronic inflammation: macro- and microscopic features

5th week:
Lecture: Tissue regeneration, reparative reactions; fibrosis and scar formation

6th week:
Lecture: Fluid and hemodynamic disorders.

7th week:
Lecture: Hemorrhage, thrombosis

8th week:
Lecture: Immune pathology I

9th week:
Lecture: Immune pathology II

10th week:
Lecture: Pathology of neoplasia; molecular oncology

11th week:
Lecture: Benign and malignant tumors; macro- and microscopic features; metastasis

12th week:
Lecture: Genetic and environmental aspects of
<table>
<thead>
<tr>
<th>Week</th>
<th>Lecture</th>
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<tbody>
<tr>
<td>13th week</td>
<td>Lecture: Pathology of infectious diseases</td>
</tr>
<tr>
<td>14th week</td>
<td>Lecture: Diseases of bones and joints</td>
</tr>
<tr>
<td>15th week</td>
<td>Lecture: Specific forms of arthritides; pathology of skeletal muscle</td>
</tr>
</tbody>
</table>

**Requirements**

Prerequisites: Cardiorespiratory and Exercise Physiology, Neurophysiology

Attendance at lectures is highly recommended. Written tests will be parts of the curriculum. In the examination period ESE as a written examination has to be taken containing multiple choice questions.
## Academic Program for the 2nd Year

**Department of Physiotherapy, Faculty of Public Health**

**Subject:** APPLIED TRAINING METHODS  
**Year, Semester:** 2nd year/2nd semester  
**Number of teaching hours:**  
Lecture: 15  
Practical: 15

<table>
<thead>
<tr>
<th>Week</th>
<th>Lecture</th>
<th>Practical</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st week</td>
<td>General purposes of movement therapy; definition of fitness, endurance and toughness</td>
<td>Improvement of the skills and coordination</td>
</tr>
<tr>
<td>2nd week</td>
<td>Basics of exercise physiology (repetition)</td>
<td>Types and characteristics of the endurance training</td>
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<tr>
<td>3rd week</td>
<td>Age-dependent characteristics of the endurance</td>
<td>Endurance improving methods</td>
</tr>
<tr>
<td>4th week</td>
<td>Effect of physical load on circulation</td>
<td>Methods for improvement of strength and endurance</td>
</tr>
<tr>
<td>5th week</td>
<td>Static and dynamic strength endurance</td>
<td>Repetition, practice</td>
</tr>
<tr>
<td>6th week</td>
<td>Energetic aspects of the muscle function</td>
<td>Planning criteria of trainings</td>
</tr>
<tr>
<td>7th week</td>
<td>Characteristics of the muscle function</td>
<td>Practical examination</td>
</tr>
<tr>
<td>8th week</td>
<td>Types of the muscle contraction</td>
<td>Practical examination</td>
</tr>
</tbody>
</table>

### Requirements

Prerequisites: Physiology, Cardiorespiratory, and Exercise Physiology
Attendance at lectures is highly recommended, since the topics in examination cover the lectured topics. The attendance at practices is compulsory. The signature of the Lecture Book may be refused if one has more than 4 absences from the practices. If you have an acceptable reason for the absence you may be allowed to take part at the practical hours of another group.

Assessment: the results of the practical and theoretical examinations will be averaged as a five-graded term mark according to the scale: pass (2) for 60%-69%; satisfactory (3) for 70%-79%; good (4) for 80%-89%; excellent (5) for 90%-100%.

The term mark may be improved once in the first 3 weeks of the examination period.

Subject: DIETETICS
Year, Semester: 2nd year/2nd semester
Number of teaching hours:
Lecture: 15
Practical: 15

1st week:
Lecture: Introduction to dietetic nutrition; basic definitions; energy and food requirements; nutrients (proteins, fats, carbohydrates; vitamins, minerals); characteristics for the nutrition of the Hungarian population; principles of the healthy nutrition; food pyramid

2nd week:
Practical: Calculation of the energy and nutrient content of foods

3rd week:
Lecture: Food product knowledge; cereals; vegetables, fruits, milk products; meats, fats, oils, sweets, drinks – their importance in the nutrition physiology; undernourishment and its consequences

4th week:
Practical: Kitchen technologies for health prevention

5th week:
Lecture: Metabolic syndrome, its dietetic treatment
Self-control Test

6th week:
Practical: Diet in obesity and diabetes mellitus

7th week:
Lecture: Diet in pregnancy and lactation

8th week:
Practical: Construction and evaluation of a health protective diet

9th week:
Lecture: Diet in osteoporosis

10th week:
Practical: Possibilities of roboration, practical application

11th week:
Lecture: Diet in diseases in the movement system

12th week:
Practical: Dietetic treatment of osteoporosis

13th week:
Lecture: Vegetarian diets

14th week:
Practical: Patient health education

15th week:
Lecture: Consultation
Practical: Practice exam

Requirements
Prerequisites: General Principles of Patient Care and Nursing, Physiology
Attendance at lectures is highly recommended, since the topics in examination cover the lectured topics. Attendance at practical hours is compulsory. The grade of ESE will be determined on the basis of practice exam and written ESE exam.

Subject: ELECTRO-, BALNEO-, HYDRO-, AND CLIMATOTHERAPY
Year, Semester: 2nd year/2nd semester
Number of teaching hours:
Lecture: 15
Practical: 15

1st week:
Lecture: Definition, classification and history of physiotherapy. Physical and biological bases of electrotherapy
Practical: Technical conditions of physical therapy; security considerations

2nd week:
Lecture: Basic physical definitions (electric current, current source; conductors, isolators; types of current etc). Effects of electric current; electrotherapy with low frequency: instruments, electrode, dosage
Practical: Technical processing of physicotherapeutic interventions; low frequency devices

3rd week:
Lecture: Physicochemical and biological effects of Galvan currents, clinical application; indications and contra-indications
Practical: Components of the low frequency devices; types of electrodes; contact material; methods of application

4th week:
Lecture: Special Galvan treatments (Kowarschik, Bourgignon, Bergonier, Riesz methods)
Practical: Special Galvan treatments

5th week:
Lecture: Iontophoresis, mode of action, types and dosage of the iontophoresis, indications and contra-indications, Riesz methods
Practical: Iontopheretic treatments

Self-control Test

6th week:
Lecture: Lidocain iontophoresis, indications and contraindications; malpractice and side effects. Transcutaneous Electrical Nerve Stimulation (TENS)
Practical: Lidocain iontophoresis, indications and contraindications, TENS treatments

7th week:
Lecture: Bernard's diadynamic currents; middle frequency electrotherapy; symptomatic treatment with interference current
Practical: Demonstration and practice of diadynamic electrotherapy; demonstration of interference current method

8th week:
Lecture: High frequency electrotherapy (shortwave, decimeter wave and microwave therapies) and magneto therapy (devices, therapeutic principles, practical application)
Practical: Demonstration of the high frequency treatment; treatment of the patients with ultrasound and magnetic field

9th week:
Lecture: Phototherapy (laser, UV light and infrared therapy, polarized light therapy); ultrasonic therapy
Practical: infrared, laser and polarized light therapy; ultrasonic therapy, hydrotherapy unit of the Spa

10th week:
Lecture: Hydro-, and thermotherapy
Practical: Visit in the hydrotherapy unit of the SPA

Self-control Test

11th week:
Lecture: Balneotherapy, mudpacks, effects of medicinal waters
Practical: Visit in Spa
12th week:
Lecture: Weight bathing; carbondioxide bath therapy, hydro-massage
Practical: Visit in the hydrotherapy unit of the Spa

13th week:
Lecture: Selective stimulus current treatment

14th week:
Lecture: Climate therapy, cave therapy, inhalation
Practical: Inhalation: demonstration and practice

Requirements
Prerequisite: Biophysics, Cardiorespiratory and Exercise Physiology, Neurophysiology

Attendance at lectures is highly recommended, since the topics in examination cover the lectured topics. The attendance at practices is compulsory. The signature of the Lecture Book may be refused if one has more than 4-hour absences from the practices. If you have an acceptable reason for the absence you may be allowed to take part at the practical hours of another group (if there is). To have signature in the Lecture Book and to pass the practical exam are the conditions for the acquirement of the ESE mark.

Assessment: the results of the midterm tests and practical examination will be averaged as an offered five-graded ESE mark according to the scale: pass (2) for 50%-62%; satisfactory (3) for 63%-74%; good (4) for 75%-87%; excellent (5) for 88%-100%. If you failed in the midterm examinations, you are allowed to sit for the End of Semester Exam in the examination period.

The topics cover all of the theoretical knowledge lectured during the semester.

Subject: INTERNAL MEDICINE FOR PHYSIOTHERAPISTS I
Year, Semester: 2nd year/2nd semester
Number of teaching hours:
Lecture: 30
Seminar: 15

1st week:
Lecture: Short history of the internal medicine; case history; physical examinations; laboratory and other diagnostic methods; diagnosis; medical documentation

2nd week:
Lecture: Complaints and symptoms in the cardiovascular diseases; physical and instrumental examinations in the cardiovascular diseases; disorders of the cardiac valves; diseases of the endocardium and pericardium; cardiac asthma; cor pulmonale
Seminar:

3rd week:
Lecture: Systolic and diastolic dysfunctions; cardiac decompensation; cardiogenic shock; angina pectoris, myocardial infarct; emergency treatment of myocardial infarct; arterial and venous thrombosis; pulmonary embolism; disorders of the impulse generation and conduction in the heart; atrial fibrillation; ventricular fibrillation
Seminar: Cardiology II (cardiac decompensation; cardiogenic shock; angina pectoris, myocardial infarct; emergency treatment of myocardial infarct; arterial and venous thrombosis; pulmonary embolism; disorders of the impulse generation and conduction in the heart)

4th week:
Lecture: Reasons, diagnosis and treatment of hypertension; emergency supply in hypertension crisis; thromboembolisms (arterial and venous). Sudden black-out; acute chest pain; sudden cardiac death. Reasons, symptoms and treatment of stroke; reasons; diagnostics and emergency
<table>
<thead>
<tr>
<th>Week</th>
<th>Lecture</th>
<th>Seminar</th>
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<tbody>
<tr>
<td>5th</td>
<td>Anemias, polyglobulia, polycythemia; agranulocytosis; leukaemias; lymphomas; precancerous states; diagnostics and treatment in malignant diseases</td>
<td>Reasons, diagnosis and treatment of hypotension; emergency supply in hypotension crisis; thromboembolisms (arterial and venous) supply of coma</td>
</tr>
<tr>
<td>6th</td>
<td>Gout; hyperlipidemias; pathogenesis and complications of arteriosclerosis; immune deficient states; allergic diseases; physical and instrumental examinations in the autoimmune diseases; autoimmune diseases</td>
<td>Anemias, polyglobulia, polycythemia; agranulocytosis; leukaemias; lymphomas; precancerous states; diagnostics and treatment in malignant diseases</td>
</tr>
<tr>
<td>7th</td>
<td>Physical and laboratory examinations in the infectious diseases; viral and bacterial infections. Physical and instrumental examinations in the respiratory diseases; infections of the upper airways; pneumonias; bronchitis</td>
<td>Pulmonary tuberculosis; pulmonary tumors; pleural diseases; bronchial asthma; emphysema; respiratory insufficiency</td>
</tr>
<tr>
<td>8th</td>
<td>Pulmonary tuberculosis; pulmonary tumors; pleural diseases; bronchial asthma; emphysema; respiratory insufficiency</td>
<td>Pulmonary tuberculosis; pulmonary tumors; pleural diseases; bronchial asthma; emphysema; respiratory insufficiency</td>
</tr>
<tr>
<td>9th</td>
<td>Diseases of the oral cavity, the esophagus and the stomach; intestinal diseases; acute gastrointestinal bleeding; emergency interventions in acute gastrointestinal hemorrhage</td>
<td>Diseases of the oral cavity, the esophagus and the stomach; intestinal diseases; acute gastrointestinal bleeding; emergency interventions in acute gastrointestinal hemorrhage</td>
</tr>
<tr>
<td>10th</td>
<td>Parenchymal disorders in the liver; jaundices; hepatic inflammations; hepatic cirrhosis; abscess and tumors in the liver. Diseases of the gall bladder and hepatic ducts; gall stone; peritonitis; acute and chronic pancreatitis; pancreatic tumors</td>
<td>Gastroenterology (acute gastrointestinal bleeding; emergency interventions in acute gastrointestinal hemorrhage, parenchymal disorders in the liver; jaundices; hepatic inflammations; hepatic cirrhosis)</td>
</tr>
<tr>
<td>11th</td>
<td>Bacterial infections of the urogenital system; renal diseases with immunopathogenic origin; glomerulonephritises. Acute and chronic renal insufficiency; dialysis</td>
<td>Bacterial infections of the urogenital system; acute and chronic renal insufficiency; dialysis</td>
</tr>
<tr>
<td>12th</td>
<td>Diseases of the thyroid gland; hyper- and hypothyroidism; tumors in the thyroid gland; diseases of the parathyroid gland; hyperparathyroidism; diseases of the adrenal medulla and cortex; pheochromocytoma; Addison disease</td>
<td>Diseases of the thyroid gland; hyper- and hypothyroidism; diseases of the adrenal medulla and cortex</td>
</tr>
<tr>
<td>13th</td>
<td>Diabetes mellitus type 1 and type 2. Complications of diabetes mellitus; hyper- and hypoglycemic coma; pathologic leanness and obesity; deficiency diseases (hypo- and avitaminoses)</td>
<td>Diabetes mellitus type 1 and type 2. Complications of diabetes mellitus; hyper- and hypoglycemic coma; pathologic leanness and obesity</td>
</tr>
<tr>
<td>14th</td>
<td>Hematologic disorders, haemophilia, thrombophilia</td>
<td>Hematologic disorders (anemias; agranulocytosis; leukaemias; lymphomas; haemophilia)</td>
</tr>
<tr>
<td>15th</td>
<td>Consultation</td>
<td>Consultation</td>
</tr>
</tbody>
</table>
Requirements

Prerequisite: Physiology, Introduction to Clinical Medicine.

The attendance at lectures is highly recommended, the attendance at seminars is compulsory. More than 4-hour absence at the seminars will lead to refusal of signature.

Subject: INTERNAL MEDICINE FOR PHYSIOTHERAPISTS II
Year, Semester: 2nd year/2nd semester
Number of teaching hours:
Lecture: 15
Seminar: 20
Practical: 10

1st week:
Lecture: Structure and function of the respiratory system (respiratory organs, respiratory muscles) – repetition
Seminar: Examination of patients, process of examination

2nd week:
Lecture: Gas exchange in the lungs; regulation of breathing – repetition
Practical: Examination of patients, process of examination

3rd week:
Lecture: Classification of pulmonary diseases
Seminar: Expectoration techniques; percussion and vibration of the chest; aerosol therapy, postural drainage; indications and contraindications

4th week:
Lecture: Restrictive pulmonary diseases I (pneumonia)
Seminar: Active expectorant techniques (active periodic breathing, forced expiratory techniques, autogenic drainage)

5th week:
Lecture: Restrictive pulmonary diseases II (pleuritis)
Seminar: Positive expiratory pressure techniques (flutter, PEP mask)

6th week:
Lecture: Restrictive pulmonary diseases III (pulmonary abscess, empyema)

Seminar: Rules, effects and contra-indications of the manual treatment of the chest

7th week:
Lecture: Obstructive diseases of the airways I (chronic bronchitis, emphysema)
Practical: Manual mobilization of the chest (demonstration)

8th week:
Lecture: Obstructive diseases of the airways II (bronchial asthma)
Practical: Manual mobilization of the chest (practice)

9th week:
Lecture: Mucoviscidosis (cystic fibrosis)
Seminar: Methods for strengthening the respiratory muscles (breathing exercises, exercises against resistance, inspiratory muscle training)

10th week:
Lecture: Surgical interventions on the chest
Seminar: Pre- and postoperative treatments of the patients

11th week:
Lecture: Respiratory insufficiency
Seminar: Prevention and treatment of postoperative respiratory insufficiency with physiotherapeutic methods

12th week:
Lecture: Pulmonary manifestation of cardiovascular diseases
Seminar: Training program for patients with pulmonary diseases (principles)

13th week:
Lecture: Complex rehabilitation in COPD
Seminar: Summary of the movement program in COPD

14th week:
Lecture: Repetition
Practical: Practice

15th week:
Lecture: Consultation
Practical: Practical examination

Requirements
Prerequisite: Cardiorespiratory and Exercise Physiology, Introduction to Clinical Medicine
Attendance at lectures is highly recommended, since the topics in examination cover the lectured topics. The attendance at seminars and practices is compulsory. The signature of the Lecture Book may be refused if one has more than 4-hour absences from the seminar and practical hours. Signature in the Lecture Book and passing the midterm practical exam are the conditions for the end of semester examination.

Subject: KINESIOLOGY
Year, Semester: 2nd year/2nd semester
Number of teaching hours:

1st week:
Topics
1. Analysis (structure, stability and mobility) and examination of the pelvic motions in physiological and pathological states. Explain the types of displacement: translator and rotatory motions.
2. Analysis (structure, stability and mobility) and examination of the lumbar spine in physiological and pathological states. Explain the characteristics of the first class lever system.
3. Analysis (structure, stability and mobility) and examination of the thoracic spine and chest in physiological and pathological states. Explain the characteristics of the second class lever system.
4. Analysis (structure, stability and mobility) and examination of the cervical spine in physiological and pathological states. Explain the characteristics of the third class lever system.
5. Analysis (structure, stability and mobility) and examination of the shoulder complex in physiological and pathological states. Describe the movements during the change in the length of the force arm of the lever.
6. Analysis (structure, stability and mobility) and examination of the shoulder complex (scapulo-thoracic functional connection, sterno-clavicular and acromio-clavicular joints) in physiological and pathological states. Describe the movements during the change in the length of the resistance arm of the lever.
7. Analysis (structure, stability and mobility) and examination of the shoulder complex (gleno-humeral joint) in physiological and pathological states – instability. Describe the movements during the change in the length of the effort arm of the lever.
8. Analysis (structure, stability and mobility) and examination of the shoulder complex (gleno-humeral joint) in physiological and pathological states – muscle dysfunction. Describe the translator and rotatory effects of the force components.
9. Analysis (structure, stability and mobility) and examination of the elbow complex (humero-ulnar and humero-radial joints) in physiological and pathological states. Describe the synovial joints.
10. Analysis (structure, stability and mobility) and examination of the elbow complex (superior
radio-ulnar joint and radio-ulnar synostosis) in physiological and pathological states. Describe the open kinematic chain.

11. Analysis (structure, stability and mobility) and examination of the wrist complex in physiological and pathological states. Describe the closed kinematic chain.

12. Analysis (structure, stability and mobility) and examination of the ankle complex and arches of the foot in physiological and pathological states. Explain the arthro-kinematical rolling.

13. Analysis (structure, stability and mobility) and examination of the subtalar and foot complex in physiological and pathological states. Explain the arthro-kinematical sliding.

14. Analysis (structure, stability and mobility) and examination of the knee complex in physiological and pathological states-instability. Describe the convex-concave rule and give examples on the upper extremities.

15. Analysis (structure, stability and mobility) and examination of the knee complex in physiological and pathological states – dysfunction of the menisci. Describe the convex-concave rule and give examples on the lower extremities.

16. Analysis (structure, stability and mobility) and examination of the hip complex in physiological and pathological states-joint dysfunction. Describe the lumbar-pelvic-hip rhythm in a closed kinematic chain.

17. Analysis (structure, stability and mobility) and examination of the hip complex in physiological and pathological states-muscle dysfunction. Describe the lumbar-pelvic-hip rhythm in an open kinematic chain.

18. Analysis and examination of the physiological angles and their changed conditions. Describe the close- and loose-packed positions.

19. Kinematical analysis of the locomotion, functions and importance of the foot. Regulation of locomotion. Describe the physiological and pathological end-feels.

20. Analysis and examination of the locomotion. What covers the active and passive insufficiency?

21. Types of pathological gait, background, consequences and examinations. Describe the types of muscular activity.

Requirements

Pre-requisite for taking comprehensive exam is to absolve the Kinesiology I and II subjects.

It is recommended to take the examination at the end of the 4th semester, the date should not be later than the end of the 6th semester. The components of the comprehensive exam are the written and oral examinations. To pass the written part is an obligatory condition to take the oral examination.

Subject: KINESIOLOGY CLINICAL PRACTICE
Year, Semester: 2nd year/2nd semester
Number of teaching hours:
Practical: 80

1st week:
Practical: Observation and examination of the posture; inspection and analysis of position and movements of the joints; palpation of the bones and soft tissues in the articulations; measurement of the range of the active and passive motions in the joints of the spinal column and extremities; analysis of movement in functional units; measurement of the muscle strength, determination of the closed and open position of the joints; investigation of the reason of dysfunction in the Cyriax's system; determination of the origin of the pain; observation of the locomotion; inspection and analysis of physiological and pathological patterns of the locomotion.
ACADEMIC PROGRAM FOR THE 2ND YEAR

Requirements

Prerequisite: Kinesiology II

Educational objective: The aim of the practice is to deepen the theoretical knowledge in clinical circumstances, to get experience in the investigation of normal and pathological movement.

To take part in the clinical practice in kinesiology is criteria for the certificate of completion (absolutorium). You accept a signature in the Lecture Book, if you fulfill the requirements detailed in the Practice Lecture Book. The students are required to know: the observation and palpation of the movement system; measurement methods of the active and passive, isotonic and isometric movements; the most frequent special and functional tests in the examination of the movement system; the evaluation of subjective and objective findings, discover the origin of dysfunctions.

Subject: MOBILIZATION-MANUAL TECHNIQUES I
Year, Semester: 2nd year/2nd semester
Number of teaching hours:
Lecture: 10
Seminar: 15
Practical: 90

1st week:
Lecture: PNF: Definition and history of the proprioceptive neuromuscular facilitation (PNF)
Seminar: Introduction to the classical Swedish massage. History and development of the massage therapy; position of massage in the physiotherapeutic methodical tools; classification of massage methods; conditions of application; theoretical basis, mode of action, application fields, indications and contraindications of Swedish massage.
Practical: (1) Massage: examination of patient, palpation of subcutaneous connective tissue, blood vessels, lymph nodes, muscles, tendons and insertions of tendons; (2) Passive mobilization: goals, principles, rules of application. (3) Stretching: theoretical basis, definitions. (4) PNF I: Introduction to the PNF. Basic positions of the PNF

2nd week:
Lecture: PNF: Basic procedures of the PNF. Specific treatment goals
Seminar: Massage: basic techniques in Swedish massage; special, complementary techniques; theoretical knowledge of Swedish massage treatment of the back, the neck-shoulder girdle region, chest and abdomen

3rd week:
Lecture: PNF: Fundamentals of the patterns, assessment, manual contact, resistant
Practical: (1) Massage: palpation of the muscles in the neck-shoulder girdle complex; qualitative evaluation of the muscular tone; Swedish massage treatment of the neck-shoulder girdle region (2) Passive mobilization: passive mobilization of the lumbar and thoracic spine (3) Stretching: stretching of the contracture-predisposed muscles of the upper limb: upper part of the trapezius muscle, levator muscle of the scapula (4) PNF I: scapula patterns: anterior elevation, posterior depression, anterior depression, posterior elevation

4th week:
Lecture: Stretching: Definitions, theoretical elements of stretching
Practical: (1) Massage: Swedish massage treatment of the chest; expectoration of the
bronchial secretion by percussion and vibration; support of thoracic breathing by intermittent intervention; Swedish massage treatment of the abdomen; Swedish massage treatment of the face; treatment of scars (2) Passive mobilization: passive mobilization of the scapulae (3) Stretching: stretching techniques for latissimus dorsi and teres maior muscles (4) PNF I: pelvis patterns: anterior elevation, posterior depression, anterior depression, posterior elevation

5th week:
Lecture: Passive mobilization: general purposes of the passive mobilization, theoretical elements of passive mobilization
Seminar: Massage: Theoretical knowledge of Swedish massage treatment of the lumbar-gluteal region and lower limb
Practical: (1) Massage: Swedish massage treatment of the lumbo-gluteal region; Swedish massage treatment of the lower limb (2) Passive mobilization: passive mobilization of the shoulder (3) Stretching: stretching techniques for major and minor pectoral muscles (4) PNF I: arm patterns; flexion-adduction-external rotation; extension-adduction-internal rotation

6th week:
Seminar: Massage: types of the reflex zone massage: segment massage, connective tissue and periosteal massage; segmentation of the human body, segmental innervation of the organs and tissues; physiological basis of the segment massage; patterns of the referring pain; viscera-cutaneous and viscera-muscular reflex pathways; definition of the Head and McKenzie zones; hyper algetic dermatomes and spasms; painful myotomes
Practical: (1) Massage: examination of Head and McKenzie zones (2) Passive mobilization: passive mobilization of the elbow (3) Stretching: stretching techniques for biceps brachii, brachioradial and brachial muscles (4) PNF I: arm patterns; flexion-adduction-external rotation with elbow flexion and extension; extension-adduction-internal rotation with elbow flexion and extension

7th week:
Seminar: Massage: the aim and application fields of the segment massage, duration, techniques
Practical: (1) Massage: preceding examinations of the patients; structure of the segment massage; practicing techniques (2) Passive mobilization: passive mobilization of the wrist and hand joints (3) Stretching: stretching of the triceps brachii, pronator teres and palmaris longus muscles (4) PNF I: arm patterns; flexion-adduction-external rotation; extension-adduction-internal rotation

8th week:
Practical: (1) Massage: special maneuvers; segment treatment; rules of the segment massage; importance of the maximal points, their mapping; segment massage treatment of the heart and the lungs (2) Passive mobilization: passive mobilization of the hip joints (3) Stretching: repetition of the stretching methods applied on the upper extremities (4) PNF I: arm patterns; flexion-adduction-external rotation with elbow flexion and extension; extension-adduction-internal rotation with elbow flexion and extension

9th week:
Practical: (1) Massage: segment massage treatment of the stomach, the liver and gallbladder (2) Passive mobilization: passive mobilization of the knee (3) Stretching: stretching of the contracture-predisposed muscles of the lower limb: iliopsoas, rectus femoris muscles and ischiocrural group (4) PNF I: leg patterns; flexion-adduction-external rotation; extension-adduction-external rotation

10th week:
Seminar: Seminar: Massage: morphological and physiological bases of the connective tissue massage; examination of the connective tissue zones; techniques of the connective tissue massage; analysis of the right and false techniques; reflex displacement caused by false technique; structure, dosage, indication and contraindication of connective tissue massage
Practical: (1) Massage: examination of patient, practicing techniques of the connective tissue massage (2) Passive mobilization: passive mobilization of the ankle and toe joints (3) Stretching: stretching techniques for the adductor group of muscles and tensor fasciae latae muscle (4) PNF I: leg patterns; flexion-adduction-internal
rotation with knee flexion and extension; extension-adduction-external rotation with knee flexion and extension

11th week:
Seminar: Massage: theoretical knowledge of the connective tissue massage treatment of the pelvis, trunk, scapula, chest, upper limbs and lower limbs
Practical: (1) Massage: practice of the pelvis techniques; treatment of the trunk (2) Passive mobilization: positioning techniques (3) Stretching: stretching techniques for the triceps surae and adductor hallucis muscles (4) PNF I: leg patterns; flexion-adduction-external rotation; extension-abduction-internal rotation

12th week:
Practical: (1) Massage: lateral trunk pattern; treatment of the scapula; treatment of the chest; patterns for upper limbs; mobilization techniques (2) Passive mobilization: mobilization techniques (3) Stretching: summary, practice (4) PNF I: leg patterns; flexion-adduction-external rotation with knee flexion and extension; extension-abduction-internal rotation with knee flexion and extension

13th week:
Seminar: Summary
Practical: (1) Massage: treatment of the abdomen and gluteal region; patterns for the lower extremities; repetition (2) Passive mobilization: repetition, practice (3) Stretching: repetition, practice (4) PNF I: repetition, practice

14th week:

15th week:

Requirements
Prerequisites: Kinesiology II, Neurophysiology

Attendance at practices is compulsory. If you missed more than 2 practices per modules, the signature may be refused. Examination: The term mark consists of 2 components in each module: (1) theoretical and (2) practical knowledge will be assessed at the end of the semester. The grades of the modules will be averaged and will be determined as the final grade. If any of the partial grades is/are “fail”, the final grade is “fail”. You have a chance to improve the unsuccessful part(s) once in the examination period not later than the end of the third week.

Subject: RESPIRATORY REHABILITATION CLINICAL PRACTICE
Year, Semester: 2nd year/2nd semester
Number of teaching hours:
Practical: 80

1st week:
Practical: Investigation of patient; instrumental diagnostic procedures; monitoring; evaluation and discussion of findings; practice of expectorant techniques; movement therapy in the pre- and postoperative physiotherapy; cardio-respiratory reactions to physical exercise; training protocols applied in the cardio-respiratory diseases

Requirements
Prerequisite: Internal Medicine for Physiotherapists II

Educational objective The aim of the practice is to deepen the theoretical knowledge in clinical
circumstances, to get experience in the investigation and physiotherapeutic treatment of patient. To take part in the clinical practice in internal medicine is a criterion for the Certificate of Completion (absolutorium). You accept a signature in the Lecture Book, if you fulfil the requirements detailed in the Practice Lecture Book. The students are required to know the examination of patients; to observe the respiration, to process the expectoration; to evaluate the cardiorespiratory reactions to physical exercise, and to perform the movement training program under the control of supervisor.

Division of Radiology and Imaging Science

Subject: RADIOLOGY AND DIAGNOSTIC IMAGING
Year, Semester: 2nd year/2nd semester
Number of teaching hours:
Practical: 15

1st week:
Practical: Introduction the X-ray laboratory

2nd week:
Practical: Overview of radiological methods: conventional X-ray methods, ultrasound, CT, MRI, functional examinations

3rd week:
Practical: Basic pathological disorders of bones and joints; developmental variations and anomalies

4th week:
Practical: Inflammatory diseases of bones and joints; aseptic necrosis; diseases of movement system with endocrine origin

5th week:
Practical: Benign and malign tumors of bones; disorders of bones in the diseases of hemopoetic system

6th week:
Practical: Radiology of traumatology

7th week:
Practical: Radiological diagnostics of spinal degenerative disorders; tumors and inflammation of spinal column and spinal canal

8th week:
Practical: Practice exam
Requirements

Prerequisites: Biophysics, Anatomy II

Attendance at practices is compulsory. If you have more than 1 absence the course coordinator refuses the signature in the Lecture Book.

The term mark will be given based on your scores in the end-semester test.
CHAPTER 11

ACADEMIC PROGRAM FOR THE 3RD YEAR

Department of Foreign Languages

Subject: PROFESSIONAL HUNGARIAN LANGUAGE II
Year, Semester: 3rd year/1st semester
Number of teaching hours:
Practical: 45

<table>
<thead>
<tr>
<th>Week</th>
<th>Topic</th>
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<tbody>
<tr>
<td>1st week</td>
<td>Practical: Pretest.</td>
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<tr>
<td>2nd week</td>
<td>Practical: Revision: Verb conjugation overview.</td>
</tr>
<tr>
<td>3rd week</td>
<td>Practical: Body parts and movements of the upper extremities</td>
</tr>
<tr>
<td>4th week</td>
<td>Practical: Body parts and movements of the lower extremities</td>
</tr>
<tr>
<td>5th week</td>
<td>Practical: History taking – Personal data</td>
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<tr>
<td>6th week</td>
<td>Practical: Taking social history</td>
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<tr>
<td>7th week</td>
<td>Practical: Revision.</td>
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<tr>
<td>8th week</td>
<td>Practical: Mid-term test.</td>
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<tr>
<td>9th week</td>
<td>Practical: Complaints, pain</td>
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<tr>
<td>10th week</td>
<td>Practical: Diseases</td>
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<tr>
<td>11th week</td>
<td>Practical: Giving advice</td>
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<tr>
<td>12th week</td>
<td>Practical: Patient/client-related instructions</td>
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<tr>
<td>13th week</td>
<td>Practical: Revision</td>
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<tr>
<td>14th week</td>
<td>Practical: End-term test</td>
</tr>
<tr>
<td>15th week</td>
<td>Practical: Assessment, evaluation</td>
</tr>
</tbody>
</table>

Requirements

Prerequisite. Professional Hungarian Language I

Attendance: Language class attendance is compulsory. The maximum percentage of allowable absences is 10 % which is a total of 2 out of the 15 weekly classes. Students arriving late for the classes are not allowed to enter the class. Being late is counted as an absence. If the number of absences is more than two, the final signature is refused and the student must repeat the course. Students are required to bring the textbook or other study material given out for the course with them to each language class. Active participation is evaluated by the teacher in every class. If students’ behavior or conduct does not meet the requirements of active participation, the teacher may evaluate their participation with a "minus" (-). If a student has 5 minuses, the signature may be refused due to the lack of active participation in classes.

Testing, evaluation: In each Hungarian language course, students must sit for 2 written language tests
and a short minimal oral exam. A further minimum requirement is the knowledge of 200 words per semester announced on the first week. There is a (written or oral) word quiz in the first 5-10 minutes of the class, every week. If a student has 5 or more failed or missed word quizzes he/she has to take a vocabulary exam that includes all 200 words along with the oral exam. The results of word quizzes are added to the average score of the written tests. The oral exam consists of a role-play randomly chosen from a list of situations announced in the beginning of the course. Failing the oral exam results in failing the whole course. The result of the oral exam is added to the average of the mid-term and end-term tests. Based on the final score the signature is refused below 60%. If the final score is below 60, the student once can take an oral remedial exam covering the whole semester’s material.

Consultation classes: In each language course once a week students may attend a consultation class with one of the teachers of that subject in which they can ask their questions and ask for further explanations of the material covered in that week. These classes are optional.

Course book: See the website of the department.

Website: Oral exam topics and vocabulary minimum lists are available from the website of the Department of Foreign Languages: http://ilekt.med.unideb.hu.

### Department of Pharmacology and Pharmacotheraphy

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

<table>
<thead>
<tr>
<th>1st week:</th>
<th>7th week:</th>
<th>8th week:</th>
<th>9th week:</th>
<th>10th week:</th>
<th>11th week:</th>
<th>12th week:</th>
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<tbody>
<tr>
<td>2nd week:</td>
<td>3rd week:</td>
<td>4th week:</td>
<td>5th week:</td>
<td>6th week:</td>
<td>11th week:</td>
<td>12th week:</td>
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<tr>
<td>Lecture: Introduction to general pharmacology: pharmacokinetics and pharmacodynamics</td>
<td>Lecture: Chemical mediators and the autonomic nervous system. Cholinergic transmission. Effects of drugs on cholinergic transmission</td>
<td>Lecture: Noradrenergic transmission and other peripheral mediators</td>
<td>Lecture: The heart. Drugs that affect cardiac function</td>
<td>Lecture: The vascular system. Atherosclerosis and lipoprotein metabolism</td>
<td>Lecture: Pharmacology of CNS drugs (transmitters and modulators, neurodegenerative disorders, general anaesthetic agents, anxiolytic and hypnotic drugs)</td>
<td>Lecture: Pharmacology of CNS Drugs (antipsychotic drugs, drugs used in affective disorders, antiepileptic drugs, CNS stimulants and psychotomimetic drugs)</td>
</tr>
</tbody>
</table>
13th week:
Lecture: Analgesic drugs, local anaesthetics, anti-inflammatory drugs

14th week:
Lecture: Muscle relaxants

15th week:
Lecture: Consultation

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

Department of Physiotherapy, Faculty of Public Health
Subject: INTERNAL MEDICINE FOR PHYSIOTHERAPISTS III
Year, Semester: 3rd year/1st semester
Number of teaching hours:
Lecture: 15
Seminar: 15
Practical: 30

1st week:
Lecture: Blood vessels, lymphatic circulation (repetition)
Seminar: Principles of examination
Practical: Examination of patients suffering from peripheral circulatory disorders

2nd week:
Lecture: Physiotherapeutic methods in angiology
Seminar: Functional examinations of the arteries and veins, special tests. Discussion
Practical: Functional examinations of the arteries and veins, special tests. Practice

3rd week:
Lecture: Acute and chronic diseases of the arteries
Seminar: Discussion of physiotherapeutic procedures
Practical: Physiotherapeutic treatment in arterial diseases (Fontaine stage I and II)

4th week:
Lecture: Role of the movement therapy in the treatment of arterial diseases
Seminar: Discussion of the lectured topics
Practical: Physiotherapeutic treatment of arterial diseases (Fontaine stage III and IV)

5th week:
Lecture: Diseases of the venous system
Seminar: Physiotherapy in the acute venous diseases. Discussion
Practical: Physiotherapy in the acute venous diseases. Practice

6th week:
Lecture: Role of the movement therapy in the treatment of venous diseases
Seminar: Methods of physiotherapy in the chronic venous diseases
Practical: Chronic diseases of the veins, special exercises directed to veins

7th week:
Lecture: Causes and symptoms of the lymphedema, components of the complex treatment
Seminar: Physiotherapy of the lymphedema
Practical: Lymph drainage
## 8th week:
Lecture: Vascular aspects of the tunnel syndromes in the shoulder region, process of the examinations
Seminar: Treatment of the tunnel syndromes by physiotherapeutic methods. Discussion
Practical: Treatment of the tunnel syndromes by physiotherapeutic methods. Practice
**Self-control Test**

## 9th week:
Lecture: Cardiological rehabilitation; aims and tasks for physiotherapy in the acute, convalescent and post convalescent stages
Seminar: Task and role of physiotherapist in cardiological rehabilitation
Practical: Methods of physiotherapy

## 10th week:
Lecture: Cardiovascular rehabilitation: movement therapy in the acute stage
Seminar: Acute myocardial infarct. Physiotherapy in the post infarct stage (early mobilization)
Practical: Physiotherapy in the post infarct stage (early mobilization)

## 11th week:
Lecture: Cardiovascular rehabilitation: risk stratification, determination of the training pulse rate, absolute and relative contraindications of the training
Seminar: Principles of physiotherapy after myocardial infarct
Practical: Training after acute myocardial infarct

## 12th week:
Lecture: Principles of pre- and postoperative treatment after chest (cardiac) surgical interventions
Seminar: Pre- and postoperative movement therapy for heart-operated patients. Discussion
Practical: Pre- and postoperative movement therapy for heart-operated patients. Practice

## 13th week:
Lecture: Significance of the movement therapy in the treatment of cardiovascular complications in hypertension, diabetes mellitus, and obesity
Seminar: Physiotherapy for patients suffering from hypertension. Discussion
Practical: Physiotherapy for patients suffering from hypertension. Practice

## 14th week:
Lecture: Summary, repetition
Seminar: Physiotherapy for patients suffering from diabetes mellitus and obesity. Discussion
Practical: Physiotherapy for patients suffering from diabetes mellitus and obesity. Practice

## 15th week:
Lecture: Closing remarks
Seminar: Closing remarks
Practical: Practical examination
**Self-control Test**

### Requirements

Prerequisite: Internal Medicine for Physiotherapists II

Attendance at lectures is highly recommended, since the topics in examination cover the lectured topics. The attendance at seminars and practices is compulsory. The signature of the Lecture Book may be refused if one has more than 4-hour absences from the seminar and practical hours. Signature in the Lecture Book and passing the practical exam are the conditions for the end of semester examination.

The grade of ESE will be offered on the basis of the scores in the midterm theoretical examinations and the practical exam. You have chance to improve the mark during the examination period taking ESE.

A 15-hour clinical demonstration completes the practices.
Subject: MOBILIZATION-MANUAL TECHNIQUES II  
Year, Semester: 3rd year/1st semester  
Number of teaching hours: 
Practical: 90

<table>
<thead>
<tr>
<th>Week</th>
<th>Practical Activities</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1st week</strong></td>
<td>Practical: (1) Soft tissue mobilization: the position of the soft tissue mobilization in the physiotherapeutic tool; indications, contraindications and treatment principles; palpation of the soft tissues (2) Joint mobilization: Biomechanical basics to joint structure and function (3) PNF II: Neck patterns: flexion-left lateral flexion-left rotation; extension-right lateral flexion-right rotation</td>
</tr>
<tr>
<td><strong>2nd week</strong></td>
<td>Practical: (1) Soft tissue mobilization: Mobilization techniques for the neck-shoulder girdle region (2) Joint mobilization: Convex-concave basic rule, arthrokineamtic motions in the upper extremities (3) PNF II: Trunk patterns: chopping, lifting</td>
</tr>
<tr>
<td><strong>3rd week</strong></td>
<td>Practical: (1) Soft tissue mobilization: Mobilization techniques applied at the dorsal, ventral and lateral sides of the chest (2) Joint mobilization: Convex-concave basic rule, arthrokineamtic motions in the lower extremities (3) PNF II: Combined patterns for the trunk</td>
</tr>
<tr>
<td><strong>4th week</strong></td>
<td>Practical: (1) Soft tissue mobilization: Mobilization techniques for the lumbar and pelvic girdle region; indications and contraindications (2) Joint mobilization: Traction and mobilization of the shoulder complex: sterno-clavicular-, acromio-clavicular joints and scapulo-thoracic functional attachment. Test and therapy (3) PNF II: Combined patterns for the trunk</td>
</tr>
<tr>
<td><strong>5th week</strong></td>
<td>Practical: (1) Soft tissue mobilization: Definition and position of deep massage technique in the mobilization techniques; indications and contraindications (2) Joint mobilization: The ankle and foot complex: traction and mobilization of the ankle, subtalar and transverse tarsal joints. Test and therapy (3) PNF II: Specific techniques: rhythmic stabilization, reversed stabilization</td>
</tr>
<tr>
<td><strong>6th week</strong></td>
<td>Practical: (1) Soft tissue mobilization: Mobilization techniques for the lower limbs; indications and contraindications (2) Joint mobilization: The elbow complex. Traction, ulnar-radial sliding and mobilization of the humero-ulnar and humero-radial articulations; test and therapy (3) PNF II: Mat activities: rolling</td>
</tr>
<tr>
<td><strong>7th week</strong></td>
<td>Practical: (1) Soft tissue mobilization: Theoretical basis and practice of the scar treatment (2) Joint mobilization: The elbow complex. Traction, dorsal-ventral sliding and mobilization of the superior and inferior radio-ulnar articulations; test and therapy (3) PNF II: Mat activities: crawling, kneeling, bridging</td>
</tr>
<tr>
<td><strong>8th week</strong></td>
<td>Practical: (1) Soft tissue mobilization: Stretching techniques in pairs (2) Joint mobilization: The wrist complex: traction, gliding and mobilization of the radio-carpal and mid-carpal joints (3) PNF II: Mat activities: standing up</td>
</tr>
<tr>
<td><strong>9th week</strong></td>
<td>Practical: (1) Soft tissue mobilization: Definition and position of deep massage technique in the mobilization techniques; indications and contraindications (2) Joint mobilization: The ankle and foot complex: traction and mobilization of the ankle, subtalar and transverse tarsal joints. Test and therapy (3) PNF II: Mat activities: gait training</td>
</tr>
<tr>
<td><strong>10th week</strong></td>
<td>Practical: (1) Soft tissue mobilization: Treatment of the neck-shoulder girdle region (2) Joint mobilization: The knee complex: traction, sliding and mobilization of the tibio-femoral joint. Test and therapy (3) PNF II: Specific techniques: rhythmic stabilization, reversed stabilization</td>
</tr>
<tr>
<td><strong>11th week</strong></td>
<td>Practical: (1) Soft tissue mobilization: Techniques</td>
</tr>
</tbody>
</table>
on the chest (2) Joint mobilization: The knee complex: traction, sliding and mobilization of the patello-femoral, superior tibio-fibular joints and syndesmosis. Test and therapy (3) PNF II: Specific techniques: contract-relax, hold relax

12th week:
Practical: (1) Soft tissue mobilization: Techniques on the upper extremities (2) Joint mobilization: The hip complex: traction, sliding and mobilization. (3) PNF II: PNF in the practice

13th week:
Practical: (1) Soft tissue mobilization: Techniques on the lower extremities (2) Joint mobilization:

Requirements
Prerequisite: Mobilization-Manual Techniques I

Attendance at practices is compulsory. If you missed more than 2 practices per modules, the signature may be refused.

Examination: The term mark consists of 2 components in each module: (1) theoretical and (2) practical knowledge will be assessed at the end of the semester.

Subject: OBSTETRICS AND GYNAECOLOGY FOR PHYSIOTHERAPISTS
Year, Semester: 3rd year/1st semester
Number of teaching hours:
Lecture: 30
Practical: 45

1st week:
Lecture: (C) Diagnostic methods in gynecology. Physiological and abnormal menstrual cycle. Gynecological infections. Therapeutic principles Practical: (R) Relaxation methods; role of psychology in the treatment; theory, history and applications of the relaxation methods. Effects and background of the autogenic training; psychosomatic disorders

2nd week:
Lecture: (C) Pathological pregnancy, abortion Practical: (R) Relaxing methods I

3rd week:
Lecture: (C) Process of the birth; life-threatening states in the obstetrics Practical: (R) Relaxing methods II

4th week:
Lecture: (C) Disorders of menstruation; family planning, contraception Practical: (C) Clinical demonstration: pre-and postoperative patient care

5th week:
Lecture: (C) Gynecological inflammations; benign gynecological tumors Practical: (C) Clinical demonstration: visit in the delivery room, puerperal patient care

6th week:
Lecture: (C) Malignant tumors Practical: (PT) Pre- and postoperative physiotherapy in gynecology

7th week:
Lecture: (C) Surgical interventions
Practical: (PT) Pelvic floor muscle training for prevention of urinary incontinence

8th week:
Lecture: (C) Mid-semester examination (PT) Anatomy of pelvic floor, incontinence
Practical: (PT) Training of perineal muscles in different body positions

9th week:
Lecture: (PT) Stages of preparation for delivery; significance of team work, tasks of the members in the team. Structure of the pregnancy training, alternative birth
Practical: (PT) Special breathing exercises in gynaecology

10th week:
Lecture: (PT) Synchronization of the stage of pregnancy and the training; relax methods, significance of the stretching exercises, exercises in early postpartum period, structure of the baby-mother training
Practical: (PT) Special exercises in prepartum period

11th week:
Lecture: (PT) Significance of the physiotherapy

12th week:
Lecture: (PT) Principles and structure of postoperative exercises
Practical: (PT) Puerperal training, mother-baby exercises

13th week:
Lecture: (PT) Physiotherapeutic possibilities in the treatment of gynaecology diseases
Practical: (PT) Physiotherapy in menopause

14th week:
Lecture: (PT) Osteoporosis: possibilities of the physiotherapists for intervention
Practical: (PT) Physiotherapy in postmenopausal period

15th week:
Lecture: (PT) Consultation
Practical: (PT) Practice exam

Requirements

Prerequisites: Kinesiology II, Internal Medicine for Physiotherapists I

Attendance at lectures is highly recommended, since the topics in examination cover the lectured topics. Attendance at practical hours is compulsory. If you have more than 6-hour absence the signature in the Lecture Book will be refused.

The grade of ESE will be constructed on the basis of midterm assessments.
3rd week:
Lecture: Osteoarthritis of the hip. Aseptic necrosis of the femoral head. Replacement of the hip joint

4th week:
Lecture: Functional anatomy of the foot. Congenital deformities and diseases of the foot

5th week:

6th week:
Lecture: Diseases of the neck and upper extremities

7th week:

8th week:
Lecture: Bone infection. Acute and chronic osteomyelitis. Suppurative arthritis

9th week:
Lecture: Postural kyphosis. Scoliosis and its treatment

10th week:
Lecture: Bone tumors and tumor-like lesions
Seminar: Introduction to e-learning module.
Requirements.

11th week:
Seminar: Most common orthopaedic diseases of the spine and hip joint. Basic concepts, anatomy, biomechanics. Video presentation – hip joint replacement, surgical correction of scoliosis. Presentation of the most commonly used prosthesis and implants. X-ray presentation. Discussion of the lectured topics.

12th week:
Seminar: Most common orthopaedic diseases of the upper limb, knee joint and leg. Basic concepts, anatomy, biomechanics. Video presentation – shoulder and knee arthroscopy, anterior cruciate ligament replacement, knee joint replacement, surgical correction of foot deformities. Presentation of the most commonly used prosthesis. X-ray presentation. Discussion of the lectured topics.

13th week:
Seminar: Discussion of findings: The significance of limb lengthening after total hip replacement

14th week:
Seminar: Discussion of findings: The range of movement after total knee replacement

15th week:
Seminar: Consultation, closing remarks

Requirements

Prerequisites: Biomechanics, Mobilization-Manual Techniques I

The attendance at lectures is strongly suggested, the attendance at seminars is compulsory. If you have more than 4-hour absence at seminars (consultations) or do not show activity in the e-learning module, the signature will be refused.

E-learning program: It is compulsory to join the e-learning program. This program provides an opportunity for students to deepen their understanding of Orthopedics. The e-learning module is designated as seminar in the curriculum, it means that the participation in the e-learning activity and in the consultations is compulsory to everybody.

At the end of semester, you take a written ESE. The grade will be defined as the average of your e-learning scores and the exam scores according to the scale below
0-54%: fail (1)
55-64%: pass (2)
65-74%: satisfactory (3)
75-84%: good (4)
85-100%: excellent (5)

If your score in the examination is less than 55% there is no further calculation, the grade is fail (1).

Subject: RHEUMATOLOGY FOR PHYSIOTHERAPISTS I
Year, Semester: 3rd year/1st semester
Number of teaching hours:
Lecture: 20
Seminar: 10

1st week:
Lecture: Introduction to rheumatology: classification of diseases; social and economic relations of the rheumatology; history taking and physical examinations

2nd week:
Lecture: Osteoarthritis, spondylosis, low back pain

3rd week:
Lecture: Soft tissue rheumatism, regional pain syndromes, compression syndromes

4th week:
Lecture: Metabolic bone diseases, osteoporosis

5th week:
Lecture: Crystal arthropathies

6th week:
Lecture: Rheumatoid arthritis: clinical symptoms, diagnosis, therapy

7th week:
Lecture: Juvenile idiopathic arthritis, Felty syndrome, Caplan syndrome

8th week:
Lecture: Spondyloarthropathies: ankylosing spondylitis, psoriatic arthritis

9th week:
Lecture: Infectious and reactive arthritides

10th week:
Lecture: Introduction to immunopathology and autoimmunity. Autoimmune diseases

11th week:
Seminar: Degenerative diseases

12th week:
Seminar: Bone diseases, gout

13th week:
Seminar: Arthritides

14th week:
Seminar: Therapy: anti-inflammatory drugs, immunosuppression

15th week:
Seminar: Summary, consultation

Requirements
Prerequisites: Internal Medicine for Physiotherapists I

Attendance at lectures is highly recommended, since the topics in examination cover the lectured topics. Attendance at seminars is compulsory. If you miss more than 2 hours at seminars the signature will be refused. You have to take ESE during the examination period.
Subject: TRAUMATOLOGY AND INTENSIVE THERAPY FOR PHYSIOTHERAPISTS I
Year, Semester: 3rd year/1st semester
Number of teaching hours:
Lecture: 30

1st week:

2nd week:

3rd week:

4th week:

5th week:

6th week:

7th week:

8th week:

9th week:

10th week:

11th week:

12th week:

13th week:

14th week:

15th week:
Lecture: (29-30) Consultation

Requirements

Prerequisite: Mobilization-Manual Techniques I

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

Department of Preventive Medicine, Faculty of Public Health

Subject: PREVENTIVE MEDICINE AND PUBLIC HEALTH I
Year, Semester: 3rd year/1st semester
Number of teaching hours:
Lecture: 44
Practical: 16

1st week:
Lecture: (1) The history of public health and preventive medicine. Scope and methods of public health. (2) Organization of public health services. (3) Introduction to human ecology
Practical: (1-2) Physical and chemical
<table>
<thead>
<tr>
<th>Week</th>
<th>Lecture</th>
<th>Practical</th>
</tr>
</thead>
<tbody>
<tr>
<td>2nd week</td>
<td>(4-5) Global environmental pollution I-II</td>
<td>(3-4) Bacteriological and mycological examination of drinking water and food</td>
</tr>
<tr>
<td>3rd week</td>
<td>(7-8) Toxicology of persistent organic pollutants, pesticides and organic solvents</td>
<td>(5-6) Environmental radiation controlling laboratory</td>
</tr>
<tr>
<td>4th week</td>
<td>(10) Water pollution</td>
<td>(7-8) Water quality control laboratory</td>
</tr>
<tr>
<td>5th week</td>
<td>(13) Scope of occupational health</td>
<td>(19) Nutritional deficiency diseases</td>
</tr>
<tr>
<td>6th week</td>
<td>(16-17) Occupational diseases I-II</td>
<td>(22) Bioterrorism and possible tools of prevention</td>
</tr>
<tr>
<td>7th week</td>
<td>(19) Nutritional deficiency diseases</td>
<td>(20) Overweight and obesity</td>
</tr>
<tr>
<td>8th week</td>
<td></td>
<td>(21) The role of diet in the pathogenesis of cardiovascular diseases and malignant neoplasm</td>
</tr>
</tbody>
</table>

**Requirements**

Prerequisites: Basic Microbiology, Internal Medicine for Physiotherapists I

Attendance of lectures is highly recommended. They are the best source of synthesized and structured information. Some new concepts and results are discussed exclusively at the lectures. Attendance of the laboratory practices, visits and seminars is obligatory. The course coordinator may refuse to sign
the Lecture Book if a student is absent more than twice from seminars in a semester even if he/she has an acceptable excuse. The absences at seminars should be made up with another group (if there is) only in the same week (maximum 3 times during the semester). At the end of the semester students are required to take a written test which will cover the topics of all lectures and seminars of the first semester.

Department of Foreign Languages

Subject: PROFESSIONAL HUNGARIAN LANGUAGE III
Year, Semester: 3rd year/2nd semester
Number of teaching hours:
Practical: 45

1st week:
Practical: Pretest

2nd week:
Practical: The role of physical therapists

3rd week:
Practical: Communication with colleagues and patients

4th week:
Practical: Physical examination and assessment

5th week:
Practical: Functional diagnosis, documentation

6th week:
Practical: Application of physical therapy devices and equipment

7th week:
Practical: Revision.

8th week:
Practical: Mid-term test.

9th week:
Practical: Physical therapy for musculoskeletal conditions.

10th week:
Practical: Physical therapy for neuromuscular conditions

11th week:
Practical: Physical therapy in cardiovascular and pulmonary conditions

12th week:
Practical: Physical therapy for pediatric conditions and for older adults

13th week:
Practical: Revision

14th week:
Practical: End-term test

15th week:
Practical: Assessment, evaluation

Requirements

Prerequisite: Professional Hungarian Language II
Attendance: Language class attendance is compulsory. The maximum percentage of allowable absences is 10 % which is a total of 2 out of the 15 weekly classes. Students arriving late for the classes are not allowed to enter the class. Being late is counted as an absence. If the number of absences is more than two, the final signature is refused and the student must repeat the course. Students are required to bring the textbook or other study material given out for the course with them to each language class. Active participation is evaluated by the teacher in every class. If students’ behaviour or conduct does not meet the requirements of active participation, the teacher
may evaluate their participation with a "minus" (-). If a student has 5 minuses, the signature may be refused due to the lack of active participation in classes.

Testing, evaluation: In each Hungarian language course, students must sit for 2 written language tests and a short minimal oral exam. A further minimum requirement is the knowledge of 200 words per semester announced on the first week. There is a (written or oral) word quiz in the first 5-10 minutes of the class, every week. If a student has 5 or more failed or missed word quizzes he/she has to take a vocabulary exam that includes all 200 words along with the oral exam. The results of word quizzes are added to the average score of the written tests.

The oral exam consists of a role-play randomly chosen from a list of situations announced in the beginning of the course. Failing the oral exam results in failing the whole course. The result of the oral exam is added to the average of the mid-term and end-term tests.

Based on the final score the grades are given according to the following table:

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

If the final score is below 60, the student once can take an oral remedial exam covering the whole semester’s material.

Consultation classes: In each language course once a week students may attend a consultation class with one of the teachers of that subject in which they can ask their questions and ask for further explanations of the material covered in that week. These classes are optional.

Course book: See the website of the department.

Website: Oral exam topics and vocabulary minimum lists are available from the website of the Department of Foreign Languages: http://ilekt.med.unideb.hu.

Department of Physiotherapy, Faculty of Public Health

Subject: CARDIOVASCULAR CLINICAL PRACTICE
Year, Semester: 3rd year/2nd semester
Number of teaching hours:
Practical: 80

**1st week:** Practical: Investigation of patient; instrumental diagnostic procedures; monitoring; evaluation and discussion of findings; movement therapy in the angiology, pre- and postoperative physiotherapy; cardio-respiratory reactions to physical exercise; training protocols applied in the cardio-respiratory diseases

**Requirements**
Prerequisite: Internal Medicine for Physiotherapists III

Educational objective: The aim of the practice is to deepen the theoretical knowledge in clinical circumstances, to get experience in the investigation and physiotherapeutic treatment of patient.
To take part in the clinical practice in internal medicine is a criterion for the Certificate of Completion (absolutorium). You accept a signature in the Lecture Book, if you fulfil the requirements detailed in the Certification of Clinical Practices.

The students are required to know the examination of patients; to observe the circulation, to measure the cardiorespiratory parameters (pulse rate, blood pressure); to evaluate the ECG records and basic laboratory findings; to evaluate the cardiorespiratory reactions to physical exercise, and to perform the movement training program under the control of supervisor.

Subject: INFANT CARE AND PEDIATRICS CLINICAL PRACTICE
Year, Semester: 3rd year/2nd semester
Number of teaching hours:
Practical: 80

1st week:
Practical: Infantile cerebral palsy; congenital diseases (e.g. myelomeningocele); respiratory diseases in childhood; metabolic syndromes; orthopedic diseases in childhood; neurological injuries in childhood; other pediatric diseases

Requirements
Prerequisite: Infant Care and Pediatrics for Physiotherapists I

To take part in the clinical practice in pediatrics is a criterion for the Certificate of Completion (absolutorium). You accept a signature in the Lecture Book, if you fulfil the requirements detailed in the Certification of Clinical Practices.

Educational objective: Students learn the special profile of the department; special methods of examination and therapy learn to communicate in a professional environment, as well as with patients and their relatives. Skills to be acquired: problem identification, analysis, examination with and without supervision, preparation and implementation of treatment plans, assessment of patients’ progress, recognition of acute and life threatening conditions and acting in emergency, communication skills (with patients and health care professionals), keeping the ethical standards of the profession. The students are required to perform the examinations, making plan for physiotherapy and carry out the treatment under supervision.

Subject: INFANT CARE AND PEDIATRICS FOR PHYSIOTHERAPISTS I
Year, Semester: 3rd year/2nd semester
Number of teaching hours:
Lecture: 30
Practical: 30

1st week:
Lecture: (C) Introduction to pediatrics. Genetic disease. Congenital disorders. (PT) General principles in the pediatric physiotherapy
Practical: (PT): Physiotherapy in pediatrics, general treatments

2nd week:
Lecture: (C) The embryo and the newborn.
Perinatal events in healthy mature neonates. Care of the newborn. The infant feeding, development and growth, care. Natural and artificial feeding. Psychomotor development and mental retardation. Premature disorders (harmful consequences of oxygen therapy, BPD, ROP)
(PT) Embryonic development of the nervous system
Practical:
(C) Demonstration practice (PT) Physical examination in pediatrics. Coordination and sensory training for nursing school and elementary school children

3rd week:
Lecture: (C) Diseases of the respiratory system. Bronchial asthma. Congenital heart defect. Condition after heart surgery (PT) Complex rehabilitation of the congenital heart defects Practical: (C) Demonstration practice (PT) Principles of the neurohabilitation; conductive pedagogy

4th week:
Lecture: (C) The bones, joints and skeletal system disorders. Haemophilia. Bone tumors. Kidney diseases (PT) Milestones in the childhood Practical:
(C) Demonstration practice (PT) Examination and treatment of the movement system disorders, developmental anomalies and acquired disorders of the upper limb

5th week:
Lecture: (C) Mucoviscidosis. Obesitas (PT) Complex rehabilitation of the respiratory disorders Practical: (C) Demonstration practice (PT) Tools for treatment in chronic pulmonary diseases in childhood (cystic fibrosis, bronchial asthma)

6th week:
Lecture: (C) Diabetes mellitus. Consultation (PT) Rehabilitation of peripheral nerve injuries. Electrotherapy and hydrotherapy in the infant- and childhood Practical: (C) Demonstration practice (PT): Examination and treatment of the movement system disorders, developmental anomalies and acquired disorders of the lower limb

7th week:
Lecture: (C) Midterm exam (PT) Complex rehabilitation of the muscular diseases (muscular dystrophies, hereditary sensory and motor disorders)

8th week:
Lecture: (PT) Neuromuscular diseases: cerebral palsy (CP), acute poliomyelitis Practical:
(PT) Examination, symptoms, general characteristics of the movement therapy. Movement therapy of the neuromuscular diseases

9th week:
Lecture: (PT) Appearance of CP; pathologic movement development Practical: (PT) Complex rehabilitation of CP. Special manual techniques

10th week:
Lecture: (PT) Further therapeutic tools for CP treatment (drug treatment, orthoses, surgical interventions, and complementary treatment) Practical:
Bobath method. Special manual techniques

11th week:
Lecture: (PT) Complex rehabilitation of myelomeningocele Practical: (PT) Bone dysplasia and developmental anomalies

12th week:
Lecture: (PT) Basal stimulation and rehabilitation Practical: (PT) Orofacial training. Sensory integration therapy

13th week:
Lecture: (PT) Complex rehabilitation of feeding disorders. Physiotherapy of the renal diseases Practical:
(PT) Adapted physical education; adapted sport rehabilitation

14th week:
Lecture: (PT) Orthotics-prosthetics in childhood Practical: (PT) Importance of the cooperation between professionals (physiotherapist,
### Subject: NEUROLOGY FOR PHYSIOTHERAPISTS I

**Year, Semester:** 3rd year/2nd semester  
**Number of teaching hours:**  
- Lecture: 45  
- Seminar: 15  
- Practical: 15

### 1st week:
- **Lecture:** (C) Case history. The anatomical and physiological basis of neurology. Procedures in neurological diagnostics. (PT) Characteristics of the normal movements. Reasons of the impaired movement  
- **Seminar:** (PT) Characteristics of the normal movements

### 2nd week:
- **Lecture:** (C) The signs of meningeal irritation. Cranial nerves. (PT) Central paresis and paralysis; stroke in the adult- and childhood; features, symptoms, complications.  
- **Seminar:** (PT) Discussion of the lectured topics

### 3rd week:
- **Lecture:** (C) The structure and pathology of the motor system. (PT) Post stroke movement therapy, rehabilitation  
- **Seminar:** (PT) Principles of post stroke movement therapy

### 4th week:
- **Lecture:** (C) The structure and pathology of the sensory system. (PT) Types of ataxia, principles of their movement therapy  
- **Seminar:** (PT) Principles of the movement therapy in ataxia

### 5th week:
- **Lecture:** (C) Normal and abnormal reflexes, the structure and pathology of coordination. (PT) Central and peripheral cranial nerve disorders; physiotherapy of central and peripheral dizziness  
- **Seminar:** (PT) Improvement of balance, basic and complex exercises

### 6th week:
- **Lecture:** (C) Cerebrovascular diseases. (PT) Muscular diseases, myopathies and myotonies.  
- **Seminar:** (PT) Characteristics of the movement therapy in muscular diseases

### 7th week:
- **Lecture:** (C) Epilepsies. The typical pathological signs of cortical lobe lesions. (PT) Spinal Muscular Atrophy (SMA), Amyotrophic Lateral Sclerosis (ALS), Guillain-Barre syndrome, types of polyneuropathies  
- **Seminar:** (PT) Possibilities for the improvement of the voluntary and automatic movements

### 8th week:
- **Lecture:** (C) Dementias. (PT) Extrapyramidal dysfunction, hyperkinesias.  
- **Practical:** (PT) Proprioceptive training
9th week:
Lecture: (C) Parkinson’s disease and other movement disorders. (PT) Examination and complex physiotherapy of the patient suffering from Parkinson’s disease
Practical: (PT) Principles of the movement therapy in progressive muscular dystrophy

10th week:
Lecture: (C) Multiple sclerosis, infections of the central nervous system. (PT) Principles of the movement therapy of the multiple sclerosis and myasthenia gravis
Practical: (PT) Demonstration of the movement therapy for polyneuropathies with alcoholic, diabetic and autoimmune origin

11th week:
Lecture: (C) Sleep disturbances. (PT) Symptoms and principles of physiotherapy in peripheral paresis
Practical: (PT) Use of gymnastic equipments in order to facilitate or make more difficult the exercises. Individual and group training for patients with Parkinson’s disease; demonstration and practice

12th week:
Lecture: (C) Tumors of the central and peripheral nervous system. (PT) Rehabilitation of the spine-injured patients.
Practical: (PT) Complex physiotherapy of the patients with multiple sclerosis; movement therapy of the patients with myasthenia gravis

13th week:
Lecture: (C) The pathology of spinal cord. (PT) Movement disorders with neuropsychiatric origin
Practical: (PT) Demonstration and practice of the facilitation techniques; improvement of the voluntary movements by coordination exercises. Individual demonstration of the facilitation techniques, some coordination and balance improving exercises.

14th week:
Lecture: (C) Injuries of the central nervous system. (PT) Movement therapy in apraxia, agnosia and dementia
Practical: (PT) Physiotherapy of central and peripheral facial paresis; demonstration and practice of the vestibular training.

15th week:
Lecture: (C) Consultation. (PT) Consultation
Seminar: (C, PT) Selfcontrol test
Practical: (PT) Endterm practice examination
Self-control Test (Theoretical knowledge)

Requirements
Prerequisites: Pathology, Mobilization-Manual Techniques II

Attendance at lectures is highly recommended, since the topics in examination cover the lectured topics. The attendance at practices is compulsory. The signature of the Lecture Book may be refused if one has more than 4-hour absences from the practical hours.

The ESE grade will be constructed from the results of clinical knowledge and theoretical and practical physiotherapeutic assessments. The scores of the modules may be improved selectively.

Subject: PHYSIOTHERAPY OF THE MOVEMENT SYSTEM I - PT IN ORTHOPEDICS AND TRAUMATOLOGY
Year, Semester: 3rd year/2nd semester
Number of teaching hours:
Lecture: 45
Seminar: 30
Practical: 30
1st week:
Lecture: (T) Basic elements of the physiotherapy in traumatology; prevention and treatment of contractures; other physiotherapeutic interventions; position of manual therapy in traumatology; examination of patients. Functional treatment of spinal-fractured patients without neurological symptoms; treatment of a corset-wearing patient.
Seminar: (O) Examination, diagnostics in orthopedic physiotherapy. (T) Group and individual training program for the spinal-fractured, corset-wearing patients; innervation exercises; strengthening of the dorsal and abdominal muscles; balance improvement
Practical: (O) General treatment methods in orthopedic physiotherapy. (T) Patient examination; pre- and postoperative physiotherapy methods

2nd week:
Lecture: (O) Treatment of a patient with spinal cord injury; characteristic symptoms in special cases; special fields of the functional treatment in spinal cord injury 
Seminar: (O) Static changes of the spine: sacralization, lumbarization, spondylitis, spondylolisthesis; points of view of the examination and of the treatment. (T) Training for spinal cord injured patients; rules of positioning; training in the bed; exercises for changing the position
Practical: (O) Static changes of the spine: sacralization, lumbarization, spondylitis, spondylolisthesis; targeted exercises. (T) Use of the wheelchair, solution of the life situations; relief of contracture

3rd week:
Lecture: (O) Physiotherapy in orthopedics; physiological posture, postural deformities: background and consequences
Seminar: (O) Examinations; rules of exercises in the typical forms of the postural deformities. (T) Treatment after cancelling the corset; graded mobilization, subaquatic therapy, load-free positions; grades of the loading
Practical: (O) Examinations; rules of exercises in the typical forms of the postural deformities. (T) Mobilization of the spinal column in every direction; treatment with conservative methods

4th week:
Lecture: (O) Etiology of the scoliosis; conservative and surgical treatments; kinesiological consequences of scoliosis at different location; compensatory mechanisms
Seminar: (O) Targeted physiotherapy for the kyphotic spine. (T) Functional treatment of the shoulder region; possibilities during fixation; methods for recovery of the scapulo-humeral rhythm; practice of the everyday movements; complementary therapy depending on the fracture healing
Practical: (O) Targeted physiotherapy for the lordotic spine. (T) Individual training for shoulder-injured patients; load-free and loaded positions; use of instruments; paired exercises; conducted passive and active exercises

5th week:
Lecture: (O) Functional treatment of the shoulder region; possibilities during fixation; methods for recovery of the scapulo-humeral rhythm; practice of the everyday movements; complementary therapy depending on the fracture healing
Seminar: (O) Developmental disorders in the neck and shoulder girdle: congenital torticollis, Klippel-Feil syndrome, scapula elevata; prosthesis in the shoulder – postoperative physiotherapy. (T) Individual training for shoulder-injured patients; load-free and loaded positions; use of instruments
Practical: (O) Treatment of scoliosis at different location: special treatment in dorsal scoliosis. (T) Individual training for shoulder-injured patients; paired exercises; conducted passive and active exercises

6th week:
Lecture: (O) Disorders of the shoulder; habitual luxation of the shoulder. Complex physiotherapy in the brachial plexus lesion
Seminar: (O) Treatment of scoliosis at different location. (T) Group and individual training for shoulder-injured patients; load-free and loaded positions; use of instruments
Practical: (O) Special treatment in dorsal scoliosis. (T) Group and individual training for shoulder-injured patients; use of instruments;
paired exercises; conducted passive and active exercises

7th week:
Lecture: (T) Injuries of the elbow; complications; possibilities of the active movement in the neighboring joints; complex functional treatment; forearm fractures; fracture of the distal radius; complications, treatment
Seminar: (O) Treatment of scoliosis at different location: special treatment in lumbar scoliosis. (T) Group and individual training for elbow-injured patients
Practical: (O) Treatment of scoliosis at different location: Targeted exercises in lumbar scoliosis. (T) Requirements for the individual treatment; isometric and isotonic exercises for elbow-injured patients

8th week:
Lecture: (T) Physiotherapy of the hand-injured patients; special aspects of physical examinations; treatment of tendon injuries; structure of the pre- and postoperative trainings; applied medical aids; traumatic nerve injuries on the upper limb; determination of the state; aspects and methods of the treatment
Seminar: (O) Chest deformity: reasons, consequences, physiotherapy. (T) Treatment of the hand injuries; semi-passive and passive methods; use of Carpenter and Brooks splints; treatment of peripheral nerve injuries
Practical: (O) Treatment of scoliosis at different location: special treatment in lumbar and dorsolumbar scoliosis. (T) Treatment of the hand injuries use of selective stimulus and diadynamic currents; role of the passive mobilization

9th week:
Lecture: (T) Pelvic fractures; treatment under extension and after osteosynthesis; graded load, subaquatic training; functional treatment of the traumatic hip luxation; early and late complications, arthrosis
Seminar: (O) Congenital and acquired disorders of the elbow complex. (T) Surgical treatment of the pelvic fractures; extension training, active training in the bed, graded mobilization
Practical: (O) Congenital and acquired disorders of the wrist complex. (T) Surgical treatment of the pelvic fractures; extension training, active training in the bed, graded mobilization

10th week:
Lecture: (T) Movement therapy of the femur neck fractured patients; mobilization in the case of movement-stable or load-stable osteosynthesis
Seminar: (O) Aseptic bone necrosis; Scheuermann disease, Perthes syndrome: etiology, reason, consequence, and physiotherapy. (T) Conservative functional treatment of the hip fractures; positioning, expansion; processing the active training in the bed; education of the use of wrap
Practical: Physiotherapy in Scheuermann disease and Perthes syndrome. (T) Conservative functional treatment of the hip fractures; positioning, expansion; processing the active training in the bed; education of the use of wrap

11th week:
Lecture: (O) Congenital and acquired disorders of the hip complex, the knee, the ankle and the foot complex
Seminar: (O) Conservative functional treatment of the coxarthrosis and gonarthrosis. (T) Conservative functional treatment of the hip fractures; positioning, expansion; processing the active training in the bed; education of the use of wrap
Practical: (O) Targetted exercises of the coxarthrosis and gonarthrosis. (T) Conservative functional treatment of the hip fractures; positioning, expansion; processing the active training in the bed; education of the use of wrap

12th week:
Lecture: (T) Ankle injuries; treatment; complementary treatment of complications; physiotherapy in Achilles tendon rupture
Seminar: (O) Postoperative treatment after total hip endoprosthesis. (T) Knee injuries
Practical: (O) Complex rehabilitation program after total hip endoprosthesis. (T) Ankle injuries

13th week:
Lecture: (T) Crural fractures; complications; treatment of a fixateur externe wearing patient; mobilization; ankle injuries; treatment; complementary treatment of complications;
physiotherapy in Achilles tendon rupture
Seminar: (O) Postoperative physiotherapy after total knee endoprosthesis. (T) Standing and gait without loading, using crutch than bar; formation of the right gait cadence; education of the use of crutch in a three-point gait
Practical: (O) Complex rehabilitation program after total knee endoprosthesis. (T) Standing and gait without loading, using crutch than bar; formation of the right gait cadence; education of the use of crutch in a three-point gait

14th week:
Lecture: (T) Post amputation training; stub care, prevention of contractures; phantom training; gait teaching; prostheses on the upper and lower limbs; multiple traumatisation; potential physiotherapy; active breathing exercises for chest-injured patients; interventions for rehabilitation
Seminar: O) Pes planus general therapy. (T) Physiotherapy for the chest- and abdomen-injured patients; breathing exercises; improvement of circulation; general conditioning
Practical: (O) Pes planus exercise therapy. (T) Physiotherapy for the chest- and abdomen-injured patients; breathing exercises; improvement of circulation; general conditioning

15th week:
Lecture: (O, T) Consultation
Seminar: (O, T) Consultation
Practical: (O, T) Practice exams
Self-control Test

Requirements
Prerequisites: Mobilization-Manual Techniques II, Orthopedics for Physiotherapists, Traumatology and Intensive Therapy for Physiotherapists I

Attendance at lectures is highly recommended, since the topics in examination cover the lectured topics. The attendance at practices is compulsory. The signature of the Lecture Book may be refused if one has more than 6-hour absences from the practical hours.

The grade of ESE will be offered on the basis of the scores in the midterm theoretical examination and the practical exam. You have chance to improve the grade during the examination period taking ESE.

Subject: PROFESSIONAL AND SCIENTIFIC ORIENTATION
Year, Semester: 3rd year/2nd semester
Number of teaching hours:
Practical: 15

1st week:
Practical: Features of the applied research work in the health sciences

2nd week:
Practical: Orientation in the scientific literature

3rd week:
Practical: Conventional methods for orientation in the scientific literature

4th week:
Practical: Use of the electronic data bases I

5th week:
Practical: Use of the electronic data bases II

6th week:
Practical: Selection of articles for individual presentation

7th week:
Practical: Analysis of an article in the group – basic research

8th week:
Practical: Analysis of an article in the group – applied research
**ACADEMIC PROGRAM FOR THE 3RD YEAR**

**9th week:**
Practical: Analysis of a review in the group

**10th week:**
Practical: Techniques for presentation of the results

**11th week:**
Practical: Individual presentations of articles I

**12th week:**
Practical: Individual presentations of articles II

**13th week:**
Practical: Requirements of thesis work I

**14th week:**
Practical: Requirements of thesis work II

**15th week:**
Practical: Closing remarks

**Requirements**

Prerequisite: Basics of Research Methodology

Attendance at practical hours is compulsory. The signature of the Lecture Book may be refused if one has more than 4-hour absences from the lessons.

Subject: PSYCHIATRY I

Year, Semester: 3rd year/2nd semester

Number of teaching hours:
Lecture: 15

**1st week:**
Lecture: Meaning and role of the psychiatry; definition of disease in psychiatry; organic psychiatric disorders; psychotic psychiatric diseases

**2nd week:**
Lecture: Basics of human communication; distress disorders, depression, suicide.

**3rd week:**
Lecture: Personality disorders; addictions: alcoholism and drug dependence; treatment of the psychiatric diseases

**4th week:**
Lecture: Psychosomatic diseases; eating disorders; psychotherapies, cognitive therapy, relaxation methods, movement therapy; other psychotherapeutic methods; sociotherapies, possibilities for rehabilitation

**5th week:**
Lecture: Emergency psychiatry.

**6th week:**
Lecture: Active and passive movement therapy in psychiatric disorders

**7th week:**
Lecture: Summary, consultation

**Requirements**

Prerequisites: Internal Medicine for Physiotherapists I, Kinesiology II

Attendance at lectures is highly recommended, since the topics in examination cover the lectured topics.
Subject: RHEUMATOLOGY FOR PHYSIOTHERAPISTS II  
Year, Semester: 3rd year/2nd semester  
Number of teaching hours:  
Lecture: 30  
Seminar: 15  
Practical: 15

1st week:  
Lecture: Physiotherapy in rheumatology  
Seminar: Measurements and physiotherapeutical diagnosis  
Practical: General physiotherapeutical methods, treatments and basics of the exercise therapy

2nd week:  
Lecture: Model of the joint pain; consequences of the pain  
Seminar: Diagnostics of the joint pain, Cyriax method  
Practical: Treatment of the joint pain

3rd week:  
Lecture: Seronegative spondylo-arthropathies, diagnostic criteria; ankylosing spondylitis, pathology, effects on the joints  
Seminar: General rules of treatment in rheumatoid arthritis  
Practical: Biomechanics in rheumatoid arthritis

4th week:  
Lecture: Seronegative spondylo-arthropathies: Reiter-syndrome; reactive and psoriatic arthritis  
Seminar: Rules of the joint protection and exercises: shoulder and elbow  
Practical: Rules of the joint protection and exercises: wrist and hand

5th week:  
Lecture: Arthrosis of the joints, symptoms, pain and consequences; arthrosis in the hip and the knee  
Seminar: Rules of the joint protection and exercises: feet  
Practical: Rules of the joint protection and exercises: knee and hip

6th week:  
Lecture: Arthrosis in the cervical and lumbar regions; symptoms  
Seminar: Complex functional treatment of the ankylosing spondylitis by the methods of physiotherapy  
Practical: Targeted exercises of the ankylosing spondylitis by the methods of physiotherapy

7th week:  
Lecture: Inflammatory diseases of the joints; typical pain, instability, decreased motion; rheumatoid arthritis  
Seminar: Physiotherapy of the Reiter syndrome, the reactive and psoriatic arthritis  
Practical: Targeted exercises of the ankylosing spondylitis by the methods of physiotherapy

8th week:  
Lecture: Rheumatoid arthritis in the upper extremities  
Seminar: Examination and general physiotherapy in arthrosis  
Practical: Basics of exercises aimed at arthrosis

9th week:  
Lecture: Rheumatoid arthritis in the lower extremities  
Seminar: Arthrosis in the lumbar regions; symptoms  
Practical: Treatments, exercises and lifestyle in arthrosis

10th week:  
Lecture: Soft tissue rheumatism in the upper extremities; pathology, diagnosis and treatment  
Seminar: Differential diagnostics and physiotherapy  
Practical: Treatment of periarthropathies

11th week:  
Lecture: Soft tissue rheumatism in the lower extremities; pathology, diagnosis and treatment  
Seminar: Differential diagnostics and physiotherapy  
Practical: Treatment of periarthropathies
### 12th week:

Lecture: Osteoporosis: pathomechanism, changed posture and function; Primary, secondary and tertiary preventions  
Seminar: Primary, secondary and tertiary preventions  
Practical: Compressed vertebra fracture, early and late mobilization

### 13th week:

Lecture: Fibromyalgia: pathomechanism, symptoms, diagnosis and treatment  
Seminar: Complex physiotherapy of fibromyalgia  
Practical: Joint protection and lifestyle in rheumatologic diseases

### 14th week:

Lecture: Joint prevention and lifestyle in rheumatologic diseases  
Seminar: Dermatomyositis, SLE, polymyalgia rheumatica  
Practical: Practice exam

### 15th week:

Lecture: Consultation  
Seminar: Self-control Test  
Practical: Practice exam  
**Self-control Test (Theoretical knowledge)**

### Requirements

Prerequisite: Rheumatology for Physiotherapists I, Mobilization-Manual Techniques II  
Attendance at lectures is highly recommended, since the topics in examination cover the lectured topics. The attendance at seminars and practices is compulsory. The signature of the Lecture Book may be refused if one has more than 4-hour absences from the seminars and practical hours.  
The grade of ESE will be offered on the basis of the scores in the midterm theoretical examination and the practice exam. You have chance to improve the mark during the examination period taking ESE.

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Subject: THESIS I  
Year, Semester: 3rd year/2nd semester  
Number of teaching hours:

### 1st week:

Practical: Selection of topic for thesis work, collection at least 5 relevant articles; making a study plan for scientific investigation

### Requirements

Prerequisites: Basics of Research Methodology, Mobilization-Manual Techniques II  
The aim of the course is to help the choice of the topic on the basis of the scientific literature and the elaboration of the study design.  
The course in the Neptun will be closed by a term mark.
Department of Preventive Medicine, Faculty of Public Health

Subject: PREVENTIVE MEDICINE AND PUBLIC HEALTH II
Year, Semester: 3rd year/2nd semester
Number of teaching hours:
Lecture: 40
Seminar: 20

1st week:
Lecture: (1) Preventive strategies. (2) Screening programmes. (3) Introduction to epidemiology and surveillance of communicable diseases
Seminar: (1-2) HFA database

2nd week:
Lecture: (4) Characteristics of infectious diseases. (5) Vaccines and immunization. (6) Sexually transmitted diseases
Seminar: (3-4) Outbreak investigation

3rd week:
Lecture: (7) Epidemiology of HIV/AIDS. (8) Epidemiology of hepatitis. (9) Epidemiology of nosocomial infections.

4th week:
Lecture: (10) Epidemiology and control of zoonoses. (11) Epidemiology and control of airborne infections. (12) Epidemiology and control of tuberculosis
Seminar: (5-6) Vaccination programmes

5th week:
Lecture: (13) Emerging and re-emerging infections. (14) Epidemiology of gastrointestinal infections. (15) Epidemiology of tropical diseases
Seminar: (7-8) Sterile Services Department (visit)

6th week:

7th week:
Lecture: (19) Epidemiology and control of cardiovascular diseases. (20) Epidemiology of malignant diseases. (21) Epidemiology and control of metabolic, gastrointestinal and liver diseases

8th week:
Lecture: (22) Epidemiology of chronic respiratory diseases. (23) Epidemiology of mental disorders and behavioral problems. (24) Health status in developing and developed countries
Seminar: (7-8) Screening, monitoring and controlling diseases in primary care
Needs, demands and use of health service
Seminar: (13-14) Public health and health care databases

9th week:
Lecture: (25) Health determinants. (26) Genetic susceptibility to chronic diseases at individual and population levels. (27) Lifestyle and health: the effects of personal factors on health
Seminar: (9-10) Concept and practice of health promotion

10th week:
Seminar: (11-12) North Karelia Program

11th week:
Lecture: (31) Health policy principles. (32)
ACADEMIC PROGRAM FOR THE 3RD YEAR

12th week:
Lecture: (33-34) Basics of health economics.
Health system financing
Seminar: (15-16) Introduction to health policy

13th week:
Lecture: (35-36) Quality management and control in health care
Seminar: (17-18) Health system financing

14th week:
Lecture: (37-38) Improvement of clinical effectiveness
Seminar: (19-20) Assessing and improving quality of health services

15th week:
Lecture: (39-40) New challenges of preventive medicine and public health in the 21st century
Self-control Test (Interpretation of public health databases (HFA exam))

Requirements

Prerequisite: Preventive Medicine and Public Health I

Attendance at lectures is highly recommended. They are the best source of synthesized and structured information. Some new concepts and results are discussed exclusively at the lectures. Attendance of the laboratory practices, visits and seminars is obligatory. The course coordinator may refuse to sign the Lecture Book if a student is absent more than twice from practices or seminars in a semester even if he/she has an acceptable excuse. The absences at seminars should be made up with another group only in the same week (maximum 3 times during the semester).

The ESE will cover the topics of all lectures and seminars of the semester. The final mark of the practical exam is the average of the mark given for the use and interpretation of public health databases and the mark obtained for the oral exam. The written exam covers the topics of all lectures and seminars of the semester. The mark will be calculated on the basis of the average of the mark given for the practical exam and for the written exam. The ESE will be failed if either the practical or the written exam is graded unsatisfactory. The student is obliged to repeat only the failed part of the exam. The mark of the exam will be calculated on the basis of the average of the repeated part and the previous part of the exam.
CHAPTER 12

ACADEMIC PROGRAM FOR THE 4TH YEAR

Department of Physiotherapy, Faculty of Public Health

Subject: INFANT CARE AND PEDIATRICS FOR PHYSIOTHERAPISTS II
Year, Semester: 4th year/1st semester
Number of teaching hours:
Lecture: 15
Practical: 10

1st week:
Lecture: Developmental abnormalities of the nervous system

2nd week:
Lecture: Psychological characteristics of the childhood; making contact; role of the game

3rd week:
Lecture: Psychomotor development up to 1 year

4th week:
Lecture: Elementary movement patterns
Practical: Clinical demonstration

5th week:
Lecture: Neurological infections from the developmental neurological aspect

6th week:
Lecture: Neurological examinations of the newborns and premature infants
Practical: Clinical demonstration

7th week:
Lecture: Signs of damaged central nervous system
Practical: Clinical demonstration

8th week:
Lecture: Neurological relations of the perinatal injuries

9th week:
Lecture: Perinatal intracranial hemorrhages
Practical: Clinical demonstration

10th week:
Lecture: Hypoxic-ischemic encephalopathy

11th week:
Lecture: Hydrocephalus

12th week:
Lecture: Metabolic diseases from the developmental neurological aspects

13th week:
Lecture: Neuromuscular diseases in the infancy
Practical: Clinical demonstration

14th week:
Lecture: Neurorehabilitation methods

15th week:
Lecture: Consultation

Requirements

Prerequisite: Infant Care and Pediatrics for Physiotherapists I

Attendance at lectures is highly recommended, since the topics in examination cover the lectured topics. The attendance at practices is compulsory. The signature of the Lecture Book may be refused if one has more than 4-hour absences from the practical hours.
Subject: NEUROLOGY FOR PHYSIOTHERAPISTS II
Year, Semester: 4th year/1st semester
Number of teaching hours:
Lecture: 15
Seminar: 15
Practical: 45

1st week:
Lecture: Characteristics of the normal movements, general introduction to Bobath’s method
Practical: (B) Inspection, taking history, examination of muscular tone

2nd week:
Lecture: Patient examination according to Bobath’s method
Seminar: (B) Special examinations and tests

3rd week:
Lecture: Hypotonia and spasticity
Practical: (B) Exercises in horizontal position, facilitation of lateral rolling, strengthening the pelvic muscles

4th week:
Lecture: Duties at the early phase of the stroke, treatment of the face
Seminar: (B) Facilitation of the truncal movements

5th week:
Lecture: Characteristics and examination of the gait, system of the equilibrium
Practical: (B) Exercises in sitting position, facilitation of getting up

6th week:
Lecture: Cerebral plasticity and its role in the treatment
Practical: (B) Exercises in upright position, tactile stimulation

7th week:
Lecture: Principles in the treatment of neglect and Pusher syndrome
Seminar: (B) Facilitation of the gait

8th week:
Seminar: (E) Aim and principles of the electrodiagnostic procedures, rules of processing; pain and electrotherapy
Practical: (B) Clinical demonstration.

9th week:
Seminar: (E) Models, types and classification of the electrotherapeutic treatments. Classification of the peripheral nerve injuries, complications; assessment of the degree of denervation; ENG, examination of the sensory nerves
Practical: (B) Clinical demonstration.

10th week:
Seminar: (E) Physical and physiological bases of the low and middle frequency treatments
Practical: (B) Clinical demonstration.

11th week:
Practical: (B) Clinical demonstration. (E) Galvan and Farad tests, Pflüger’s rule, measurement of the rheobase and chronaxie

12th week:
Practical: (B) Clinical demonstration. (E) Taking intensity-duration curve, evaluation of the results, determination of the accommodation factor, examination of the muscles (EMG)

13th week:
Practical: (B) Clinical demonstration. (E) Muscle stimulation, selective stimulus current treatment

14th week:
Seminar: (E) Complex evaluation of the electrodiagnostic findings; indirect electrodiagnostics
Practical: (B) Clinical demonstration.

15th week:
Lecture: Consultation, end-term written
examination
Practical: (B) Clinical demonstration. (E) End-term practice examination

Requirements
Prerequisite: Neurology for Physiotherapists I

Attendance at lectures is highly recommended, since the topics in examination cover the lectured topics. The attendance at practices is compulsory. The signature of the Lecture Book may be refused if one has more than 4-hour absences from the practical hours/topics.

The ESE mark will be constructed from the results of the examinations from the Bobath’s method and electrodiagnostics. The scores of the modules may be improved selectively.

Subject: PHYSIOTHERAPY OF THE MOVEMENT SYSTEM II - PT IN ORTHOPEDICS AND TRAUMATOLOGY
Year, Semester: 4th year/1st semester
Number of teaching hours:
Practical: 60

1st week:
Practical: (T) Patient examination

2nd week:
Practical: (O) Patient examination

3rd week:
Practical: (T) Relief of contracture (demonstration)

4th week:
Practical: (O) Examination and treatment of postural abnormalities.

5th week:
Practical: (T) Functional treatment of the shoulder region injuries

6th week:
Practical: (O) Treatment of scoliosis at different location

7th week:
Practical: (T) Group and individual training for shoulder-injured patients; use of instruments

8th week:
Practical: (O) Treatment of scoliosis at different location

9th week:
Practical: (T) Treatment of the hand injuries

10th week:
Practical: (O) Disorders of the wrist complex - case demonstrations

11th week:
Practical: (T) Conservative functional treatment of the hip fractures

12th week:
Practical: (O) Targeted exercises of the coxarthrosis and gonarthrosis

13th week:
Practical: (T) Conservative functional treatment of the hip fractures. Ankle injuries

14th week:
Practical: (O) Complex rehabilitation program after total hip and knee endoprosthesis

15th week:
Practical: (T) Physiotherapy for the chest- and abdomen-injured patients
Requirements

Prerequisite: Physiotherapy of the Movement System I - PT in Orthopedics and Traumatology

Attendance at demonstration practices is compulsory. Participation in the demonstration practices is a criterion for the certificate of completion (absolutorium). If you miss more than 4 hours in Orthopedics and/or Traumatology practices, the signature of the Lecture Book will be refused.

Subject: PSYCHIATRY II
Year, Semester: 4th year/1st semester
Number of teaching hours:
Lecture: 15
Practical: 15

1st week:
Lecture: Psychiatric rehabilitation; role of a physiotherapist in the psychiatry; communication with psychiatric patients

2nd week:
Lecture: Group training, structure of the rhythmic movement therapy

3rd week:
Lecture: Movement therapy for addiction patients; principles of the symptom-oriented movement therapy in distress syndromes

4th week:
Lecture: Psychiatric syndromes with disturbed body image and experience; disorders of body experience in psychotic diseases

5th week:
Lecture: Principles of symptom-oriented movement therapy in mood disorders; relaxation techniques

6th week:
Lecture: Communicative movement therapy; Alexander method; demonstration of the Feldeinkrais method and dance therapy

7th week:
Lecture: Infant psychiatric disorders; Attention Deficit Hyperactivity Disorder, (ADHD); psychiatric disorders in elderly persons

8th week:
Lecture: Midterm written exam
Practical: Significance of the physiotherapist’s personality; improvement of personality by game; communication exercises; games to improve communication skills

Self-control Test (Theoretical knowledge)

9th week:
Practical: What can do the physiotherapist, if the psychiatric disorder is a concomitant disease? Case study; demonstration and practice of the rhythmic exercises

10th week:
Practical: Demonstration and practice of the movement therapy

11th week:
Practical: Demonstration of the exercises aimed to improve the body image; individual and group movement therapy possibilities for schizophrenia

12th week:
Practical: Demonstration and practice of the movement therapy applied in bipolar disorders

13th week:
Practical: Demonstration and practice of the communicative movement therapy; self-expression through movement

14th week:
Practical: Movement therapy in the psychiatric disorders of the children; movement therapy for ADHD; improvement of the physical and mental functions of dementia patients

15th week:
Practical: End-term practice examination
Requirements

Prerequisite: Psychiatry I

Attendance at lectures is highly recommended, since the topics in examination cover the lectured topics. The attendance at practices is compulsory. The signature of the Lecture Book may be refused if one has more than 4-hour absences from the practical hours.

Subject: REHABILITATION
Year, Semester: 4th year/1st semester
Number of teaching hours:
Lecture: 30
Seminar: 15
Practical: 15

1st week:
Lecture: Definition of rehabilitation; history, main fields of rehabilitation; ICF
Seminar: Meet with people with disabilities – free discussion

2nd week:
Lecture: Rehabilitation medicine: definitions, rehabilitation programs; basic features of the assessments
Seminar: Assessment of ADL, global functions

3rd week:
Lecture: Medical rehabilitation: therapy approaches; team work
Practical: Practice at the Department of Rehabilitation and Physical Medicine (OT)

4th week:
Lecture: Educational rehabilitation in childhood and for adults
Practical: Visit to a special school/ early intervention program

5th week:
Lecture: Main features of vocational rehabilitation
Practical: Visit to an integrated workplace

6th week:
Lecture: Social systems serving people with disabilities. Guiding international documents. Rights of people with disabilities
Practical: Visit to a daily care center

7th week:
Lecture: Psychological approach in rehabilitation; communication and communication disorders
Seminar: Discussion of the lectured topics

8th week:
Lecture: Medical rehabilitation of persons with cardiac diseases; secondary prevention
Seminar: Cardiac training programs

9th week:
Lecture: Main fields of neurological rehabilitation: TBI, SCI, post-stroke rehabilitation
Seminar: PT methods in rehabilitation

10th week:
Lecture: Rehabilitation for people with chronic neuro-musculoskeletal conditions
Seminar: Orthoses, mobility devices and care tools

11th week:
Lecture: Pediatric rehabilitation
Practical: Visit to the Pediatric Rehabilitation Centre

12th week:
Lecture: Special rehabilitation needs of elderly people (OP, fractures, etc.) and persons after amputation
Practical: Practice in Kenézy Hospital Rehabilitation Unit (Prosthetics included)

13th week:
Lecture: Pulmonary rehabilitation
### ACADEMIC PROGRAM FOR THE 4TH YEAR

<table>
<thead>
<tr>
<th>Week</th>
<th>Practical</th>
<th>Lecture</th>
<th>Seminar</th>
<th>Practical</th>
</tr>
</thead>
<tbody>
<tr>
<td>14th</td>
<td>Practice in Rehabilitation Unit of Department of Pulmonology</td>
<td>Psychiatry rehabilitation</td>
<td>Visitation of the psychiatric rehabilitation program at Department of Psychiatry</td>
<td></td>
</tr>
<tr>
<td>15th</td>
<td>Role of non-governmental organizations in rehabilitation</td>
<td>Repetition, summary</td>
<td>Consultation</td>
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</tbody>
</table>

### Requirements

Prerequisites: Rheumatology for Physiotherapists II, Physiotherapy of the Movement System I - PT in Orthopedics and Traumatology

Attendance at lectures is highly recommended, since the topics in examination cover the lectured topics. The attendance at seminars and practices is compulsory. The signature of the Lecture Book may be refused if one has more than 4-hour absences at the seminars or practical hours.

### Subject: RHEUMATOLOGY FOR PHYSIOTHERAPISTS III

- **Year, Semester:** 4th year/1st semester
- **Number of teaching hours:** Practical: 30

<table>
<thead>
<tr>
<th>Week</th>
<th>Practical</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st</td>
<td>Demonstration of examination</td>
</tr>
<tr>
<td>2nd</td>
<td>Treatment of the joint pain</td>
</tr>
<tr>
<td>3rd</td>
<td>Symptoms and treatment of the rheumatoid arthritis</td>
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<tr>
<td>4th</td>
<td>Exercises with joint protection</td>
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<tr>
<td>5th</td>
<td>Arthrosis of the joints, symptoms, pain and complications</td>
</tr>
<tr>
<td>6th</td>
<td>Complex functional treatment of the ankylosing spondylitis</td>
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<tr>
<td>7th</td>
<td>Targeted exercises of the ankylosing spondylitis by the methods of physiotherapy</td>
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<tr>
<td>8th</td>
<td>Examination and general physiotherapy</td>
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<tr>
<td>9th</td>
<td>Treatments, exercises in arthrosis</td>
</tr>
<tr>
<td>10th</td>
<td>Soft tissue rheumatism, diagnostics and treatment</td>
</tr>
<tr>
<td>11th</td>
<td>Treatment of periarthropathies</td>
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<tr>
<td>12th</td>
<td>Osteoporosis, functional treatment</td>
</tr>
<tr>
<td>13th</td>
<td>Fibromyalgia: symptoms, diagnostics and treatment</td>
</tr>
<tr>
<td>14th</td>
<td>Polymyositis and dermatomyositis</td>
</tr>
<tr>
<td>15th</td>
<td>Case studies</td>
</tr>
</tbody>
</table>
Requirements
Prerequisite: Rheumatology for Physiotherapists II
Attendance at demonstration practices is compulsory. Participation in the demonstration practices is a criterion for the certificate of completion (absolutorium). If you miss more than 4 hours in Orthopedics and/or Traumatology practices, the signature of the Lecture Book will be refused.

Subject: THESIS II
Year, Semester: 4th year/1st semester
Number of teaching hours:

1st week:
Practical: Content: data collection, analysis of data, constructing the figures and writing the Methods.

Requirements
Prerequisite: Thesis I
The aim of the course is to help the process of scientific work. Content: data collection, analysis of data, constructing the figures and writing the Methods.

Subject: TRAUMATOLOGY AND INTENSIVE THERAPY FOR PHYSIOTHERAPISTS II
Year, Semester: 4th year/1st semester
Number of teaching hours:
Lecture: 15
Practical: 15

1st week:
Lecture: Observation, monitoring and documentation at the intensive therapy unit
Practical: Equipments at the intensive therapy unit; role of the physiotherapist in the team; special aspects of the children care

2nd week:
Lecture: Monitoring of the brain function; renal function; laboratory diagnostics; infection control; documentation
Practical: Role of physiotherapists in the acute care of neurological patients, nursing in cerebrovascular crisis, tasks for physiotherapists

3rd week:
Lecture: Water and electrolyte balance in normal and pathologic states
Practical: Water and electrolyte balance, role of the physiotherapist in the care

4th week:
Lecture: Unconscious and disturbed patient; grades of the disorientation
Practical: Care of a disoriented patient, role of the physiotherapist

5th week:
Lecture: Danger of the airway obstruction, support, nursing, physiotherapy
Practical: Care of a comatose patient, role of the physiotherapist

6th week:
Lecture: Postoperative patient care; postoperative respiratory disorders, prevention and treatment
Practical: Postoperative intensive care, tasks for physiotherapists; indications and
### ACADEMIC PROGRAM FOR THE 4TH YEAR

<table>
<thead>
<tr>
<th>Week</th>
<th>Topic</th>
<th>Lecture</th>
<th>Practical</th>
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</thead>
<tbody>
<tr>
<td>1st week</td>
<td>Structure of health care: primary care, specialty care, hospital, public health; functions of health care; economic and medical</td>
<td>Lecture: Structure of health care: primary care, specialty care, hospital, public health; functions of health care; economic and medical</td>
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<tr>
<td>2nd week</td>
<td>contraindications of the respiratory physiotherapy in the postoperative period</td>
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<tr>
<td>3rd week</td>
<td>7th week: Lecture: Polytraumatized patient, Multitrauma, polytrauma. Chest injuries, role of the physiotherapist in the treatment Practical: Tasks of the physiotherapist in the care of a traumatized patient; medical care of the patients with chest, cranium and spinal cord injury</td>
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<tr>
<td>4th week</td>
<td>8th week: Lecture: Intensive therapy of the acute coronary syndrome (ACS), patho-physiology, types and symptoms of the cardiac insufficiency Practical: Tasks of the physiotherapist in the early mobilization of the patients after myocardial infarct or cardiac surgery intervention</td>
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<tr>
<td>5th week</td>
<td>9th week: Lecture: Mobilization, physiotherapy in ACS and cardiac insufficiency Practical: Tasks of the physiotherapist in the early mobilization of the patients after myocardial infarct or cardiac surgery intervention, indications and contraindications of the movement therapy</td>
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<tr>
<td>6th week</td>
<td>10th week: Lecture: Respiratory insufficiency and its</td>
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<tr>
<td>7th week</td>
<td>11th week: Lecture: Respiratory physiotherapy Practical: Methods of the respiratory therapy, criteria for application in the acute respiratory insufficiency</td>
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<tr>
<td>8th week</td>
<td>12th week: Lecture: Artificial respiration, indications, types of respirators Practical: Physiotherapy for patient with prolonged mechanical respiration</td>
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<tr>
<td>9th week</td>
<td>13th week: Lecture: Methods of mechanical ventilation, artificial breathing strategy Practical: Breaking the patient of the respirator</td>
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<tr>
<td>10th week</td>
<td>14th week: Lecture: Summary Practical: Summary, repetition</td>
<td></td>
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</tr>
<tr>
<td>11th week</td>
<td>15th week: Lecture: Consultation Practical: End-term exam</td>
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</tbody>
</table>

### Requirements
Prerequisites: Physiology, Internal Medicine for Physiotherapists III, Mobilization-Manual Techniques I

Attendance at lectures is highly recommended, since the topics in examination cover the lectured topics. Attendance at practices is compulsory. The signature of the Lecture Book may be refused if one has more than 4-hour absences from the practical hours.
<table>
<thead>
<tr>
<th>Week</th>
<th>Lecture/Practical</th>
<th>Topics</th>
</tr>
</thead>
<tbody>
<tr>
<td>2nd week</td>
<td>Lecture</td>
<td>Data in the health care; classification: taxonomy, nosology; code systems; ICD, WHO, SNOMED... data sources: measurements, diagnostic sources, digital signal processing, digital image and sound processing</td>
</tr>
<tr>
<td>3rd week</td>
<td>Lecture</td>
<td>Data management: information systems, databases, network management, data flow</td>
</tr>
<tr>
<td>4th week</td>
<td>Lecture</td>
<td>Physical and logical techniques and solutions of the protection of IT systems; the issues of privacy, legal and ethical rules; basics of cryptography</td>
</tr>
<tr>
<td>5th week</td>
<td>Lecture</td>
<td>Comparison of the health care systems in different countries: administration, coding, finance, data management; standards</td>
</tr>
<tr>
<td>6th week</td>
<td>Practical</td>
<td>Information and data processing; the concepts of information; steps of information processing; data – information – knowledge; foundations of database management, data model, database definition; building databases; importance of databases.</td>
</tr>
<tr>
<td>7th week</td>
<td>Practical</td>
<td>The elements of data model; database operations; database management; operations: MS Excel; formulas, functions, graphs; how to increase the efficacy of dissections? Statistical aspects of data management in health care; tools in Excel application for special purposes;</td>
</tr>
<tr>
<td>8th week</td>
<td>Practical</td>
<td>Database management systems. Comparison of spreadsheet and database management applications MS Excel – MS Access.</td>
</tr>
<tr>
<td>9th week</td>
<td>Practical</td>
<td>MS Excel – Pivot table, queries, reports, charts.</td>
</tr>
<tr>
<td>10th week</td>
<td>Practical</td>
<td>Decision making; geographic information system (GIS) visualization methods</td>
</tr>
<tr>
<td>11th week</td>
<td>Practical</td>
<td>Application of GIS in health care; communication between systems, applications.</td>
</tr>
<tr>
<td>12th week</td>
<td>Practical</td>
<td>Collaboration work – file sharing and online office applications, sharing data, sharing information, work in groups.</td>
</tr>
<tr>
<td>13th week</td>
<td>Practical</td>
<td>Information sources and databases in the public health practice</td>
</tr>
<tr>
<td>14th week</td>
<td>Practical</td>
<td>Practice exam.</td>
</tr>
</tbody>
</table>

**Requirements**

Prerequisites: Basics of Informatics, Preventive Medicine and Public Health II

Attendance at lectures is strongly recommended, the attendance at practical hours is compulsory. If you miss more than 4 hours, the signature will be refused.
Department of Physiotherapy, Faculty of Public Health

Subject: INTERNAL MEDICINE CLINICAL PRACTICE
Year, Semester: 4th year/2nd semester
Number of teaching hours: Practical: 80

Topics:
Lecture: Peripheral arterial diseases; venous circulatory disorders; acute myocardial infarct; post-infarct state; other diseases in cardiovascular rehabilitation; intensive therapy in cardiology; out-patient training

Requirements
Prerequisite: Internal Medicine for Physiotherapists III
Educational objective: Students learn the special profile of the department; special methods of examination and therapy learn to communicate in a professional environment, as well as with patients and their relatives. Skills to be acquired: problem identification, analysis, examination with and without supervision, preparation and implementation of treatment plans, assessment of patients’ progress, recognition of acute and life threatening conditions and acting in emergency, communication skills (with patients and health care professionals), keeping the ethical standards of the profession.
Requirements: The students are required to perform the examinations, making plan for physiotherapy and carry out the treatment under supervision.

Subject: NEUROLOGY CLINICAL PRACTICE
Year, Semester: 4th year/2nd semester
Number of teaching hours: Practical: 80

Topics:
Practical: Central paresis; peripheral paresis; sclerosis multiplex; Parkinson’s syndrome; muscular disorders; other neurological diseases

Requirements
Prerequisite: Neurology for Physiotherapists II
Educational objective: Students learn the special profile of the department; special methods of examination and therapy, learn to communicate in a professional environment, as well as with patients and their relatives. Skills to be acquired: problem identification, analysis, examination with and without supervision, preparation and implementation of treatment plans, assessment of patients’ progress, recognition of acute and life threatening conditions and acting in emergency, communication skills (with patients and health care professionals), keeping the ethical standards of the profession.
Requirements: The students are required to perform the examinations, making plan for physiotherapy and carry out the treatment under supervision.
Subject: ORTHOPEDICS CLINICAL PRACTICE
Year, Semester: 4th year/2nd semester
Number of teaching hours:
Practical: 120

Topics:
Practical: Orthopedic diseases of spine; orthopedic diseases of upper extremities; orthopedic diseases of lower extremities; pre- and postoperative physiotherapy

Requirements
Prerequisite: Physiotherapy of the Movement System II - PT in Orthopedics and Traumatology
Educational objective: Students learn the special profile of the department; special methods of examination and therapy learn to communicate in a professional environment, as well as with patients and their relatives. Skills to be acquired: problem identification, analysis, examination with and without supervision, preparation and implementation of treatment plans, assessment of patients’ progress, recognition of acute and life threatening conditions and acting in emergency, communication skills (with patients and health care professionals), keeping the ethical standards of the profession.
Requirements: The students are required to perform the examinations, making plan for physiotherapy and carry out the treatment under supervision.

Subject: REHABILITATION CLINICAL PRACTICE
Year, Semester: 4th year/2nd semester
Number of teaching hours:
Practical: 80

1st week:
Practical: Rehabilitation in cranio-cerebral injuries; injuries of spinal cord; post-amputation state; other diseases requiring rehabilitation therapy

Requirements
Prerequisite: Rehabilitation
Educational objective: Students learn the special profile of the department; special methods of examination and therapy learn to communicate in a professional environment, as well as with patients and their relatives. Skills to be acquired: problem identification, analysis, examination with and without supervision, preparation and implementation of treatment plans, assessment of patients’ progress, recognition of acute and life threatening conditions and acting in emergency, communication skills (with patients and health care professionals), keeping the ethical standards of the profession.
Requirements: The students are required to perform the examinations, making plan for physiotherapy and carry out the treatment under supervision.
Subject: RHEUMATOLOGY CLINICAL PRACTICE
Year, Semester: 4th year/2nd semester
Number of teaching hours:
Practical: 120

Topics:
Lecture: Rheumatoid arthritis; ankylosing spondylitis; osteoporosis; soft tissue rheumatism; fibromyalgia; other rheumatoid diseases

Requirements
Prerequisite: Rheumatology for Physiotherapists II
Educational objective: Students learn the special profile of the department; special methods of examination and therapy learn to communicate in a professional environment, as well as with patients and their relatives. Skills to be acquired: problem identification, analysis, examination with and without supervision, preparation and implementation of treatment plans, assessment of patients’ progress, recognition of acute and life threatening conditions and acting in emergency, communication skills (with patients and health care professionals), keeping the ethical standards of the profession.
Requirements: The students are required to perform the examinations, making plan for physiotherapy and carry out the treatment under supervision.

Subject: THESIS III
Year, Semester: 4th year/2nd semester
Number of teaching hours:
Topics:
Practical: Analysis and discussion of the results on the basis of scientific literature, writing
the Thesis

Requirements
Prerequisite: Thesis II
Evaluation and discussion of the results, writing the Thesis.

Subject: TRAUMATOLOGY CLINICAL PRACTICE
Year, Semester: 4th year/2nd semester
Number of teaching hours:
Practical: 120

Topics:
Practical: Injuries of spine; injuries of upper extremities; injuries of lower extremities; poly-
traumatization; intensive therapy in traumatology

Requirements
Prerequisite: Physiotherapy of the Movement System II – PT in Orthopedics and Traumatology
Educational objective: Students learn the special profile of the department; special methods of
examination and therapy learn to communicate in a professional environment, as well as with
patients and their relatives. Skills to be acquired: problem identification, analysis, examination
with and without supervision, preparation and implementation of treatment plans, assessment
of patients’ progress, recognition of acute and life threatening conditions and acting in
emergency, communication skills (with patients and health care professionals), keeping the
ethical standards of the profession.
Requirements: The students are required to perform the examinations, making plan for
physiotherapy and carry out the treatment under supervision.
CHAPTER 13
ELECTIVE COURSES

Department of Immunology

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

1st week:

2nd week:
Lecture: Cellular components of the immune system: The development of the major lineages of blood cells.

3rd week:

4th week:
Lecture: T cells; types and functions: Development of T-lymphocytes, TCR variability. Structure of TCR. Cytotoxic T cells. Helper and regulatory T cells.

5th week:

6th week:

7th week:
Lecture: Structure of antibodies: Production of various antibody isotypes and their functions. Affinity maturation, somatic recombination, isotype switching.

8th week:

9th week:
Lecture: The immune response to intracellular pathogens. Immune response to viral infection. The immune response to extracellular pathogens.

10th week:
Lecture: Inflammation. Chemokine mediated migration of leukocytes.

11th week:
Lecture: Memory. Passive and active immunization.

12th week:
Lecture: Hypersensitivity reactions.

13th week:
Lecture: Consultation.
Requirements
During the semester one self-control test (SCT) will be organized at the end of the semester on week 15. The SCT contains the material of the lectures.

If a student's score for the SCT is higher than 50%, she/he will be offered a grade. Should student accept this offered grade, she/he will be exempted from the end-term exam.

Those students who have not qualified for an offered grade must take the end-term exam during the exam period. The end-term exam consists of a written and an oral part.

"A" exam: To qualify for the oral part of an "A" exam, students must score higher than 60% on the written (entry) exam. Students who score less than 60% on the written part will fail (thus, the oral exam will not take place).

"B" exam: "B" exams are identical to "A" exams except when the student failed the oral, but not the written, part of the "A" exam. With a score of higher than 60% on the written part of the "A" exam, the student is exempt from the written exam on the "B" exam.

"C" exam: "C" exams are oral exams only, without a written entry test.

Those students who would like to improve the grade of a successful ("A" or "B" exam) or do not accept the offered grade, are also exempted from the entry test.

The list of exam topics is available on the departmental website (www.immunology.unideb.hu).
Lecture materials and other information concerning education can be found on our website at www.immunology.unideb.hu by clicking the link "For Students".

<table>
<thead>
<tr>
<th>Department of Physiotherapy, Faculty of Public Health</th>
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<tbody>
<tr>
<td>Subject: PSYCHOSOMATICS</td>
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<tr>
<td>Year, Semester: 4th year/1st semester</td>
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<tr>
<td>Number of teaching hours:</td>
</tr>
<tr>
<td>Lecture: 15</td>
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</tbody>
</table>

1st week:
Lecture: Definition of psychosomatis, historical background

2nd week:
Lecture: Psycho-neuro-immunology; psychosomatic approach of the patients

3rd week:
Lecture: Psychosomatic syndromes

4th week:
Lecture: Psychosomatic syndromes

5th week:
Lecture: Pain, distress

6th week:
Lecture: Depression; communication with the patients

7th week:
Lecture: Suggestive communication; possibilities for therapy

8th week:
Lecture: Consultation
Requirements

Prerequisite: Internal Medicine for Physiotherapists I

Attendance at lectures is strongly recommended.

Subject: SPECIAL METHODS IN PHYSIOTHERAPY I - AESTHETIC BODY FORMING GYMNASICS
Year, Semester: 2nd year/2nd semester
Number of teaching hours:
Practical: 30

1st week:
Practical: Position, aim, principles and importance of the aesthetic gymnastics in physiotherapy

2nd week:
Practical: Exercises improving kinesthesia in different positions

3rd week:
Practical: Concept and importance of elongation; synergism and making independent in practice

4th week:
Practical: Movements of the trunk: leaning, throwing, bending, arch, waving and turning

5th week:
Practical: Trunk flexion and extension exercises in different positions I

6th week:
Practical: Trunk flexion and extension exercises in different positions II

7th week:
Practical: Trunk flexion and extension exercises in different positions III

8th week:
Practical: Trunk lateral flexion exercises in different positions I

9th week:
Practical: Trunk lateral flexion exercises in different positions II

10th week:
Practical: Trunk rotation exercises in different positions

11th week:
Practical: Shoulder complex lifting, shoulder wave and shoulder plain exercises in different position

12th week:
Practical: Pelvic complex lifting and “leg bit” in different position I

13th week:
Practical: Pelvic complex lifting and “leg bit” in different position II

14th week:
Practical: End-term exam

15th week:
Practical: End-term exam

Requirements

Prerequisite: Kinesiology II

Attendance at practices is compulsory. The signature of the Lecture Book may be refused if one has more than 4-hour absences at the practical hours.
Subject: SPECIAL METHODS IN PHYSIOTHERAPY II - AUTOSTRETCHING
Year, Semester: 3rd year/1st semester
Number of teaching hours:
Practical: 15

1st week:
Practical: Physiological background, principles and types of stretching. The place of autostretching in the extending techniques

2nd week:
Practical: Examination of extensibility in trunk flexors, stretch in different positions I

3rd week:
Practical: Examination of extensibility in trunk flexors, stretch in different positions II

4th week:
Practical: Examination of extensibility in trunk extensors, stretch in different positions I

5th week:
Practical: Examination of extensibility in trunk extensors, stretch in different positions II

6th week:
Practical: Examination of extensibility in the trunk lateral flexors, stretch in different positions I

7th week:
Practical: Examination of extensibility in the trunk lateral flexors, stretch in different positions II

8th week:
Practical: Examination of extensibility in the shoulder complex, stretch in different positions I

9th week:
Practical: Examination of extensibility in the shoulder complex, stretch in different positions II

10th week:
Practical: Examination of extensibility in the pelvic complex, stretch in different positions I

11th week:
Practical: Examination of extensibility in the pelvic complex, stretch in different positions II

12th week:
Practical: Examination of extensibility in the ischiocrural muscles, stretch in different positions I

13th week:
Practical: Examination of extensibility in the triceps surae, stretch in different positions

14th week:
Practical: End-term exam

15th week:
Practical: End-term exam

Requirements
Prerequisite: Mobilization-Manual Techniques I

Attendance at practices is compulsory. The signature of the Lecture Book may be refused if one has more than 4-hour absences at the practical hours.
Subject: SPECIAL METHODS IN PHYSIOTHERAPY III - EDUCATION OF SPINE PATIENTS  
Year, Semester: 1st year/2nd semester  
Number of teaching hours:  
Practical: 30

<table>
<thead>
<tr>
<th>1st week:</th>
<th>8th week:</th>
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<tbody>
<tr>
<td>Practical: Overview of the structure and function of the spine according to the physiotherapeutic point of view.</td>
<td>Practical: Special tests for functional examination III. Cervicodorsal part.</td>
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<tr>
<th>2nd week:</th>
<th>9th week:</th>
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<tbody>
<tr>
<td>Practical: Analysis of the spine movements on the morphological background.</td>
<td>Practical: Spine education in the pre-school age.</td>
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<tr>
<th>3rd week:</th>
<th>10th week:</th>
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<tr>
<th>4th week:</th>
<th>11th week:</th>
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<tbody>
<tr>
<td>Practical: Synergistic functions of the trunk and limbs in different planes.</td>
<td>Practical: Spine education at the workplace.</td>
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<thead>
<tr>
<th>5th week:</th>
<th>12th week:</th>
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<tbody>
<tr>
<td>Practical: Standard examination methods of the spine.</td>
<td>Practical: Student project presentation.</td>
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<tr>
<th>6th week:</th>
<th>13th week:</th>
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<tbody>
<tr>
<td>Practical: Special tests for functional examination I. Thoracolumbar part.</td>
<td>Practical: Student project presentation.</td>
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<th>7th week:</th>
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<th>8th week:</th>
<th>15th week:</th>
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<tr>
<td>Practical: End-term exam.</td>
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Requirements

Prerequisite: Kinesiology II

Attendance at practices is compulsory. The signature of the Lecture Book may be refused if one has more than 4-hour absences from the practical hours. The term mark will be constructed on the basis of a written exam.

Subject: SPECIAL METHODS IN PHYSIOTHERAPY IV - LYMPHDRAINAGE  
Year, Semester: 3rd year/1st semester  
Number of teaching hours:  
Lecture: 10  
Practical: 20
### ELECTIVE COURSES

| **1st week:** | Lecture: Morphology and physiology of lymphatic circulation, insufficiency |
| **2nd week:** | Lecture: Main types, stages and characteristics of lymphedema |
| **3rd week:** | Lecture: Reasons of lymphedema, symptoms, early and late consequences. Complex treatment of the lymphedema |
| **4th week:** | Lecture: Basis of the lymphatic drainage. Structure and processing of the lymphatic drainage |
| **5th week:** | Lecture: Indications and contraindications of the lymphatic drainage |
| **6th week:** | Lecture: Complications of the lymphatic drainage Practical: Patient examination. Demonstration of basic and edema maneuvers. |
| **7th week:** | Lecture: Possibilities of prevention Practical: Practice of basic and edema maneuvers |
| **8th week:** | Lecture: Rules for the treatment of the face and neck Practical: Demonstration of the treatment of the face and neck |
| **9th week:** | Lecture: Types of the compression treatment, indications and contraindications Practical: Practice of the treatment of the face and neck |
| **10th week:** | Lecture: Bandage, materials, processing, indications and contraindications Practical: Practical relations of the bandage treatment |
| **11th week:** | Practical: Demonstration of bandage (upper limb) |
| **12th week:** | Practical: Demonstration of bandage (lower limb) |
| **13th week:** | Practical: Repetition, practice |
| **14th week:** | Practical: Repetition, practice |
| **15th week:** | Practical: End term practice exam |

**Requirements**

Prerequisite: Internal Medicine for Physiotherapists I

Attendance at lectures is highly recommended, since the topics in examination cover the lectured topics. Attendance at practices is compulsory. The signature of the Lecture Book may be refused if one has more than 4-hour absences from the practical hours.

Subject: SPECIAL METHODS IN PHYSIOTHERAPY VIII - COMPLEMENTARY AND ALTERNATIVE MEDICINE

Year, Semester: 1st year/2nd semester
Number of teaching hours:
Lecture: 15

**1st week:** Lecture: Definition and history of the complementary and alternative medicine (CAM). Relevance and role of CAM in the modern...
2nd week:
Lecture: Legal regulations of CAM in Hungary and Europe. Classification of CAM; “Mind-body” Medicine

3rd week:
Lecture: Natural, bio-based products. Alternative medical system, energy medicine

4th week:
Lecture: Manipulative and body-centered methods. Traditional Chinese medicine

5th week:
Lecture: Definition and relevance of evidence based CAM. Acupuncture

6th week:
Lecture: Manual therapy (osteopathy, chiropractic). Massage, relaxation

7th week:
Lecture: Integrative medicine. Role and efficiency of integrative medicine in different countries of European Union

Requirements

Prerequisite: Basics of Physiotherapy

Attendance at lecture is highly recommended. The term mark (AW5) will be calculated on the basis of a written examination according to the scale as follows:

<table>
<thead>
<tr>
<th>Percentage</th>
<th>Grade</th>
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<tbody>
<tr>
<td>0-59%</td>
<td>fail (1)</td>
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<tr>
<td>60-69%</td>
<td>pass (2)</td>
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<tr>
<td>70-79%</td>
<td>satisfactory (3)</td>
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<tr>
<td>80-89%</td>
<td>good (4)</td>
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<tr>
<td>90-100%</td>
<td>excellent (5)</td>
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Subject: SPECIAL METHODS IN PHYSOTHERAPY V - KLAPP'S METHODS
Year, Semester: 4th year/1st semester
Number of teaching hours:
Practical: 15

1st week:
Practical: Position and importance of the crawling exercises in physiotherapy

2nd week:
Practical: Aims, principles and importance of the Klapp’s exercises

3rd week:
Practical: Types of crawling exercises

4th week:
Practical: Learning and practice of exercises

5th week:
Practical: Learning and practice of exercises

6th week:
Practical: Learning and practice of exercises

7th week:
Practical: Learning and practice of exercises

8th week:
Practical: Application and adaptation the exercises in orthopedic physical therapy - abnormal posture

9th week:
Practical: Application and adaptation the exercises in orthopedic physical therapy - scoliosis
10th week:
Practical: Application and adaptation the exercises in orthopedic physical therapy - osteochondrosis, Scheuermann disease

11th week:
Practical: Application and adaptation the exercises in rheumatology - back pain

12th week:
Practical: Application and adaptation the exercises in rheumatology – ankylosing spondylitis

13th week:
Practical: Consultation

14th week:
Practical: End-term exam

15th week:
Practical: End-term exam

Requirements
Prerequisite: Physiotherapy of the Movement System - PT in Orthopedics and Traumatology I
Attendance at practices is compulsory. The signature of the Lecture Book may be refused if one has more than 4-hour absences at the practical hours.

Subject: SPECIAL SUBAQUATIC THERAPY I - INTRODUCTION TO SUBAQUATIC THERAPY
Year, Semester: 1st year/2nd semester
Number of teaching hours:
Lecture: 10
Practical: 20

1st week:
Lecture: Relationship of the humans and water

2nd week:
Lecture: Physical and chemical effects of the water on the human organism

3rd week:
Lecture: Orientation in the subaquatic space

4th week:
Lecture: Analysis of the spinal column movements, adaptation of the movements to the effects of the subaquatic surroundings

5th week:
Lecture: Movements in the water: relaxation and strengthening of the truncal muscles in the subaquatic space

6th week:
Lecture: Analysis of the upper limb movements, adaptation of the movements to the effects of the subaquatic surroundings

Practical: Movements in the water: relaxation and strengthening of the truncal muscles in the subaquatic space. Movements in the water: movements of the upper limbs in the subaquatic surroundings, muscle strengthening

7th week:
Lecture: Analysis of the lower limb movements, adaptation of the movements to the effects of the subaquatic surroundings

Practical: Movements in the water: movements of the lower limbs in the subaquatic surroundings, muscle strengthening

8th week:
Lecture: Individual and group exercises in the subaquatic space

Practical: Movements in the water: contracture solution facilitated by the water
### ENGLISH PROGRAM BULLETIN BSC IN PHYSIOTHERAPY

<table>
<thead>
<tr>
<th>9th week:</th>
<th>12th week:</th>
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<tbody>
<tr>
<td>Lecture: Use of fixed and mobile instruments in water</td>
<td>Practical: Movements in the water: mobilization of the spinal column. Movements in the water: improvement of the coordination</td>
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<td>Practical: Movements in the water: instrumental facilitation of the movements in the water</td>
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<th>10th week:</th>
<th>13th week:</th>
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<tr>
<td>Lecture: Increase in the resistance of the medium by using instruments</td>
<td>Practical: Fitness exercises in the water</td>
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<tr>
<td>Practical: Movements in the water: increase in the resistance of the medium to achieve muscle strengthening</td>
<td>Practical: End-term examination</td>
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<th>11th week:</th>
<th>14th week:</th>
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<tr>
<td>Practical: Movements in the water: analysis of the gait in water</td>
<td>Practical: End-term examination</td>
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<th>15th week:</th>
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<tbody>
<tr>
<td>Practical: End-term examination</td>
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### Requirements

Prequisite: Basics of Physiotherapy

Attendance at lectures is highly recommended, since the topics in exam cover the lectured topics. Attendance at practices is compulsory. The signature in the Lecture Book may be refused if one has more than 4-hour absences from the practical hours.

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### Subject: SPORTS PHYSIOTHERAPY AND MEDICINE IV - TAPING TECHNIQUES

Year, Semester: 3rd year/1st semester

Number of teaching hours:

Practical: 15

<table>
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<tr>
<th>1st week:</th>
<th>5th week:</th>
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<tr>
<td>Lecture: Theoretical background, effects, precautions and requirements of kinematic taping</td>
<td>Lecture: The spine: examination and differential-diagnostics</td>
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Requirements
Prerequisites: Physiotherapy of the Movement System I, Rheumatology for Physiotherapists II
Attendance at practice is compulsory. The signature of the Lecture Book may be refused if one has more than 2-hour absences from the practical hours.

Subject: SPORTS PHYSIOTHERAPY AND MEDICINE I - MEASUREMENT AND IMPROVEMENT OF PHYSICAL ABILITIES
Year, Semester: 1st year/2nd semester
Number of teaching hours:
Lecture: 15
Practical: 15

1st week:
Lecture: Conditional ability – basics

2nd week:
Lecture: The training triad

3rd week:
Practical: Training in the gym - basics

4th week:
Lecture: Endurance

5th week:
Practical: Training in the gym: endurance - measuring and drills

6th week:
Lecture: Speed skill

7th week:
Practical: Training in the gym: Speed drill - measuring and drills

8th week:
Lecture: Force

9th week:
Practical: Training in the gym: Strenght training - measuring and drills

10th week:
Lecture: Complex conditional ability

11th week:
Practical: Complex conditional ability

12th week:
Lecture: Balance: training and rest

13th week:
Practical: Stretching - measuring and drills

14th week:
Practical: Outdoor training

15th week:
Practical: Endterm examination

Requirements
Prerequisite: Basics of Physiotherapy
Attendance at lectures is strongly recommended. Attendance at practices is compulsory. The signature of the Lecture Book may be refused if one has more than 4-hour absences from the practical hours.
Subject: SPORTS PHYSIOTHERAPY AND MEDICINE II - SPORTS MEDICINE
Year, Semester: 2nd year/2nd semester
Number of teaching hours:
Lecture: 15

1st week:
Lecture: Historical relations; position of the sports medicine in the medical supply and the sport

2nd week:
Lecture: System of the service; sports medicine

3rd week:
Lecture: Relations to internal medicine (role of physical activity in the prevention and treatment)

4th week:
Lecture: Basic knowledge in the sports surgery (sports injuries: definition, etiology, pathomechanism)

5th week:
Lecture: Basic knowledge in the sports surgery (acute care of sports injuries)

6th week:
Lecture: Basic knowledge in the sports surgery (overstressed injuries, general principles of treatment)

7th week:
Lecture: Rehabilitation of the sports injuries

8th week:
Lecture: Sports cardiology

9th week:
Lecture: Demonstration of patient examination (visit in the sport centre)

10th week:
Lecture: Sports psychology

11th week:
Lecture: Nutrition of sportsmen

12th week:
Lecture: Doping and related questions

13th week:
Lecture: Special tasks in the sports medicine

14th week:
Lecture: Special service in the sports medicine

15th week:
Lecture: Consultation

Requirements
Prerequisite: Orthopedics for Physiotherapists I
Attendance at lectures is strongly recommended.

Subject: SPORTS PHYSIOTHERAPY AND MEDICINE III - SPORTS PHYSIOTHERAPY
Year, Semester: 3rd year/2nd semester
Number of teaching hours:
Lecture: 15
Practical: 15

1st week:
Lecture: Principles of sports physiotherapy
Practical: Adaptation in sports

2nd week:
Lecture: Physiotherapy methods in sports

3rd week:
Lecture: Physiotherapy methods in sports

Practical: Strengthening of muscles in the sports activity
### Elective Courses

**Physiotherapy II**

Practical: Athletic training, improvement of the speediness and endurance

**4th Week:**
Lecture: Types and treatment of sports injuries
Practical: Warm up and stretching in different branches of sports

**5th Week:**
Lecture: Upper limb injuries and their rehabilitation
Practical: Proprioceptive training in the sports

**6th Week:**
Lecture: Lower limb injuries and their rehabilitation I
Practical: Principles of sports massage, physiotherapy in the sports

**7th Week:**
Lecture: Lower limb injuries and their rehabilitation II
Practical: Fixations and tapes in the sports

**8th Week:**
Lecture: Trunk, pelvis, neck and head injuries and their rehabilitation
Practical: Measurement of the results in rehabilitation, instrumental investigations

**9th Week:**
Lecture: Incidence of sports injuries in different sport branches I
Practical: Source and mechanism of injuries during sports activity I

**10th Week:**
Lecture: Incidence of sports injuries in different sport branches II
Practical: Source and mechanism of injuries during sports activity II

**11th Week:**
Lecture: Typical injuries of the women, children and elderly peoples, characteristics of their rehabilitation
Practical: Functional training tools

**12th Week:**
Lecture: Physiotherapeutic relations of the sports internal medicine diseases
Practical: Diet of the sportsmen

**13th Week:**
Lecture: Role of prevention in the sport
Practical: Return to the sport, role of the team work

**14th Week:**
Lecture: Sports rehabilitation from medical point of view, treatment of the acute injuries
Practical: Possibilities for disabled peoples

**15th Week:**
Lecture: Consultation
Practical: Practice exam

### Requirements

Prerequisite: Traumatology and Intensive Therapy for Physiotherapists I

The attendance at lectures is strongly recommended, the attendance at practices is compulsory. If you have more than 2 absences at the practical hours, the signature will be refused.

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**Subject: Sports Physiotherapy and Sports Medicine IV - Taping Techniques**

Year, Semester: 4th year/1st semester
Number of teaching hours:
Practical: 15

**1st Week:**
Practical: Theoretical background, effects, precautions and requirements of kinematic taping

184
ENGLISH PROGRAM BULLETIN BSC IN PHYSIOTHERAPY

2nd week:
Practical: The shoulder complex: examination and differential diagnostics

3rd week:
Practical: The upper extremities: examination and differential diagnostics

4th week:
Practical: Applied techniques for shoulder complex and upper extremities: introduction and practice

5th week:
Practical: The pelvico-hip complex and lower extremities: examination and differential diagnostics

6th week:
Practical: Applied techniques for pelvico-hip complex and lower extremities: introduction and practice

7th week:
Practical: The spine: examination and differential diagnostics. Applied techniques for spine: introduction and practice

8th week:
Practical: Practice exam

Requirements
Prerequisite: Physiotherapy of the Movement System I, Rheumatology for Physiotherapists II
Attendance at practical hours is compulsory. If you miss more than 4 hours, the signature will be refused.

Subject: SPORTS PHYSIOTHERAPY AND SPORTS MEDICINE IX - PILATES
Year, Semester: 3rd year/1st semester
Number of teaching hours:
Practical: 15

1st week:
Practical: History of Pilates method

2nd week:
Practical: Principles of Pilates

3rd week:
Practical: Spine, core and body alignment

4th week:
Practical: Muscle movement and mat work

5th week:
Practical: Abdominal work for movement and stabilization

6th week:
Practical: Strong back

7th week:
Practical: Stretching with Pilates drills

8th week:
Practical: Mat work

9th week:
Practical: Mat work with small equipments

10th week:
Practical: Pilates in sports rehabilitation

11th week:
Practical: Mat work

12th week:
Practical: Pilates machines

13th week:
Practical: Chi ball class

14th week:
Practical: Spirals class
**ELECTIVE COURSES**

**15th week:**
Practical: Self-control test

**Self-control Test**

**Requirements**

Prerequisites: Mobilization-manual Techniques I

Attendance at practical hours is compulsory. If you have more than 2 absences the signature will be refused.

**Subject: SPORTS PHYSIOTHERAPY AND SPORTS MEDICINE V - PULSE CONTROL**

Year, Semester: 2nd year/1st semester

Number of teaching hours:
Lecture: 15
Practical: 15

**1st week:**
Lecture: Introduction
Practical: Using the heart rate monitor

**2nd week:**
Lecture: Determining individual heart rate parameters
Practical: Fitness tests

**3rd week:**
Lecture: Training and energy system
Practical: Cardio machines

**4th week:**
Lecture: Training methods I
Practical: Running with heart rate monitors

**5th week:**
Lecture: Indoor-cycling trainings
Practical: Spinning® class

**6th week:**
Lecture: Polar own zone method
Practical: Training with dumbbells

**7th week:**
Lecture: Methods for calculating heart rate ranges
Practical: Outdoor sports

**8th week:**
Lecture: Training methods II
Practical: Circuit training

**9th week:**
Lecture: Heart rate variability
Practical: Cardio GX system

**10th week:**
Lecture: Training methods III
Practical: Interval training

**11th week:**
Lecture: Types of aerobic classes
Practical: Aerobic class

**12th week:**
Lecture: Training methods IV
Practical: Swimming

**13th week:**
Lecture: The Johnny G. Spinning® programme
Practical: High Intensity Spinning® class

**14th week:**
Lecture: Heart rate training in the sports rehabilitation
Practical: Fitness gym

**15th week:**
Lecture: Selfcontrol test
Practical: Selfcontrol test
Requirements

Prerequisite: Anatomy II

The attendance of lectures is highly recommended, the attendance at practices is compulsory. If you have more than 4-hour absences, the signature will be refused.

Subject: SPORTS PHYSIOTHERAPY AND SPORTS MEDICINE VIII - STEP TRAINING
Year, Semester: 1st year/2nd semester
Number of teaching hours:
Practical: 15

1st week:
Practical: The aim of the step aerobics type training. Role and significance in physiotherapy. Theoretical introduction and technical basis of step aerobics. Advantages and disadvantages, possibilities for application of linear type structural class and choreography. Low-impact, high-impact steps, mixed-impact classes, basis and possibilities of OwnZone training on step stairs.

2nd week:
Practical: Theoretical introduction, technical basis and practical application of STEP BASIC type low-impact linear and choreographed structural class.

3rd week:
Practical: Interval training on step stairs. Theoretical introduction, technical basis and practical application of POWER STEP type, mixed-impact, choreographed structural class.

4th week:
Practical: Improvement of conditional skills by strengthening exercises on step stairs. Harmony between choreography, strengthening and stretching.

5th week:
Practical: Cross training. Harmonic balance of fitness aerobics, step aerobics and strengthening.

6th week:

7th week:
Practical: Improvement of conditional and coordination skills by playful form on „step stairs in cycle”.

8th week:
Practical: Practice exam.

Requirements

Prerequisites: Kinesiology II, Cardiorespiratory and Exercise Physiology

The attendance at practices is compulsory. If you have more than 4-hour absence the signature may be refused.

Subject: TOOLS IN PHYSIOTHERAPY I - GYMNASTIC EQUIPMENTS
Year, Semester: 1st year/2nd semester
Number of teaching hours:
Practical: 30
**ELECTIVE COURSES**

<table>
<thead>
<tr>
<th>Week</th>
<th>Practical</th>
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</thead>
<tbody>
<tr>
<td>1st week</td>
<td>Practical: Introduction to the topic; demonstration of the equipments, technical instructions</td>
</tr>
<tr>
<td>2nd week</td>
<td>Practical: Repetition of definitions (planes, movements, kinesiology principles)</td>
</tr>
<tr>
<td>3rd week</td>
<td>Practical: Strengthening the upper limb muscles by bands in different positions I</td>
</tr>
<tr>
<td>4th week</td>
<td>Practical: Strengthening the upper limb muscles by bands in different positions II; group and paired exercises</td>
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<tr>
<td>5th week</td>
<td>Practical: Strengthening the upper limb muscles by bands in different positions III; group and paired exercises</td>
</tr>
<tr>
<td>6th week</td>
<td>Practical: Strengthening the upper limb muscles by bands in staying position; group and paired exercises</td>
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<tr>
<td>7th week</td>
<td>Practical: Improving the fine movements of the hand by different tools; repetition <strong>Self-control Test</strong></td>
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<tr>
<td>8th week</td>
<td>Practical: Strengthening the lower limb muscles by bands in different positions I</td>
</tr>
<tr>
<td>9th week</td>
<td>Practical: Strengthening the upper limb muscles by bands in different positions II; group and paired exercises</td>
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<tr>
<td>10th week</td>
<td>Practical: Strengthening the upper limb muscles by bands in different positions III; group and paired exercises</td>
</tr>
<tr>
<td>11th week</td>
<td>Practical: Strengthening the upper limb muscles by bands in different positions IV; group and paired exercises</td>
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<tr>
<td>12th week</td>
<td>Practical: Strengthening and endurance training with ball, use of stability trainer</td>
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<tr>
<td>13th week</td>
<td>Practical: Repetition, consultation</td>
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<tr>
<td>14th week</td>
<td>Practical: End-term exam</td>
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<tr>
<td>15th week</td>
<td>Practical: End-term exam</td>
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</tbody>
</table>

**Requirements**

Prerequisite: Basics of Physiotherapy

Attendance at practices is compulsory. The signature of the Lecture Book may be refused if one has more than 4-hour absences at the practical hours.

Subject: TOOLS IN PHYSIOTHERAPY II - BALLS

Year, Semester: 2nd year/1st semester

Number of teaching hours:

Practical: 30

<table>
<thead>
<tr>
<th>Week</th>
<th>Practical</th>
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<tbody>
<tr>
<td>1st week</td>
<td>Practical: Types of the balls, history</td>
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<tr>
<td>2nd week</td>
<td>Practical: Types of the drills, classification by the age and load</td>
</tr>
<tr>
<td>3rd week</td>
<td>Practical: Basic steps on the ball, effects of music, rhythm and tempo</td>
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<tr>
<td>Week</td>
<td>Lecture</td>
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<tr>
<td>4th</td>
<td>Practical: Structure of the basic exercise; strengthening and rendering the muscles of the shoulder and the arm</td>
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<tr>
<td>5th</td>
<td>Practical: Strengthening and rendering the abdominal muscles</td>
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<tr>
<td>6th</td>
<td>Practical: Strengthening and rendering the superficial and deep muscles of the back</td>
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<tr>
<td>7th</td>
<td>Practical: Strengthening and rendering the muscles of the thigh and leg</td>
</tr>
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<td>8th</td>
<td>Practical: Stretching and relaxing exercises, dynamic and static stretch</td>
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<tr>
<td>9th</td>
<td>Practical: Balance-improving and mixed exercises; individual, paired and group exercises on the ball</td>
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<tr>
<td>10th</td>
<td>Practical: Structure of the shape-forming and enhancing exercises</td>
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<tr>
<td>11th</td>
<td>Practical: Structure and effects of the fat burning drills; nutrition and water supplement; types of choreographies</td>
</tr>
<tr>
<td>12th</td>
<td>Practical: Use of the ball in different diseases and pathological states</td>
</tr>
<tr>
<td>13th</td>
<td>Practical: Preparation for the exam</td>
</tr>
<tr>
<td>14th</td>
<td>Practical: End-term exam</td>
</tr>
<tr>
<td>15th</td>
<td>Practical: End-term exam</td>
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</tbody>
</table>

**Requirements**

Prerequisite: Kinesiology I

Attendance at practices is compulsory. The signature of the Lecture Book may be refused if one has more than 4-hour absences at the practical hours.

**Subject: TOOLS IN PHYSIOTHERAPY III - PNF IN PRACTICE**

Year, Semester: 3rd year/2nd semester

Number of teaching hours:
Lecture: 10
Practical: 20

<table>
<thead>
<tr>
<th>Week</th>
<th>Lecture</th>
<th>Practical</th>
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</thead>
<tbody>
<tr>
<td>1st</td>
<td>Lecture: Significance of the proprioception in the motor control; relationship of the proprioception and the coordination</td>
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<tr>
<td></td>
<td>Practical: PNF as a part of the pre- and postoperative physiotherapy</td>
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<tr>
<td>2nd</td>
<td>Lecture: PNF in traumatology: types of damages of the upper extremity</td>
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<td></td>
<td>Practical: Posttraumatic restoration of the upper limb functions by using PNF techniques</td>
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<tr>
<td>3rd</td>
<td>Lecture: PNF in traumatology: types of damages of the lower extremity</td>
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<tr>
<td></td>
<td>Practical: Posttraumatic restoration of the lower limb functions by using PNF techniques</td>
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<tr>
<td>4th</td>
<td>Lecture: PNF in traumatology: damage of the spinal column</td>
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</tbody>
</table>

189
Practical: Posttraumatic restoration of the spinal column functions by using PNF techniques

**5th week:**
Lecture: PNF in rheumatology; diseases of the upper limb
Practical: Restoration of the upper limb functions in rheumatologic diseases by using PNF techniques

**6th week:**
Lecture: PNF in rheumatology; diseases of the lower limb
Practical: Demonstration, practical relations

**7th week:**
Lecture: PNF in rheumatology
Practical: Improvement of mobility of the spine in rheumatologic diseases by using PNF techniques

**8th week:**
Lecture: PNF in neurology, peripheral nerve injuries
Practical: Functional treatment of the peripheral nerve injuries

**9th week:**
Lecture: PNF in neurology, injuries of the CNS
Practical: Treatment of the CNS disorders

**10th week:**
Lecture: PNF in neurology, facial paresis
Practical: PNF in the facial region

**11th week:**
Lecture: PNF in orthopedics; gait disorders
Practical: Correction of gait disorders using PNF techniques

**12th week:**
Lecture: PNF in orthopedics, postural disorders
Practical: Correction of postural disorders using PNF techniques

**13th week:**
Lecture: PNF in orthopedics – other use
Practical: PNF in the perioperative period

**14th week:**
Lecture: Consultation
Practical: End-term exam

**15th week:**
Lecture: Consultation
Practical: End-term exam

**Requirements**

Prerequisite: Mobilization-Manual Techniques II

Attendance at practices is compulsory. The signature of the Lecture Book may be refused if one has more than 4-hour absences from the practical hours.

Subject: TOOLS IN PHYSIOTHERAPY IV - ORTHETICS-PROSTHETICS
Year, Semester: 3rd year/2nd semester
Number of teaching hours:
Lecture: 15

**1st week:**
Lecture: Definition of the medical aids; history; classification

**2nd week:**
Lecture: Role of the medical aids in the
rehabilitation; general characterization

3rd week:
Lecture: Role of physiotherapists in the patient education; development of tools

4th week:
Lecture: Upper limb orthoses, problems and possibilities

5th week:
Lecture: Lower limb orthoses

6th week:
Lecture: Lower limb prosthetics

7th week:
Lecture: Cervical spine orthoses, trunk corsets

8th week:
Lecture: Pelvic belts

9th week:
Lecture: Movement improving tools

10th week:
Lecture: Medical shoes

11th week:
Lecture: Compression stockings; incontinence management products

12th week:
Lecture: Anti-decubitus tools

13th week:
Lecture: Hygienic tools, medical aids for better quality of life

14th week:
Lecture: Hygienic tools, medical aids for better quality of life

15th week:
Lecture: Consultation

Requirements
Prerequisites: Orthopedics for Physiotherapists, Rheumatology for Physiotherapists I, Traumatology and Intensive Therapy for Physiotherapists I
Attendance at lectures is strongly recommended.

Subject: TOOLS IN PHYSIOTHERAPY V - SLING SUSPENSION FRAME
Year, Semester: 3rd year/2nd semester
Number of teaching hours:
Practical: 15

1st week:
Practical: The history of the therapy. Presentation of Sling suspension therapy. The different types of suspension device. Description of basic principles

2nd week:
Practical: The limbs suspension, mobilization in unencumbered position. Three-dimensional fixation. The role of resistance

3rd week:
Practical: Mobilization techniques in suspended position. The possibility of complex lower extremity rehabilitation. Arthrosis programme. Presentation of lower extremity exercises

4th week:
Practical: Mobilization of the cervical spine in suspended position. The triangle principle. Presentation of cervical spine exercises. Mobilization of the lumbar spine in suspended position. Presentation of lumbar spine exercises - stabilization and mobilization
5th week: Practical: Chest mobilization in suspended position, breathing exercises. Treatment of shoulder problems in suspended position. Full body suspension

6th week: Practical: Movement therapy for osteoporotic patients. Posture correction with sling suspension therapy. Treatment of scoliosis and ankylosing spondylitis in suspended position. Development of coordination and balance skills

7th week: Practical: Prevention and wellness with sling suspension therapy.

8th week: Practical: Practice Exam

Requirements
Prerequisites: Orthopedics for Physiotherapists, Rheumatology for Physiotherapists I, Traumatology for Physiotherapists I

Attendance at practices is compulsory. The signature of the Lecture Book may be refused if one has more than 2-hour absences from the practical hours.

Subject: TOOLS IN PHYSIOTHERAPY VII - WII
Year, Semester: 2nd year/2nd semester
Number of teaching hours:
Practical: 15

1st week: Practical: History and features of Wii. Wii Fit Plus and Wii Sport

2nd week: Practical: The role of Wii in the rehabilitation. General viewpoints, goals, tasks. Overview of Wii games

3rd week: Practical: Role of Wii in the neurology. Hemiparetic and SM patients and other neurological diseases. Practice of Wii games

4th week: Practical: Role of Wii in the traumatology: patients with spinal cord injuries, paraplegia and other traumas. Practice of Wii games in the traumatology

5th week: Practical: Use of Wii in case of sensory and intellectual disabilities and mental disorders. Practice of Wii games in the psychiatry

6th week: Practical: Use of Wii in old age and childhood. Practice of Wii games

7th week: Practical: Practice exam

Requirements
Prerequisites: Kinesiology II, Cardiorespiratory and Exercise Physiology
The attendance at practical hours is compulsory. If you miss more than 4 hours the signature will be refused.
Subject: TOOLS IN PHYSIOTHERAPY VIII - GRAVITY TRAINER
Year, Semester: 2nd year/1st semester
Number of teaching hours:
Practical: 30

1st week:
Practical: Theoretical and practical guide to the gravity trainer method

2nd week:
Practical: Starting positions and processing the exercises

3rd week:
Practical: Exercises for preparation, correct postures and required joint positions, warm up exercises

4th week:
Practical: Upper extremity exercises

5th week:
Practical: Core specific exercises in different positions

6th week:
Practical: Lower extremity exercises

7th week:
Practical: Training programs aimed to prevent sport injuries

8th week:
Practical: Targeted exercises for the improvement of cardiovascular endurance

9th week:
Practical: Therapeutic programs for obese patients

10th week:
Practical: Implementation of the program in the rehabilitation of patients with rheumatological and traumatological disorders

11th week:
Practical: Aspects of short-term rehabilitation and trainings of athletes

12th week:
Practical: Case studies and practice

13th week:
Practical: Case studies and practice

14th week:
Practical: Repetition and consultation

15th week:
Practical: Practice exam

Requirements
Prerequisite: Kinesiology I
Attendance at practical hours is compulsory. If you miss more than 4 practical hours, the signature of the Lecture Book will be refused.

Institute of Behavioral Sciences, Faculty of Public Health

Subject: HEALTH PSYCHOLOGY
Year, Semester: 1st year/2nd semester
Number of teaching hours:
Lecture: 15

1st week:
Lecture: Health psychology: the field and its subfields (clinical, preventive/ promoting, community, and critical health psychology)
**2nd week:**
Lecture: Framing health psychology: kindred disciplines of medical and clinical psychology, medical anthropology, behavioral medicine

**3rd week:**
Lecture: Health behavior: definition and conditions of appearance

**4th week:**
Lecture: Comparative analysis of lay and professional mental representations of health

**5th week:**
Lecture: Personality and health, hardiness and health

**6th week:**
Lecture: Coping: theories, forms, effects

**7th week:**
Lecture: Doctor-patient communication: role of health beliefs, locus of control

**8th week:**
Lecture: Satisfaction, compliance, adherence: comparative analysis

**9th week:**
Lecture: Forms and mechanisms of preventive behavioral acts

**10th week:**
Lecture: Health behavior: gender- and age-differences

**11th week:**
Lecture: Stress: comparative/interdisciplinary theories

**12th week:**
Lecture: Health belief and health behavior: interactive mechanisms

**13th week:**
Lecture: Health psychology of pain

**14th week:**
Lecture: Interactive analyses of case studies

**15th week:**
Lecture: Consultation

**Requirements**

Prerequisite: Basics of Psychology

Attendance at lectures is strongly recommended.

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

**1st week:**

**2nd week:**

**3rd week:**
Lecture: Sociocultural background of health promotion. International and national health promotion programs. Role of civil organizations in health promotion

**4th week:**
Lecture: Social equilibrium of health and disease; bio-psycho-social interpretation of disequilibrium. Patterns of health-, risk-, and disease behaviour through case studies
### ENGLISH PROGRAM BULLETIN BSC IN PHYSIOTHERAPY

#### 5th week:
Lecture: Sick role and sick behaviour. Perception and coping with disease. Sociographic investigation of the sick role and lifecourse of disease

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

#### 7th week:
Lecture: Health risks and their consequences in minority populations. Investigation of prejudice, discrimination and equal opportunity

#### 8th week:

#### 9th week:
Lecture: Organizational sociology of health care

#### 10th week:
Lecture: Health care secularization and medicalization

#### 11th week:
Lecture: Economic sociology of health care. Inequalities in health needs, demands and capacities

#### 12th week:
Lecture: Sociocultural motivation for the use of health services

#### 13th week:
Lecture: Economic sociology of health care. Financing health services. Public, trust-based and private primary care

#### 14th week:

#### 15th week:

### Requirements
Prerequisite: Basics of Sociology
The attendance at lectures is strongly recommended.

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### Kenézy Life Sciences Library, University of Debrecen

**Subject:** LIBRARY INFORMATICS  
**Year, Semester:** 2nd year/1st semester  
**Number of teaching hours:**  
Lecture: 10  
Seminar: 14

#### 1st week:
Lecture: (1-2) Information collection: defining types of information sources in terms of their currency, format (for example a review vs. an original article), authority, relevance, and availability, new directions in information search

#### 2nd week:
Lecture: (3-4) Role and structure of an academic library

#### 3rd week:
Lecture: (5-6) Electronic library, digital library tools
<table>
<thead>
<tr>
<th>Week</th>
<th>Activity</th>
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<tbody>
<tr>
<td>4th week</td>
<td>Lecture: (7-8) Process and structure of scholarly communication, primary stakeholders, new directions</td>
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<tr>
<td></td>
<td>5th week: Evaluation of data sources in scholarly publishing, role and nature of bibliometric indicators</td>
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<tr>
<td>6th week</td>
<td>Seminar: (1-2) Perform database searches using logical operators (Boolean), in a manner that reflects understanding of medical language, terminology and the relationships among medical terms and concepts</td>
</tr>
<tr>
<td>7th week</td>
<td>Seminar: (3-4) Library catalogues: search methods and related online services</td>
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<tr>
<td>8th week</td>
<td>Seminar: (5-6) Medline (PubMed) and other relevant bibliographic databases I</td>
</tr>
<tr>
<td>9th week</td>
<td>Seminar: (7-8) Medline (PubMed) and other relevant bibliographic databases II</td>
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<tr>
<td>10th week</td>
<td>Seminar: (9-10) Identify and acquire full-text electronic documents (EBSCO, ScienceDirect, Springer Link)</td>
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<tr>
<td>11th week</td>
<td>Seminar: (11-12) Reference softwares (RefWorks): preparing bibliographies, managing bibliographic data.</td>
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</tbody>
</table>
| 12th week | Seminar: (13-14) Self-control test  
**Self-control Test (Theoretical and practical knowledge)** |

**Requirements**

Prerequisite: Basics of Informatics

Attendance at lectures is highly recommended, since the topics in examination cover the lectured topics. Attendance at seminars is compulsory. If you have more than four-hour absence the signature in the Lecture Book will be refused.

E-learning module is coupled to the course.

The grade for ESE will be calculated as the average of self-control test and the scores awarded in the e-learning module. If the average is fail (1) you have to take an ESE in the examination period from the unsuccessful part(s) of the topics.
CHAPTER 14
LIST OF TEXTBOOKS

1st year

General Principles in Health Care and Nursing:


Philosophy:


Medical Latin:

Répás, László - Bóta, Balázs: E-learning site for students of Medical terminology. URL: http://www.medi-lingua.hu

Basics of Physiotherapy:


Basic Microbiology:

Physical foundations of biophysics:

Hungarian Language I:

Bioethics:


Biophysics:

**First Aid:**


**Basics of informatics:**
Handbooks of MS Office applications, Internet sources.

**Basics of Sociology:**


**Basics of Psychology:**

**Anatomy I:**


**Genetics and Molecular Biology:**

**Cell Biology:**

**Kinesiology I:**


Hungarian Language II:

Biomechanics:

Anatomy II:


Communication Skills:
**Economics:**

**Health Care Law:**

Dimond, B. C.: Legal Aspects of Physiotherapy. 

Hall, M. A., Bobinski, M. A., Orentlicher, D.: 
Bioethics and Public Health Law. 

URL: http://www.euro.who.int/en/who-are/partners/observatory

**Introduction to Management:**
Morden, T: Principles of Management. 


**2nd year**

**Kinesiology II:**


Clarkson, H. M.: Musculoskeletal Assessment: 200

**Joint Range of Motion and Manual Muscle Strength:**

Magee, D.J.: Orthopedic Physical Assessment. 


Kapandji, I. A.: The Physiology of the Joints: The Lower Limb. 

Kapandji, I. A.: The Physiology of the Joints, volume III (The Vertebral Column, Pelvic Girdle and Head). 

**Cardiorespiratory and Exercise Physiology:**


**Introduction to Clinical Medicine:**

**Physiology:**

**Basic Biochemistry:**

**Library Informatics:**

**Basics of research methodology:**
Trochim, WMK : Research methods knowledge base. URL: http://www.socialresearchmethods.net/kb/content s.php

**Basics of Health Sciences:**

**Neurophysiology:**

**Hungarian Language III:**

**Gerontology:**

**Sports Physiotherapy and Sports Medicine V - Pulse Control:**
Friel J.: Total Heart Rate Training: Customize and
Maximize Your Workout Using a Heart Rate Monitor.

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

**Applied Training Methods:**


Wilmore, J. H., Kenney, W. L.: Physiology of Sport and Exercise.

**Electro-, balneo-, hydro-, and climatotherapy:**
Cameron M. H.: Physical Agents in Rehabilitation: From Research to Practice.

Watson T.: Electrotherapy. Evidence Based Practice.


**Internal Medicine for Physiotherapists II:**
Frownfelter D., Dean, E.: Cardiovascular and Pulmonary Physical Therapy: Evidence and Practice.


Kinesiology:


Kinesiology Clinical Practice:

Mobilization–Manual Techniques I:


Pathology:

Professional Hungarian Language I:
Respiratory Rehabilitation Clinical Practice:

Internal Medicine for Physiotherapists I:

Health Sociology:

Biochemistry:

Dietetics:

Radiology and Diagnostic Imaging:

3rd year
Mobilization- Manual Techniques II:
Internal Medicine for Physiotherapists III:


Rheumatology for Physiotherapists I:

Traumatology and Intensive Therapy for Physiotherapists I:

Pharmacology:


Preventive Medicine and Public Health I:


Orthopedics for Physiotherapists:


Sports Physiotherapy and Sports Medicine IX - Pilates:

Obstetrics and Gynaecology for Physiotherapists:


Sports Physiotherapy and Medicine IV - Taping Techniques:
Manual for 3NS Taping Method.
3NS Co., Ltd.

Rheumatology for Physiotherapists II:


Dziedzic, K., Hammond, A.: Rheumatology: Evidence-Based Practice for Physiotherapists and Occupational Therapists.

Professional and Scientific Orientation:

Preventive Medicine and Public Health II:


Porta, M: A Dictionary of Epidemiology.

Physiotherapy of the Movement System I - PT in Orthopedics and Traumatology:

Magee D. J.: Orthopedic Physical Assessment. 206

Infant Care and Pediatrics for Physiotherapists I:

Tecklin, J. S. Pediatric Physical Therapy.

Infant Care and Pediatrics Clinical
Practice:

Cardiovascular Clinical Practice:

Psychiatry I:

Thesis I:

Tools in Physiotherapy III - PNF in Practice:

Tools in Physiotherapy V - Sling Suspension Frame:

4th year
Traumatology and Intensive Therapy for Physiotherapists II:

Rehabilitation:

Psychosomatics:

Infant Care and Pediatrics for Physiotherapists II:

Neurology for physiotherapists II:


**Rheumatology Clinical Practice:**
Dziedzic K., A. Hammond: Evidence-Based Practice for Physiotherapists and Occupational Therapists.


**Traumatology Clinical Practice:**
Sanders, R.: Core Knowledge in Orthopedics: Trauma.

Hoppenfeld, S., Murthy, V. L.: Treatment and rehabilitation of fractures.
| TITLES OF THESIS | 210 |
CHAPTER 15
TITLES OF THESES

Sport Centre of University Debrecen
1. Title: Effects of Pilates exercises on the physical abilities
   Tutor: Katalin Nagyné Varga M.Sc.

Department of Internal Medicine
1. Title: Improvement of quality of life in polymyositis and dermatomyositis patients by physiotherapy
   Tutor: Katalin Dankó M.D., Ph.D., D.Sc.

Department of Pediatrics
1. Title: Efficiency of Nordic Walking therapy in case of obese children regarding motivation for slimming
2. Title: Physiotherapy of diabetic children - prevention of hypoglycaemia
   Tutor: Enikő Felszeghy M.D., Ph.D.

Department of Physical Medicine and Rehabilitation
1. Title: The importance of multidisciplinary rehabilitation to improve functional capacity, quality of life, cardiovascular function and metabolic parameters of obese patients, those suffering from osteoarthritis.
2. Title: The significance of conductive rehabilitation activities in gait development (gait analysis test)
3. Title: The significance of the (upper extremity) functional capacity of patients with cerebrovascular diseases in the effectiveness of rehabilitation
   Tutor: Zoltán Jenei M.D., Ph.D.

Department of Physiotherapy, Faculty of Public Health
1. Title: Study of the cardiorespiratory system
   Tutor: Balázs Lukács M.Sc., Ph.D.
2. Title: Cardiorespiratory parameters of university students – survey
3. Title: Knowledge of medical students about physiotherapy – survey and improvement
4. Title: Regeneration of skeletal muscle fibres – effects of physical activity (review)
   Tutor: Julianna Cseri M.D., Ph.D., C.Sc.
5. Title: Effects of physiotherapy on the changes in muscle mass and strength during a long-lasting steroid therapy
6. Title: Effects of physiotherapy on the muscle strength in myositis patients
7. Title: Possibilities of physiotherapy in the care of myositis patients
8. Title: Role of biological and physiotherapy in the treatment of rheumatoid arthritis
9. Title: Role of physiotherapy in myositis in the recovery phase
   Tutor: Andrea Váncsa M.D., Ph.D.
10. Title: Improvement of proprioception by using instable instruments
11. Title: Role of physiotherapy in prevention  
   Tutor: Ilona Veres-Balajti M.Sc., Ph.D.
12. Title: Physiotherapy in ankylosing spondilitis  
   Tutor: Zsuzsanna Némethné Gyurcsik M.Sc., Ph.D.
13. Title: Importance of targeted physiotherapy exercises in gerontology
14. Title: Pelvic floor training in different ages
15. Title: Spine training exercises for improving physical activity in middle aged people  
   Tutor: Zsuzsa Lábicsák-Erdélyi M.Sc.

Department of Orthopedic Surgery
1. Title: Treatment options in knee instability.  
   Tutor: Henrik Rybaltovszki M.D.

Department of Traumatology and Hand Surgery
2. Title: Exercises of the physiotherapy in the postoperative treatment of the flexor tendon injuries  
   Tutor: István Frendl M.D.
3. Title: Endoscopic treatment of shoulder dislocations
4. Title: The operative treatment and physiotherapy of the adult distal humeral fractured patients in our department  
   Tutor: István Szarukán M.D.
5. Title: Physiotherapy after operation of the shoulder instability  
   Tutor: András Nagy M.D.