BULLETIN

UNIVERSITY OF DEBRECEN

ACADEMIC YEAR 2019-2020

FACULTY OF PUBLIC HEALTH

BSc in Physiotherapy

CONTENT

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 subjects (4th and 5th year) followed by the internship (6th year). The proportion of the theoretical and practical classes is 30% to 70%; whereas the students/instructors ratio is about 8/1. The first two years of dentistry education are similar to the medicine program, but the former contains a basic dental training that is followed by a three-year-long pre-clinical and clinical training. Besides the medicine and dentistry programs, there are several other courses also available, including molecular biology. The various Health College courses include more and more new curricula.

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

- Hungarian language is taught,

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

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

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

After graduation, several interesting topics are offered for PhD training, which lasts for three years. If interested, outstanding graduates of the English General Medicine and Dentistry programs may join these PhD courses (“English PhD-program”). Special education for general practitioners has been recently started and a new system is in preparation now for the training of licensed physicians in Debrecen.

The accredited PhD programs include the following topics:

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

- Dental Research

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

Medical Activity at the Faculty of Medicine

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

The Kenézy Gyula University 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 bests of the more than 80 Hungarian research institutions and universities. Lots of scientists reach international recognition, exploiting the possibilities provided by local, national and international collaborations. Internationally acknowledged research areas are Biophysics, Biochemistry, Cell Biology, Immunology, Experimental and Clinical Oncology, Hematology, Neurobiology, Molecular Biology, Neurology, and Physiology. The scientific exchange program involves numerous foreign universities and a large proportion of the faculty members are actively involved in programs that absorb foreign connections (the most important international collaborators are from Belgium, France, Germany, Italy, Japan, the UK and the USA).

HISTORY OF THE FACULTY OF PUBLIC HEALTH

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

Becoming an independent faculty of the University of Debrecen (presently uniting 15 different faculties) was preceded by a 10-year period of development. Establishment and launching of 5 different postgraduate and one graduate training programs as well as the establishment of a doctoral program were carried out by the teaching staff of the faculty with the effective support of the University of Debrecen. As a result of these efforts the Faculty became a unique, internationally recognized and competitive training center in Hungary. According to the Bologna process the Faculty has established and from 2006 and 2007 launched its bachelor and master training programs in the field of public health and health

sciences. With its 3 bachelor, 5 master training programs and 6 postgraduate courses, the Faculty of Public Health offers a rich variety of learning experience at present. There are two doctoral programs available since 2009.

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

ORGANISATION STRUCTURE OF THE FACULTY OF PUBLIC HEALTH

Department of Preventive Medicine
Division of Biomarker Analysis
Division of Biostatistics and Epidemiology
Division of Health Promotion
Division of Public Health Medicine
Department of Family and Occupational Medicine
Department of Behavioral 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 center)

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.

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

Most teachers have remarkable teaching experience in English taking part in the international training programs of University of Debrecen.

The international MSc programs (MSc in Public Health, MSc in Complex Rehabilitation) launched by the Faculty of Public Health are offered for students graduated in the BSc courses of health sciences. Students studying in English – similarly to those studying in

Hungarian – will have the opportunity to join the Students' Scientific Association, the most important means to prepare students for future academic career.

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

CHAPTER 2
ORGANISATION STRUCTURE

RECTOR OF THE UNIVERSITY OF DEBRECEN	
Rector	Zoltán Szilvássy M.D., Ph.D., D.Sc.
Address	4032 Debrecen, Egyetem tér 1.
Phone	+36-52-416-060
Phone/fax	+36-52-416-490
E-mail	rector@unideb.hu
COORDINATING CENTER FOR INTERNATIONAL EDUCATION	
Director	Attila Jenei M.Sc., Ph.D.
Address	4032 Debrecen, Nagyerdei krt. 94.
Phone	+36-52-258-058
Fax	+36-52-414-013
E-mail	info@edu.unideb.hu
FACULTY OF PUBLIC HEALTH	
Dean	Judit Zsuga M.D., PhD.
Address	4028 Debrecen, Kassai út 26/b.
Phone	+36-52-512-765
Fax	+36-52-512-769
E-mail	dekan@sph.unideb.hu
Vice-Dean for General Affairs	Attila Bánfalvi MA., Ph.D.
Address	4032 Debrecen, Móricz Zsigmond. krt. 22.
Phone	+36-52-411-600
Fax	+36-52-255-487
E-mail	banfalvi.attila@sph.unideb.hu
Vice-Dean for Educational Affairs	Ilona Veres-Balajti MSc., Ph.D.
Address	4028 Debrecen, Kassai út 26/b.
Phone	+36-52-512-765/77134, 77135
E-mail	belejti.ilona@sph.unideb.hu

CHAPTER 3

ADMINISTRATIVE UNITS

EDUCATIONAL ORGANIZATIONAL OFFICE OF FACULTY OF PUBLIC HEALTH

Kassai str. 28, Debrecen, 4028, Tel: 52-512-765/77408
E-mail: info@sph.unideb.hu, Web: http://nk.unideb.hu

Head	Ms.	Zsuzsa Nagy-Belgyár
Education Officer, Contact Person	Mr.	Róbert Bata
	Ms.	Szilvia Mászlé
	Ms	Andrea Szűcs
	Ms.	Tímea Géber

COORDINATING CENTER FOR INTERNATIONAL EDUCATION

Nagyerdei krt. 94., Debrecen, 4032 Telephone: +36-52-258-058
E-mail: info@edu.unideb.hu, Web: www.edu.unideb.hu

Director	Prof.	Attila Jenei M.Sc., Ph.D.
Program Coordinator	Prof.	Ferenc Erdődi M.Sc., Ph.D., D.Sc.
BMC Coordinator	Ms.	Beáta Lontay M.Sc., Ph.D.
Manager Assistant	Ms.	Márta Hajdu M.A.
Agent&Marketing Coordinator		Tamás Zabán M.Sc.
Marketing Coordinator	Ms.	Eszter Balázsy M.Sc.
	Ms.	Dóra Mónus M.A.
Financial Coordinator	Ms.	Rita Kovács J.D.
Agent Coordinator		József Harmati J.D.
Ranking and Marketing Coordinator	Ms.	Zsófia Münnich M.Sc.
English Program Coordinators	Ms.	Dóra Benkő (Admission, Visa Issues, BMC, US Loans)
	Ms.	Regina Berei (Tuition fee, Financial certificates, Refunds)
	Ms.	Marianna Gyuris (Admission, Visa issues, USMLE, MCCEE, Stipendium Hungaricum Scholarship, Wyckoff Heights)
	Ms.	Ildikó Lakatos M.A. (Admission, Visa Issues)
	Ms.	Krisztina Németh M.Sc. (Bulletin)

	Ms.	Enikő Sallai M.Sc. (Tuition fee, Health Insurance)
	Ms.	Mária Tóth M.Sc. (Stipendium Hungaricum Scholarship)
IT Project Coordinator		Imre Szűcs B.Sc.

CHAPTER 4

DEPARTMENTS OF THE FACULTY OF PUBLIC HEALTH

INSTITUTE OF BEHAVIOURAL SCIENCES, FACULTY OF PUBLIC HEALTH

Nagyerdei krt. 98., Debrecen, 4032, Tel: +36-52-255-594
www.nk.unideb.hu

Full 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 Kuritárné Szabó M.A., Ph.D.
Associate Professor, Head of Division of Humanities For Health Care		Attila Bánfalvi M.A., Ph.D., C.Sc.
Professor Emeritus		Péter Molnár M.D., D.Sc.
Assistant Professor	Ms.	Judit Molnár M.A., Ph.D.
		Roland Tisljár M.A., Ph.D.
		Sándor Kőmüves M.A., Ph.D.
	Ms.	Eszter Tisljár - Szabó M.A., Ph.D.
Assistant Lecturer		János Kristóf Bodnár M.A., Ph.D.
	Ms.	Beáta Kovács-Tóth M.A.
	Ms.	Zita Fekete M.A.
	Ms.	Anikó Ujhelyiné Nagy, MSc.
	Ms.	Márta Fűzi M.D.
Invited Lecturer		Bence Döbrőssy M.A.
Intern	Ms.	Gréta Dezső M.Sc.
	Ms.	Linda Lajtos M.Sc.
	Ms.	Bettina Muha M.Sc.
	Ms.	Erika Gabnai-Nagy M.Sc.
	Ms.	Anna Velkey-Rácz M.Sc.
	Ms.	Annamária Rácz M.Sc.
	Ms.	Zsanett Usztics M.Sc.
PhD Student		Balázs Fábián M.A.
	Ms.	Eszter Labbancz M.A.

	Ms.	Enikő Csikai M.A.
	Ms.	Alexandra Sándor M.A.
	Ms.	Cintia Katona M.A.
Academic Advisor		Attila Bánfalvi M.A., Ph.D., C.Sc. (3rd year, Medical Anthropology, Medical Sociology)
	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

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

	Ms.	Margit Szövetes M.D.

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

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

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

DEPARTMENT OF PHYSIOTHERAPY, FACULTY OF PUBLIC HEALTH

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

Associate Professor, Head of Department	Ms.	Ilona Veres-Balajti M.Sc., Ph.D.
Assistant Professor		Balázs Lukács M.Sc., Ph.D.
Assistant Lecturer	Ms.	Zsuzsa Lábiscsák-Erdélyi M.Sc.
	Ms.	Éva Csepregi, M.Sc.
	Ms.	Anett Csuhai, M.Sc.
Invited Lecturer	Ms.	Katalin Papp M.Sc., Ph.D.
		Imre Semsei Ph.D., D.Sc.
		Zoltán Szentkereszty M.D.
	Ms.	Adrienne Tóthmartinez M.D.
Research Assistant	Ms.	Zsuzsanna Váradi M.Sc.

DEPARTMENT OF PREVENTIVE MEDICINE, FACULTY OF PUBLIC HEALTH

Kassai út 26/b, Debrecen, 4028, Tel: +36-52-417-267
www.nk.unideb.hu

Associate Professor, Head of Department		János Sándor M.D., Ph.D.
Associate Professor, Head of Division Public Health Medicine		István Kárpáti M.D., Ph.D.
Associate Professor, Head of Biostatistics and Epidemiology Division		János Sándor M.D., Ph.D.
Full Professor	Ms.	Róza Ádány M.D., Ph.D., D.Sc.
	Ms.	Margit Balázs, M.Sc., Ph.D., D.Sc.
Associate Professor		Balázs Ádám M.D., M.Sc., Ph.D.
	Ms.	Helga Bárdos M.D., M.Sc., Ph.D.

		Sándor Szűcs M.Sc., Ph.D.
Assistant Professor	Ms.	Éva Bíró M.D., Ph.D.
	Ms.	Szilvia Fiatal M.D., Ph.D.
	Ms.	Orsolya Varga M.D., Ph.D.
		Károly Nagy Ph.D.
		László Pál Ph.D.
		Attila Csaba Nagy M.D., Ph.D.
Assistant Lecturer		Tibor Jenei
		Tamás Köbling M.D.
		Gábor Rácz M.D.
Invited Lecturer		György Juhász M.D.
		József Legoza M.D.
Hungarian Academy of Sciences University of Debrecen Public Health Research Group Fellow	Ms.	Judit Diószegi M.D., PhD
	Ms.	Viktória Koroknai M.Sc.
		Péter Pikó, M.Sc.
		István Szász, M.Sc.
		Nardos Abebe M.Sc.
Research Assistant	Ms.	Valéria Vinczéné Sipos M.Sc.
	Ms.	Anita Poráczkiné Pálinkás M.Sc.
		Ferenc Vincze M.Sc.
	Ms.	Krisztina Jámbor M.Sc.
		Szabolcs Varga M.Sc., Ph.D
PhD Student	Ms.	Nóra Kovács M.Sc.
		Erand LLanaj, M.Sc.
	Ms.	Tímea Kiss, M.Sc.
		Vikas Patel, M.Sc.
		Gergő József Szőllősi M.Sc.
	Ms.	Orsolya Bujdosó M.Sc.
	Ms.	Gabriella Pénzes M.Sc.
		Szabolcs Lovas M.Sc.

CHAPTER 5

UNIVERSITY CALENDAR

UNIVERSITY CALENDAR FOR THE BSC IN PUBLIC HEALTH PROGRAM
ACADEMIC YEAR 2019/2020

1ST SEMESTER

Year 2019/2020	Registration week	Course	Examination Period
BSc in Public Health BSc in Physiotherapy MSc in Public Health	September 2-6., 2019. (1 week)	September 9 – December 13., 2019 (14 weeks)	December 16., 2019 – January 31., 2020 (7 weeks)

2ND SEMESTER

Year 2019/2020	Registration week	Course	Examination Period
BSc in Public Health BSc in Physiotherapy MSc in Public Health	February 3-7., 2020 (1 week)	February 10 –May 15., 2020. (14 weeks)	May 18 – July 03.,2020 (7 weeks)

Orientation meeting (planned): September 6., 2019. 10.00 am

CHAPTER 6
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

Sem	Subjects	Neptun code	L	S	P	Exam	Crd	Prerequisites of taking the subject
1	Anatomy of skeletal system for physiotherapists	NPHYS_ANAT_01	42	14	14	ESE	5	None
1	Basics of Pedagogy	NPHYS_PEDA_01	14			ESE	1	None
1	Basics of Physiotherapy	NPHYS_PHYS_01	28	14	28	ESE	5	None
1	Basics of Psychology	NPHYS_PSY_01	28			ESE	2	None
1	Basics of Sociology	NPHYS_SOC_01	14			ESE	1	None
1	Bioethics	NPHYS_ETHN_01	14			ESE	1	None
1	Biophysics	NPHYS_BIOP_01	10	18		ESE	2	None
1	Communication	NPHYS_COMM_01			21	AW5	2	None
1	First Aid	NPHYS_FAID_01	14		14	AW5	2	None
1	General Principles in Health Care and Nursing	NPHYS_APO_01	14		14	ESE	2	None
1	Health Informatics I	NPHYS_HINF_01	10		18	AW5	2	None
1	Medical Latin	NPHYS_LAT_01			28	AW5	2	None
1	Microbiology	NPHYS_MBIO_01	14			ESE	2	None
1	Philosophy	NPHYS_PHI_01		14		ESE	1	None
1	Physical Education I	NPHYS_PHE_01			28	SIGN	0	None

Compulsory courses for the 1. year

Sem	Subjects	Neptun code	L	S	P	Exam	Crd	Prerequisites of taking the subject
2	Anatomy histology and embryology for physiotherapists	NPHYS_ANAT_02	48	11	11	ESE	5	Anatomy of skeletal system for physiotherapists
2	Biomechanics	NPHYS_BIMN_02	18	10		ESE	2	Anatomy I, Biophysics
2	Cell Biology	NPHYS_CEL_02	28			ESE	2	None
2	Economics and Management	NPHYS_ECMA_02	28			ESE	2	None
2	Electro-, balneo-, hydro-, and climatotherapy	NPHYS_EBHC_02	14		28	AW5	3	Basics of Physiotherapy, Biophysics
2	Genetics and Molecular Biology	NPHYS_GEMO_02	14			ESE	1	None
2	Health Informatics II	NPHYS_HINF_02	10		18	AW5	2	Health Informatics I
2	Hungarian Language I	NPHYS_HUN_01			28	SIGN	0	None
2	Kinesiology I	NPHYS_KINE_02	28	28	84	ESE	10	Anatomy of sk., Basics of Physiotherapy
2	Physical education II	NPHYS_PHE_02			28	SIGN	0	None

Compulsory courses for the 2. year

Sem	Subjects	Neptun code	L	S	P	Exam	Crd	Prerequisites of taking the subject
1	Basic Biochemistry	NPHYS_BIOC_03	14	14		ESE	2	Cell Biology
1	Hungarian Language II	NPHYS_HUN_02			28	SIGN	0	Hungarian language I
1	Introduction to Clinical Medicine	NPHYS_CLME_03	14		14	ESE	2	General Principles in Health Care and Nursing, Anatomy II
1	Kinesiology II	NPHYS_KINE_03	28	14	105	ESE	10	Anatomy II, Kinesiology I
1	Mobilization-Manual Techniques I	NPHYS_MOBI_03	14		70	AW5	6	Anatomy II, Electro-, balneo-, hydro- and climatotherapy, Kinesiology I
1	Philosophy	NPHYS_FIL_01	14			ESE	1	None
1	Physiology	NPHYS_PHYN_03	28	14		ESE	3	Anatomy II

Compulsory courses for the 2. year

Sem	Subjects	Neptun code	L	S	P	Exam	Crd	Prerequisites of taking the subject
2	Applied Training Methods	NPHYS_APTM_04	14	14	28	AW5	4	Neurophysiology, Kinesiology II
2	Basics of Dietetics	NPHYS_DIET_04	14	14	0	AW5	2	Physiology, Introduction to Clinical Medicine
2	Basics of Internal Medicine	NPHYS_INTM_04	28	14		ESE	3	Introduction to Clinical Medicine
2	Basics of research methodology	NPHYS_RES_03	28			ESE	2	Health Informatics II
2	Biochemistry	NPHYS_BCH_04	10	5		ESE	1	Basic Biochemistry
2	Gerontology	NPHYS_GER_03	28			ESE	2	Basics of Sociology
2	Health Care Law	NPHYS_HCL_02	14			ESE	1	None
2	Kinesiology Practice	NPHYS_KINP_04			120	SIGN	0	Mobilization-Manual Techniques, Principles in Kinesiology
2	Mobilization-Manual Techniques II	NPHYS_MMTN_05			84	AW5	6	Kinesiology II, Mobilization-Manual Techniques I
2	Principles of Health Sciences	NPHYS_HESC_04	14			ESE	1	Cardiorespiratory and Exercise Physiology, Neurophysiology, Physiology
2	Principles of kinesiology	NPHYS_KINE_04	14			ESE	1	Kinesiology II
2	Professional Hungarian Language I	NPHYS_PHL_04			42	AW5	2	Kinesiology II
2	Respiratory Rehabilitation Clinical Practice	NPHYS_RCP_04			80	SIGN	0	Internal Medicine for Physiotherapists II

Compulsory courses for the 3. year

Sem	Subjects	Neptun code	L	S	P	Exam	Crd	Prerequisites of taking the subject
1	Internal Medicine for Physiotherapists I	NPHYS_RPN_04	14		42	ESE	4	Applied Training Methods, Basics of Internal Medicine
1	Internal Medicine for Physiotherapists II	NPHYS_INTC_05	14		56	ESE	4	Applied Training Methods, Basics of Internal Medicine
1	Neurology for physiotherapists I	NPHYS_NEUI_06	14	14		ESE	2	Mobilization-Manual Techniques II, Principles of Kinesiology
1	Obstetrics and Gynecology for Physiotherapists	NPHYS_OBST_05	28		14	ESE	3	Basics of Internal Medicine, Principles of Kinesiology
1	Orthopedics for Physiotherapists	NPHYS_ORP_05	10	18		ESE	2	Biomechanics, Principles of Kinesiology
1	Pharmacology	NPHYS_PHA_05	28			ESE	2	Biochemistry, Physiology II.
1	Preventive Medicine and Public Health I	NPHYS_PREM_05	28		28	ESE	4	Basics of Research Methodology
1	Professional Hungarian Language II	NPHYS_PHLN_05			42	AW5	2	Professional Hungarian language I
1	Psychiatry I	NPHYS_PSYN_06	14			ESE	1	Basics of Internal Medicine
1	Rheumatology for Physiotherapists I	NPHYS_RHEU_05	14	14		ESE	2	Basics of Internal Medicine, Principles of Kinesiology
1	Traumatology for Physiotherapists	NPHYS_TRAM_05	28			ESE	2	Principles of Kinesiology

Compulsory courses for the 3. year

Sem	Subjects	Neptun code	L	S	P	Exam	Crd	Prerequisites of taking the subject
2	Cardiovascular Clinical Practice	NPHYS_CCP_06			80	SIGN	0	Internal Medicine for Physiotherapists III
2	Infant Care and Pediatrics Clinical Practice	NPHYS_IPP_06			80	SIGN	0	Infant Care and Pediatrics for Physiotherapists I-II
2	Infant Care and Pediatrics for Physiotherapists I	NPHYS_PAED_06	14		28	ESE	3	Principles of Kinesiology, Neurology for Physiotherapists I
2	Infant Care and Pediatrics for Physiotherapists II	NPHYS_PEDN_07	8		5	AW5	1	Principles of Kinesiology, Neurology for Physiotherapists I
2	Neurology for physiotherapists II	NPHYS_NEUII_07	14		28	ESE	3	Electro-, balneo-, hydro- and climatotherapy, Neurology for Physiotherapists I
2	Physiotherapy of the Movement System I - PT in Orthopedics and Traumatology	NPHYS_MOVE_06	42	14	75	ESE	9	Mobilization-Manual Techniques II, Orthopedics for Physiotherapists, Traumatology for Physiotherapists
2	Physiotherapy Principles of Internal Medicine	NPHYS_PPIM_06	14			ESE	1	Internal Medicine for Physiotherapists I-II
2	Preventive Medicine and Public Health II	NPHYS_PREM_06	42	14		ESE	4	Preventive Medicine and Public Health I
2	Radiology and Diagnostic Imaging	NPHYS_RAD_04			14	AW5	1	Orthopedics for Physiotherapists, Traumatology for Physiotherapists
2	Rheumatology for Physiotherapists II	NPHYS_REUM_06	28		28	ESE	4	Electro- balneo-, hydro- and climatotherapy, Rheumatology for Physiotherapists I, Mobilization-Manual Techniques II
2	Thesis I	NPHYS_THES_06			14	AW5	3	Traumatology for Physiotherapists, Neurology for Physiotherapists I

Compulsory courses for the 4. year

Sem	Subjects	Neptun code	L	S	P	Exam	Crd	Prerequisites of taking the subject
1	Health Promotion in Primary Care	NPHYS_HPPC_07			14	AW5	1	Preventive Medicine & Public Health II
1	Intensive Therapy for Physiotherapists	NPHYS_INTT_07	10	4		ESE	1	Physiotherapy Principles of Internal Medicine, Physiotherapy of the Movement System I
1	Neurology for Physiotherapists III	NPHYS_NEUR_07	6		52	AW5	4	Neurology for Physiotherapists II
1	Physiotherapy of the Movement System II - PT in Orthopedics and Traumatology	NPHYS_MOVE_07			56	AW5	4	Physiotherapy of the Movement System I - PT in Orthopedics and Traumatology
1	Physiotherapy Principles of the Movement System	NPHYS_CMOV_07	14			ESE	1	Physiotherapy of the Movement System I, Rheumatology for Physiotherapists II
1	Professional and Scientific Orientation	NPHYS_ORIN_06			14	AW5	1	Basics of Research Methodology, Thesis I
1	Psychiatry II	NPHYS_PSYN_07	14		14	ESE	2	Psychiatry I
1	Rehabilitation Skills	NPHYS_REHN_07	28	14	28	ESE	3	Rheumatology for Physiotherapists II, Physiotherapy of Movement System I - PT in Orthopedics and Traumatology
1	Rheumatology for physiotherapists III	NPHYS_REUM_07			28	AW5	2	Rheumatology for Physiotherapists II
1	Sports Physiotherapy and Sports Medicine	NPHYS_SMED_07	10		4	AW5	1	Internal Medicine for Physiotherapists II, Physiotherapy of the Movement System I, Rheumatology for Physiotherapists II
1	Thesis II	NPHYS_THES_07			14	AW5	8	Thesis I

Compulsory courses for the 4. year

Sem	Subjects	Neptun code	L	S	P	Exam	Crd	Prerequisites of taking the subject
2	Internal Medicine Clinical Practice	NPHYS_IMPN_08			80	AW5	3	Internal Medicine for Physiotherapists III
2	Neurology Clinical Practice	NPHYS_NEPN_08			80	AW5	3	Neurology for Physiotherapists II
2	Orthopedics Clinical Practice	NPHYS_ORPN_08			120	AW5	4	Physiotherapy Principles of the Movement System
2	Rehabilitation Clinical Practice	NPHYS_REPN_08			80	AW5	3	Rehabilitation
2	Rheumatology Clinical Practice	NPHYS_RHPN_08			120	AW5	4	Rheumatology for Physiotherapists II
2	Thesis III	NPHYS_THES_08			14	AW5	9	Thesis II
2	Traumatology Clinical Practice	NPHYS_TRPN_08			120	AW5	4	Physiotherapy of the Movement System II – PT in Orthopedics and Traumatology

Required elective courses for the 1. year

Sem	Subjects	Neptun code	L	S	P	Exam	Crd	Prerequisites of taking the subject
1	Step Training in Physiotherapy	NPHYS_STT_04			14	AW5	1	None

Required elective courses for the 1. year

Sem	Subjects	Neptun code	L	S	P	Exam	Crd	Prerequisites of taking the subject
2	Balls in Physiotherapy	NPHYS_BPT_03			28	AW5	2	Basics of Physiotherapy
2	Gymnastic Equipments	NPHYS_GYMN_02			28	AW5	2	Basics of Physiotherapy

Required elective courses for the 2. year

Sem	Subjects	Neptun code	L	S	P	Exam	Crd	Prerequisites of taking the subject
2	Aesthetic Body Forming Gymnastics	NPHYS_ABFG_04			28	AW5	2	Kinesiology II
2	Complementary and Alternative Medicine	NPHYS_CAM_04	14			ESE	1	Cardiorespiratory and Exercise Physiology, Neurophysiology, Physiology
2	Gravity Trainer in Physiotherapy	NPHYS_GRAT_04			28	AW5	2	Kinesiology II
2	Molecular Background of Skeleto-Muscular Diseases	NPHYS_MOLM	14			ESE	1	Physiology
2	Problem-based Approach of Cardiovascular Physiology	NPYS_PBL_04			28	AW5	2	None

Required elective courses for the 3. year

Sem	Subjects	Neptun code	L	S	P	Exam	Crd	Prerequisites of taking the subject
2	Orthotics-Prosthetics	NPHYS_ORTP_06	10		4	AW5	1	Orthopedics for Physiotherapists, Rheumatology for Physiotherapists I, Traumatology for Physiotherapists I

Required elective courses for the 4. year

Sem	Subjects	Neptun code	L	S	P	Exam	Crd	Prerequisites of taking the subject
1	Digital Tools in Physiotherapy	NPHYS_DITP_07			14	AW5	1	None
1	Kinesio Taping	NPHYS_TTS_07	5		8	AW5	1	Physiotherapy of the Movement System I, Rheumatology for Physiotherapists II
1	PNF in Practice	NPHYS_PNFP_07	10		18	AW5	2	Mobilization-Manual Techniques II, Physiotherapy of the Movement System I
1	Sling Suspension Frame (SSF)	NPHYS_SSF_06			14	AW5	1	Physiotherapy of the Movement System I, Rheumatology for Physiotherapists II

CHAPTER 7
ACADEMIC PROGRAM FOR THE 1ST YEAR

Department of Anatomy, Histology and Embryology

Subject: **ANATOMY OF SKELETAL SYSTEM FOR PHYSIOTHERAPISTS**
Year, Semester: 1st year/1st semester
Number of teaching hours:
Lecture: 42
Seminar: 14
Practical: 14

1st week
Lecture 1. Introduction
2. Organization of human body - atoms and molecules
3. Organization of human body - cells
Practicum Anatomical position. Planes and directions. Parts of the human body

2nd week
Lecture 1. Organization of human body - tissues and organs
2. Histology of skeletal system - connective tissue
3. Histology of skeletal system - cartilage and bone
Practicum Bones of the upper limb

3rd week
Lecture 1. Anatomy of skeletal system – bones
2. Anatomy of skeletal system – joints
3. Joints of the upper limb I
Practicum The joints of the upper limb I

4th week
Lecture 1. Joints of the upper limb II
2. Histology and anatomy of skeletal muscles
3. Muscles of the upper limb I
Practicum The joints of the upper limb II

5th week
Lecture 1. Muscles of the upper limb II
2. Muscles of the upper limb III
3. Brachial plexus
Practicum Muscles of the upper limb

6th week
Lecture 1. Innervation of the upper limb
2. Blood supply of the upper limb
3. The pelvis
Practicum Blood vessels and nerves of the upper limb

7th week
Lecture 1. TEST 1. UPPER LIMB
2. Bones of the lower limb
3. Joints of the lower limb I
Practicum Bones of the lower limb

8th week
Lecture 1. Joints of the lower limb II
2. Joints of the lower limb III
3. Muscles of the lower limb I
Practicum Joints of the lower limb I

9th week
Lecture 1. Muscles of the lower limb II
2. Muscles of the lower limb III
3. Anatomy of posture and gate
Practicum Joints of the lower limb II

10th week
Lecture 1. Innervation of the lower limb
2. Blood supply of the lower limb
3. The vertebrae
Practicum Muscles of the lower limb

11th week
Lecture 1. Joints and movements of the vertebral column
2. Bones and joints of the thorax
3. Muscles of the thorax
Practicum Blood vessels and nerves of the

lower limb	of the braincase
	Practicum Muscles of the trunk and neck
12th week	
Lecture 1. TEST 2. LOWER LIMB	**14th week**
2. Muscles of the abdominal wall, perineum	Lecture 1. Calvaria, cranial base
3. Rectus sheat, inguinal canal	2. Bones and cavities of the facial skeleton
Practicum Bones and joints of the thorax and vertebral column	3. The temporomandibular joint. Muscles of the face
	Practicum Bones of the skull. Muscles of the head.
13th week	
Lecture 1. Back muscles	
2. Muscles of the neck	
3. Organization of the skull, bones	

Requirements

Prerequisite: none

Rules of signature

Concerning attendance, the rules written in the Educational and Examination Regulations of the University of Debrecen are valid. The presence in practices, seminars and lectures will be recorded. The course organizer may refuse to accept the academic performance if a student misses more than two practices or more than 50% of the lectures in the semester.

Midterm examinations

Two midterm written examinations will be held on the 7th and 12th weeks. The written exams including simple and multiple-choice test questions which cover the topics of lectures and practices. The midterm exams will be evaluated and the students who pass both tests are exempted from identification of structures during the end-semester examinations.

End-semester examinations

The end-semester examination will be held in the dissecting room and are divided into two stations:

1. In the first part of the exam the students have to show 10 structures on the skeleton or on the cadaver. The list of the identifiable structures will be available for the students during the semester. The students who are not able to identify at least 7 structures are not allowed to continue the exam. In the case of C-chance exam this station is cancelled. The students who performed the midterm examinations successfully are exempted from this part of the end-term examination.
2. After passing the first part, the students have to choose a question for the oral exam including three topics: (a) upper limb (b) lower limb (c) head, neck and trunk

The list of the topics is available for the students during the semester. The student has to pass the practical and written exam respectively.

Registration and postponement of the exam can be done through the NEPTUN system.

Department of Emergency Medicine

Subject: **FIRST AID**

Year, Semester: 1st year/1st semester

Number of teaching hours:

Lecture: 14

Practical: 14

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.

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.

6th week:
Practical: AVPU, ABCDE approachment.

7th week:
Practical: Recognition of unconsciousness, recovery position, airway management.

8th week:
Practical: Practicing the ventilation.

9th week:
Practical: Complex CPR training, usage of AED.

10th week:
Practical: Practical exam.

11th week:
Practical: Types of bleeding, bleeding control, hypovolaemic shock, Trendelenburg position.

12th week:
Practical: Distortions and extended soft-tissue injuries, bandage for fixation with special triangle, stifneck, dessault bandage, fixation of finger and hand fractures, usage of siplint.

13th week:
Practical: Basic trauma care

14th week:
Practical: Consultation, written test.
Self-control Test

Requirements

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

Department of Foreign Languages

Subject: **MEDICAL LATIN**
Year, Semester: 1st year/1st semester
Number of teaching hours:
Practical: 28

1. week	lecture:

seminar/practice: Class introduction and Chapter 1 Introduction to medical terminology

2. **week**
   lecture:
   seminar/practice: Chapter 2: Anatomical positions, planes and directions
3. **week:**
   lecture:
   seminar/practice: Chapter 3: Parts of the body
4. **week:**
   lecture:
   seminar/practice: Grammar 1: Basic elements of Latin grammar
5. **week:**
   lecture:
   seminar/practice: Chapter 4: Greek roots
6. **week:**
   lecture:
   seminar/practice: Chapter 5: Regions
7. **week:**
   lecture:
   seminar/practice: Formation of adjectives
8. **week:**
   lecture:
   seminar/practice: Revision, Mid-term Test
9. **week:**
   lecture:
   seminar/practice: Chapter 6: Skeletal system I
10. **week:**
    lecture:
    seminar/practice: Skeletal system II, Plural forms
11. **week:**
    lecture:
    seminar/practice: Chapter 7: Joints
12. **week:**
    lecture:
    seminar/practice: Complex adjectives
13. **week:**
    lecture:
    seminar/practice: Chapter 8 Muscles Latin and Greek prefixes related to numerals and quantities; Latin numerals
14. **week:**
    lecture:
    seminar/practice: Revision 2 – , End-term Test

Requirements

Attendance

Attending language classes is compulsory. Students should not be absent from more than 10 percent of the classes. If a student is late it is considered as an absence. If a student misses more than two occasions, the final signature may be refused and the student must repeat the course. Absentees can make up the missed classes in the same week. Maximum one language class may be made up with another group. Students have to ask for the teacher's written permission (by e-mail) 24 hours in advance. Students can attend any class (make up or regular) only if they take their course book with them.

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. There is a written word quiz in the first 5-10 minutes of the class, every week. If a student fails 4-4 successful word quizzes till the mid-term and the end-term tests he/she is not allowed to sit in for the test. If a student does not have minimum 8 successful word quizzes he/she has to take a vocabulary exam that includes all 300 words. A word quiz can be postponed by a week and students can take it only with their own teacher. Students can obtain bonus points (5-5%) by taking all the word quizzes successfully.

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

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

90-100 excellent (5)

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

Course book: See the website of the Department of Foreign Languages: ilekt.med.unideb.hu. Minimum vocabulary lists and further details are also available on the website.

Department of Medical Microbiology

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

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 immuno-sorbent 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 pneumophila, Mycoplasma pneumonia, Staphylococcus aureus, Steptococcus 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

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 PEDAGOGY**
Year, Semester: 1st year/1st semester
Number of teaching hours:
Lecture: 14

1st week:
Lecture: Basic concepts of pedagogy

2nd week:
Lecture: Principles of pedagogical activity

3rd week:
Lecture: Theories and trends in pedagogy

4th week:
Lecture: Elements of pedagogical influence

5th week:
Lecture: Values and aims. Process of pedagogical influence

6th week:
Lecture: Fields of personality development

7th week:
Lecture: Process of education postoperative nursing tasks; aseptic and hygienic environment

8th week:
Lecture: Process of teaching and learning

9th week:
Lecture: Edifying conduct

10th week:
Lecture: Methodology (basics, influencing factors, methods, differentiation)

11th week:
Lecture: Scenes of pedagogical activity (family, school, boarding schools, etc.)

12th week:
Lecture: Key participants and their communication

13th week:
Lecture: Consultation

14th week:
Lecture: Theoretical and practical issues of planning

Requirements

Attendance at lectures is strongly recommended since the examination topics are equal to the lectured topics.

Subject: **BASICS OF PHYSIOTHERAPY**
Year, Semester: 1st year/1st semester
Number of teaching hours:
Lecture: 28
Seminar: 14
Practical: 28

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: General aspects of physiotherapy programs. Applied postures compiling an exercise program
Practical: Teaching the correct sitting position. Different types of sitting positions

6th week:
Lecture: Introduction to aquatherapy
Practical: Linking breath and movement during exercises

7th week:
Lecture: Special underwater physical therapy methods
Practical: Climbing positions, exercises in these 5 positions

8th week:
Lecture: Stimulus, reaction, regulation of the movement
Seminar: The methods of movements description, drawing exercises
Practical: Exercises in kneeling and semi-kneeling positions

9th week:
Lecture: Physical basis of motion. Kinematics, balance, power
Seminar: Schematic description of the movement
Practical: Practice of exercises

10th week:
Lecture: Biological basis of motion. Passive motion system. Types of joints
Seminar: Different axes and planes of joints in the spine and limbs
Practical: Teaching the correct standing. Straight and round flexion of the trunk

11th week:
Lecture: Active movement system. Muscle analysis
Seminar: Significance of vectors and velocity in movements
Practical: Exercises in a standing position

12th week:
Lecture: Stimulus, reaction, regulation of the movement
Seminar: Types of muscle activities – concentric and eccentric movements
Practical: Practice of exercises

13th week:
Lecture: Possibilities for the training of muscles, fatigue
Seminar: Endurance and resistant muscle activities
Practical: Coordination exercises in different positions

14th week:
Lecture: Schematic representation of the movement
Seminar: Static and dynamic exercises
Practical: Assessment of practical knowledge

Requirements

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 fulfill the requirements in practice is a precondition of taking the ESE.

Subject: **GENERAL PRINCIPLES IN HEALTH CARE AND NURSING**
Year, Semester: 1st year/1st semester
Number of teaching hours:
Lecture: 14
Practical: 14

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 faeces; 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.

Subject: **HEALTH INFORMATICS I**
Year, Semester: 1st year/1st semester
Number of teaching hours:
Lecture: 10
Practical: 18

1st week:
Lecture: Data files, types, connection between data storing files, operation with data files. Compressing files. Malicious software - virus, Trojan, spyware, scareware, etc. Concepts and function of operation systems, basics of Windows. Electronic data storage (concepts of data, file, directory, extensions) and data conversion

2nd week:
Lecture: Networks. Internet. E-learning - MOODLE. Collaboration - GOOGLE DOCS. Time management - calendars, timetables. On-line communications - chat, Skype, video conference software. File sharing concepts, law, and privacy

3rd week:
Lecture: Spreadsheet software: Columns, rows, cells, tables. Contents of a cell: data types, operations, functions. Entering data. Data type. Formulating algorithms and code them with spreadsheet functions

4th week:
Lecture: Text editors. Importing data. Saving the document - file types, extensions. Importing data. Properties of a document. Repair: find and replace. The basic formatting a document - paragraphs and fonts. Computer graphics. Designing and creating (MS PowerPoint) presentations.

5th week:
Lecture: The fundamentals of health data bases. The widely accepted health classification systems. BNO, WHO, SNOMED

6th week:
Practical: Handling different data types. Data and information retrieval. Data conversion. Analyzing health statistics

7th week:
Practical: Table-based data management. Functional programming, Sprego functions

8th week:
Practical: Normalizing data tables. Table-based data management. Functional programming, Sprego2 functions

9th week:
Practical: End-user text management. Recognizing and handling errors I

10th week:
Practical: End-user text management. Recognizing and handling errors II

11th week:
Practical: The fundamentals of health classification. The widely accepted health classification systems. BNO, WHO, SNOMED

12th week:
Practical: End-user text and data management. Knowledge transfer

13th week:
Practical: Tables, texts, graphics, further online contents, hyperlinks. Handling data sources and references. Data conversion

14th week:
Practical: Designing presentations, styles, animations, hyperlinks

Requirements

Prerequisite of signature:
The participation at practical and theoretical hours is compulsory. Not more than 6-hour absent is tolerated. 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.
Prerequisite for offered grade:
The students have to write paper based test each week and solve the assigned tasks and send the solution to the named email address in the computer room of the Faculty of Public Health. The tasks will be evaluated by their contents and by the time spent on solving them. The collected points are converted into the final grade at the end of the semester. Late arrivals are regarded by negative points.

Division of Biophysics

Subject: **BIOPHYSICS**
Year, Semester: 1st year/1st semester
Number of teaching hours:
Lecture: 10
Seminar: 18

1st week:
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)

2nd week:
Seminar: (4-6) Biostatistics: Random variable, properties of distributions, binomial, Poisson and normal distributions

3rd week:
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

4th week:
Seminar: (10-12) Biostatistics: Statistical tests: t-test (one-sample, two-sample, paired), F-test

5th week:
Seminar: (13-14) Biostatistics: Practicing statistical tests

6th week:
Lecture: (1-2) Mechanics of solid bodies, biomechanics

7th week:
Lecture: (3-4) Mechanics of fluids and gases, physics of circulation and respiration

Self-control Test (Biostatistics test)

8th week:
Seminar: (15-16) Biophysics: Discussion of the topics lectured on weeks 6th and 7th

9th week:
Lecture: (5-6) Basics of electricity, medical applications

10th week:
Lecture: (7-8) Atomic physics, X-rays

11th week:
Seminar: (17-18) Biophysics: Biophysics: Discussion of the topics lectured on weeks 9th and 10th

12th week:
Lecture: (9) Nuclear physics, radioactive isotopes, application of nuclear radiation.

13th week:
Lecture: (10) Medical imaging methods

14th week:
Seminar: (19-20) Biophysics: discussion of the topics lectured on weeks 12th and 13th

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 ESE and get maximum points for this part. The same rules apply to repeated exams.

Institute of Behavioral Sciences, Faculty of Public Health

Subject: **BASICS OF PSYCHOLOGY**
Year, Semester: 1st year/1st semester
Number of teaching hours:
Lecture: 28

1st week:
Lecture:
Introduction, course requirements. Topics and methods of psychology. Psychological functions and behavior

2nd week:
Lecture:
Object and subject. Sensation and perception. Perception as a subjective experience. Good and bad subjective experiences: pleasure and pain. Conscious and unconscious

3rd week:
Lecture: Attention, memory, wakefulness and sleep. Stages of sleep

4th week:
Lecture: Learning and conditioning. Classical and operant conditioning. Teaching and learning.

5th week:
Lecture: Thinking, intelligence, creativity

6th week:
Lecture:

Arousal, affect, emotion, mood, instinct. Basic emotions. Recognition and control of emotions, impulse control. Is there such a thing as emotional intelligence?

7th week:
Lecture:
Drive, impulse, motivation. Hierarchy of motivation (Maslow, Ryan&Deci). Stimulation and incentive

8th week:
Lecture: Structure and major theories of personality

9th week:
Lecture:
Stages of psychological development. Expected competences and behaviors by age during normal development. Gender differences in psychology and behavior.

10th week:
Lecture:
Social behavior 1. Attachment, mother-baby relationship, intimate relationship.

11th week:
Lecture:
Social behavior 2. Attitudes, stereotypes. Expectation, conformity, identification and resistance. Conditions of group formation, group effects, collective decision making. Leadership styles

12th week:
Lecture:
Stress and coping: stressful events, psychological and physiological reactions to stress. Acute and chronic stress and their impact on health. Coping skills.

13th week:
Lecture:
Interrelationship of body and mind (psychosomatic diseases, impact of belief on the body)

14th week:
Lecture: How to improve/treat psychological dysfunctions (psychotherapy, pharmacotherapy)

Requirements

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

Subject: **BASICS OF SOCIOLOGY**
Year, Semester: 1st year/1st semester
Number of teaching hours:
Lecture: 14

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

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

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

4th week:
Lecture: Families and changing family relationships

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

6th week:
Lecture: The social distribution of illness

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

8th week:
Lecture: Disability and chronic illness

9th week:
Lecture: Mental health and mental illness

10th week:
Lecture: The profession of medicine

11th week:
Lecture: Other health care providers

12th week:
Lecture: Patients and practitioners

13th week:
Lecture: Main scopes of social policy in general and in Hungary I

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

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: 14

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

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: **COMMUNICATION**
Year, Semester: 1st year/1st semester
Number of teaching hours:
Lecture: 14
Practical: 14

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.

6th week:
Lecture: Management of the conflicts occurred during the helping relationship. Communication with the elderly.

7th week:
Lecture: Communication with impaired persons. Communication with the 'difficult' patient. Communication with acute patients.

8th week:
Lecture: Consultation
Practical: Preparation for the field practice. Review of the basic concepts of communication, communication channels. Verbal and non-verbal 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.

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

Content:
Practical: Sports events: Aerobic, Basketball, Handball, Horse-riding, Ice-skating, Skiing, Soccer, Spinning, Swimming, Tennis, Volleyball.

Spare time sports: body building, badminton, floorball, Pilates, Speed Minton, cardio-workout

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 HISTOLOGY AND EMBRYOLOGY FOR PHYSIOTHERAPISTS**
Year, Semester: 1st year/2nd semester
Number of teaching hours:
Lecture: 48
Seminar: 11
Practical: 11

1st week
Lecture: 1. Cell division. Development of gametes
2. Fertilization. Cleavage. Development of the germ layers
3. Differentiation of the germ layers I
4. Differentiation of the germ layers II

2nd week
Lecture: 1. Development of the skeletal system I
2. Development of the skeletal system II
3. Development of the nervous system
4. Development of the fetal membranes. Labor

3rd week
Lecture: 1. Epithelium
2. Connective tissue
3. Histology of the blood and bone marrow
4. The role of white blood cells in immunity

4th week
Lecture: 1. Muscle tissue
2. The anatomy of the heart I
3. The anatomy of the heart II
4. Histology of blood vessels. Vascular system of the human body
Practicum: Anatomy of the heart. Vascular system of the human body

5th week

Lecture: 1. Lymph circulation. Histology of lymph nodes and spleen
2. Organization of the respiratory system. Anatomy of the nasal cavity and larynx
3. Anatomy and histology of the trachea and lung
4. Organization of the digestive system. The oral cavity
Practicum: Anatomy of the respiratory system

6th week
Lecture: 1. Anatomy and histology of the pharynx, esophagus and stomach
2. Anatomy and histology of the intestine
3. Anatomy and histology of the liver and pancreas
4. Organization of the urinary system. Anatomy and histology of the kidney
Practicum: Anatomy of the digestive system

7th week
Lecture: 1. Anatomy and histology of the ureter, urinary bladder and urethra
2. Anatomy and histology of the male genital organs
3. Anatomy and histology of the female genital organs
4. Nervous tissue - neurons and glial cells
Practicum: Anatomy of the urinary and genital systems

8th week
Lecture: 1. Nervous tissue - synapses
2. The periheral nervous system - receptors, nerves and ganglia
3. The central nervous system - organization of the spinal cord
4. The brain. Organization of the brainstem
Practicum: **Exam: Anatomy of the inner organs**

9th week
Lecture: 1. Structure of the brainstem. Nuclei of cranial nerves
2. Anatomy and histology of the cerebellum
3. Diencephalon - structure of the thalamus and hypothalamus
4. Organization of the pituitary gland. Hypothalamo-hypophyseal system
Practicum: Structure of the spinal cord. Organization of the spinal nerves

10th week
Lecture: 1. The parts of the forebrain. Functional anatomy of the lobes
2. Histology of the forebrain
3. Somatosensory system
4. Organization of the somatomotor system. Innervation of the skeletal muscles
Practicum: Anatomy of the brainstem. Cranial nerves

11th week
Lecture: 1. Role of the spinal cord in organization of movements
2. Descending motor pathways
3. Role of the motor cortex and basal ganglia in organization of movements
4. Autonomic nervous system
Practicum: Structure of the cerebellum and diencephalon

12th week
Lecture: 1. Vestibular system
2. Auditory system
3. The eye
4. The visual system
Practicum: Forebrain. Meninges, liquor and blood circulation of the brain

13th week
Practicum: Anatomy of the auditory and visual systems

14th week
Practicum: **Exam: Anatomy of the spinal cord and brain**

Requirements

Prerequisite: Anatomy I
Rules of examination

Concerning attendance, the rules written in the Educational and Examination Regulations of the University of Debrecen are valid. The presence in practices, seminars and lectures will be recorded. The course organizer may refuse to accept the academic performance if a student is absent from more than two practices or misses more than 50% of the lectures in the semester.

Midterm examinations

Two midterm examinations will be held on the 9th and 15th weeks in the dissection room covering the gross anatomy of the viscera and central nervous system, respectively. The students who performed the midterm examinations successfully are exempted from two topics during the practical parts of the end-semester exam.

End-semester examinations

The end-semester examinations are divided into two stations:

1. The first part of the end-semester exam is a practical oral exam will be held in the dissecting room. The exam covers gross anatomy of the viscera and central nervous system. The students have to choose a question including four topics. The list of the topics is available for the students during the semester. The students who performed the midterm examinations successfully have the right to choose only two topics out of the four during the practical examination.
2. The second part of the end-semester exam is a written exam including simple and multiple-choice test questions which cover the topics of lectures and practices.

The student has to pass the practical and the written exam, respectively. If the student pass the practical or the written exam during the A chance he/she does not have to do it again next time.

Registration and postponement of the exam can be done through the NEPTUN system.

Department of Foreign Languages

Subject: **HUNGARIAN LANGUAGE I**

Year, Semester: 1st year/2nd semester

Number of teaching hours:

Practical: 28

1st week:
Emlékszel?
2nd week:
Napirend
3rd week:
Melyik a jobb?
4th week:
Melyik a jobb?
5th week:
A testem
6th week:
Beteg vagyok
7th week:
Mid-term test
8th week:
A család
9th week:
A család
10th week:
Csak azért is zumbázni akarok
11th week:
Mit csináltál tegnap?
12th week:
Hol nyaraltatok?
13th week:
Revision
14th week:
Endterm test

Requirements

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.

Subject: **ECONOMICS AND MANAGEMENT**
Year, Semester: 1st year/2nd semester
Number of teaching hours:
Lecture: 28

1st week:
Lecture: Subject, method and the short history of Economics. The concept of economic agents

2nd week:
Lecture: National income. The market mechanisms: the analysis of demand and supply

3rd week:
Lecture: Comparative static analysis. The concept of the product-, money- and labour market

4th week:
Lecture: The instruments of economic policy: fiscal and monetary policy

5th week:
Lecture: The role of the Central Bank. Development of banks and the financial system I

6th week:
Lecture: Development of banks and the financial system II. The functions of financial intermediary

7th week:
Lecture: Current issues of the Hungarian economy

8th week:
Lecture: Economics: Consultation.
Management: Introduction to management

9th week:
Lecture: Strategic management. Identifying values, setting and attaining goals

10th week:
Lecture: Time management issues. How to delegate

11th week:
Lecture: How to deal with conflict - conflict management issues. Basics of quality management

12th week:
Lecture: How to get your point across - the art of presentation. Management, leadership, and employee empowerment

13th week:
Lecture: Performance assessment. Motivating employees and building teams

14th week:
Lecture: Human resource management: finding and keeping the best employees; dealing with employee-management issues and relationships

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: 18
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.

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: **ELECTRO-, BALNEO-, HYDRO-, AND CLIMATOTHERAPY**
Year, Semester: 1st year/2nd semester
Number of teaching hours:
Lecture: 14
Practical: 28

1st week:
Lecture: Definition of Physiotherapy. History and main fields of physical therapy. The physical and biological basis of electrotherapy, and its history. Phototherapy (laser treatments, UV therapy, infrared radiation). Ultrasound (US) treatment
Practical: Technical conditions of physical therapy, security considerations

2nd week:
Lecture: Hydro- and thermotherapy, hot, cool effects, wraps, washings, poultice , weight bath therapy , CO2 bath, hydro-massage
Practical: Technical processing of physical therapy, low frequency devices

3rd week:
Lecture: Balneotherapy, mud treatment. Criteria of mineral and thermal water, the effects of thermal waters, drinking cures, mud application. Climate therapy, cave therapy, inhalation
Practical: Components of the low frequency devices, types of electrodes, contact material, methods of application

4th week:
Lecture: Physical basic concepts (electricity, power, conductors, insulators, current forms, etc.). The effects of the current. Low-frequency electrotherapy, appliances, electrodes, dosing. Iontophoresis, mechanism of action, forms and dosing, indications, contraindications
Practical: Special Galvan treatments

5th week:
Lecture: Physico-chemical and physiological effects of Galvanic current: (dissociation, ion migration, etc.). Galvanic current treatment technique. Indications and contraindications. Special Galvanic treatments (Kowarschik, Bourgignon, Bergonier)
Practical: Iontophoresis

6th week:
Lecture: Bernard's diadynamic electrotherapy, mid- frequency electrotherapy, interference

current symptomatic treatment. Selective current stimulation therapy, the conditions of muscle excitation. Chronaxia, rheobase, concept of accommodation
Practical: Electrical devices and instruments, the Galvanic-Farad and, Neofarad tests ratings and evaluation. Intensity-duration curve diagnostics (s/t), rectangular and triangular pulse curve. chronaxia, rheobase and determination of Alpha-factor

7th week:
Lecture: Riesz type of therapy, TENS treatment. Errors and complications occurring during treatment. High-frequency electrotherapy (short wave, decimetre-wave, micro wave). Magneto-therapy (devices, operating principles, practical application)
Practical: TENS treatment

8th week:
Practical: Diadynamic treatment, interference and high frequency treatment

9th week:
Practical: Selective stimulus treatment

10th week:
Practical: Ultrasound and magnetic treatment, ultrasonic therapy

11th week:
Practical: Infrared, laser and polarized light therapy, inhalation

12th week:
Practical: Hydro galvanic treatments and mud pack

13th week:
Practical: Hydro massage, carbon dioxide bath and weight bath

14th week:
Practical: Consultation

Requirements

Prerequisite: Basics of Physiotherapy, Biophysics
Signature
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.
Mid-term examinations and calculation of term mark
Mid-term tests in theoretical knowledge and practice exam will be processed during the semester. The results of the midterm tests and practical examination will be averaged for evaluation of the term mark (AW5).

Subject: **HEALTH INFORMATICS II**
Year, Semester: 1st year/2nd semester
Number of teaching hours:
Lecture: 10
Practical: 18

1st week:
Lecture: Information and data management. The concepts of data and information. The basic algorithms of data management. The concept of coding, its different approaches, its advantages and disadvantages, code-refreshing. The fundamentals of database management, data models, the concept of database. The operators of database management. Handling data with database programs (MS Access)

2nd week:
Lecture: The fundamentals of health classification. The widely used health classification systems: BNO, WHO, SNOMED

3rd week:
Lecture: The networks of informatics, long distance data management. Health and public health, online and offline data bases. Data and information retrieval

4th week:
Lecture: Health and public health data administration. Health and public health data and information systems data flow and data exchange Health and public health data bases

5th week:
Lecture: Library information systems: MEDLINE, PUBMED, CD-ROM-ok multimedia systems. Health and public health libraries, online and offline data collection in these libraries and databases

6th week:
Practical: Database management: the fundamentals of database management, knowledge and data transfer between spreadsheet and database manager programs

7th week:
Practical: Data retrieval from health and public health databases, formulating quarries on the quarry grind of MS Access I

8th week:
Practical: Data retrieval from health and public health databases, formulating quarries on the quarry grind of MS Access II

9th week:
Practical: Creating and normalizing data tables and data bases. Designing forms and reports

10th week:
Practical: Presenting demo health and public health systems

11th week:
Practical: The fundamentals of space and graphic informatics, the application of them in health and public health routine

12th week:
Practical: The legal and ethical questions of data protection and privacy, the rules of handling these data

13th week:
Practical: Handling digital data, the problem of data security. The systems and methods of data protection both hardware and software

14th week:
Practical: Scientific data retrieval and collection. Searching in online and offline libraries. The selection of appropriate hardware and software tools, data and knowledge transfer in health and computer related problem solving I

Requirements

Prerequisite of signature:
The participation at practical and theoretical hours is compulsory. Not more than 6-hour absent is tolerated. 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.
Prerequisite for offered grade:
The students have to write paper based test each week and solve the assigned tasks and send the solution to the named email address in the computer room of the Faculty of Public Health. The tasks will be evaluated by their contents and by the time spent on solving them. The collected points are converted into the final grade at the end of the semester. Late arrivals are regarded by negative points.

Subject: **KINESIOLOGY I**
Year, Semester: 1st year/2nd semester
Number of teaching hours:
Lecture: 28
Seminar: 28
Practical: 84

1. **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: Physiotherapeutic methods, principles and rules in the physiotherapy.
   practice: Instruments in examination.
   General rules of physical exercises, body positions used in the physiotherapy.
2. **week**
   lecture: Materials in human joints; general properties of connective tissue; complexity of joint design and function; elements of muscle structure and function. 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.
   seminar: SOAP NOTE. Instrumentation in physical examination; joint range of motion.
   practice: Assessment of active and passive range of motion. Physiological and pathological end feels Movement terminology, Cyriax method.
   Elongation, isometric and isotonic muscle contractions, synergisms (practical examples)
3. **week:**
   lecture: Structure and function of the sacral region: sacroiliac and symphysis pubis articulation
   seminar: Physical examination of the pelvis: anamnesis and inspection.
   practice: Physical examination of the pelvis.
   Active exercises of the truncal flexors in different positions by taking the principle of gradation into consideration: with and without instruments, in pairs
4. **week:**
   lecture: Structure and function of the lumbar region: typical lumbar vertebra, articulations, kinematics and kinetics. Pelvico-lumbo-hip complex.
   seminar: Movements of the Pelvico-lumbo-hip complex in horisontal plane.
   practice: Examinations of pathological signs in the pelvic region.
   Strengthening exercises of the truncal flexors launched from supine position, and on oblique desk.
5. **week:**
   lecture: Effect of muscles on lumbar and sacral regions, synergism.
   seminar: Physical examination of the lumbar spine: anamnesis and inspection.
   practice: Physical examination of the pelvis, pathology.
   Analysis – practice.
6. **week:**
   lecture: Effect of muscles on lumbar and sacral regions. Structure and function of the thoracic region: typical thoracic vertebra, articulations, kinematics and kinetics.
   seminar: Movements of the Pelvico-lumbo-hip complex in vertical positions.
   practice: Physical examination of the PLH complex, pathology.
   Strengthening exercises of the truncal extensors launched from supine position, and on oblique desk.
7. **week:**
   lecture: Diaphragm, muscles associated with rib cage. Respiratory function.
   seminar: Function of trunk flexors in horisontal and vertical positions, analysis of the synergism.
   practice: Examination – practice.
   Dictation exercises for trunk flexors in different positions by taking the principle of gradation into consideration: with and without instruments, in pairs.
8. **week:**
   lecture: **midterm written exam – test (1-7 weeks)**
   seminar: A thoracalis gerinc vizsgálata - anamnézis és inspectio.
   practice: Physical examination of the thoracic spine and the chest.
   Active exercises of the truncal extensors in different positions by taking the principle of gradation into consideration: with and without instruments, in pairs.
9. **week:**
   lecture: Structure and function of the cervical

region: typical cervical vertebra, articulations, kinematics and kinetics. Atlanto-occipital and atlanto-axial joints. Effect of muscles on the cervical regions.
seminar: Function of trunk extensors in horisontal and vertical positions, analysis of the synergism
practice: Physical examination of the thoracic spine and the chest, pathology.
Active exercises of the lateral truncal flexors in different positions by taking the principle of gradation into consideration: with and without instruments, in pair.

10. **week:**
lecture: The temporo-mandibular joint: articular surfaces, disk, capsules and ligaments; mandibular motion and muscular control Examinations of the temporo-mandibular joint in physiological and pathological states; relationships between the functions of the temporo-mandibular joint and neck
seminar: Physical examination of the cervical spine: anamnesis and inspection.
practice: Physical examination of the cervical spine.
Analysis – repetition.

11. **week:**
lecture: Components of the shoulder complex: sterno-clavicular, acromio-clavicular, scapulo-thoracic and gleno-humeral joints.
seminar: Lateralflexion of the trunk is different position, analysis of the synergism.
practice: Physical examination of the cervical spine – special tests.
Active exercises of the truncal rotators in different positions by taking the principle of gradation into consideration: with and without instruments, in pairs

12. **week:**
lecture: Structure and function of the gleno-humeral joints. Static and dynamic stabilization.
seminar: Rotation of the trunk is different position, analysis of the synergism.
practice: Examination – repetition.
Strengthening exercises of the lateral truncal flexors and rotators with and without instruments, exercises in pairs.

13. **week:**
lecture: Integrated function of the shoulder complex Static and dynamic stabilization.
Integrated function of the shoulder complex.
seminar: Summary of the trunk synergism.
practice: Examination and analysis – repetition according to topic list.

14. **week:**
lecture: **2. midterm written exam**
seminar: Analysis of the synergism of the cervical spine.
practice: Examination and analysis – repetition according to topic list.

Requirements

Prerequisite: Anatomy I, Basics of Physiotherapy
Signature
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.
Examinations

1. The theoretical component can be achieved by taking 2 written, mid-semester exams. Both of them should achieve at least 60%, while the average of the two should be at least 70% to pass the mid-semester exams. If any of these requirements are not fulfilled pre-exam grade will not be offered.
2. The examination component can be achieved at the end of the semester. The practice exam is oral and involves the topics of the examination of movement system. The grade cannot be improved separately during the semester.
3. The analysis component can be achieved at the end of the semester. The practice exam is oral and involves the topics of the functional analysis of movement system. The grade cannot be improved separately during the semester.
4. If the theoretical, examination and analysis components on average reach the level of satisfactory, pre-exam grade can be offered.
5. If someone doesn't have an offered grade or it was rejected by the student, complex (theoretical +examination +analysis) oral exam should be taken in the exam period. If any of the module grades is fail, then the final grade of the exam 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: 14

1st week:
Lecture: Introduction to genetics. Genes as units of biological information. Transcription and translation

2nd week:
Lecture: DNA replication. Genes and allels. Mendel's laws. Dominant and recessive inheritance, understanding X chromosome inheritance.

3rd week:
Lecture: Mutation and DNA repair. Inheritance of genes in population (polygenic and mono-genic). Family tree analysis. Mutagenic effects and damages. The Ames test

4th week:
Lecture: The structure of DNA. DNA transcription to RNA. Transcriptomes. Genetic code. Non-coding RNAs

5th week:
Lecture: DNA polymorphisms. Gene regulations. Epigenetics
Self-control Test

6th week:
Lecture: Recombinant DNA technology and the use in medicine and biology. Genomic techniques in basic science and diagnosis.

7th week:
Lecture: Inherited diseases. The genetic background of cancer development and

progression	**8th week:** Lecture: The Human Genome Project

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: 28

1. **week**
   lecture: Introduction, Intracellular Organelles
2. **week**
   lecture: Chemical Compounds of Cells
3. **week:**
   lecture: Membranes, Membrane Transport
4. **week:**
   lecture: Vesicular Structures and Vesicular Transport
5. **week:**
   lecture: Ion Channels, Calcium Homeostasis
6. **week:**
   lecture: Nucleus, DNA and Chromatin Structure
7. **week:**
   lecture: Cell Cycle, Mitosis, Meiosis
8. **week:**
   lecture: Signaling
9. **week:**
   lecture: Mitochondrion, Cell-Cell Contacts
10. **week:**
    lecture: Cytoskeleton, Cell Motility
11. **week**:
    lecture: Stem Cell Biology
12. **week:**
    lecture: Tumor Biology
13. **week:**
    Pre-exam test
14. **week**:
    Consultation

1. Lectures: Attendance of lectures is indispensable for acquiring the knowledge required to pass, understanding which parts of the material have the highest importance, and finding the proper sources for preparing for the exam.

2. Pre-exam test: Students write a pre-exam test in the 14th week in the time of the lectures. A final grade is offered based on the result of this pre-exam. If the student accepts the offered grade, it is still

possible to take an improvement exam later, in compliance with the University's regulations.

3. Exams: Pre-exam and exams are written tests.
Pre-exam test and exam tests consist of two parts. The first part (**Part A**) consists of 10 simple True/False type questions (1 point/each, total 10 points) and 5 keywords (2 points/ each, total 10 points). For writing **Part A**, 20 minutes are allocated. **B part** contains test questions based on the whole material (True/False type, Relation analysis, Multiple Choice etc.) and short essay questions based on the key words provided during the semester. The total score of the **B part** is 80 points.
In the exams Part B is evaluated if the result of Part A is at least 50%. Below 50% the grade of the exam is a fail (1). A successful passing of **Part A** is valid for B and C exams throughout the exam period, but not beyond.

At "C" and last chance exams if the score on both **Part A** and **Part B** is 50 % or above, grades are assigned as usual. However, if **Part A** is failed, **Part B** will nevertheless be marked. A failed written exam is followed by an oral exam and the final grade is determined on the basis of the comprehensive evaluation of the written and oral parts. The oral exam is conducted in the presence of a chairperson from another department.

As opposed to the exams, both A and B parts are evaluated in the pre-exam test regardless of their value and contribute to the final score.

Calculating the result of pre-exams and exams:
The final score of pre-exam test or exam test is converted to a grade as follows:

Excellent (5):	above	80;
Good (4):	between	70-79
Satisfactory (3):	between	60-69;
Pass (2):	between	50-59;
Fail (1):below	50.	

Institute of Sport Science of University of Debrecen

Subject: **PHYSICAL EDUCATION II**
Year, Semester: 1st year/2nd semester
Number of teaching hours:
Practical: 28

Content:
Practical: Sports events: Aerobic, Basketball, Handball, Horse-riding, Iceskating, Skiing, Soccer, Spinning, Swimming, Tennis, Volleyball. 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

CHAPTER 8
ACADEMIC PROGRAM FOR THE 2ND YEAR

Department of Foreign Languages

Subject: **HUNGARIAN LANGUAGE II**
Year, Semester: 2nd year/1st semester
Number of teaching hours:
Practical: 28

1. **week**
   Már beszélek egy kicsit magyarul
2. **week:**
   Már beszélek egy kicsit magyarul
3. **week:**
   Magyarórám lesz
4. **week:**
   Magyarórám lesz
5. **week:**
   Debrecenben lakom
6. **week:**
   Már ezt is tudom!
7. **week:**
   Mid-term test
8. **week:**
   Magyarórán
9. **week:**
   Honnan jön, és hová megy?
10. **week:**
    Honnan jön, és hová megy?
11. **week:**
    Utazás
12. **week:**
    Utazás
13. **week:**
    Revision
14. **week:**
    Endterm test

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 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.

Department of Internal Medicine

Subject: **INTRODUCTION TO CLINICAL MEDICINE**
Year, Semester: 2nd year/1st semester
Number of teaching hours:
Lecture: 14
Practical: 14

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, haematology

6th week:
Lecture: The role of non-invasive 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 measure-ments, examination of peripheral arteries and veins. Pulse quality

10th week:
Lecture: Physical examination of the locomotors 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

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.

Department of Medical Imaging

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

1st week:
Lecture: Energy in biology. Oxidative phosphorylation. PDH complex. The citric acid cycle and its regulation
Seminar: Introduction to the course requirements

2nd week:
Lecture: Carbohydrate metabolism I. Introduction. Digestion and absorption of carbohydrates. Main pathways of the carbohydrate metabolism, central role of glucose. Absorption and transport of monosaccharides. Carbohydrate metabolism in various tissues. Glycolytic pathway and its regulation. Gluconeogenesis.
Seminar: Mitochondrion

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

4th week:
Lecture: Carbohydrate metabolism III. Pentose phosphate pathway. Metabolism of galactose and fructose. Metabolism of glucuronic acid. Inherited diseases in the carbohydrate metabolism.
Seminar: Carbohydrate metabolism II

5th week:
Lecture: Lipid metabolism I. Introduction. Lipid metabolism during well feed stage. Synthesis of fatty acids. Synthesis of triacyl-glycerols and its regulation.
Seminar: Carbohydrate metabolism III

6th week:
Lecture: Lipid metabolism II. Lipid metabolism during starvation, oxidation of fatty acids (beta oxidation). Ketone bodies. Lipid and carbohydrate metabolism during starvation and well feed state. Biochemistry of diabetes mellitus.
Seminar: Lipid metabolism I

7th week:
Lecture: Lipid metabolism III. The mevalonate metabolic pathway. Synthesis of cholesterol. Excretion of cholesterol. Steroid hormones. Bile acids. Vitamin D.
Seminar: Lipid metabolism II

8th week:
Lecture: self-control test I
Seminar: Lipid metabolism III
Self-control Test (topics of 1st-7th weeks)

9th week:
Lecture: Lipid metabolism IV. Lipoproteins in blood plasma. Cholesterol transport in the body. Biochemical explanation of elevated blood cholesterol level.
Seminar: Discussion of self-control test I

10th week:
Lecture: Amino acid metabolism I. Formation and

utilization of the intracellular amino acid pool. Common reactions in the amino acid metabolism: fate of the nitrogen. Transaminations and deaminations. Formation and elimination of ammonia in the body
Seminar: Lipid metabolism IV

11th week:
Lecture: Amino acid metabolism II. The urea cycle. 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. Related enzyme deficiencies (PKU)
Seminar: Amino acid metabolism I

12th week:
Lecture: Nucleotides metabolism I. Nucleotide pool. Digestion and absorption of nucleic acids. Sources of atoms in purine ring. De novo synthesis of purine nucleotides. Regulation of purine nucleotide synthesis. Salvage pathways for the purine bases. Degradation of purine nucleotides. Diseases associated with purine nucleotide metabolism. Gout.
Seminar: Amino acid metabolism II

13th week:
Lecture: Biochemistry of nutrition I. Energy requirement. Basic metabolic rate. Energy content of the food. Energy storage and thermogenesis. Biochemical mechanism of obesity. Protein as nitrogen and energy source. Nitrogen balance. Essential amino acids. Protein malnutrition. Carbohydrates and lipids.
Seminar: Nucleotides metabolism

14th week:
Lecture: Biochemistry of nutrition. Energy requirement. Basic metabolic rate. Energy content of the food. Energy storage and thermogenesis. Biochemical mechanism of obesity. Protein as nitrogen and energy source. Nitrogen balance. Essential amino acids. Protein malnutrition. Vegetarianism. Carbohydrates and lipids. Pathological mechanisms in obesity. Vitamins: structure and biochemical functions. Relationship between the biochemical functions and the symptoms of deficiency.
Seminar: Biochemistry of nutrition II. Pathological mechanisms in obesity. Vitamins: structure and biochemical functions. Relationship between the biochemical functions and the symptoms of deficiency

Requirements

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 3 seminars
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.

Subject: **BIOCHEMISTRY**
Year, Semester: 2nd year/2nd semester
Number of teaching hours:
Lecture: 10
Seminar: 4

1. **week**
   lecture: Biochemistry of the liver. Biotransformation. Ethanol metabolism, biochemical consequences of ethanol consumption..
   seminar:-
2. **week**
   lecture: Iron metabolism. Iron absorption, transport, storage and distribution in the human body. Synthesis of hem, regulation of the synthesis in eukariotic cells. Disorders in hem metabolism. Degradation of hem: formation, conjugation and excretion of bile pigments. Hemoglobin; structure, function and regulation of that.
   seminar: Biochemistry of the liver.
3. **week:**
   lecture: Cellular, humoral and vascular aspects of blood clotting. Structure, activation, adhesion and aggregation of thrombocytes. Classification of blood clotting factors and their role. Blood clotting in the test tube and in the body. Role of thrombocytes and the vascular endothel. Limiting factors, inhibitors and activators of blood coagulation. Fibrinolysis.
   seminar: Iron metabolism
4. **week**:
   lecture: Biochemistry of the extracellular matrix: function, main components: glucosaminoglycans and proteoglycans, collagens, elastin, adhesion proteins. Synthesis and degradation of collagens.
   seminar: Blood clotting.
5. **week:**
   lecture: Sport biochemistry. Structure and mechanism of contraction in sceletal muscle. Generation of power stoke. Energy supplay of muscle contraction under aerobic and anaerobic conditions. Role and activation of AMP kinase. Irisine.
6. **week:**
   lecture: - (Self control test)
   seminar: Sport biochemistry

Requirements

Requirements

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 1 seminars

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

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

Department of Physiology

Subject: **NEUROPHYSIOLOGY**
Year, Semester: 2nd year/1st semester
Number of teaching hours:
Lecture: 14
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

Prerequisite*:* Anatomy II
It is recommended to attend the lectures, and it is compulsory to be present on seminars and practical hours. The signature of the Lecture Book may be refused for the semester if one has more than two absences from the seminars and practical hours.
The mid-semester exam will be done at the end of the topic. If the score (including bonus points) is 70% or more you get exemption from the written part of the ESE.
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. If the oral part is fail, the grade is fail independently of the results of the written part.
E-learning program: It is possible to join to the e-learning program during the semester. This program provides opportunity for students to deepen their understanding of Neurophysiology. Depending on your performance on the e-learning program you may earn maximum 10% bonus points which will be added to the scores in the end-semester tests. The bonus points are granted if the end-semester test reaches or higher than the passing limit (55%). Further information about the e-learning program will be announced during the first lecture

Subject: **PHYSIOLOGY**
Year, Semester: 2nd year/1st semester
Number of teaching hours:
Lecture: 28
Seminar: 14

1. **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: Introduction to the subject. Requirements
2. **week**
   lecture: Somatosensory function of CNS: psychological and psychophysical basic definitions; deep sensation; proprioception; exteroceptors, the skin as a sensory organ; significance and mechanisms of pain sensation; specific and aspecific ascending sensory systems; function of the sensory cortex
   seminar: Disorders of impulse propagation and synaptic transmission
3. **week:**
   lecture:
   Somatomotor function of CNS: reflex activity at different levels; proprioceptive and exteroceptive spinal cord reflexes; injury of spinal cord, acute and permanent consequences
   seminar: Disorders of sensory functions
4. **week:** *lecture:*
   Reflex control of posture, the vestibular apparatus as receptor structure; distribution of muscle tone
   seminar: Reflex control of posture
5. **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: Postural disorders
6. **week:**
   lecture:
   Skeletal muscles as effectors: motor unit; electric properties of skeletal muscle; characteristics of mechanical response; regulation of muscle tone
   seminar: Higher function of CNS
7. **week:**
   lecture: Neuromuscular synaptic transmission; myasthenia gravis; dysfunctions of skeletal muscles with myogenic and neurogenic origin; denervation and inactivity atrophy
   practice: Neurological examinations
8. **week:**
   lecture: 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
   practice: Discussion of clinical relations (disorders of impulse generation and conduction): analysis of abnormal ECG records
9. **week:**
   lecture: Main features of coronary circulation; oxygen consumption and physical work. Aspects of cardiac performance; metabolic demand for physical activity
   practice: Analysis of abnormal ECG records
10. **week:**
    lecture: Lecture: Regional circulation in resting condition (pulmonary circulation,

cerebral flow, blood supply of skeletal muscles; renal and splanchnic circulation)
practice: Pulse qualities, blood pressure measurement, heart sound; changes in cardiovascular parameters during physical activity, restoration

11. 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
seminar: Case studies

12. week:
lecture: Microcirculatory system, effects of physical exercise on its function; venous circulation, improvement the venous return by physical exercise
practice: Summary: neural and humoral factors acting on the precapillary vessels

13. 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
practice: Obstructive and restrictive respiratory disorders, pathophysiology, analysis of respiratory parameters; analysis of respiratory parameters during physical activity

14. 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
practice: Normal and pathological breathing patterns; long term adaptation of cardiorespiratory system to physical activity

Requirements

Signature of Lecture Book

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

Evaluation during the semester

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

Examination

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

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

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

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

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

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

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

The e-learning module is aimed to support the effective learning process. The lectures cannot be substituted by e-learning activity. You can collect bonus points by fulfilment of different tasks in the module. 10% of the scores can be achieved in the e-learning module. The bonus points (maximum 10% of total) are added to the average score achieved in mid-term tests or ESE, if there is no performance below 40% and the average score is at least 55% without bonus points.

Subject: **CARDIORESPIRATORY AND EXERCISE PHYSIOLOGY**
Year, Semester: 2nd year/1st semester
Number of teaching hours:
Lecture: 14
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; 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

Requirements

Prerequisite: Anatomy II
It is recommended to attend the lectures, and it is compulsory to be present on seminars and practical hours. The signature of the Lecture Book may be refused for the semester if one has more than two absences from the seminars and practical hours.
The mid-semester exam will be done at the end of the topic. If the score (including bonus points) is 70% or more you get exemption from the written part of the ESE.
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. If the oral part is fail, the grade is fail independently of the results of the written part.
E-learning program: It is possible to join to the e-learning program during the semester. This program provides opportunity for students to deepen their understanding of Cardiorespiratory and Exercise Physiology. Depending on your performance on the e-learning program you may earn maximum 10% bonus points which will be added to the scores in the end-semester tests. The bonus points are granted if the end-semester test reaches or higher than the passing limit (55%).

Subject: **KINESIOLOGY II**
Year, Semester: 2nd year/1st semester
Number of teaching hours:
Lecture: 28
Seminar: 14
Practical: 84

1. **week**
   L: The elbow complex. Structure of the humero-ulnar and humero-radial articulations; surfaces, axis of motion, joint capsules, ligaments and muscle action
   S: Physical examination of the elbow – anamnesis and inspection, backgrounds of main problems of the elbow.
   P: Analysis: General rules of physical exercises on extremities- dictation in different kinds of lying and vertical positions. Analysis of active exercises of the shoulder in different positions
2. **week**
   L: 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
   P: Analysis: Active exercises of the shoulder in different positions - dictation in different kinds of lying and vertical positions
   P: Examination: Examination of the elbow in pathological cases
3. **week**
   L: 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
   S: Physical examination of the wrist and hand – anamnesis and inspection, backgrounds of main problems.
   P: Analysis: Active exercises of the shoulder in different positions - dictation in different kinds of lying and vertical positions with tools.
   P: Examination: Physical examination of the wrist and hand
4. **week**
   L: 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
   P: Analysis: Active exercises of the elbow-dictation in different kinds of lying and vertical positions
   P: Examination: Physical examination of the wrist and hand
5. **week**
   L: Structure of the thumb
   S: Analysis: Examination of the wrist and

hand in pathological state
P: Analysis: Active exercises of the wrist and hand- dictation in vertical position, functional exercises
P: Examination: Physiological and pathological examination of the thumb

6. **week**
L: Axes of the lower extremities
The ankle and foot complex: plantar arches – structure and function
P: Analysis: Repetition-upper limb- dictation in different kinds of lying and vertical positions
P: Examination: Physiological axes and their deviations: examination and differential diagnosis
7. **week**
L: The ankle and foot complex: ankle, subtalar and transverse tarsal joints. Action of muscles
S: Examination of the foot complex in closed kinematic.
P: Analysis: Active exercises of the ankle and foot in different positions- dictation in different kinds of lying and vertical positions
P: Examination: Examination of the ankle and foot in pathological states
8. **week**
L: **1. midterm exam**,
P: Examination of the ankle and plantar arches in pathological states.
P: Analysis: Active exercises of the ankle and foot in different positions with tools
9. **week**
L: The knee complex: structure, function and muscles. Stabilizers of the knee
S: Examination of the knee complex – anamnesis and inspection backgrounds of main problems.
P: Analysis: Active exercises of the knee- dictation in different kinds of lying and vertical positions
P: Examination: Physical examination of the knee
10. **week**
L: Patello-femoral joint: surface, joint congruence, motion, stability
P: Analysis: Active exercises of the ankle and foot- dictation in different kinds of lying and vertical positions
P: Examination: Pathology of the knee
11. **week**
L: The hip complex: structure, function and muscles
S: Examination of the foot complex – anamnesis and inspection backgrounds of main problems.
P: Analysis: Analysis of active exercises of the hip P: Examination: Examination: Physical examination of the hip, special tests
12. **week**
L: Coordinated motions of the femur, pelvis and lumbar spine; pelvi-femoral movements; closed-chain hip joint function
P: Analysis: Repetition - dictation in different kinds of lying and vertical positions
P: Examination: Physical examination of the hip, special tests
13. **week**
L: Static and dynamic posture. Analysis of standing posture, Locomotion: kinematics, kinetics. Abnormal gait
S: Analysis: Gait analysis according to the examination.
P: Analysis: Active gait exercises- dictation in different kinds of position.
Examination: Examination of the posture
14. **week**
L: 2. midterm written exam
P: Analysis: Practice
P: Examination: Examination of the gait

Requirements

Prerequisite: Anatomy II, Kinesiology I
Signature
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. At the end of the semester, students take an oral end-semester exam (ESE).
Mid-term examinations
The theoretical component can be achieved by taking 2 written, mid-semester exams. Both of them should achieve at least 60%, while the average of the two should be at least 70% to pass the mid-semester exams. If any of these requirements are not fulfilled pre-exam grade cannot be offered.
Examinations
1. The examination component can be achieved at the end of the semester. The practice exam is

oral and involves the topics of the examination of movement system. The grade cannot be improved separately during the semester.

2. The analysis component can be achieved at the end of the semester. The practice exam is oral and involves the topics of Functional analysis of movement system. The grade cannot be improved separately during the semester.
3. If the theoretical, examination and analysis components on average reach the level of satisfactory, pre-exam grade can be offered.
4. If someone doesn't have an offered grade or it was rejected by the student, complex (theoretical +examination +analysis) oral exam should be taken in the exam period. If any of the module grades is fail, then the final grade of the exam is fail.

Subject: **MOBILIZATION-MANUAL TECHNIQUES I**
Year, Semester: 2nd year/1st semester
Number of teaching hours:
Lecture: 14
Practical: 75

1st week:
Lecture: PNF: Definition and history of the proprioceptive neuromuscular facilitation (PNF). Introduction to classic 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) PNF I: Introduction to the PNF. Basic positions of the PNF

2nd week:
Lecture: PNF: Basic procedures of the PNF. Specific treatment goals. 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
Practical: (1) Massage: Swedish massage treatment of the back (2) Passive mobilization: passive mobilization of the neck (3) PNF I: Examination of diagonal movements

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) 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) 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
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 PNF I: arm patterns; flexion-abduction-external rotation; extension-adduction-internal rotation

6th week:
Lecture: 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) PNF I: arm patterns; flexion-abduction-external rotation with elbow flexion and extension; extension-adduction-internal rotation with elbow flexion and extension

7th week:
Lecture: 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; practising techniques (2) Passive mobilization: passive mobilization of the wrist and hand joints (3) PNF I: arm patterns; flexion-adduction-external rotation; extension-abduction-internal rotation

8th week:
Practical: (1) Massage: special manoeuvres; 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) PNF I: arm patterns; flexion-adduction-external rotation with elbow flexion and extension; extension-abduction-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) PNF I: leg patterns; flexion-abduction-internal rotation; extension-adduction-external rotation

10th week:
Practical: (1) Massage: examination of patient, practising techniques of the connective tissue massage (2) Passive mobilization: passive mobilization of the ankle and toe joints (3) PNF I: leg patterns; flexion-abduction-internal rotation with knee flexion and extension; extension-adduction-external rotation with knee flexion and extension

11th week:
Practical: (1) Massage: practice of the pelvis techniques; treatment of the trunk (2) Passive mobilization: positioning techniques (3) 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) PNF I: leg patterns; flexion-adduction-external rotation with knee flexion and extension; extension-abduction-internal rotation with knee flexion and extension

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

14th week:
Practical: (1) Massage: practice exam (2) Passive mobilization: practice exam ((3) PNF I: practice exam

Requirements

Prerequisites: Anatomy II, Electro-, balneo-, hydro- and climatotherapy, Kinesiology 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. 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.

Institute of Behavioural Sciences, Faculty of Public Health

Subject: **PHILOSOPHY**
Year, Semester: 2nd year/1st semester
Number of teaching hours:
Lecture: 14

1st week:
Lecture: Martin Heidegger: What is Metaphysics?

2nd week:
Lecture: Martin Heidegger: What is Metaphysics?

3rd week:
Lecture: Rudolf Carnap: The Elimination of Metaphysics Through Logical Analysis of Language

4th week:
Lecture: Rudolf Carnap: The Elimination of Metaphysics Through Logical Analysis of Language

5th week:
Lecture: The Philosophical Questions of Health and Disease. Part 1

6th week:
Lecture: The Philosophical Questions of Health and Disease. Part 2

7th week:
Lecture: The Philosophical Questions of Health and Disease. Part 3

8th week:
Lecture: The Philosophical Questions of Health and Disease. Part 4

Requirements

The attendance at lectures is strongly recommended, because the exam covers the lectured topics.

Subject: **PROFESSIONAL HUNGARIAN LANGUAGE I**
Year, Semester: 2nd year/2nd semester
Number of teaching hours:
Practical: 42

1st week:
Practical: Informal and formal you, food, in a restaurant, in a city, in a flat

2nd week:
Practical: Body parts, clothes, adjectives

3rd week:
Practical: Body parts, symptoms, how long /since when

4th week:
Practical: Symptoms: flu, indigestion, history taking questions, patient information leaflet

5th week:
Practical: Medications, types of medicines, at a pharmacy, administration of medicines

6th week:
Practical: Names of the clinics and specialists, history taking

7th week:
Practical: Revision

8th week:
Practical: Midterm test
Self-control Test

9th week:
Practical: Expressing habits, questions regarding habits

10th week:
Practical: Good and bad habits, asking about habits, one day in a hospital

11th week:
Practical: Giving instructions

12th week:
Practical: Giving advice, history taking

13th week:
Practical: Revision

14th week:
Practical: End-term test
Self-control Test

Requirements

Prerequisite: 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 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.

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

Subject: **HEALTH CARE LAW**
Year, Semester: 2nd year/2nd semester
Number of teaching hours:
Lecture: 14

1st week:
Lecture: Systems of law, sources of law

2nd week:
Lecture: The legal system, environment

3rd week:
Lecture: Human rights, the right to health

4th week:
Lecture: Law and courts

5th week:
Lecture: Law in the medical workplace

6th week:
Lecture: Management of medical information

7th week:
Lecture: The medical record, informed consent

8th week:
Lecture: Physician-patient relationship, patients' rights

9th week:
Lecture: Physicians' rights and obligations

10th week:
Lecture: Professional liability and malpractice

11th week:
Lecture: Medical liability

12th week:
Lecture: Ethic in the health care workplace

13th week:
Lecture: Bioethics

14th week:
Lecture: EU health strategies

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.

Department of Pathology

Subject: **PATHOLOGY**
Year, Semester: 2nd year/2nd semester
Number of teaching hours:
Lecture: 28

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 haemodynamic disorders. Haemorrhage, thrombosis

7th week:
Lecture: Anaemic (pale) and haemorrhagic (red) infarction; embolia. Cerebrovascular disorders

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 disease processes

13th week:
Lecture: Pathology of infectious diseases

14th week:
Lecture: Diseases of bones and joints

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.

Department of Physiotherapy, Faculty of Public Health

Subject: **APPLIED TRAINING METHODS**
Year, Semester: 2nd year/2nd semester
Number of teaching hours:
Lecture: 14
Seminar: 14
Practical: 28

1st week:
Lecture: Basics of applied training methods - General purposes of movement therapy
Seminar: Definition, principles and elements of training.
Practice: General structure and rules of workout.

2nd week:
Lecture: Basics of exercise physiology
Seminar: Types of training, planning of a training program
Practice: Principles and elements of warm-up and cool-down in practice.

3rd week:
Lecture: Age-dependent characteristics of the endurance
Seminar: Physical abilities; possibilities for improvement
Practice: General rules, principles and structure of strengthening in practice.

4th week:
Lecture: The physical loading
Seminar: Criteria and rules of strengthening
Practice: Strengthening – strength-endurance

5th week:
Lecture: Effect of physical load on the respiratory system
Seminar: Static and dynamic strengthening exercises
Practice: Strengthening – maximal strength

6th week:
Lecture: Energetic aspects of the muscle function
Seminar: Basic definitions and methods of speed training
Practice: Improvement of speed

7 th week:
Lecture: Characteristics of the muscle function.
Seminar: Rules and methods for the improvement of flexibility
Practice: Improvement of flexibility

8th week:
Lecture: Types of the muscle contractions
Seminar: Improvement of coordination skills.
Practice: Improvement of coordination skills

9th week:
Lecture: Effect of physical load on the movement system.
Seminar: Types and characteristics of the endurance training
Practice: Rules, principles, techniques and structure of endurance training in practice. Low - impact, high - impact exercises, basics and possibilities of own zone loading during constant and interval type workout.

10th week:
Lecture: Muscle fatigue
Seminar: Methods for improvement of endurance
Practice: Difference between constant and interval type workouts. Demonstration of linear structured and choreographed workouts in practice.

11th week:
Lecture: Methods for improvement of strength and endurance
Seminar: Sport specific training theories and their adaptation to rehabilitation
Practice: Difference between Fartlek and interval type workouts. Demonstration of linear structured and choreographed workouts in practice.

12th week:
Lecture: Features of the endurance training programs
Seminar: Repetition - consultation
Practice: Improvement of strength by circle training and interval method

13th week:
Lecture: Criteria of training planning
Seminar: Repetition - consultation
Practice: Difference between special training methods (dance-aerobic elements, cross – training) and interval type workouts. Demonstration of linear structured and choreographed workouts in practice.

14th week:
Lecture: System of training materials
Seminar: Repetition - consultation
Practice: Practice - consultation

Requirements

Prerequisites: Cardiorespiratory and Exercise Physiology, Neurology, Kinesiology II
Attendance at lectures is highly recommended, since the topics in examination cover the lectured topics. The attendance at seminers and practices is compulsory. The signature of the Lecture Book may be refused if one has more than 4 absences from the seminars and practices.

Subject: **BASICS OF DIETETICS**
Year, Semester: 2nd year/2nd semester
Number of teaching hours:
Lecture: 14
Practical: 14

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, sweeties, 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

Requirements

Prerequisites*:* Cardiorespiratory and Exercise Physiology, Physiology, Introduction to Clinical Medicine
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: **BASICS OF INTERNAL MEDICINE**
Year, Semester: 2nd year/2nd semester
Number of teaching hours:
Lecture: 28
Seminar: 14

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 supply of coma
Seminar: Reasons, diagnosis and treatment of hypertension; emergency supply in hypertension crisis; thromboembolisms (arterial and venous)

5th week:
Lecture: Anaemias, polyglobulia, polycythaemia; agranulocytosis; leukaemias; lymphomas; precancerous states; diagnostics and treatment in malignant diseases

6th week:
Lecture: Gout; hyperlipidaemias; pathogenesis and complications of arteriosclerosis; immune deficient states; allergic diseases; physical and instrumental examinations in the autoimmune diseases; autoimmune diseases

7th week:
Lecture: 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; bronchitises

8th week:
Lecture: Pulmonary tuberculosis; pulmonary tumours; pleural diseases; bronchial asthma; emphysema; respiratory insufficiency
Seminar: Pulmonology (Physical and instrumental examinations in the respiratory diseases; infections of the upper airways; pneumonias; bronchitises, pulmonary tuberculosis; pulmonary tumours; pleural diseases; bronchial asthma; emphysema; respiratory insufficiency)

9th week:
Lecture: Diseases of the oral cavity, the oesophagus and the stomach; intestinal diseases; acute gastrointestinal bleeding; emergency interventions in acute gastrointestinal haemorrhage

10th week:
Lecture: Parenchymal disorders in the liver; jaundices; hepatic inflammations; hepatic cirrhosis; abscess and tumours in the liver. Diseases of the gall bladder and hepatic ducts; gall stone; peritonitis; acute and chronic pancreatitis; pancreatic tumours
Seminar: Gastroenterology (acute gastrointestinal bleeding; emergency interventions in acute gastrointestinal haemorrhage, parenchymal disorders in the liver; jaundices; hepatic inflammations; hepatic cirrhosis)

11th week:
Lecture: Bacterial infections of the urogenital system; renal diseases with immunopathogenic origin; glomerulonephritises. Acute and chronic renal insufficiency; dialysis
Seminar:
Bacterial infections of the urogenital system; acute and chronic renal insufficiency; dialysis

12th week:
Lecture: Diseases of the thyroid gland; hyper- and hypothyroidism; tumours in the thyroid gland; diseases of the parathyroid gland; hyperparathyroidism; diseases of the adrenal medulla and cortex; pheochromocytoma; Addison disease
Seminar: Diseases of the thyroid gland; hyper- and hypothyroidism; diseases of the adrenal medulla and cortex

13th week:
Lecture: Diabetes mellitus type 1 and type 2. Complications of diabetes mellitus; hyper- and hypoglycaemic coma; pathologic leanness and obesity; deficiency diseases (hypo- and avitaminoses)
Seminar: Diabetes mellitus type 1 and type 2. Complications of diabetes mellitus; hyper- and hypoglycaemic coma; pathologic leanness and obesity

14th week:
Lecture: Haematologic disorders, haemophilia, thrombophilia
Seminar:
Haematologic disorders (anaemias; agranulocytosis; leukaemias; lymphomas; haemophilia)

Requirements

Prerequisite: Cardiovascular and Exercise Physiology, 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 refuse of signature.

Subject: **BASICS OF RESEARCH METHODOLOGY**
Year, Semester: 2nd year/2nd semester
Number of teaching hours:
Lecture: 28

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

2nd week:
Lecture: Types and process of scientific research

3rd week:
Lecture: Ethics of science

4th week:
Lecture: Methods of quantitative research I

5th week:
Lecture: Methods of quantitative research II

6th week:
Lecture: Methods of qualitative research

7th week:
Lecture: Orientation in the library

8th week:
Lecture: Orientation in the scientific literature I

9th week:
Lecture: Orientation in the scientific literature II

10th week:
Lecture: Study design

11th week:
Lecture: Collecting data, measurements, observations

12th week:
Lecture: Data storage, processing, and analysis

13th week:
Lecture: Interpreting, presenting and publishing results. Evince-based practice

14th week:
Lecture: Rules of scientific publication

Requirements

Prerequisite: Health Informatics II
Attendance at lectures is highly recommended, since the topics in examination cover the lectured topics. E-learning course contains the course material.
The course is closed by a written end of semester exam (ESE). The grading scale is as follows:
<54%: (1) fail
55-64%: (2) pass
65-74%: (3) satisfactory
75-84%: (4) good
85-100%: (5) excellent
The course supported by an e-learning module. The attendance at lectures cannot be replaced by the e-learning activity! 10% of the scores in the ESE can be achieved in the e-learning module. The

bonus points are added to the score achieved in the written exam above 55%. The „fail" cannot be improved by bonus points.

Subject: **GERONTOLOGY**
Year, Semester: 2nd year/2nd semester
Number of teaching hours:
Lecture: 28

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

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: **KINESIOLOGY PRACTICE**
Year, Semester: 2nd year/2nd semester
Number of teaching hours:
Practical: 120

Content:
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.

Requirements

Prerequisites: Mobilization-Manual Techniques II, Principles in Kinesiology
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 fulfil 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 II**
Year, Semester: 2nd year/2nd semester
Number of teaching hours:
Practical: 90

1st week:
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 (4) Stretching: theoretical basis, definitions

2nd week:
Practical: (1) Soft tissue mobilization: Mobilization techniques for the neck-shoulder girdle region (2) Joint mobilization: Convex-concave basic rule, arthrokinematic motions in the upper extremities (3) PNF II: Trunk patterns: chopping, lifting (4) Stretching: demonstration of the stretching techniques; practice

3rd week:
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, arthrokinematic motions in the lower extremities (3) PNF II: Combined patterns for the trunk (4) Stretching: stretching of the contracture-predisposed muscles of the upper limb: upper part of the trapezius muscle, levator muscle of the scapula

4th week:
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 (4) Stretching: stretching techniques for latissimus dorsi and teres maior muscles

5th week:
Practical: (1) Soft tissue mobilization: Mobilization techniques for the upper limbs; indications and contraindications (2) Joint mobilization: Traction and mobilization of the

gleno-humeral joint. Test and therapy (3) PNF II: Techniques and application of Kabat exercises (4) Stretching: stretching techniques for maior and minor pectoral muscles

6th week:
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 (4) Stretching: stretching techniques for biceps brachii, brachioradial and brachial muscles

7th week:
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 (4) Stretching: stretching of the triceps brachii, pronator teres and palmaris longus muscles

8th week:
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 (4) Stretching: repetition of the stretching methods applied on the upper extremities

9th week:
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 (4) Stretching: stretching of the contracture-predisposed muscles of the lower limb: iliopsoas, rectus femoris muscles and ischiocrural group

10th week:
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 (4) Stretching: stretching techniques for the adductor group of muscles and tensor fasciae latae muscle

11th week:
Practical: (1) Soft tissue mobilization: Techniques 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 (4) Stretching: stretching techniques for the triceps surae and adductor hallucis muscles

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 (4) Stretching: summary, practice

13th week:
Practical: (1) Soft tissue mobilization: Techniques on the lower extremities (2) Joint mobilization: Importance of techniques above in the practice (3) PNF II: Practice (4) Stretching: repetition, practice

14th week:
Practical: (1) Soft tissue mobilization: Practice examination (2) Joint mobilization: Consultation (3) PNF II: Practice examination (4) Stretching: practice examination

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: **PRINCIPLES OF HEALTH SCIENCES**
Year, Semester: 2nd year/2nd semester
Number of teaching hours:
Lecture: 14

1. **week**
   lecture: Anatomy of the skeletal system
2. **week**
   lecture: Anatomy of the organs
3. **week:**
   lecture: Neuroanatomy
4. **week**
   lecture: Membrane potential, electrical and mechanical properties of the heart, neural and humoral regulation of the cardiac function in normal and pathophysiological conditions.
5. **week:**
   lecture: Functional characteristics and regulation of the peripheral circulation in normal and pathophysiological conditions. Blood. Functional characteristics of the respiratory system, neural and humoral regulation.
6. **week:**
   lecture:
   Physiology of the gastrointestinal tract, motoric and secretory function, general aspects of renal function,
7. **week:**
   lecture:
   Principles of the hormonal regulation. Morphology and motor function of nervous system. Function and regulation of skeletal muscle. Pathology of motor function. Autonomic nervous system.

Requirements

Prerequisites: Cardiorespiratory and Exercise Physiology, Neurophysiology, Physiology.
To attend the lectures is strongly recommended. The participation in the e-learning activity is compulsory. If you miss the e-learning activity and/or more than 2 lectures the signature of Lecture Book will be refused.

Subject: **PRINCIPLES OF KINESIOLOGY**
Year, Semester: 2nd year/2nd semester
Number of teaching hours:
Lecture: 14

1. **week**
   lecture: Differencial diagnosis of tissues and evaluations
2. **week**
   lecture: Functional dysbalances in the pelvico-lumbo-hip complex. Consequences.
3. **week**
   lecture: Sacroiliac dysfunction.
4. **week**
   lecture: Structural/joint problems in the pelvico-lumbo-hip complex. Consequences.
5. **week**
   lecture: Joint dysfunction and differentiate in the thoraco-cervico-scapularis complex.
6. **week**
   lecture: Functional dysbalances in the thoraco-cervico-scapularis complex
7. **week**
   lecture: Dysfunctions in the cervicobrachial region
8. **week**
   lecture: Structural and functional dysturbances in the upper limb.
9. **week**
   lecture: Neurological dysfunction in the upper limb, differential diagnosis.
10. **week**
    lecture: Physiological axes of the lower limb and measurements.
11. **week**
    lecture: Dysfunction of the knee joints.
12. **week**

lecture: Measurement of the arches of the foot and dysfunction.

13. week

lecture: Pathological gait.

14. week

lecture: Summary

Requirement

Attendance at lectures is compulsory.

CHAPTER 10
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: 42

1. **week**
   The role of physical therapists
2. **week:**
   Communictaion with patients
3. **week:**
   Physical examination and assessment
4. **week:**
   Diagnosis
5. **week:**
   Physical therapy equipment
6. **week:**
   Revision
7. **week:**
   Mid-term test
8. **week:**
   Musculoskeltal conditions
9. **week:**
   Neuromuscular conditions
10. **week:**
    Cardiovascular conditions
11. **week:**
    Pulmonary conditions
12. **week:**
    Pediatric conditions
13. **week:**
    Revision
14. **week:**
    Endterm test

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.

Department of Pharmacology and Pharmacotherapy

Subject: **PHARMACOLOGY**
Year, Semester: 3rd year/1st semester
Number of teaching hours:
Lecture: 28

1st week:
Lecture: Introduction to general pharmacology (molecular aspects, excitation, contraction and secretion)

2nd week:
Lecture: Introduction to general pharmacology: pharmacokinetics and pharmacodynamics

3rd week:
Lecture: Chemical mediators and the autonomic nervous system. Cholinergic transmission. Effects of drugs on cholinergic transmission

4th week:
Lecture: Noradrenergic transmission and other peripheral mediators

5th week:
Lecture: The heart. Drugs that affect cardiac function

6th week:
Lecture: The vascular system. Atherosclerosis and lipoprotein metabolism

7th week:
Lecture: Respiratory pharmacology. The kidney

8th week:
Lecture: Drugs used in the treatment of infections

9th week:
Lecture: Pharmacology of gastrointestinal system. Blood sugar and diabetes mellitus

10th week:
Lecture: Endocrine drugs

11th week:
Lecture: Pharmacology of CNS drugs (transmitters and modulators, neurodegenerative disorders, general anaesthetic agents, anxiolytic and hypnotic drugs)

12th week:
Lecture: Pharmacology of CNS Drugs (antipsychotic drugs, drugs used in affective disorders, antiepileptic drugs, CNS stimulants and psychotomimetic drugs)

13th week:
Lecture: Analgesic drugs, local anaesthetics, anti-inflammatory drugs

14th week:
Lecture: Muscle relaxants

Requirements

Prerequisites: Pathology
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 I**
Year, Semester: 3rd year/1st semester
Number of teaching hours:
Lecture: 14
Practical: 42

1st week:
Lecture: Structure and function of the respiratory system (respiratory organs, respiratory muscles) – repetition
Practical: 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
Practical: Expectoration techniques; percussion and vibration of the chest; aerosol therapy, postural drainage; indications and contraindications

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

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

6th week:
Lecture: Restrictive pulmonary diseases III (pulmonary abscess, empyema)
Practical: 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)
Practical: Methods for strengthening the respiratory muscles (breathing exercises, exercises against resistance, inspiratory muscle training)

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

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

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

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

14th week:
Lecture: Repetition
Practical: Practice

+14 hours demonstration.

Requirements

Prerequisite*:* Applied Training Methods, Basics of Internal Medicine
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. Signature in the Lecture Book and passing the midterm practical exam are the conditions for the end of semester examination.

Subject: **INTERNAL MEDICINE FOR PHYSIOTHERAPISTS II**
Year, Semester: 3rd year/1st semester
Number of teaching hours:
Lecture: 14
Practical: 60

1. **week:**
   lecture: Introduction to cardiovascular rehabilitation. Blood vessels (arteries, veins), lymphatic circulation.
   practice: Principles of examination. Examination of patients suffering from peripheral circulatory disorders. Procedures and rules of pulse control and blood pressure monitoring
2. **week:**
   lecture: Physiotherapeutic methods in angiology.
   practice: Functional examination of arteries, functional special tests in angiology.
3. **week:**
   lecture: Acute and chronic arterial diseases of arteries.
   practice: Physiotherapeutic treatment in arterial diseases: Fontaine stages I-II. Interval training.
4. **week:**
   lecture: Role of the movement therapy in the treatment of arterial diseases. Fontaine stages.
   practice: Physiotherapeutic treatment in arterial diseases: Fontaine stages III-IV. Arterial training, pre- and postoperative targets in the case of amputation
5. **week:**
   lecture: Development and symptoms of acute and chronic venous diseases. Differential diagnosis and treatment.
   practice: Examination and physiotherapy in the acute venous diseases.
6. **week:**
   lecture: Role and principles of the movement therapy in the treatment of venous diseases. Examination and methods of physiotherapy in chronic venous diseases.
   practice: Special exercises of chronic venous diseases -venous training
7. **week:**
   lecture: Causes and symptoms of lymphoedema. Components of complex treatment.
   practice: Role and principles of physiotherapy in lymphoedema.
8. **week:**
   lecture: Vascular aspects and patomechanism of tunnel syndromes in shoulder region (TOS (Thoracic Outlet syndrome). Process of examination and possibilities of the treatment of TOS.
   practice: Patient examination and treatment by physiotherapeutic methods in TOS.
9. **week**:
   lecture: Cardiac rehabilitation. Physiotherapeutic aims and tasks in acute, convalescent and post-convalescent stages. Examination in cardiac disorders.
   practice: Load and functional tests. Application of MET, Borg scale, pulse control, Karvonen equation.
10. **week:**
    lecture: Physiotherapeutic aspects and therapeutic possibilities of angina pectoris, AMI and ischemic heart diseases: vitium, heart failure.
    seminar/practice: Acute myocardial infarct. Physiotherapy in the post infarct stage (early mobilization in ICU)
11. **week:**
    lecture: Cardiovascular rehabilitation: risk stratification, NYHA stages according to risk groups, determination of the training pulse rate, absolute and relative contraindications of the training. Principles of the training after acute myocardial infarct in the early and late convalescent stages.
    practice: Aerob training and resistance training in the early and late convalescent stages., low intensity

training with and without equipments (4-5 MET).
Medium intensity training in ischemic heart diseases (6-7 MET).

12. week:
lecture: Principles of pre- and postoperative treatment after chest (cardiac) surgical interventions.
practice: Pre- and postoperative movement therapy for heart-operated patients.

13. week:
lecture: The role of movement therapy in the treatment of cardiovascular complications of hypertension disease, diabetes mellitus and obesity.
practice: Physiotherapy in hypertension disease, diabetes mellitus and obesity.

14. week:
lecture: Summary, repetition, consultation
practice: Summary, repetition, consultation.

Requirements

Prerequisite*:* Applied Training Methods. Basics of Internal 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 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 30-hour clinical demonstration completes the practices.

Subject: **NEUROLOGY FOR PHYSIOTHERAPISTS I**
Year, Semester: 3rd year/1st semester
Number of teaching hours:
Lecture: 14
Seminar: 14

1st week:
Lecture: Case history. The anatomical and physiological basis of neurology. Procedures in neurological diagnostics.
Seminar: Discussion of the lectured topics

2nd week:
Lecture: The signs of meningeal irritation. Cranial nerves.
Seminar: Discussion of the lectured topics

3rd week:
Lecture: The structure and pathology of the motor system.
Seminar: Discussion of the lectured topics

4th week:
Lecture: The structure and pathology of the sensory system.
Seminar: Discussion of the lectured topics

5th week:
Lecture: Normal and abnormal reflexes, the structure and pathology of coordination.
Seminar: Discussion of the lectured topics

6th week:
Lecture: Cerebrovascular diseases.
Seminar: Discussion of the lectured topics

7th week:
Lecture: Epilepsies. The typical pathological signs of cortical lobe lesions.
Seminar: Discussion of the lectured topics

8th week:
Lecture: Dementias.
Seminar: Discussion of the lectured topics

9th week:
Lecture: Parkinson's disease and other movement disorders.
Seminar: Discussion of the lectured topics

10th week:
Lecture: Multiple sclerosis, infections of the central nervous system.
Seminar: Discussion of the lectured topics

11th week:
Lecture: Sleep disturbances.
Seminar: Discussion of the lectured topics

12th week:
Lecture: Tumours of the central and peripheral nervous system.
Seminar: Discussion of the lectured topics

13th week:
Lecture: The pathology of spinal cord.
Seminar: Discussion of the lectured topics

14th week:
Lecture: Injuries of the central nervous system.
Seminar: Discussion of the lectured topics

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: **OBSTETRICS AND GYNECOLOGY FOR PHYSIOTHERAPISTS**
Year, Semester: 3rd year/1st semester
Number of teaching hours:
Lecture: 28
Practical: 14

1st week:
Lecture: (C) Diagnostic methods in gynecology. Physiological and abnormal menstrual cycle. Gynecological infections. Therapeutic principles

2nd week:
Lecture: (C) Pathological pregnancy, abortion

3rd week:
Lecture: (C) Process of the birth; life-threatening states in the obstetrics

4th week:
Lecture: (C) Disorders of menstruation; family planning, contraception
Practical: (C) Clinical demonstration: pre-and postoperative patient care

5th week:
Lecture: (C) Gynaecological inflammations; benignant gynaecological tumours
Practical: (C) Clinical demonstration: pre-and postoperative patient care

6th week:
Lecture: (C) Malignant tumours
Practical: (C) Clinical demonstration: pre-and postoperative patient care

7th week:
Lecture: (C) Surgical interventions
Practical: (C) Clinical demonstration: visit in the delivery room, puerperal patient care

8th week:
Lecture: (C) Mid-semester examination (PT) Anatomy of pelvic floor, incontinence
Practical: (PT) Pre- and postoperative physiotherapy in gynecology

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 gynecology

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 in gynecology; principles and structure of postoperative exercises
Practical: (PT) Complex training during pregnancy

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 gynecology diseases
Practical: (PT) Physiotherapy in menopause

14th week:
Lecture: (PT) Osteoporosis: possibilities of the physiotherapists for intervention
Practical: (PT) Physiotherapy in postmenopausal period

Requirements

Prerequisites: Basics of Internal Medicine, Principles of Kinesiology
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.

Subject: **ORTHOPEDICS FOR PHYSIOTHERAPISTS**
Year, Semester: 3rd year/1st semester
Number of teaching hours:
Lecture: 10
Seminar: 18

1st week:
Lecture: Frequency, pathology and diagnosis, conservative and operative treatment of congenital/developmental dysplasia, dislocation of the hip (DDH, CDH)

2nd week:
Lecture: Perthes' disease, transient synovitis of the hip joint. Slipped capital femoral epiphysis. Coxa vara

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:
Lecture: Knee disorders. Knock knee and bow legs. Congenital, habitual and recurrent dislocation of the patella. Chondromalacia patellae. Osteoarthritis of the knee. Replacement of the knee joint

6th week:
Lecture: Diseases of the neck and upper extremities

7th week:
Lecture: Spondylolysis and spondylolisthesis. Congenital anomalies of the spine. Scheuermann's disease and its treatment. Degenerative changes of the spine. Spinal stenosis. Disc degeneration and prolapse. Sciatica. Ankylosing spondylitis

8th week:
Lecture: Bone infection. Acute and chronic osteomyelitis. Suppurative arthritis

9th week:
Lecture: Postural kyphosis. Scoliosis and its treatment

10th week:
Lecture: Bone tumours and tumour-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 orthopedic 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

Requirements

Prerequisites: Biomechanics, Principles of Kinesiology
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 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).

Subject: **PSYCHIATRY I**
Year, Semester: 3rd year/1st semester
Number of teaching hours:
Lecture: 14

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; socio-therapy, 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: Basics of Internal Medicine, Pathology
Attendance at lectures is highly recommended, since the topics in examination cover the lectured topics.

Subject: **RHEUMATOLOGY FOR PHYSIOTHERAPISTS I**
Year, Semester: 3rd year/1st semester
Number of teaching hours:
Lecture: 18
Seminar: 10

1. **week:**
   lecture: Introduction to rheumatology: classification of diseases; social and economic relations of the rheumatology; history taking and physical examinations
2. **week:**
   lecture: Osteoarthritis, spondylosis, low back pain
3. **week:**
   lecture: Soft tissue rheumatism, regional pain syndromes, compression syndromes
4. **week:**
   lecture: Metabolic bone diseases, osteoporosis
5. **week:**
   lecture: Crystal arthropathies
6. **week:**
   lecture: Rheumatoid arthritis: clinical symptoms, diagnosis, therapy
7. **week:**
   lecture: Juvenile idiopathic arthritis, Felty syndrome, Caplan syndrome
8. **week:**
   lecture: Spondyloarthropathies: ankylosing spondylitis, psoriatic arthritis
9. **week:**
   lecture: Infectious and reactive arthritides
10. **week:**
    lecture: Introduction to immuno-pathology and autoimmunity. Autoimmune diseases
11. **week:**
    seminar: Degeneration
12. **week:**
    seminar: Bone diseases, gout
13. **week:**
    seminar: Arthritis
14. **week:**
    seminar: Therapy, anti-inflammatory drugs, immunosuppression

Requirements

Prerequisites: Basics of Internal Medicine, Principles of Kinesiology
Attendance at lectures is highly recommended, since the topics in examination cover the lectured topics. Attendance at seminars is compulsory. If you missed more than 2 seminars, the signature may be refused. You have to take ESE during the examination period.

Subject: **TRAUMATOLOGY FOR PHYSIOTHERAPISTS**
Year, Semester: 3rd year/1st semester
Number of teaching hours:
Lecture: 28

1st week:
Lecture: (1) The place of traumatology in medicine. Epidemiology of injuries, significance to the national economy. Classification of injuries. Closed and open mechanical injuries. Progression of wound healing. Classification of wounds. Methods of wound care. (2) Closed and open soft tissue injuries. Contusion, compression skin necrosis, subcutaneous hematoma. Closed tendon and muscle injuries. Joint sprains and dislocations. Basic principles of plastic surgery. Methods of ligament replacement and bone grafting

2nd week:
Lecture: (3-4) Progression of bone healing (biological, biomechanical factors). Occurrence and recognition of fractures. Classification of closed and open fractures. Basic principles of conservative fracture treatment. Indications of osteosynthesis. The role of the AO (ASIF) in the treatment of operative treatment. Advantages and disadvantages of operative treatment. Biological osteosynthesis

3rd week:
Lecture: (5-6) Multiple and combined injuries. Treatment tactics of serious injuries. Life-saving, first-aid, transport.Basic principles of clincal treatment of seriously injured patients. Traumatological hemorrhagic shock. Shock treatment. Point systems for determination of seriousness of patient condition

4th week:
Lecture: (7) Types of bleeding. Temporary stoppage of bleeding. Treatment of open and closed vessel injuries. Nerve injuries. Morphology and physiology of nerve regeneration. Basic principles of treatment of periferal nerve injuries. Injuries of the brachial plexus. Treatment of nerve damage (tunnel syndromes). (8) Specific injuries to growing bones and their principles of treatment. Common injury combinations and characteristic injuries in childhood. Early and late complications

5th week:
Lecture: (9) Craniocerebral injuries. Fractures of the skull. Recognition and treatment of intracranial bleeding. Maxillo-facial injuries. (10) Classification and diagnosis of spinal injuries. Fractures of the vertebrae with and without neurological damage. Conservative and operative fracture treatment. Physical therapy, follow-up and rehabilitation of spinal injuries

6th week:
Lecture: (11) Chest injuries. Rib fractures. Penetrating chest injuries. Pneumothorax, haemothorax. Lung contusion. Open injuries of the lungs. Injuries of the heart and pericardium. Cardiac tamponade. Chest drainage and thoracotomy. (12) Closed and open injuries of the abdominal cavity. Diagnosis and operative treatment of parenchymal organs. Rupture of the diaphragm. Thoracoabdominal injuries. Injuries of retroperitoneal organs. Urogenital injuries

7th week:
Lecture: (13) Fractures of the forearm and region of the elbow. Supracondylar fractures. Intraarticular fractures of the distal upper arm. Stable and unstable elbow dislocations. Fractures of the radial head and neck. Fractures of the olecranon. Fractures of the forearm diaphysis.

Monteggia and Galeazzi fractures. (14) Soft-tissue injuries of the shoulder. Dislocations of the clavicle. Shoulder dislocations. Fractures of the clavicle, scapula and proximal part of the upper arm. Injuries of the rotator cuff. Adhesive and restrictive capsulitis. Chronic shoulder instability. Fractures of the humerus diaphysis

8th week:
Lecture: (15) Fractures of the distal forearm. Fracture in loco typico of the radius (Colles' fracture). Fractures of the distal radius. Fractures of the scaphoid bone. Perilunar dislocation. Fractures of the metacarpal bones and phalanges. Follow-up and physiotherapy of hand injuries. (16) Basic principles of hand surgery. Types of tendon and nerve injuries. Primary suture and secondary replacement. Carpal instability. Septic complications of hand injuries. Revascularization and replantation

9th week:
Lecture: (17-18) Pathomechanism and classification of pelvic fractures. Diagnostic tools. Conservative and operative treatment. Fractures of the acetabulum. Dislocation of the hip

10th week:
Lecture: (19) Causes of the occurrence of fractures of the femur neck, characteristics of fractures in older patients. Garden classification. Methods of operative treatment. Principles and possibilities of prosthesis implantation. Per- and subtrochanteric fractures. Diagnosis and operative treatment of these fractures. (20) Fractures of the distal femur. Characteristics of intraarticular fractures. Patellar fracture. Rupture of the quadriceps tendon

11th week:
Lecture: (21-22) Closed and open diaphysis fractures of the femur and lower leg. Methods of intramedullary stabilization. Plate osteosynthesis. External fixator. Classification, diagnosis and treatment of fractures of the tibial condyle

12th week:
Lecture: (23-24) Biomechanics of the knee. Mechanisms of knee injuries. Meniscus injuries. Diagnosis and treatment of ligament injuries of the knee. Hemarthrosis. Osteochondritis dissecans. The role of arthroscopy in diagnosis and treatment

13th week:
Lecture: (25) Pilon fractures of the tibia. Ligament injuries of the ankle. Classification, diagnosis and treatment of ankle fractures. (26) Fractures of the talus and calcaneus. Subtalar dislocation. Fractures of the bones of the foot and metatarsals

14th week:
Lecture: (27-28) Recognition and treatment of posttraumatic pathological states. Compartment syndromes (especially of the lower leg). Immobility damage, fracture illness. Sudeck dystrophy. Delayed union and non-union (pseudoarthrosis). Post-traumatic arthritis. Wound infections. Purulent arthritis. Osteitis, osteomyelitis. Gas gangrene. Early recognition and treatment of infections

Requirements

Prerequisite*:* Principles of Kinesiology
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: 28
Practical: 28

1st week:
Lecture: The history of public health and preventive medicine. Scope and methods of public health. Organization of public health services. Introduction to human ecology
Practical: Physical and chemical examination of drinking water (laboratory demonstration)

2nd week:
Lecture: Global environmental pollution. Air pollution
Practical: Bacteriological and mycological examination of drinking water and food (laboratory demonstration)

3rd week:
Lecture: Toxicology of persistent organic pollutants, pesticides and organic solvents. Heavy metals in the human environment
Practical: Environmental radiation controlling laboratory (visit)

4th week:
Lecture: Water pollution. Health hazards of ionizing radiation and radioactive substance. Health effects of climate change
Practical: Water quality control laboratory (visit)

5th week:
Lecture: Scope of occupational health. Introduction to occupational toxicology. Chemical safety

6th week:
Lecture: Occupational diseases. Public health nutrition, food-borne diseases
Practical: Health effects of workplace-related exposures

7th week:
Lecture: Nutritional deficiency diseases. Overweight and obesity. Diet related diseases. The role of diet in the pathogenesis of cardiovascular diseases and malignant neoplasm

8th week:
Lecture: Bioterrorism and possible tools of prevention. Health effect of noise. The history, definition and scope of epidemiology

9th week:
Lecture: Statistical methods used in the analysis of epidemiological studies. Analyses based on aggregate statistics. Frequency measures in epidemiology
Practical: Biostatistical analyses

10th week:
Lecture: Association measures in epidemiology. Types of etiological studies. Epidemiological study design

11th week:
Lecture: Validity of etiological studies. Causal inference. Interventional studies
Practical: Types of epidemiological studies

12th week:
Lecture: Clinical trials. Conclusion of epidemiological studies. Using epidemiological measures in practice
Practical: Searching, interpreting and using scientific literature

13th week:
Lecture: Introduction to quantitative medicine. The concept and methods of health monitoring

14th week:
Lecture: Monitoring morbidity of non-communicable diseases. Monitoring morbidity of communicable diseases. Priority setting in public health

Requirements

Prerequisites: Pathology, Basics of Research Methodology
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 Physiotherapy, Faculty of Public Health

Subject: **CARDIOVASCULAR CLINICAL PRACTICE**
Year, Semester: 3rd year/2nd semester
Number of teaching hours:
Practical: 80

Content:
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 programme 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; orthopaedic diseases in childhood; neurological injuries in childhood; other paediatric diseases

Requirements

Prerequisite: Infant Care and Pediatrics for Physiotherapists I-II

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: 14
Practical: 28

1st week:
Lecture: (C) Introduction to pediatrics. Genetic disease. Congenital disorders.
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)
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
Practical: (C) Demonstration practice (PT) Principles of the neurohabilitation; conductive pedagogy

4th week:
Lecture: (C) The bones, joints and skeletal system disorders. Haemophilia. Bone tumours. Kidney diseases
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
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
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) Consultation
Practical:
(PT) Examination and treatment of the movement system disorders, developmental anomalies and acquired disorders of the lower limb

8th week:
Lecture: (C) Mid-term exam
Practical:
(PT) Examination, symptoms, general characteristics of the movement therapy. Movement therapy of the neuromuscular diseases

9th week:
Practical: (PT) Complex rehabilitation of CP. Special manual techniques

10th week:
Practical:
Bobath method. Special manual techniques

11th week:
Practical: (PT) Bone dysplasia and developmental anomalies

12th week:
Practical: (PT) Orofacial training. Sensory integration therapy

13th week:
Practical:
(PT) Adapted physical education; adapted sport rehabilitation

14th week:
Practical: (PT) Importance of the cooperation between professionals (physiotherapist, conductor, somatopedagogue, etc.) involved in the therapeutic process

Requirements

Prerequisites: Principles of Kinesiology, 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 6-hour absences from the practical hours

Subject: **INFANT CARE AND PEDIATRICS FOR PHYSIOTHERAPISTS II**
Year, Semester: 3rd year/2nd semester
Number of teaching hours:
Lecture: 10
Practical: 4

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 haemorrhages

10th week:
Lecture: Hypoxic-ischaemic encephalopathy
Practical: Clinical demonstration

11th week:
Lecture: Hydrocephalus

Practical: Clinical demonstration

12th week:
Lecture: Metabolic diseases from the developmental neurological aspects

13th week:
Lecture: Neuromuscular diseases in the infant hood

14th week:
Lecture: Neurorehabilitation methods

Requirements

Prerequisite: Principles of Kinesiology, Neurology for Physiotherapists
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: 3rd year/2nd semester
Number of teaching hours:
Lecture: 14
Practical: 28

1st week:
Lecture: Characteristics of the normal movements, general introduction to Bobath's method
Practical: (PT) Characteristics of the normal movements

2nd week:
Lecture: (PT) Central paresis and paralysis; stroke in the adult- and childhood; features, symptoms, complication
Practical: (PT) Central paresis and paralysis

3rd week:
Lecture: (PT) Poststroke movement therapy, rehabilitation
Practical: (PT) Principles of post-stroke movement therapy

4th week:
Lecture: (PT) Types of ataxia, principles of their movement therapy
Practical: (PT) Principles of the movement therapy in ataxia

5th week:
Lecture: (PT) Central and peripheral cranial nerve disorders; physiotherapy of central and peripheral dizziness
Practical: (PT) Improvement of balance, basic and complex exercises

6th week:
Lecture: (PT) Muscular diseases, myopathies and myotonies
Practical: (PT) Characteristics of the movement therapy in muscular diseases

7th week:
Lecture: (PT) Spinal Muscular Atrophy (SMA), Amyotrophic Lateral Sclerosis (ALS), Guillain-Barré syndrome, types of polyneuropathies
Practical: (PT) Possibilities for the improvement of the voluntary and automatic movements

8th week:
Lecture: (PT) Extrapyramidal dysfunction, hyperkinesias
Practical: (PT) Proprioceptive training

9th week:
Lecture: (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: (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: (PT) Symptoms and principles of physiotherapy in peripheral pareses
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: (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: (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: (PT) Movement therapy in apraxia, agnosia and dementia
Practical: (PT) Physiotherapy of central and peripheral facial paresis; demonstration and practice of the vestibular training.

Requirements

Prerequisites: Electro-, balneo-, hydro- and climatotherapy, 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.

Subject: **PHYSIOTHERAPY PRINCIPLES OF INTERNAL MEDICINE**
Year, Semester: 3rd year/2nd semester
Number of teaching hours:
Lecture: 14

1st week:
Lecture: Pulmonary diseases, differential diagnosis

2nd week:
Lecture: Respiratory interventions - passive methods, indications and contraindications

3rd week:
Lecture: Respiratory interventions - active methods, indications and contraindications

4th week:
Lecture: Breathing exercises and training programs in pulmonary rehabilitation

5th week:
Lecture: Therapeutic intervention in restrictive pulmonary diseases

6th week:
Lecture: Therapeutic intervention in obstructive pulmonary diseases

7th week:
Lecture: Manual techniques in pulmonary rehabilitation. Physiotherapy according to surgical intervention

8th week:
Lecture: Consultation, discussion

9th week:
Lecture: Physiotherapeutic methods, functional tests and treatment in angiology: arterial diseases

10th week:
Lecture: Physiotherapeutic methods, functional tests and treatment in angiology: venous diseases

11th week:
Lecture: Causes and symptoms of the lymphedema, components of the complex treatment

12th week:
Lecture: Cardiovascular rehabilitation: movement therapy in the acute stage.

13th week:
Lecture: Cardiovascular rehabilitation: movement therapy in the early, late and post convalescent stages.

14th week:
Lecture: Significance of the movement therapy in the treatment of cardiovascular complications in hypertension, diabetes mellitus, and obesity

Requirements

Attendance at lectures is highly recommended since the lectured topics are equal to the topics in examination.

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: 14
Practical: 75

1st week:
Lecture:
T-lecture: 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
O-lecture: Physiotherapy in orthopedics; physiological posture, analysis of the muscle chain.
Seminar: T-seminar: Group and individual training programme for the spinal-fractured, corset-wearing patients; innervation exercises; strengthening of the dorsal and abdominal muscles; balance improvement. Patient examination; pre- and postoperative physiotherapy methods
O-seminar: Examination, diagnostics, general treatment methods in orthopedics physiotherapy

2nd week:
Lecture:
T-lecture: Treatment of a patient with spinal cord injury; characteristic symptoms in special cases; special fields of the functional treatment in spinal cord injury
O-Lecture: Postural deformities: background and consequences
Seminar:
T-seminar: Training for spinal cord injured patients; rules of positioning; training in the bed; exercises for changing the position; use of the wheelchair, solution of the life situations; relief of contracture
O-seminar: Examinations; rules of exercises in the typical forms of the postural deformities. Targeted physiotherapy for the kyphotic and lordotic spine.

3rd week:
Lecture:
T-lecture: Injuries of the elbow; complications; possibilities of the active movement in the neighbouring joints; complex functional treatment; forearm fractures; fracture of the distal radius; complications, treatment
O-lecture: Developmental disorders of the spine, complex physiotherapy.
Seminar:
T-seminar: Treatment after cancelling the corset; graded mobilization, subaquatic therapy, load-

free positions; grades of the loading; mobilization of the spinal column in every direction; treatment with conservative methods.
O-seminar: Examinations; rules of exercises in the typical forms of the postural deformities. Targeted physiotherapy for the kypholordotic spine and the flat back.

4th week:
Lecture: O-lecture: Scoliosis – classification, types, diagnosis, general treatment
Practical:
T-practice: 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. Individual training for shoulder-injured patients; load-free and loaded positions; use of instruments; paired exercises; conducted passive and active exercises
O-practice: Treatment of scoliosis at different location.

5th week:Lecture:
T-lecture: Individual training for shoulder-injured patients; load-free and loaded positions; use of instruments; paired exercises; conducted passive and active exercises.
O-lecture: Scoliosis: combined exercise and corset therapy, postoperative treatment
Practical:
T-practice: 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
O-practice: Treatment of scoliosis at different location.

6th week:
Lecture:
T-lecture: Injuries of the elbow; complications; possibilities of the active movement in the neighbouring joints; complex functional treatment; forearm fractures
O-lecture: Aseptic bone necrosis
Practical:
T-practice: Fracture of the distal radius; complications, treatment
O-practice: Postoperative treatment of scoliosis.

7th week:
Lecture:
T-lecture: Group and individual training for shoulder-injured patients; load-free and loaded positions; use of instruments; paired exercises; conducted passive and active exercises
O-lecture: Developmental disorders in the neck and shoulder girdle: congenital torticollis, Klippel-Feil syndrome, scapula elevata; prosthesis in the shoulder –postoperative physiotherapy
Practical:
T-practice: Group and individual training for elbow-injured patients; requirements for the individual treatment; isometric and isotonic exercises
O-practice: Treatment of scoliosis at different location. Chest deformity

8th week:
Lecture:
T-lecture: 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
O-lecture: Disorders of the shoulder; habitual luxation of the shoulder Complex physiotherapy in the brachial plexus lesion
Practical:
T-practice: Treatment of the hand injuries; semi-passive and passive methods; use of Carpenter and Brooks splints; treatment of peripheral nerve injuries; use of selective stimulus and diadynamic currents; role of the passive mobilization
O-practice: Physiotherapy of static changes of the spine: sacralisation, lumbarisation, spondylitis, spondylolystesis; points of view of the examination and of the treatment. Physiotherapy of septic bone necrosis; Scheuermann disease, Perthes syndrome.

9th week:
Lecture:
T-lecture: Pelvic fractures; treatment under extension and after osteosynthesis; graded load, subaquatic training; functional treatment of the traumatic hip luxation; early and late

complications, arthrosis
O-lecture: Congenital and acquired disorders of the elbow and hand, physiotherapy
Practical:
T-practice: Surgical treatment of the pelvic fractures; extension training, active training in the bed, graded mobilization
O-practice: Physiotherapy of disorders of the neck and shoulder girdle, the elbow and the wrist complex

10th week:
Lecture:
T-lecture: Movement therapy of the femur neck fractured patients; mobilization in the case of movement-stable or load-stable osteosynthesis
O-lecture: Postoperaive physiotherapy of prosthesis in the shoulder
Practical:
T-practice: Conservative functional treatment of the hip fractures; positioning, expansion; processing the active training in the bed; education of the use of wrap
O-practice: Physiotherapy in disorders of hip joint

11th week:
Lecture:
T-lecture: Conservative functional treatment of the hip fractures; positioning, expansion.
O-lecture: Congenital and acquired disorders of the hip complex
Practical:
T-practice: Processing the active training in the bed; education of the use of wrap
O- practice: Postoperative physiotherapy and rehabilitation programme after total hip endoprosthesis

12th week:
Lecture:
T-lecture: Ankle injuries; treatment; complementary treatment of complications; physiotherapy in Achilles tendon rupture
O-lecture: ACL reconstruction
Practical:
T-practice: Knee and ankle injuries
O- practice: Postoperative physiotherapy and rehabilitation programme after total knee endoprosthesis

13th week:
Lecture:
T-lecture: Crural fractures; complications; treatment of a fixateur externe wearing patient; mobilization; ankle injuries; treatment; complementary treatment of complications
O-lecture: Congenital and acquired disorders of the knee
Practical:
T-practice: 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
O-practice: Disorders of the foot. Pes equinovarus, pes planus exercise therapy

14th week:
Lecture:
T-lecture: 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
O-lecture: Congenital and acquired disorders of the ankle and the foot complex
Practical:
T-practice: Physiotherapy for the chest- and abdomen-injured patients; breathing exercises; improvement of circulation; general conditioning
O- practice: Postoperative sepsis. Amputation.

Requirements

Prerequisites: Mobilization-Manual Techniques II, Orthopedics for Physiotherapists, Traumatology for Physiotherapists

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.

Subject: **RHEUMATOLOGY FOR PHYSIOTHERAPISTS II**
Year, Semester: 3rd year/2nd semester
Number of teaching hours:
Lecture: 28
Practical: 28

1. **week**
   L: Role of physiotherapy in rheumatology
   P: General physical examination in rheumatology. Physical therapy, methods.
2. **week**
   L: Inflammatory diseases of the joints; typical pain, instability, decreased motion; rheumatoid arthritis
   P: Rheumatoid arthritis in the upper extremities. Rules of the joint prevention and exercises – upper extremities in RA
3. **week**
   L: Rheumatoid arthritis in the lower extremities Juvenile Rheumatoid Arthritis.
   P: Rules of the joint prevention and exercises. Functional exercises in RA
4. **week**
   L: Seronegative spondyloarthropathies, diagnostic criteria; ankylosing spondylitis (AS), pathology, effects on the joints
   P: AS – physical examination and general treatment. AS – exercise therapy: conventional exercises
5. **week**
   L: Seronegative spondyloarthropathies:; Reactive and Psoriatic arthritis
   P: AS – exercise therapy: breathing exercises and global posture re-education
6. **week**
   L: Osteoarthritis of the joints, symptoms, pain and consequences; arthrosis in the hip and knee
   P: Examination and general treatment of osteoarthritis – hip and knee. Conditional program for hip and knee
7. **week**
   L: Osteoarthritis of the joints, symptoms, pain and consequences; arthrosis in cervical spine, neck pain, radiculopathies, sprain
   P: Examination and general treatment of osteoarthritis – neck. Conditional program for neck
8. **week**
   L: Osteoarthritis of the joints, symptoms, pain and consequences; arthrosis in lumbar spine, back pain, radiculopathies, sprain
   P: Examination and general treatment of osteoarthritis – lower back. Conditional program for lower back
9. **week**
   L: Fibromyalgia: pathomechanism, symptoms, diagnosis and treatment, Complex physiotherapy
   P: repetition
10. **week**
    L: Osteoporosis: pathomechanism, changed posture and function; Primary, secondary and tertiary preventions
    P: Compressed vertebra fracture, early and late mobilisation
11. **week**
    L: Soft tissue rheumatism in the upper extremities; pathology, diagnosis and treatment
    P: Soft tissue rheumatism: general treatment and exercise therapy
12. **week**
    L: Soft tissue rheumatism in the lower extremities; pathology, diagnosis and treatment
    P: Soft tissue rheumatism: general treatment and exercise therapy
13. **week**
    L: Tunnel syndromes, differential-diagnosis Situations, differential diagnosis, complex exercise therapy, adapted for rheumatic diseases
    P: Tunnel syndromes, differential-diagnosis, physiotherapy
14. **week**
    L: Systemic Lupus Erythematosus, Polymyalgia Rheumatica, Dermatomyositis
    P: Practice and consultation

Requirements

Prerequisites: Electro-, balneo-, hydro- and climatotherapy, 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 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: **THESIS I**
Year, Semester: 3rd year/2nd semester
Number of teaching hours:
Practical: 14

1. **session**
   Discussion of topic choice and its form. Administrative sheets for Thesis I.
2. **session**
   Guide to Plan and schedule
3. **session**
   Background to the literature and study essay.

Requirements

Prerequisites: Traumatology for Physiotherapists, Neurology for Physiotherapists I
Reqirements: selection of topic, collection of data from scientific literature supporting your selection, and making a working plan. You have to choose a topic, to collect at least 5 data from literature relevant to your selection, and to plan your investigation.
A Moodle course supports your activity with administrative tools and possibility for consultation. Contact hours aimed also to support your topic choice and making a working plan.

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: 42
Seminar: 14

1st week:
Lecture: Preventive strategies. Screening programmes. Introduction to epidemiology and surveillance of communicable diseases
Seminar: HFA database

2nd week:
Lecture: Characteristics of infectious diseases. Vaccines and immunization. Sexually transmitted diseases
Seminar: Outbreak investigation

3rd week:
Lecture: Epidemiology of HIV/AIDS. Epidemiology of hepatitis. Epidemiology of nosocomial infections

4th week:
Lecture: Epidemiology and control of zoonoses. Epidemiology and control of airborne infections. Epidemiology and control of tuberculosis
Seminar: Vaccination programmes

5th week:
Lecture: Emerging and re-emerging infections. Epidemiology of gastrointestinal infections. Epidemiology of tropical diseases
Seminar: Sterile Services Department (visit)

6th week:
Lecture:
Geographical pattern of infectious diseases. Prion

diseases. Introduction to epidemiology of the non-communicable diseases

7th week:
Lecture: Epidemiology and control of cardiovascular diseases. Epidemiology of malignant diseases. Epidemiology and control of metabolic, gastrointestinal and liver diseases

8th week:
Lecture:
Epidemiology of chronic respiratory diseases. Epidemiology of mental disorders and behavioral problems. Health status in developing and developed countries

Seminar:
Screening, monitoring and controlling diseases in primary care. Needs, demands and use of health service. Public health and health care databases

9th week:
Lecture: Health determinants. Genetic susceptibility to chronic diseases at individual and population levels. Lifestyle and health: the effects of personal factors on health

Seminar: Concept and practice of health promotion

10th week:
Lecture: Lifestyle and health: the effects of alcohol and drug use on health. Environment and health: the effects of socio-economic factors on health. Domestic violence
Seminar: North Karelia Programme

11th week:
Lecture: Health policy principles

12th week:
Lecture: Basics of health economics. Health system financing
Seminar: Introduction to health policy

13th week:
Lecture: Quality management and control in health care
Seminar: Health system financing

14th week:
Lecture: Improvement of clinical effectiveness
Seminar: Assessing and improving quality of health services

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.

Division of Radiology and Imaging Science

Subject: **RADIOLOGY AND DIAGNOSTIC IMAGING**
Year, Semester: 3rd year/2nd semester
Number of teaching hours:
Practical: 14

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. Practice exam

Requirements

Prerequisites: Orthopedics for Physiotherapists, Traumatology for Physiotherapists
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 4TH YEAR

Department of Physiotherapy, Faculty of Public Health

Subject: **HEALTH PROMOTION IN PRIMARY CARE**
Year, Semester: 4th year/1st semester
Number of teaching hours:
Practical: 14

1st week:
Practical: Introduction to health promotion. Determinants of health: environment and health care

2nd week:
Practical: History and principles of health promotion. Determinants of health: policy

3rd week:
Practical: Health promotion at settings. Prevention

4th week:
Practical: Prevention. Project, program, strategy. Basics of project planning

5th week:
Practical: Public health projects

6th week:
Practical: Physiotherapist in the healthcare system

7th week:
Practical: Physiotherapy in the primary care

Requirements

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

Subject: **INTENSIVE THERAPY FOR PHYSIOTHERAPISTS**
Year, Semester: 4th year/1st semester
Number of teaching hours:
Lecture: 14
Seminar: 5

1st week:
Lecture: Observation, monitoring and documentation at the intensive therapy unit. Monitoring of the brain function; renal function; laboratory diagnostics; infection control; documentation

2nd week:
Lecture: Water and electrolyte balance in normal and pathologic states

3rd week:
Lecture: Unconscious and disturbed patient; grades of the disorientation

4th week:
Lecture: Danger of the airway obstruction, support, nursing, physiotherapy

5th week:
Lecture: Postoperative patient care; postoperative respiratory disorders, prevention and treatment

6th week:
Lecture: Polytraumatized patient, Multi-trauma, polytrauma.

Seminar: Equipment at the intensive therapy unit; role of the physiotherapist in the team; special aspects of the children care.

7th week:
Lecture: Chest injuries, role of the physiotherapist in the treatment
Seminar: Task of a physiotherapist with traumatized patients.

8th week:
Lecture: Intensive therapy of the acute coronary syndrome (ACS), patho-physiology, types and symptoms of the cardiac insufficiency.
Seminar: Indications and contra-indications of the movement therapy in the acute cardiac patients.

9th week:
Lecture: Mobilization, physiotherapy in ACS and cardiac insufficiency
Seminar: Tasks of the physiotherapist in the early mobilization of the patients after myocardial infarct or cardiac surgery intervention.

10th week:
Lecture: Methods of mechanical ventilation, artificial breathing strategy
Seminar: Indications and contraindications of the respiratory physiotherapy in the acute care. Methods of the respiratory therapy, criteria for application in the acute respiratory insufficiency

Requirements

Prerequisites: Physiotherapy Principles of Internal Medicine, Physiotherapy of the Movement System I.
Attendance at lectures is highly recommended, since the topics in examination cover the lectured topics. Attendance at seminars is compulsory. The signature of the Lecture Book may be refused if one has more than 2-hour absences from the seminars.

Subject: **NEUROLOGY FOR PHYSIOTHERAPISTS III**
Year, Semester: 4th year/1st semester
Number of teaching hours:
Lecture: 6
Practical: 52

1st week:
Lecture: (B) Characteristics of the normal movements, general introduction to Bobath's method
(E) The basic principles of the electricity
Practical:
(B) Inspection, taking history, examination of muscular tone
(E) Taking intensity-duration curve, evaluation of the results I

2nd week:
Lecture: (B) Patient examination according to Bobath's method
(E) Aim and principles of the electrodiagnostic procedures, rules of processing
Practical: (B) Special examinations and tests
(E) Taking intensity-duration curve, evaluation of the results I

3rd week:
Lecture: (B) Hypotonia and spasticity
(E) Assessment of the degree of denervation
Practical: (B) Exercises in horizontal position, facilitation of lateral rolling, strengthening the pelvic muscles
(E) Taking intensity-duration curve, evaluation of the results II

4th week:
Lecture: (B) Duties at the early phase of the stroke, treatment of the face
(E) Galvan and Farad tests, Pflüger's rule, measurement of the rheobase and chronaxie
Practical: (B) Facilitation of the truncal movements
(E) Examination of the muscle by electromyography (EMG) I

5th week:
Lecture: (B) Cerebral plasticity and its role in the treatment
(E) Electrodiagnostics of the skeletal muscle
Practical: (B) Exercises in sitting position, facilitation of getting up
(E) Examination of the muscle by electromyography (EMG) II

6th week:
Practical: (B) Exercises in upright position, tactile stimulation
Self-control Test ((E) Mid-semester test)

7th week:
Practical: (B) Facilitation of the gait

8th week:
Practical: Clinical demonstration
Self-control Test ((B) Mid-semester test)

9th week:
Practical: Clinical demonstration

10th week:
Practical: Clinical demonstration

11th week:
Practical: Clinical demonstration

12th week:
Practical: Clinical demonstration

13th week:
Practical: Clinical demonstration

14th week:
Practical: Clinical demonstration

Requirements

Prerequisite: Neurology for Physiotherapists II
Attendance at lectures is strongly recommended, at practices is compulsory. If you have more than a 4-hour absence at practical hours, the signature of the Lecture Book will be refused.
The course contains also a 30-hour demonstration practice.

Subject: **PHYSIOTHERAPY PRINCIPLES OF THE MOVEMENT SYSTEM**
Year, Semester: 4th year/1st semester
Number of teaching hours:
Lecture: 14

1st week:
Lecture: Differential diagnosis of the functional and structural congenital and acquired spine diseases

2nd week:
Lecture: Examination of the spine. Target-oriented treatment of the functional improper postures

3rd week:
Lecture: Goals and treatment of the structural spine disorders

4th week:
Lecture: Different types of the scapular dyskinesis and its treatment

5th week:
Lecture: Cervico-brachial orthopaedics diseases and targeted treatment

6th week:
Lecture: Hip and knee disorders and treatment

7th week:
Lecture: Arthroplasty and the postoperative physiotherapy. Ankle and foot complex

8th week:
Lecture: Fractures of the vertebrae with and without injury of the nervous system. Complex treatment

9th week:
Lecture: Injuries of the shoulder girdle and shoulder joint, and humerus diaphysis. Complex treatment

10th week:
Lecture: Injuries of the elbow joint, the forearm and the hand. Complex treatment. Complications

11th week:
Lecture: Peripheral nerve injuries in the upper and lower extremities

12th week:
Lecture: Injuries of the hip and femoral bones. Complex treatment

13th week:
Lecture: Fractures of the femoral diaphysis and injuries of the knee. Complex functional treatment, CPM (continuous passive motion)

14th week:
Lecture: Fractures of the lower leg, injuries of the ankle and the foot. Complex treatment. Complications

Requirements

Attendance at lectures is highly recommended.

Subject: **PHYSIOTHERAPY OF THE MOVEMENT SYSTEM II - PT IN ORTHOPAEDICS AND TRAUMATOLOGY**
Year, Semester: 4th year/1st semester
Number of teaching hours:
Practical: 56

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

Requirements

Prerequisite*:* Physiotherapy of the Movement System I - PT in Orthopaedics and Traumatology
Attendance at demonstration practices is compulsory. If you miss more than 4 hours in Orthopaedics and/or Traumatology practices, the signature of the Lecture Book will be refused.

Subject: **PROFESSIONAL AND SCIENTIFIC ORIENTATION**
Year, Semester: 4th year/1st semester
Number of teaching hours:
Practical: 14

1. week:
Practice: Features of applied research work in the health sciences. Conventional methods for orientation in the scientific literature.

2. week:
Practice: Use of the electronic research data base

3. week:
Practice: Analysis of an applied research and review article

4. week:
Practice: Interpretation of the results

5. week:
Practice: Literature citation

6. week:
Practice: Individual presentation of applied research articles

7. week:
Practice: Test

Requirements

Prerequisite: Basics of Research Methodology, Thesis I
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 II**
Year, Semester: 4th year/1st semester
Number of teaching hours:
Lecture: 14
Practical: 14

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

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 SKILLS**
Year, Semester: 4th year/1st semester
Number of teaching hours:
Lecture: 28
Seminar: 14
Practical: 14

1st week:
Lecture: Definition of rehabilitation; history, main fields of rehabilitation; ICF
Practical: Meet with people with disabilities – free discussion

2nd week:
Lecture: Rehabilitation medicine: definitions, rehabilitation programs; basic features of the assessments
Practical: Assessment of ADL 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
Practical: Preparation for mid-term examination

8th week:
Lecture: Medical rehabilitation of persons with cardiac diseases; secondary prevention
Practical: Demonstration practice
Self-control Test (Mid-term examination)

9th week:
Lecture: Main fields of neurological rehabilitation: TBI, SCI, post-stroke rehabilitation
Practical: Demonstration practice

10th week:
Lecture: Rehabilitation for people with chronic neuro-musculosceletal conditions
Practical: Demonstration practice

11th week:
Lecture: Paediatric rehabilitation
Practical: Demonstration practice

12th week:
Lecture: Special rehabilitation needs of elderly people (OP, fractures, etc.) and persons after amputation
Practical: Demonstration practice

13th week:
Lecture: Pulmonary rehabilitation
Practical: Demonstration practice

14th week:
Lecture: Psychiatric rehabilitation
Practical: Demonstration practice

Requirements

Prerequisites: Physiotherapy of the Movement System I, Rheumatology for Physiotherapists II, Neurology for Physiotherapists 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 at the seminars or practical hours.

Subject: **RHEUMATOLOGY FOR PHYSIOTHERAPISTS III**
Year, Semester: 4th year/1st semester
Number of teaching hours:
Practical: 28

1st week:
Practical: Demonstration of examination

2nd week:
Practical: Treatment of the joint pain

3rd week:
Practical: Symptoms and treatment of the rheumatoid arthritis

4th week:
Practical: Exercises with joint protection

5th week:
Practical: Arthrosis of the joints, symptoms, pain and complications

6th week:
Practical: Complex functional treatment of the ankylosing spondylitis

7th week:
Practical: Targeted exercises of the ankylosing spondylitis by the methods of physiotherapy

8th week:
Practical: Examination and general physiotherapy in arthrosis

9th week:
Practical: Treatments, exercises in arthrosis

10th week:
Practical: Soft tissue rheumatism, diagnostics and treatment

11th week:
Practical: Treatment of periarthropathies

12th week:
Practical: Osteoporosis, functional treatment

13th week:
Practical: Fibromyalgia: symptoms, diagnostics and treatment

14th week:
Practical: Polymyositis and dermatomyositis

Requirements

Prerequisite: Rheumatology for Physiotherapists II
Attendance at demonstration practices is compulsory. If you miss more than 4 hours in Orthopaedics and/or Traumatology practices, the signature of the Lecture Book will be refused.

Subject: **RHEUMATOLOGY FOR PHYSIOTHERAPISTS III**
Year, Semester: 4th year/1st semester
Number of teaching hours:
Practical: 28

1. **week**
   P: Differentiate between inflammatory and degenerative diseases and gneral treatment
2. **week**
   P: Inflammatory and degenerative disease in lower limb, goals and target treatment
3. **week**
   P:: Spine affected by different background, difference and target treatment
4. **week**
   P: Significance of the stabilization and mobilization in defferent diseases
5. **week**
   P: Neurology problems of the spine and tunnel syndroms.
6. **week**
   P: Visiting a rheumatology department.
7. **week**
   P: Documentation, examination - spine
8. **week**
   P: Documentation, examination – upper limb
9. **week**
   P: Documentation, examination – lower limb
10. **week**
    P: Gropu exercises in spine affected
11. **week**
    P: Exercise therapy of the Arthritis
12. **week**
    P: Soft tissue rheumatisms – complex therapy
13. **week**
    P: Manual mobilization in rheumatology
14. **week**
    P: Special aids in rheumatology

Requirements

Attendance at practices is compulsory. If you miss more than 2 practices per modules, the signature may be refused. The course is finished by a practice exam.

Subject: **THESIS II**
Year, Semester: 4th year/1st semester
Number of teaching hours:
Practical: 14

1. **session**
   Data collection and statistical analysis.
2. **session**
   Constructing the figures and writing the Methods.
3. **session**
   Background of discussion according to results.

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.

Department of Physiotherapy, Faculty of Public Health

Subject: **INTERNAL MEDICINE CLINICAL PRACTICE**
Year, Semester: 4th year/2nd semester
Number of teaching hours:
Practical: 80

Content:
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

Content:
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

Content:
Practical: Orthopedic diseases of spine; orthopaedic diseases of upper extremities; orthopaedic diseases of lower extremities; pre- and postoperative physiotherapy

Requirements

Prerequisite: Physiotherapy of the Movement System II - PT in Orthopaedics 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

Content:
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

Content:
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:
Practical: 14

1. **session**
   Analysis and discussion of the results on the basis of scientific literature, writing the Thesis
2. **session**
   3. Sample for defence presentation

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

Content:
Practical: Injuries of spine; injuries of upper extremities; injuries of lower extremities; poly-traumatisation; intensive therapy in traumatology

Requirements

Prerequisite: Physiotherapy of the Movement System II – PT in Orthopaedics 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 12
ELECTIVE COURSES

Department of Physiotherapy, Faculty of Public Health

Subject: **AESTHETIC BODY FORMING GYMNASTICS**
Year, Semester: 2nd year/2nd semester
Number of teaching hours:
Practical: 28

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

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: **BALLS IN PHYSIOTHERAPY**
Year, Semester: 1st year/2nd semester
Number of teaching hours:
Practical: 28

1st week:
Practical: Types of the balls, history

2nd week:
Practical: Types of the drills, classification by the age and load

3rd week:
Practical: Basic steps on the ball, effects of music, rhythm and tempo

4th week:
Practical: Structure of the basic exercise; strengthening and rendering the muscles of the shoulder and the arm

5th week:
Practical: Strengthening and rendering the abdominal muscles

6th week:
Practical: Strengthening and rendering the superficial and deep muscles of the back

7th week:
Practical: Strengthening and rendering the muscles of the thigh and leg

8th week:
Practical: Stretching and relaxing exercises, dynamic and static stretch

9th week:
Practical: Balance-improving and mixed exercises; individual, paired and group exercises on the ball

10th week:
Practical: Structure of the shape-forming and enhancing exercises

11th week:
Practical: Structure and effects of the fat burning drills; nutrition and water supplement; types of choreographies

12th week:
Practical: Use of the ball in different diseases and pathological states

13th week:
Practical: Preparation for the exam

14th week:
Practical: End-term exam

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: **COMPLEMENTARY AND ALTERNATIVE MEDICINE**
Year, Semester: 2nd year/2nd semester
Number of teaching hours:
Lecture: 14

1st week:
Lecture: Definition and history of the complementary and alternative medicine (CAM). Relevance and role of CAM in the modern medicine

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*:* Cardiorespiratory and Exercise Physiology, Neurophysiology, Physiology
Attendance at lecture is highly recommended. The offered grade of the ESE will be calculated based on the mid-semester written examinations according to the scale as follows:
0-59%: fail (1)
60-69%: pass (2)
70-79%: satisfactory (3)
80-89%: good (4)
90-100%: excellent (5)

Subject: **DIGITAL TOOLS IN PHYSIOTHERAPY**
Year, Semester: 4th year/1st semester
Number of teaching hours:
Practical: 14

1st week:
Practical: History of Wii, how to set it up and usage of basic programmes. Wii Fit Plus and Wii Sport

2nd week:
Practical: Place of Wii in the rehabilitation. Patients with sensory and mental handicap. Usage in psychiatry

3rd week:
Practical: Neurological rehabilitation with Wii (hemiparesis, multiple sclerosis, other neurological diseases. Demonstration of the games

4th week:
Practical: Traumatological rehabilitation with Wii, paraplegia, spine cord injuries and other traumas. Demonstration of the games

5th week:
Practical: Using Wii in elderly hood. Demonstration of the games

6th week:
Practical: Using Wii in childhood. Demonstration of the games

7th week:
Practical: Consultation. Practice exam.

Requirements

Prerequisites: Neurology for Physiotherapists I, Physiotherapy of the Movement System I

Attendance at practices Neurology for Physiotherapists I, Physiotherapy of the Movement System Iis compulsory. The signature of the Lecture Book may be refused if one has more than 2-hour absence from practical classes. At the end of the semester, students take a practice exam.

Subject: **GRAVITY TRAINER IN PHYSIOTHERAPY**
Year, Semester: 2nd year/2nd semester
Number of teaching hours:
Practical: 28

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 programmes aimed to prevent sport injuries

8th week:
Practical: Targeted exercises for the improvement of cardiovascular endurance

9th week:
Practical: Therapeutic programmes for obese patients

10th week:
Practical: Implementation of the programme 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

Requirements

Prerequisite*:* Kinesiology II
Attendance at practical hours is compulsory. If you miss more than 4 practical hours, the signature of the Lecture Book will be refused,

Subject: **GYMNASTIC EQUIPMENTS**
Year, Semester: 1st year/2nd semester
Number of teaching hours:
Practical: 28

1st week:
Practical: Introduction to the topic; demonstration of the equipments, technical instructions

2nd week:
Practical: Repetition of definitions (planes, movements, kinesiology principles)

3rd week:
Practical: Strengthening the upper limb muscles by bands in different positions I

4th week:
Practical: Strengthening the upper limb muscles by bands in different positions II; group and paired exercises

5th week:
Practical: Strengthening the upper limb muscles by bands in different positions III; group and paired exercises

6th week:
Practical: Strengthening the upper limb muscles by bands in staying position; group and paired exercises

7th week:
Practical: Improving the fine movements of the hand by different tools; repetition
Self-control Test

8th week:
Practical: Strengthening the lower limb muscles by bands in different positions I

9th week:
Practical: Strengthening the upper limb muscles by bands in different positions II; group and paired exercises

10th week:
Practical: Strengthening the upper limb muscles by bands in different positions III; group and paired exercises

11th week:
Practical: Strengthening the upper limb muscles by bands in different positions IV; group and paired exercises

12th week:
Practical: Strengheting and endurance training with ball, use of stability trainer

13th week:
Practical: Repetition, consultation

14th week:
Practical: End-term exam

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: **KINESIO TAPING**
Year, Semester: 4th year/1st semester
Number of teaching hours:
Lecture: 4
Practical: 10

1st week:
Lecture: Theoretical background, effects, precautions and requirements of kinematic taping

2nd week:
Lecture: The shoulder complex and upper extremities: examination and differential-diagnostics

3rd week:
Lecture: Applied techniques for shoulder complex and upper extremities: introduction
Practical:
Applied techniques for shoulder complex and upper extremities: practicing

4th week:
Lecture: The pelvico-hip complex and lower extremities: examination and differential-diagnostics
Practical: Applied techniques for pelvico-hip complex and lower extremities: practicing

5th week:
Lecture: The spine: examination and differential-diagnostics. Applied techniques for spine: introduction

6th week:
Lecture:
Practical: Applied techniques for spine: practicing

7th week:
Practical: Applied techniques for spine: practicing. Practice exam

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: **MOLECULAR BACKGROUND OF SKELETO-MUSCULAR DISEASES**
Year, Semester: 2nd year/2nd semester
Number of teaching hours:
Lecture: 14

1st week:
Lecture: Physiology of skeletal muscle, recovery of “young” and “old” skeletal muscle, fibrosis

2nd week:
Lecture: Research techniques and diagnostic tests of skeletal muscle

3rd week:
Lecture: Muscular dystrophies

4th week:
Lecture: Channelopathies

5th week:
Lecture: Metabolic and endocrine myopathies

6th week:
Lecture: Dysfunction of NMJ, inflammatory myopathies

7th week:
Lecture: Skeletal muscle in the neuropathies

8th week:
Lecture: End-term test
Self-control Test (End-term test)

Requirements

Prerequisite: Physiology
Attendance at lectures is highly recommended, since the topics in examination cover the lectured topics. At the end of the semester, students take an end-semester exam (ESE).

Subject: **ORTHOTICS-PROSTHETICS**
Year, Semester: 3rd year/2nd semester
Number of teaching hours:
Lecture: 8
Practical: 5

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 ortheses, problems and possibilities

5th week:
Lecture: Lower limb ortheses. Lower limb prosthetics

6th week:
Lecture: Cervical spine ortheses, trunk corsets. Pelvic belts

7th week:
Lecture: Movement improving tools. Medical shoes

8th week:
Lecture: Hygienic tools, medical aids for better quality of life
Practical: Overview of manufacturing and producing aids.

9th week:
Lecture: Anti-decubitus tools; Compression stockings
Practical: Patient education

10th week:
Lecture: Incontinence management products
Practical: Visit to the manufacturing lab.

Requirements

Prerequisites: Orthopaedics for Physiotherapists, Rheumatology for Physiotherapists I, Traumatology for Physiotherapists I
Attendance at lectures is strongly recommended.

Subject: **PNF IN PRACTICE**
Year, Semester: 4th year/1st semester
Number of teaching hours:
Lecture: 10
Practical: 18

1st week:
Lecture: Significance of the proprioception in the motor control; relationship of the proprioception and the coordination
Practical: PNF as a part of the pre- and postoperative physiotherapy

2nd week:
Lecture: PNF in traumatology: types of damages of the upper extremity
Practical: Posttraumatic restoration of the upper limb functions by using PNF techniques

3rd week:
Lecture: PNF in traumatology: types of damages of the lower extremity
Practical: Posttraumatic restoration of the lower limb functions by using PNF techniques

4th week:
Lecture: PNF in traumatology: damage of the spinal column
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

Requirements

Prerequisite: Mobilization-Manual Techniques II, Physiotherapy of the Movement System I
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: **PROBLEM-BASED APPROACH OF CARDIOVASCULAR PHYSIOLOGY**
Year, Semester: 2nd year/2nd semester
Number of teaching hours:
Practical: 28

1st week:
Practical: Synergism of the circulatory and respiratory systems. Metabolic demand for circulation and respiration. Criteria for sufficient perfusion and ventilation. Changes leading to hypercapnia. Circulatory and respiratory responses to hypercapnia. Reasons of hypoxia. Circulatory and respiratory responses to hypoxia.

Adaptation of the cardiovascular and respiratory systems to the physical exercise. Changes in the cardiac output, redistribution of the circulating blood volume. Blood supply to the skeletal muscle, the heart and the brain. Changes in the respiratory minute volume

2nd week:
Practical: Adaptation of the cardiorespiratory system to different conditions. Adaptation to altitude. Consequence of decreased atmospheric pressure. Circulatory responses to the hypoxia. Respiratory responses. Physical performance at high altitude. Other reactions. Evolutionary adaptation to decreased atmospheric pressure. Effects of acceleration on the circulatory system. Effects of the gravitation and weightlessness on the circulatory system

3rd week:
Practical: Effects of environmental expositions on the cardiovascular system. Effects of the global warming and extreme temperature on the cardiovascular system. Chemical expositions (arsenic poisoning, chloninesterase inhibitors). Effects of the air pollution on the cardiorespiratory system

4th week:
Practical: Individual activity in the e-learning modul (recommended literature, glossary, tests, essay).

Requirements

Prerequisite: Cardiorespiratory and Exercise Physiology
The course is an e-learning supported one. 6 contact hours, 9 hours for consultation and at least 15 hours individual activity in the e-learning course.
Presence at the contact hours is compulsory. More than 2-hour absence results in the refusal of signature. Presence at 1/3 of the consultation hours is compulsory, the other lessons are strongly recommended. The compulsory on-line activity has to be fulfilled till deadline. Some activity is awarded by bonus points. The missing of the on-line compulsory activity results in the lack of the signature.
Grade: will be evaluated based on the scores in the compulsory activities and the bonus points according to the scale as follows:
<55 %: (1) fail
56-64 %: (2) pass
65-74 %: (3) satisfactory
75-84 %: (4) good
85 % felett: (5) excellent

Subject: **SLING SUSPENSION FRAME (SSF)**
Year, Semester: 4th year/1st semester
Number of teaching hours:
Practical: 14

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 lumbal spine in suspended position. Presentation of lumbal 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: Physiotherapy of the Movement System I, Rheumatology for Physiotherapists II
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: **SPORTS PHYSIOTHERAPY AND SPORTS MEDICINE**
Year, Semester: 4th year/1st semester
Number of teaching hours:
Lecture: 8
Practical: 5

1st week:
Lecture: Structural changes in the skeletal muscles in training

2nd week:
Lecture: Adaptation of cardiovascular system to the sports training
Practical: Correlation of heart rate, blood pressure and exercise intensity. Instrumental measurements

3rd week:
Lecture: Adaptation of the nervous system to the sports training
Practical: Spirometryin in sports medicine

4th week:
Lecture: Heat, fluid and electrolyte balance in sports activity. Sport physiological aspects of gastrointestinal system.
Practical: Sports-related aspects of the diet.

5th week:
Lecture: Basic knowledge of sports related internal medicine. Sport medicine: screening examination, competency assessment

6th week:
Lecture: Basics of sports cardiology

7th week:
Lecture: Risk factors and mechanism of the sports injuries

8th week:
Lecture: Basic of sports surgery. Surgical treatment of lower limbs

9th week:
Lecture: Sports injuries of upper limbs and their surgical treatment

10th week:
Lecture: Regeneration after a sports injury
Practical: Visit the Sports Center of the Universi

Requirements

Prerequisites: Internal Medicine for Physiotherapists II, Physiotherapy of the Movement System I, Rheumatology for Physiotherapists II
Attendance at lectures is recommended, practices is compulsory. The signature of the Lecture Book may be refused if one has more than 2-hour absence from practical classes.

Subject: **STEP TRAINING IN PHYSIOTHERAPY**
Year, Semester: 1st year/1st semester
Number of teaching hours:
Practical: 14

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:
Practical: Theoretical introduction, technical basis and practical application of STEP-DANCE type low-impact linear and choreographed structural class. Step – double: exercises in pairs – choreography onto two step stairs.

7th week:
Practical: Improvement of conditional and coordination skills by playful form on „step stairs in cycle”.

8th week:
Practical: Practice exam.

Requirements

The attendance at practices is compulsory. If you have more than 4-hour absence the signature may be refused.

CHAPTER 13
LIST OF TEXTBOOKS

1st year

General Principles in Health Care and Nursing:

Jarvis, C.: Student Laboratory Manual for Physical Examination & Health Assessment. 6th edition. Saunders, 2011. ISBN: 1-4377-1445-5.
Potter, P.A., Perry, A.G., Stockert, P.: Fundamentals of Nursing. 8th. Mosby, 2012. ISBN: 0-3230-7933-4.
Jarvis, C.: Physical Examination and Health Assessment. 6th. Saunders, 2011. ISBN: 1-4377-0151-5.
Perry, A. G., Potter, P. A., Ostendorf, W.: Clinical Nursing Skills and Techniques. 8th. Mosby, 2014. ISBN: 978-0323083836.

Philosophy:

Gaardner, J.: Sophie's World: A Novel About the History of Philosophy.
Reprint edition. Farrar, Straus and Giroux, 2007. ISBN: 0-5223-5934-8.
Additional Reading: Dawson, A. (ed): Public Health Ethics: Key Concepts and Issues in Policy and Practice. New York, NY. Cambridge University Press, 2011. ISBN: 978-0521689366.

Medical Latin:

Répás László: Basics of Medical Terminology, Latin and Greek Origins I Répás László, 2016.
Martin, E.: Oxford Concise Medical Dictionary. 9th. Oxford University Press, 2015. ISBN: 978-0199-6878-17.

Basics of Physiotherapy:

Pagliarulo, M. A.: Introduction to Physical Therapy. 4th edition. Mosby Co, 2011. ISBN: 0-3230-7395-6.
Kissner, C., Colby, L. A.: Therapeutic Exercises – Foundation and Techniques. 6th edition. F.A. Davis Company, 2012. ISBN: 0-8036-2574-X.

Microbiology:

Levinson, W.: Review of Medical Microbiology and Immunology. 14th edition. McGraw Hill, 2016. ISBN: 0-0718-4574-7.

Bioethics:

Glannon, W.: Biomedical Ethics. 1st. Oxford University Press, 2004. ISBN: 0-1951-4431-7.
Gabard, D. L. Martin, M. W.: Physical Therapy Ethics. 2nd edition. F.A. Davis Company, 2010. ISBN: 0-8036-1046-7.
Holland, S.: Public Health Ethics. 2nd edition. Polity Press, 2014. ISBN: 0-7456-6219-6.
Benjamin, M., Curtis, J.: Ethics in Nursing: Cases, Principles, and Reasoning. 4th edition. Oxford UP, 2010. ISBN: 0-1953-8022-3.
Gigerenzer, G.: Reckoning With Risk.1st edition. Penguin Books, 2003. ISBN: 0-140-29786-3.

Biophysics:

Damjanovich, S., Fidy, J., Szöllősi, J.: Medical Biophysics.1st edition. Medicina, 2009. ISBN: 978 963 226 249 9.
Daniel, W. W.: Biostatistics: a foundation for analysis in the health sciences.10th edition. John

Wiley & Sons, 2014. ISBN: 1-1187-5110-8.

First Aid:

Kindersley D.: First Aid Manual. 10th edition. Dorling Kindersley Publishers Ltd, 2011. ISBN: 9781-4053-6214-6.
Van de Velde S, et al: European first aid guidelines.Resuscitation, 72:240-51.2007.
St. John Ambulance, St. Andrew's Ambulance Association, British Red Cross Society: First Aid Manual: The Step by Step Guide for Everyone.9th edition. Penguin, 2009. ISBN: 1-405-33537-8.
Betlehem, J.: First Things to Be Done in Emergencies – Providing First Aid for Health Professionals. URL: http://www.tankonyvtar.hu/hu/tartalom/tamop425/0061_first-things-angol/adatok.html

Basics of Sociology:

Weitz, R.: The Sociology of Health, Illness, and Health Care: A Critical Approach. 6th. Wadsworth Publishing, 2012. ISBN: 1-1118-2879-2.
Denny, E., Earle, S.: Sociology for Nurses. 2nd edition. Polity Press, 2009. ISBN: 0-7456-4625-5.

Basics of Psychology:

Nolen-Hoeksema, S., Frederickson, B., Loftus, G. R: Atkinson & Hilgard's Introduction to Psychology.15th. Cengage Learning, 2009. ISBN: 1-8448-0728-2.
Stangor, C.: Introduction to Psychology. URL: https://ocw.mit.edu/ans7870/9/9.00SC/MIT9_00SCF11_text.pdf

Anatomy I:

Moore, K. L., Agur, A. M. R.: Essential Clinical Anatomy. 5th edition. Lippincott Williams & Wilkins, 2014. ISBN: 1-4511-8749-1.
Sobotta: Atlas of Human Anatomy Vol 1. 14th edition. Urban & Fischer, 2006. ISBN: 0-443-10348-8.
Sobotta: Atlas of Human Anatomy Vol 2. 14th edition. Elsevier Urban & Fisher, 2006. ISBN: 0-443-10349-6.

Health Informatics I:

Handbooks of MS Office applications, Internet sources.

Basics of Pedagogy:

Glanz, K., Rimer, B., Viswanath, K.: Health Behavior and Health Education: Theory, Research, and Practice.4th edition. Jossey-Bass, 2008. ISBN: 0-7879-9614-9.
Modeste, N., Tamayose, T., Marshak. H.H.: Dictionary of Public Health Promotion and Education: Terms and Concepts.2nd edition. Jossey-Bass, 2004. ISBN: 0-7879-6919-2.

Communication:

Groenman, N. H., Slevin, O. D., Buckenham, M.: Social and behavioral sciences for nurses. Campion Press Limited, 1992.
Segerstrale, U., Molnár, P.: Nonverbal Communication: Where Nature Meets Culture.1st edition. Psychology Press, 1997. ISBN: 0-8058-2179-1.

Genetics and Molecular Biology:

Hartl D. L.: Essential Genetics: A Genomics Perspective.6th edition. Jones & Bartlett Publishers, 2014. ISBN: 978-1-4496-8688-8.
Alberts B., Bray, D., Hopkin, K., Johnson, A., Lewis, J., Raff, M., Roberts, K., Walter, P.: Essential

Cell Biology. 4th edition. Garland Science, 2014. ISBN: 978-0-8153-4455-1.

Cell Biology:

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

Kinesiology I:

Levangie, P. K., Norkin, C. C.: Joint Structure and Function. A Comprehensive Analysis. 5th edition. FA Davis Co, 2011. ISBN: 9780-8036-2362-0.
Neumann, D. A.: Kinesiology of the Musculoskeletal System: Foundations for Physical Rehabilitation. 2nd edition. Mosby Co, 2009. ISBN: 0-3230-3989-8.
Clarkson, H. M.: Musculoskeletal Assessment: Joint Range of Motion and Manual Muscle Strength. 3rd edition. Lippincott Williams & Wilkins, 2012. ISBN: 1-6091-3816-3.
Magee, D.J.: Orthopedic Physical Assessment. 7th edition. Elsevier Health Sciences, 2014. ISBN: 978-1-4557-0977-9.

Biomechanics:

Nordin, M., Frankel, V.: Basic Biomechanics of the Musculoskeletal System . 4th edition. Lippincott Williams and Wilkins, 2012. ISBN: 1-6091-3335-8.

Anatomy II:

Sobotta: Atlas of Human Anatomy Vol 1. 14th edition. Urban & Fischer, 2006. ISBN: 0-443-10348-8.
Sobotta: Atlas of Human Anatomy Vol 2. 14th edition. Elsevier Urban & Fisher, 2006. ISBN: 0-443-10349-6.
Ross M.H., W. Pawlina: Histology. A text and Atlas. 6th edition. Lippincott Williams & Wilkins, 2010. ISBN: 978-0-7817-7200-6.
Sadler, T. W.: Langman's Medical Embryology. 12th edition. Lippincott Williams &Wilkins, 2012. ISBN: 978-1-4511-4461-1.
Moore, K. L., Agur, A. M. R.: Essential Clinical Anatomy. 5th edition. Lippincott Williams & Wilkins, 2014. ISBN: 1-4511-8749-1.
Petkó, M.: Histology (lecture notes). University of Debrecen
Matesz, K.: Functional neuroanatomy (lecture notes). University of Debrecen
Birinyi, A.: Anatomy (lecture notes). University of Debrecen

Health Informatics II:

Handbooks of MS Office applications, Internet sources.

Electro-, balneo-, hydro-, and climatotherapy:

Cameron M. H.: Physical Agents in Rehabilitation: From Research to Practice. 4th edition. Saunders, 2012. ISBN: 1-4557-2848-9.
Watson T.: Electrotherapy. Evidence Based Practice. 12th edition. Churchill Livingstone, 2008. ISBN: 0-443-10179-5.
Robertson V., Ward, A., Low, J., Read, A.: Electrotherapy Explained: Principles and Practice. 4th edition. Butterworth-Heinemann, 2006. ISBN: 0-7506-8843-2.
Hayes K. W., Hall, K.: Manual for Physical Agents. 6th edition. Pearson, 2011. ISBN: 0-1360-7215-1.

Economics and Management:

Samuelson, P. A., Nordhaus, W. D.: Economics. 19th edition. McGraw-Hill, 2009. ISBN: 0-0735-

1129-3.
Morden, T: Principles of Management. Ashgate Pub Ltd, 2004. ISBN: 0-7546-1984-2.
Allen, D.: Getting Things Done: The Art of Stress-Free Productivity. Revised edition. Piatkus, 2015. ISBN: 0-3494-0894-7.
MGMT5: What's Inside: A Student Tested, Faculty-Approved Approach to Learning Principles of Management. Cengage Learning, 2012. ISBN: 1-1331-9090-1.

Hungarian Language I:

Gerő Ildikó-Kovács Judit: Színesen magyarul. 2017.

2nd year

Kinesiology II:

Levangie, P. K., Norkin, C. C. : Joint Structure and Function. A Comprehensive Analysis. 5th edition. FA Davis Co, 2011. ISBN: 9780-8036-2362-0.
Neumann, D. A. : Kinesiology of the Musculoskeletal System: Foundations for Physical Rehabilitation. 2nd edition. Mosby Co, 2009. ISBN: 0-3230-3989-8.
Clarkson, H. M.: Musculoskeletal Assessment: Joint Range of Motion and Manual Muscle Strength. 3rd edition. Lippincott Williams & Wilkins, 2012. ISBN: 1-6091-3816-3.
Magee, D.J.: Orthopedic Physical Assessment. 7th edition. Elsevier Health Sciences, 2014. ISBN: 978-1-4557-0977-9.

Cardiorespiratory and Exercise Physiology:

McArdle, W. D., Katch, F. I., Katch, V. L.: Exercise Physiology: Energy, Nutrition, and Human Performance. 8th edition. Lippincott Williams & Wilkins, 2014. ISBN: 1-4511-9155-3.
Taylor, N. A. S., Groeller, H.: Physiological Bases of Human Performance During Work and Exercise. 1st edition. Churchill Livingstone, 2008. ISBN: 978-0-443-10271-4.

Introduction to Clinical Medicine:

Bickley, L. S.: Bates' Guide to Physical Examination and History Taking. 11th edition. Lippincott Williams & Wilkins, 2012. ISBN: 1-6091-3762-0.
McPhee St. J., Papadakis, M.: Current Medical Diagnosis and Treatment. 55th edition. McGraw-Hill Incorporated, 2015. ISBN: 0-0718-4509-7.

Physiology:

Koeppen, B. M., Stanton, B. A.: Berne & Levy Physiology. 7th edition. Elsevier, 2017. ISBN: 9-78032339394-2.
Hall, J. E.: Guyton and Hall Textbook of Medical Physiology. 13rd edition. Saunders, 2015. ISBN: 1-4557-7005-1.

Basic Biochemistry:

Devlin, T. M.: Textbook of Biochemistry with Clinical Correlations. 7th edition. John Wiley & Sons, 2010. ISBN: 0-470-28173-1.
Berg J.M., Tymoczko, J. L., Stryer, L.: Biochemistry. 7th edition. W. H. Freeman, 2010. ISBN: 1-4292-2936-5.
Harvey R.A., D.R. Ferrier: Lippincott's Illustrated Reviews: Biochemistry. 5th edition. Lippincott Williams and Wilkins, 2010. ISBN: 9-7816-0831-4126.
MacLaren, D.: Biochemistry for Sport and Exercise Metabolism. 1st edition. Wiley, 2011. ISBN: 0-4700-9185-1.

Neurophysiology:

Carpenter, R., Reddi, B.: Neurophysiology: A Conceptual Approach. 5th. CRC Press, 2012. ISBN: 1-4441-3517-1.

Philosophy:

Gaardner, J.: Sophie's World: A Novel About the History of Philosophy. Reprint edition. Farrar, Straus and Giroux, 2007. ISBN: 0-5223-5934-8.
Dawson, A.: Public Health Ethics: Key Concepts and Issues in Policy and Practice. 1st edition. Cambridge University Press, 2011. ISBN: 0-5216-8936-8.

Hungarian Language II:

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

Mobilization-Manual Techniques I:

Kaltenborn F. M.: Manual Mobilization of the Joints: Vol I The Extremities . 8th edition. Orthopedic Physical Therapy Products, 2014. ISBN: 8-2705-4201-6.
Kaltenborn F. M., Evjenth, O., Kaltenborg, T. B., Morgan, D., Wollowitz, E.: Manual Mobilization of the Joints: The Spine Vol 2. 6th edition. Norli, 2012. ISBN: 8-2705-4200-8.
Evjenth O., Hamberg, J.: Muscle stretching in Manual Therapy. 6th edition. Alfta Rehab, 2003. ISBN: 9-1859-3402-X.
Adler S. S., Beckers, D., Buck, M.: PNF in practice. 4th edition. Springer Science & Business Media, 2013. ISBN: 3-6423-4988-9.
Clay J. H., D. M. Pounds: Basic Clinical Massage Therapy: Integrating Anatomy and Treatment 3rd edition. Lippincott Williams & Wilkins, 2008.
Clay J. H., Allen, L., Pounds, D. M.: Clay & Pounds' Basic Clinical Massage Integrating Anatomy and Treatment. 3rd, illustrated edition. Lippincott Williams & Wilkins, 2015. ISBN: 1-4511-8546-4.
Lederman, E.: Therapeutic Stretching. 1st edition. Churchill Livingstone, 2014. ISBN: 978-0-7020-4318-5.
Lederman, E.: Therapeutic Stretching. 1st edition. Churchill Livingstone, 2014. ISBN: 978-0-7020-4318-5.

Applied Training Methods:

Ehrman, J. K., Gordon, P. M., Visich, P. S., Keteyian, S. J.: Clinical Exercise Physiology. 3rd edition. Human Kinetics Europe Ltd, 2013. ISBN: 1-4504-1280-7.
Wilmore, J. H., Kenney, W. L.: Physiology of Sport and Exercise. 6th edition. Human Kinetics Europe Ltd, 2015. ISBN: 1-4504-7767-.
Powers, K., Howley, E.T.: Exercise Physiology: Theory and Application to Fitness and Performance. 8th edition. McGraw-Hill Education, 2011. ISBN: 0-0780-2253-3.

Kinesiology Practice:

Kissner, C., Colby, L. A.: Therapeutic Exercises – Foundation and Techniques. 6th edition. F.A. Davis Company, 2012. ISBN: 0-8036-2574-X.

Pathology:

Damjanov, I: Pathology for the Health Professions. 4th edition. Elsevier Health Sciences, 2013. ISBN: 0-3232-7705-5.

Professional Hungarian Language I:

Fodor Marianna-Rozman Katalin: Beszélek magyarul?! II.. 2017. ISBN: 978-963-12-7760-9.

Basics of Internal Medicine:

Kasper, D., Fauci, A., Hauser, S., Longo, D., Jameson, J. L., Loscalzo, J.: Harrison's Principles of Internal Medicine. 19th edition. McGraw-Hill Education, 2015. ISBN: 978-0-07-180215-4.
Longmore, M., Wilkinson, I., Baldwin, A., Wallin, E.: Oxford Handbook of Clinical Medicine. Illustrated edition. Oxford University Press, 2014. ISBN: 0-1996-0962-4.

Biochemistry:

Devlin, T. M.: Textbook of Biochemistry with Clinical Correlations. 7th edition. John Wiley & Sons, 2010. ISBN: 0-470-28173-1.
Berg J.M., Tymoczko, J. L., Stryer, L.: Biochemistry. 7th edition. W. H. Freeman, 2010. ISBN: 1-4292-2936-5.
Harvey R.A., D.R. Ferrier: Lippincott's Illustrated Reviews: Biochemistry. 5th edition. Lippincott Williams and Wilkins, 2010. ISBN: 9-7816-0831-4126 .
MacLaren, D.: Biochemistry for Sport and Exercise Metabolism. 1st edition. Wiley, 2011. ISBN: 0-4700-9185-1.

Basics of Dietetics:

Barker H. M.: Nutrition and Dietetics for Health Care.10th. Churchill Livingstone, 2002. ISBN: 0-443-07021-0.
Webster-Gandy J., Madden, A. Holdsworth, M.: Oxford Handbook of Nutrition and Dietetics. 2nd edition. Oxford University Press, 2011. ISBN: 0-1995-8582-2.
Geissler C,. Powers, H. J.: Fundamentals of Human Nutrition: For Students and Practitioners in the Health Sciences. 1st edition. Elsevier Health Sciences, 2009. ISBN: 0-443-06972-7.

Principles of kinesiology:

Levangie, P. K., Norkin, C. C.: Joint Structure and Function. A Comprehensive Analysis. 5th edition. FA Davis Co, 2011. ISBN: 9780-8036-2362-0.
Neumann, D. A.: Kinesiology of the Musculoskeletal System: Foundations for Physical Rehabilitation. 2nd edition. Mosby Co, 2009. ISBN: 0-3230-3989-8.
Clarkson, H. M.: Musculoskeletal Assessment: Joint Range of Motion and Manual Muscle Strength. 3rd edition. Lippincott Williams & Wilkins, 2012. ISBN: 1-6091-3816-3.
Magee, D.J.: Orthopedic Physical Assessment. 7th edition. Elsevier Health Sciences, 2014. ISBN: 978-1-4557-0977-9.

Basics of research methodology:

Keshav,S.: How to Read a Paper. URL: http://ccr.sigcomm.org/online/files/p83- keshavA.pdf
Ashby, M.: How to Write a Paper. URL: http://www-mech.eng.cam.ac.uk/mmd/ashby-paper-V6.pdf

Principles of Health Sciences:

Moore K.L., Dalley, A.F., Agur, A. M. R.: Clinically Oriented Anatomy. 6th edition. Lippincott Williams & Wilkins, 2009. ISBN: 978-1-60547-652-0.
Koeppen, B. M., Stanton, B. A.: Berne & Levy Physiology. 7th edition. Elsevier, 2017. ISBN: 9-78032339394-2.
Hall, J. E.: Guyton and Hall Textbook of Medical Physiology. 13rd edition. Saunders, 2015. ISBN: 1-4557-7005-1.

Health Care Law:

Montgomery, J.: Health Care Law. 3rd edition. OUP Oxford, 2012. ISBN: 0-1992-7448-7.
Dimond, B. C. : Legal Aspects of Physiotherapy. 2nd edition. Wiley-Blackwell, 2009. ISBN: 978-1-4051-7615-6.

Hall, M. A., Bobinski, M. A., Orentlicher, D.: Bioethics and Public Health Law. 3rd edition. Aspen Publishers, 2013. ISBN: 1-4548-0535-8.
WHO: Euro Observer: The Health Policy Bulletin of the European Observatory on Health Systems and policies.
URL: http://www.euro.who.int/en/who-we-are/partners/observatory

Gerontology:

Robnett R. H., Chop, W. C. : Gerontology for the Health Care Professional. 3rd edition. Jones & Bartlett Publishers, 2013. ISBN: 9781-2840-3887-3.

Mobilization-Manual Techniques II:

Kaltenborn F. M., Evjenth, O., Kaltenborg, T. B., Morgan, D., Wollowitz, E.: Manual Mobilization of the Joints: The Spine Vol 2. 6th edition. Norli, 2012. ISBN: 8-2705-4200-8.
Kaltenborn F. M.: Manual Mobilization of the Joints: Vol I The Extremities. 8th edition. Orthopedic Physical Therapy Products, 2014. ISBN: 8-2705-4201-6.
Adler S. S., Beckers, D., Buck, M.: PNF in practice. 4th edition. Springer Science & Business Media, 2013. ISBN: 3-6423-4988-9.
Sanderson, M.: Soft Tissue Release: A Practical Handbook for Physical Therapists. 3rd edition. Lotus Pub, 2012. ISBN: 1-9053-6737-6.
Edmond, S. L.: Joint Mobilization/Manipulation: Extremity and Spinal Techniques. 3rd edition. Mosby, 2016. ISBN: 0-3232-9469-3.

3rd year

Internal Medicine for Physiotherapists II:

Hillegass E., Sadowsky, H. S. : Essentials of Cardiopulmonary Physical Therapy. 4th edition. Saunders, 2016. ISBN: 0-3234-3054-6.
DeTurk, W. E., Cahalin, L. P.: Cardiovascular and Pulmonary Physical Therapy: An Evidence-based Approach. 2nd edition. McGraw-Hill Medical, 2010. ISBN: 0-0715-9812-X.
Main, E., Denehy, E.: Cardiorespiratory Physiotherapy: Adults and Paediatrics. 5th edition. Elsevier, 2016. ISBN: 0-7020-4731-7.

Rheumatology for Physiotherapists I:

Firestein, G. S., Budd, R. C., Gabriel, S. E., IMcInnes, I. B., O'Dell, J. R.: Kelley's Textbook of Rheumatology. 9th. Saunders, 2013. ISBN: 1-4377-1738-1.

Traumatology for Physiotherapists:

Dandy D. J., Edwards, D. J.: Essential Orthopaedics and Trauma. 5th edition. Churchill Livingstone, 2009. ISBN: 978-0-443-06718-1.

Pharmacology:

Katzung, B. G.: Basic and Clinical Pharmacology. 13th edition. McGraw-Hill Education, 2014. ISBN: 0-0718-2505-3.
Trevor, A. J., Katzung B. G., Masters S. B. : Katzung & Trevor's Pharmacology: Examination & Board Review. 11th edition. McGraw-Hill Education, 2015. ISBN: 0-0718-2635-1.

Preventive Medicine and Public Health I:

Donaldson, R.J., Scally, G.: Essential Public Health Medicine. 3rd Revised edition. Kluwer Academic Publishers, 2009. ISBN: 978-184619-209-8.
Porta, M.: A dictionary of epidemiology. 5th edition. Oxford University Press, 2008. ISBN: 0-1953-

1450-6.
Rothman, K. J.: Epidemiology: An Introduction. 2nd edition. Oxford University Press, 2012. ISBN: 0-1997-5455-1.

Orthopedics for Physiotherapists:

Szendrői M.: Orthopedics.1st edition. Semmelweis, 2008. ISBN: 9789-6396-5693-2.
Atkinson K., Coutts, F. J., Hassenkamp, A. M.: Physiotherapy in Orthopedics: A Problem Solving Approach.2nd edition. Churchill Livingstone, 2005. ISBN: 978-0-443-07406-6.

Professional Hungarian Language II:

Fodor Marianna-Rozman Katalin: Beszélek magyarul?! II..2017. ISBN: 978-963-12-7760-9.

Obstetrics and Gynecology for Physiotherapists:

Monga, A., Dobbs, S. P.: Gynecology by Ten Teachers.19th edition. Hodder Arnold, 2011. ISBN: 0-3409-8354-X.
Baker, P. N., Kenny, L.: Obstetrics by Ten Teachers.19th edition. Hodder Arnold, 2011. ISBN: 0-3409-8353-1.
Bo, K., Berghmans, B., Morkved, S., Van Kampen, M. : Evidence-Based Physical Therapy for the Pelvic Floor: Bridging Science and Clinical Practice.2nd edition. Churchill Livingstone, 2014. ISBN: 978-070-204-443-4.
Haslam, J., Laycock, J.: Therapeutic Management of Incontinence and Pelvic Pain: Pelvic Organ Disorders. 2nd edition. Springer, 2010. ISBN: 1-8462-8661-1.

Internal Medicine for Physiotherapists I:

Frownfelter D., Dean, E.: Cardiovascular and Pulmonary Physical Therapy: Evidence and Practice 5th edition. Mosby , 2012. ISBN: 0-3230-5913-9.
DeTurk, W. E., Cahalin, L. P.: Cardiovascular and Pulmonary Physical Therapy: An Evidence-based Approach.2nd edition. McGraw-Hill Medical, 2010. ISBN: 0-0715-9812-X.
Main, E., Denehy, E.: Cardiorespiratory Physiotherapy: Adults and Paediatrics.5th edition. Elsevier, 2016. ISBN: 0-7020-4731-7.

Neurology for physiotherapists I:

Davies, P. M. : Steps to Follow: The Comprehensive Treatment of Patients with Hemiplegia.2nd edition. Springer, 2013. ISBN: 3-5406-0720-X.
Stokes M.: Physical Management for Neurological Conditions .3rd edition. Churchill Livingstone, 2011. ISBN: 0-723-43560-X.
Umphred, D. A., Burton, G., Lazaro, R. T., Roller, M.: Neurological Rehabilitation.6th edition. Mosby, 2012. ISBN: 0-3230-7586-X.

Psychiatry I:

Everett, T., Donaghy, M., Feaver, S.: Interventions for Mental Health: An Evidence Based Approach for Physiotherapists and Occupational Therapists.2nd edition. Butterworth-Heinemann Ltd, 2003. ISBN: 0-7506-4965-8.
Kaplan, H. I., Sadock, B. J.: Synopsis of Psychiatry.11th edition. Williams & Wilkins, 2014. ISBN: 1-6091-3971-2.

Rheumatology for Physiotherapists II:

Firestein, G. S., Budd, R. C., Gabriel, S. E., IMcInnes, I. B., O'Dell, J. R.: Kelley's Textbook of Rheumatology. 9th. Saunders, 2013. ISBN: 1-4377-1738-1.

Preventive Medicine and Public Health II:

Donaldson, L.J., Scally, G.: Donaldsons' Essential Public Health.3rd edition. Radcliffe Publishing Ltd, 2009. ISBN: 1-8461-9209-9.
Rothman, K.J.: Epidemiology: An Introduction.2nd edition. Oxford University Press, 2012. ISBN: 0-1997-5455-1.
Porta, M: A Dictionary of Epidemiology.5th edition. Oxford University Press, 2008. ISBN: 0-1953-1450-6.

Physiotherapy of the Movement System I - PT in Orthopaedics and Traumatology:

Atkinson K., Coutts, F. J., Hassenkamp, A. M.: Physiotherapy in Orthopedics: A Problem Solving Approach.2nd edition. Churchill Livingstone, 2005. ISBN: 978-0-443-07406-6.
Magee D. J.: Orthopedic Physical Assessment.5th edition. Saunders, 2008. ISBN: 0-721-60571-0.
Harvey, L.: Management of Spinal Cord Injuries: A Guide for Physiotherapists.1st edition. Churchill Livingstone, 2008. ISBN: 978-0-443-06858-4.
Evans R. C.: Illustrated Orthopedic Physical Assessment.3rd edition. Mosby, 2008. ISBN: 0-323-04532-4.
Cook Ch.: Orthopedic Manual Therapy: An Evidence-Based Approach.2nd edition. Prentice Hall, 2011. ISBN: 0-138-02173-2.
Sanders, R.: Core Knowledge in Orthopaedics: Trauma.1st edition. Mosby, 2007. ISBN: 0-3230-3424-1.
Hoppenfeld, S., Murthy, V. L.: Treatment and rehabilitation of fractures.1st edition. Lippincott Williams & Wilkins, 2000. ISBN: 0-7817-2197-0.

Infant Care and Paediatrics for Physiotherapists I:

Marcdante, K., Kliegman, R. M.: Nelson Essentials of Pediatrics: With student consult Online Access.7th edition. Saunders, 2014. ISBN: 1-4557-5980-5.
Tecklin, J. S. : Pediatric Physical Therapy.5th edition. Lippincott Williams and Wilkins, 2014. ISBN: 1-4511-7345-8.

Infant Care and Paediatrics Clinical Practice:

Tecklin, J. S.: Pediatric Physical Therapy.5th edition. Lippincott Williams and Wilkins, 2014. ISBN: 1-4511-7345-8.

Cardiovascular Clinical Practice:

Irwin S., Tecklin, J. S.: Cardiopulmonary Physical Therapy: A Guide to Practice. 4th edition. Mosby, 2004. ISBN: 0-323-01840-8.
Hillegass E., Sadowsky, H. S. : Essentials of Cardiopulmonary Physical Therapy. 4th edition. Saunders, 2016. ISBN: 0-3234-3054-6.

Thesis I:

Greenhalgh, T.: How to Read a Paper: The Basics of Evidence-based Medicine. 5th edition. Wiley-Blackwell, 2014. ISBN: 1-1188-0096-6.

Orthotics-Prosthetics:

Lusardi, M.M., Jorge, M., Nielsen, C.C.: Orthotics and Prosthetics in Rehabilitation. 3rd. Saunders, 2012. ISBN: 1-4377-1936-8.

Physiotherapy Principles of Internal Medicine:

Frownfelter D., Dean, E.: Cardiovascular and Pulmonary Physical Therapy: Evidence and Practice. 5th edition. Mosby, 2012. ISBN: 0-3230-5913-9.
DeTurk, W. E., Cahalin, L. P.: Cardiovascular and Pulmonary Physical Therapy: An Evidence-based Approach. 2nd edition. McGraw-Hill Medical, 2010. ISBN: 0-0715-9812-X.
Main, E., Denehy, E.: Cardiorespiratory Physiotherapy: Adults and Paediatrics. 5th edition. Elsevier, 2016. ISBN: 0-7020-4731-7.
Hillegass E., Sadowsky, H. S.: Essentials of Cardiopulmonary Physical Therapy. 4th edition. Saunders, 2016. ISBN: 0-3234-3054-6.

Infant Care and Paediatrics for Physiotherapists II:

Tecklin, J. S.: Pediatric Physical Therapy. 5th edition. Lippincott Williams and Wilkins, 2014. ISBN: 1-4511-7345-8.

Neurology for physiotherapists II:

Raine, S., Meadows, L., Lynch-Ellerington, M.: Bobath Concept: Theory and Clinical Practice in Neurological Rehabilitation. 1st edition. Wiley-Blackwell, 2009. ISBN: 1-4051-7041-7.
O′Brien, M.: Aids to the Examination of the Peripheral Nervous System. 5th edition. Saunders Ltd., 2010. ISBN: 0-7020-3447-9.
Stokes M.: Physical Management for Neurological Conditions. 3rd edition. Churchill Livingstone, 2011. ISBN: 0-723-43560-X.
Davies, P. M.: Steps to Follow: The Comprehensive Treatment of Patients with Hemiplegia. 2nd edition. Springer, 2013. ISBN: 3-5406-0720-X.
Umphred, D. A., Burton, G., Lazaro, R. T., Roller, M.: Neurological Rehabilitation. 6th edition. Mosby, 2012. ISBN: 0-3230-7586-X.

Radiology and Diagnostic Imaging:

Mettler, F.A.: Essentials of Radiology. 3rd edition. Saunders, 2013. ISBN: 1-4557-4225-2.

4th year

Intensive Therapy for Physiotherapists:

Marx J., Hockberger, R., Walls, R.: Rosen's Emergency Medicine - Concepts and Clinical Practice. 8th edition. Saunders, 2013. ISBN: 1-4557-0605-1.

Rehabilitation Skills:

DeLisa J. A., Gans, B. M., Walsh, N. E.: Physical Medicine and Rehabilitation. Principles and practice. 5th edition. Lippincott Williams & Wilkins, 2010. ISBN: 0-7817-9819-1.
Barnes M., A. B. Ward: Textbook of Rehabilitation Medicine. 1st edition. Oxford University Press, 2000. ISBN: 0-192-62805-4.
Gutenbrunner C., Ward A.B., Chamberlain M.A.: White Book on Physical and Rehabilitation Medicine in Europe. Journal of Rehabilitation Medicine, Volume 39, Issue 45, 2007.

Psychiatry II:

Everett, T., Donaghy, M., Feaver, S.: Interventions for Mental Health: An Evidence Based Approach for Physiotherapists and Occupational Therapists. 2nd edition. Butterworth-Heinemann Ltd, 2003. ISBN: 0-7506-4965-8.

Physiotherapy of the Movement System II - PT in Orthopaedics and Traumatology:

Hoppenfeld, S., Murthy, V. L.: Treatment and rehabilitation of fractures. 1st edition. Lippincott Williams & Wilkins, 2000. ISBN: 0-7817-2197-0.
Magee, D.J.: Orthopedic Physical Assessment. 7th edition. Elsevier Health Sciences, 2014. ISBN: 978-1-4557-0977-9.
Atkinson K., Coutts, F. J., Hassenkamp, A. M.: Physiotherapy in Orthopedics: A Problem Solving Approach. 2nd edition. Churchill Livingstone, 2005. ISBN: 978-0-443-07406-6.

Rheumatology for physiotherapists III

Firestein, G. S., Budd, R. C., Gabriel, S. E., IMcInnes, I. B., O'Dell, J. R.: Kelley's Textbook of Rheumatology. 9th. Saunders, 2013. ISBN: 1-4377-1738-1.

Health Promotion in Primary Care:

Snelling, A.M.: Introduction to Health Promotion. 1st edition. Jossey-Bass, 2014. ISBN: 1-1184-5529-0.

Physiotherapy Principles of the Movement System:

Atkinson K., Coutts, F. J., Hassenkamp, A. M.: Physiotherapy in Orthopedics: A Problem Solving Approach. 2nd edition. Churchill Livingstone, 2005. ISBN: 978-0-443-07406-6.
Magee, D.J.: Orthopedic Physical Assessment. 7th edition. Elsevier Health Sciences, 2014. ISBN: 978-1-4557-0977-9.
Hoppenfeld, S. , Murthy, V. L.: Treatment and rehabilitation of fractures. 1st edition. Lippincott Williams & Wilkins, 2000. ISBN: 0-7817-2197-0.

Professional and Scientific Orientation:

Greenhalgh, T.: How to Read a Paper: The Basics of Evidence-based Medicine. 5th edition. Wiley-Blackwell, 2014. ISBN: 1-1188-0096-6.

PNF in Practice:

Adler S. S., Beckers, D., Buck, M. : PNF in practice. 4th edition. Springer Science & Business Media, 2013. ISBN: 3-6423-4988-9.

Kinesio Taping:

Manual for 3NS Taping Method. 3NS Co., Ltd, .

Sports Physiotherapy and Sports Medicine:

Powers, S.K., Howley, E.T.: Exercise physiology - Theory and application to fitness and performance. 10th edition. McGraw-Hill Education, 2017. ISBN: 1-2598-7045-6.

Sling Suspension Frame (SSF):

Barling, G., Barling, J.: Sling Suspension Therapy. 1st. Trafford, 2002. ISBN: 978-1-5536-9581-3.
Wenk, W.: Der Schlingentisch: In Praxis und Unterricht. 4th edition. Pflaum, R. , 2006. ISBN: 3-7905-0914-0.

Internal Medicine Clinical Practice:

DeTurk, W. E., Cahalin, L. P.: Cardiovascular and Pulmonary Physical Therapy: An Evidence-based Approach. 2nd edition. McGraw-Hill Medical, 2010. ISBN: 0-0715-9812-X.
Frownfelter D., Dean, E.: Cardiovascular and Pulmonary Physical Therapy: Evidence and Practice

5th edition. Mosby, 2012. ISBN: 0-3230-5913-9.
Hillegass E., Sadowsky, H. S.: Essentials of Cardiopulmonary Physical Therapy. 4th edition. Saunders, 2016. ISBN: 0-3234-3054-6.

Neurology Clinical Practice:

Davies, P. M.: Steps to Follow: The Comprehensive Treatment of Patients with Hemiplegia.
2nd edition. Springer, 2013. ISBN: 3-5406-0720-X. Stokes M.: Physical Management for Neurological Conditions. 3rd edition. Churchill Livingstone, 2011. ISBN: 0-723-43560-X.
Fuller G.: Neurological Examination Made Easy. 5th edition. Churchill Livingstone, 2013. ISBN: 0-7020-5177-2.

Rehabilitation Clinical Practice:

Barnes M., A. B. Ward: Textbook of Rehabilitation Medicine. 1st edition. Oxford University Press, 2000. ISBN: 0-192-62805-4.
Gutenbrunner C., Ward A.B., Chamberlain M.A.: White Book on Physical and Rehabilitation Medicine in Europe.
Journal of Rehabilitation Medicine, Volume 39, Issue 45, 2007. DeLisa J. A., Gans, B. M., Walsh, N. E.: Physical Medicine and Rehabilitation. Principles and practice. 5th edition. Lippincott Williams & Wilkins, 2010. ISBN: 0-7817-9819-1.

Rheumatology Clinical Practice:

Dziedzic K., A. Hammond: Evidence-Based Practice for Physiotherapists and Occupational Therapists. 1st edition. Churchill Livingstone, 2010. ISBN: 0-443-06934-4.
Kissner, C., Colby, L. A.: Therapeutic Exercises – Foundation and Techniques. 6th edition. F.A. Davis Company, 2012. ISBN: 0-8036-2574-X.
Fauci A., C. Langford: Harrison's Rheumatology. 3rd edition. McGraw-Hill Educational/Medical, 2013. ISBN: 0-0718-1484-1.

Traumatology Clinical Practice:

Sanders, R.: Core Knowledge in Orthopaedics: Trauma. 1st edition. Mosby, 2007. ISBN: 0-3230-3424-1.
Hoppenfeld, S., Murthy, V. L.: Treatment and rehabilitation of fractures. 1st edition. Lippincott Williams & Wilkins, 2000. ISBN: 0-7817-2197-0.

Orthopedics Clinical Practice:

Atkinson K., Coutts, F. J., Hassenkamp, A. M.: Physiotherapy in Orthopedics: A Problem Solving Approach. 2nd edition. Churchill Livingstone, 2005. ISBN: 978-0-443-07406-6.
Evans R. C.: Illustrated Orthopedic Physical Assessment. 3rd edition. Mosby, 2008. ISBN: 0-323-04532-4.
Cook Ch.: Orthopedic Manual Therapy: An Evidence-Based Approach. 2nd edition. Prentice Hall, 2011. ISBN: 0-138-02173-2.
Magee, D.J.: Orthopedic Physical Assessment. 7th edition. Elsevier Health Sciences, 2014. ISBN: 978-1-4557-0977-9.

CHAPTER 14
TITLES OF THESIS

Balázs Ádám M.D., PhD
Thesis:
- Evaluation of health hazards in the workplace
- Characterization of occupational diseases
- Genotoxic exposures in the occupational and ambient environment
- Burden of occupational and environmental diseases
- Health impact assessment of policies, programmes and projects

János Sándor M.D., PhD
Thesis:
- Evaluation of chronic care for hypertension in general medical practice
- Evaluation of chronic care for diabetes mellitus in general medical practice
- Evaluation of chronic care for adult over weighted in general medical practice
- Evaluation of chronic care for adult smokers in general medical practice

Helga Bárdos M.D., PhD
Thesis and TDK:
- Gene-environment interactions and obesity (systematic review)
- The effect of school based health promotion programs on nutrition (systematic review)
- The effect of neighborhood environment on physical activity and diet (systematic review)
- Analysis of factors affecting risk perceptions (study)
- Prevalence of obesity (trend analysis)

Szilvia Fiatal M.D., PhD
Thesis and TDK:
- Genomic determinants of cardiovascular diseases

Orsolya Varga, M.D., PhD
Thesis and TDK:
- National strategies and policies to prevent type 2 diabetes in the member states of the European Union

Éva Bíró M.D., PhD
Thesis and TDK:
- Mental health of youth (study, interventions)
- Health status and health-related behaviours of youth (study, interventions)
- Health literacy (study, interventions)

László Pál PhD.
Thesis
- Pesticide use in developed and developing countries
- Burden of disease attributable to radon exposure

Sándor Szűcs PhD.
- Analysis of mortality due to environmental risk factors in European countries
- Analysis of disease burden attributed to environmental risk factors in European countries
- Analysis of mortality due to lifestyle factors in European countries
- Analysis of disease burden attributed to lifestyle factors in European countries

Károly Nagy PhD.
Thesis:
Genetic epidemiology of obesity (literature review)
Investigation of workplace hazards
TDK:
Investigation of chemical-induced DNA damage by using the comet assay
Assessment of ergonomic hazards among drivers

Attila Nagy M.D., PhD
The prevalence of diabetes in a given area
Study design for diabetes monitoring

Attila Bánfalvi PhD.
Medicalization and its social-cultural context
Contemporary problems of Psy-complex

Sándor Köműves PhD.
Thesis:
Palliative care and euthanasia

László Róbert Kolozsvári **M.D., PhD**
Early detection of dementia and cognitive impairment in primary care
Health impairment related to occupational hazards
Obesity and physical activity
Quality and safety in primary care

Anna Nánási M.D.
The role of telemedicine in primary care
The role of the family doctor in the care of musculoskeletal disorders

Viktor Dombrádi PhD.
Thesis:
Quality management in healthcare
ISO 9001 certification and accreditation in healthcare
Patient safety in hospitals
Patient-centered healthcare

Gábor Bányai-Márton
Thesis and TDK:
History of international health organizations
Bioterrorism and global health security

Klára Bíró, D.MD.
Thesis and TDK:
Increasing expectations among healthcare consumers
Challenges for healthcare managers

Judit Zsuga M.D.

Thesis and TDK

Workplace stress in health care

Performance and workplace stress

Klára Boruzs PhD.

Thesis and TDK:

Drug utilization in the world

The pharmaceutical industry's operation from viewpoint of the management

Drug utilization in the world

The pharmaceutical industry's operation from viewpoint of the management

Balázs Lukács PhD.

Effect of physical activity on cardiovascular health in young adults

Falls in the elderly: risk factors and prevention